CITY OF COLUMBIA
TENNESSEE

AGENDA

The Columbia Planning Commission Development Review Committee will meet on Tuesday, May 7, 2024 at 10:00 AM in Conference Room A, basement level, City Hall, to consider the following:

I. Items For Review

1. Request from Allen O'Leary for Final Plat approval with surety for Williamsport Landing Phase 2 consisting of 33 lots off Rockwell and Williamsport Landings

2. Request from Allen O'Leary for Final Plat approval with surety of The Preserve at Drumwright Phase 2 consisting of 42 lots off Williams Ridge Drive.

3. Request from Greg Gamble for Preliminary Plat and Site Development Plan approval of a mixed use development off N. James M. Campbell Blvd and Professional Center Drive.

4. Request from Clint Clamp for Preliminary Plat approval of three lots off Nashville Highway at Tax Map 42 Parcel 28.

5. Request from Clint Camp for Preliminary PUD Master Plan approval of the McClure Farms Commercial PUD at Tax Map 42 Parcel 28 off Nashville Highway.

6. Request from T-Square Engineering for Final Plat approval with surety for Independence at Carter's Station Phase 6.5 consisting of 40 lots off Tucker Trace.

7. Request from T-Square Engineering for Final Plat approval with surety for Summit at Carter's West Phase 1B consisting of 29 lots off Tinpiper Trace.

8. Request from T-Square Engineering for Final Plat approval with surety of Summit at Carter's West Phase 2 consisting of 36 lots off Cobbler and Kindler Courts.

II. Items for Additional Review

1. Request from T-Square Engineering for Final Plat approval with surety for Quail Run Meadows Phase 4 consists of 34 lots and open spaces at Tax Map 73 Parcel 17.03.

2. Request from T-Square Engineering for Final Planned Unit Development Master Plan and Preliminary Plat approval for Old Zion Subdivision consisting of 765 lots off Trotwood Avenue.

3. Request from TKC Architecture & Engineering for Final Plat approval with surety of Bear Creek Overlook Phase 2 consisting of 24 single-family lots at Tax Map 72 Parcel 53.

4. Request from Crunk Engineering for Final Plat approval with surety of Landings at Greens Mill Road Ph 1A located at Tax Map 51 Parcel 55 consisting of 33 single-family lots, open space and dedication of right-of-way.

5. Request from Crunk Engineering for revision of a Final PUD Master Plan and Preliminary Plat approval for Landings at Greens Mill Road located at Tax Map 51 Parcel 55 consisting of 550 residential lots. The prior approval implements a Planned Unit Development approved under Ordinance 3638, the previous zoning ordinance.

TN GRID NORTH

TAX MAP 088
(011.00)
THOMAS BARNETT & JACQULINE KALLAS
D.B. R2869 PG. 1005
R.O.M.C.,TN

TAX MAP 088
(052.00)
DANIEL EDWARD & LONA HEINS
D.B. R2381 PG. 272
R.O.M.C.,TN

TAX MAP 088
(051.05)
KCS PROPERTY, LLC
D.B. R2853 PG. 305
R.O.M.C.,TN
Remaining Property
±12.66 Acres

TAX MAP 088
(051.03)
HONEY LAKES, LLC
D.B. R2804 PG. 1004
R.O.M.C.,TN

TAX MAP 088M, GRP "D"
(005.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(006.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(007.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(008.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(009.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(010.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(011.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

TAX MAP 088M, GRP "D"
(004.00)
RICHMOND AMERICAN HOMES OF TENNESSEE INC
D.B. R2957 PG. 1095
R.O.M.C.,TN
WILLIAMSPORT LAND, PHASE 1
PB: P23, PAGE 305

OPEN SPACE 3

OPEN SPACE 2

MATCH LINE SHEET 2 OF 2

WILLIAMSPORT LANDING

ROCKWELL LANDING

50' R.O.W.

TEMPORARY TURNAROUND & P.U.D.A.E.

150' TVA EASEMENT

DEVELOPMENT AREA

PHASE 2

PHASE 1

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C28	180.00'	9.48'	9.48'	S 48°39'36" E	3°01'04"
C34	130.00'	2.24'	2.24'	N 07°22'04" E	0°59'17"
C35	180.00'	3.33'	3.33'	N 07°24'11" E	1°03'31"
C36	25.00'	39.27'	35.36'	N 37°04'03" W	90°00'00"
C37	185.00'	12.32'	12.32'	S 80°09'33" E	3°48'59"
C38	25.00'	40.94'	36.51'	S 54°50'27" W	93°48'59"
C39	130.00'	2.40'	2.40'	S 07°24'11" W	1°03'31"
C40	25.03'	39.92'	35.82'	S 36°25'30" E	91°21'26"
C41	180.00'	37.74'	37.67'	S 76°07'53" E	12°00'48"
C42	180.00'	62.69'	62.38'	S 60°08'48" E	19°57'21"
C43	185.00'	5.66'	5.66'	S 77°22'27" E	1°45'13"
C44	130.00'	72.54'	71.60'	N 68°09'12" W	31°58'09"
C45	25.00'	39.27'	35.36'	S 52°51'43" W	90°00'00"

AREA TABLE		
LOT	SQ. FT.	ACRES
31	10,005.0	0.23
32	10,005.0	0.23
33	10,005.0	0.23
34	10,005.0	0.23
35	10,005.0	0.23
36	10,005.0	0.23
37	10,005.0	0.23
38	10,005.0	0.23
39	10,005.0	0.23
40	12,344.0	0.28
41	11,534.5	0.26
42	13,441.7	0.31
43	11,605.8	0.27
44	21,628.0	0.50
45	12,538.9	0.29
46	10,005.0	0.23
47	15,673.3	0.36
48	17,719.7	0.41
49	11,562.6	0.27
50	11,440.3	0.26
51	12,202.0	0.28
52	12,728.5	0.29
53	12,567.6	0.29
54	12,564.4	0.29
55	12,435.5	0.29
56	12,306.7	0.28
57	12,177.8	0.28
58	12,221.6	0.28
59	14,389.3	0.33
60	11,605.8	0.27
61	11,605.8	0.27
62	12,807.3	0.29
63	13,015.3	0.30
OS-3	157,520.7	3.62

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 088, Parcel No. 051.05, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: N/A
9. Deed reference: Book R2853, Page 305
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0165E & 47119C0280E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. All property corners are ½" rebar with cap reading "WES 1987" unless otherwise noted.

PURPOSE NOTE:
The purpose of this plat is to create 33 single family lots and dedicate right-of-way.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

STORMWATER MANAGEMENT AGREEMENT:
RECORDED: _____
DEED BOOK: _____ PAGE: _____

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED A PUBLIC UTILITY, AND DRAINAGE EASEMENT.

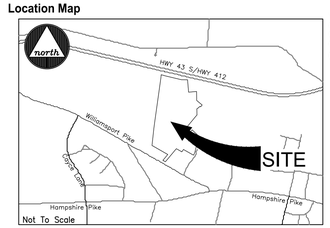
Legend

- EIP — Iron Rod Found
- IPS — Iron Rod Set
- I.P.F. — Iron Pipe Found
- AXLE — Axle Found
- FCM — Fence Post
- CE — Concrete Monument Existing
- PK.F. — PK Nail Found
- PK.S. — PK Nail Set
- R.R.S.-F — Railroad Spike Found
- R.R.S.S. — Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Bollard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- Gas Line
- Sanitary Sewer Line
- Water Line
- Storm Sewer Line
- Overhead Utility Line
- Overhead Cable Line
- Overhead Electric Line
- Overhead Telephone Line
- Underground Utility Line
- Underground Cable Line
- Underground Electric Line
- Underground Telephone Line
- Forced Main Line

SUBDIVISION
TYPICAL LOT LAYOUT

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

Location Map



PARCEL NUMBER:
TAX MAP 088, PARCEL 051.05

DEED BOOK:
R2853, PAGE 305

PARCEL ADDRESS:
WILLIAMSPORT PIKE
COLUMBIA, TN 38401

EXISTING ZONING:
CD-3
(ZONING APPROVED AS RS-10 FROM ORDINANCE 3638)

BUILDING SETBACKS:
FRONT - 30'
SIDE - 10'
REAR - 30'

ACREAGE OF PARCEL:

TOTAL PROPERTY	±44.06	ACRES ~	±1,919,193.2 S.F.
REMAINING PROPERTY	±12.66	ACRES ~	±551,330.0 S.F.
PHASE 1	±16.33	ACRES ~	±711,252.2 S.F.
PHASE 2	±15.07	ACRES ~	±656,611.0 S.F.
R.O.W. DEDICATION	±2.22	ACRES ~	±96,923.9 S.F.

PROPERTY OWNER:
KCS PROPERTY LLC
1985 RIDGECREST DR
COLUMBIA, TN 38401

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2853, Page 305, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date — KCS Property LLC

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, STREET SIGNS, AND UTILITIES

I hereby certify that the streets, drainage, and utilities designated in Williamsport Landing, Phase 2 have been installed in accordance with City Specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

Date — City Engineer, Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date — Maury County E-911, Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date — Director of Wastewater Department, Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Williamsport Landing, Phase 2 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date — Columbia Power & Water Systems, Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date — City Engineer, Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

Date — Secretary, Planning Commission, Columbia, Tennessee

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

4/15/24 — Allen B. O'Leary — TN RLS #1987
Date — Allen B. O'Leary — Number

ALLEN B. O'LEARY — REGISTERED LAND SURVEYOR — AGRICULTURE — COMMERCIAL — RESIDENTIAL — TENNESSEE NO. 1987

Register of Deed Recording Stamp

©2024

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com
ENGINEERS & SURVEYORS

Client
KCS PROPERTY LLC
1985 RIDGECREST DR
COLUMBIA, TN 38401

FINAL PLAT
WILLIAMSPORT LANDING, PHASE 2
COLUMBIA, TN

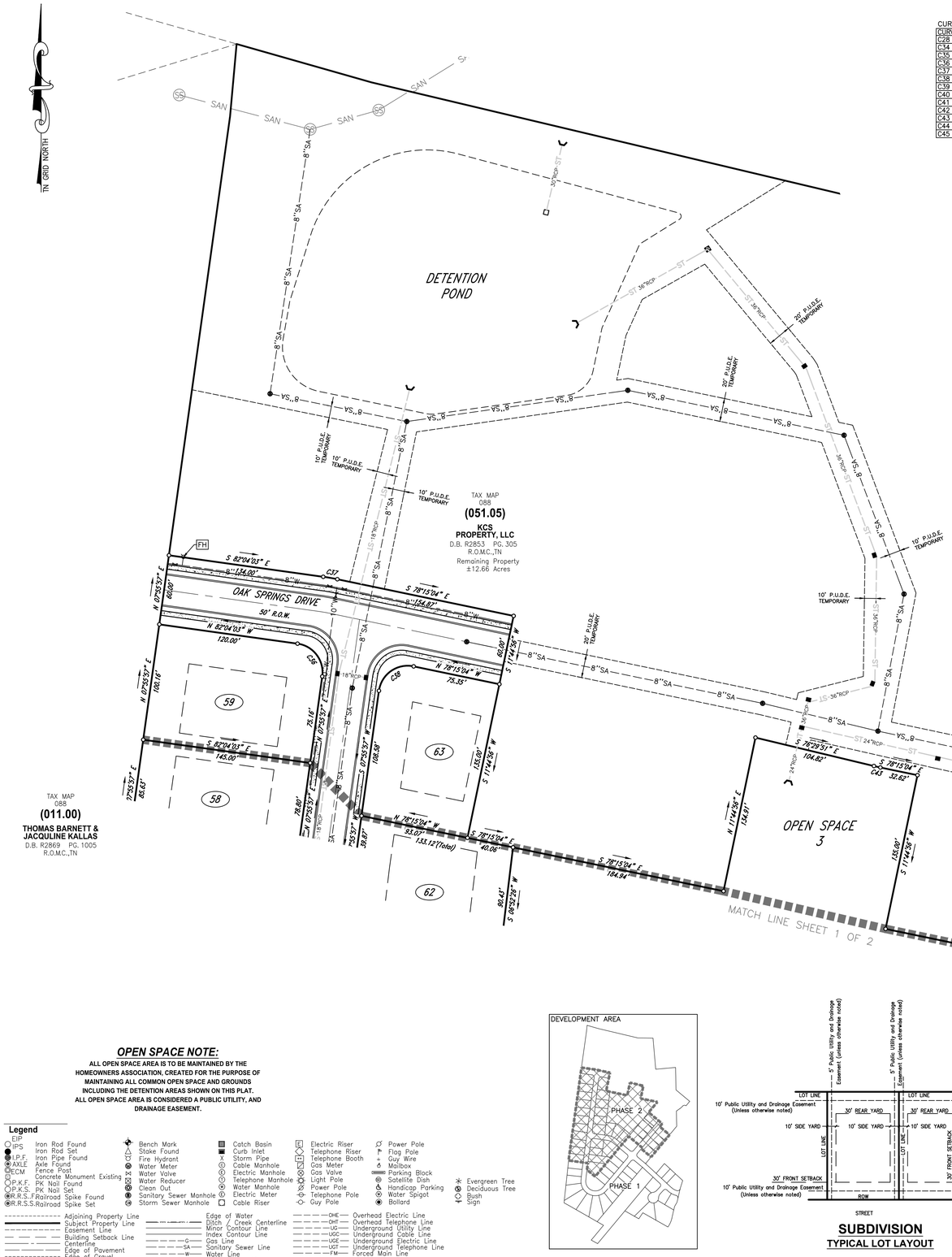
REVISIONS	DATE

Drawn: EB
Checked: AO
Approved: AO
Date: 04-15-2024

Job. no. 22515
Scale: Vertical: 1"=50' Horizontal:

1 of 2

FILE: J:\WES_Engineers_Surveyors 2022\22515 - Williamsport Pike Dev - KCS\Dwg\Survey\01 - Final Plat\22515 - Phase 2 - Final Plat.dwg



TAX MAP 088
(051.05)
KCS PROPERTY, LLC
D.B. R2853 PG. 305
R.O.M.C.,TN
Remaining Property
±12.66 Acres

TAX MAP 088
(011.00)
THOMAS BARNETT & JACQUILINE KALLAS
D.B. R2869 PG. 1005
R.O.M.C.,TN

TAX MAP 088
(051.05)
KCS PROPERTY, LLC
D.B. R2853 PG. 305
R.O.M.C.,TN
Remaining Property
±12.66 Acres

TAX MAP 088
(051.03)
HONEY LAKES, LLC
D.B. R2804 PG. 1004
R.O.M.C.,TN

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C28	180.00'	9.48'	9.48'	S 48°39'36" E	3°01'04"
C34	130.00'	2.24'	2.24'	N 07°22'04" E	0°59'17"
C35	180.00'	3.33'	3.33'	N 07°24'11" E	1°03'31"
C36	25.00'	39.27'	35.36'	N 37°04'03" W	90°00'00"
C37	185.00'	12.32'	12.32'	S 80°09'33" E	3°48'59"
C38	25.00'	40.94'	36.51'	S 54°50'27" W	93°48'59"
C39	130.00'	2.40'	2.40'	S 07°24'11" W	1°03'31"
C40	25.03'	39.92'	35.82'	S 36°25'30" E	91°21'26"
C41	180.00'	37.74'	37.67'	S 78°07'53" E	12°00'48"
C42	180.00'	62.69'	62.38'	S 60°08'48" E	19°57'21"
C43	185.00'	5.66'	5.66'	S 77°22'27" E	1°45'13"
C44	130.00'	72.54'	71.60'	N 66°09'12" W	31°58'09"
C45	25.00'	39.27'	35.36'	S 52°51'43" W	90°00'00"

AREA TABLE		
LOT	SQ. FT.	ACRES
31	10,005.0	0.23
32	10,005.0	0.23
33	10,005.0	0.23
34	10,005.0	0.23
35	10,005.0	0.23
36	10,005.0	0.23
37	10,005.0	0.23
38	10,005.0	0.23
39	10,005.0	0.23
40	12,344.0	0.28
41	11,534.5	0.26
42	13,441.7	0.31
43	11,605.8	0.27
44	21,628.0	0.50
45	12,538.9	0.29
46	10,005.0	0.23
47	15,673.3	0.36
48	17,719.7	0.41
49	11,562.6	0.27
50	11,440.3	0.26
51	12,202.0	0.28
52	12,728.5	0.29
53	12,567.6	0.29
54	12,564.4	0.29
55	12,435.5	0.29
56	12,306.7	0.28
57	12,177.8	0.28
58	12,221.6	0.28
59	14,380.3	0.33
60	11,605.8	0.27
61	11,605.8	0.27
62	12,807.3	0.29
63	13,015.3	0.30
OS-3	157,520.7	3.62

PURPOSE NOTE:
The purpose of this plat is to create 33 single family lots and dedicate right-of-way.

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

STORMWATER MANAGEMENT AGREEMENT:
RECORDED: _____
DEED BOOK: _____ PAGE: _____

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessory expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existance, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 088, Parcel No. 051.05, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: N/A
9. Deed reference: Book R2853, Page 305
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119O0165E & 47119O0280E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. All property corners are ½" rebar with cap reading "WES 1987" unless otherwise noted.

OPEN SPACE NOTE:

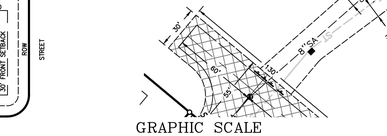
ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED A PUBLIC UTILITY, AND DRAINAGE EASEMENT.

Legend

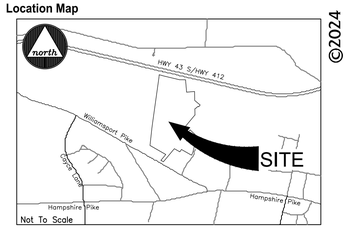
EIP	Iron Rod Found	Bench Mark	Catch Basin	Electric Riser	Power Pole		
IPS	Iron Rod Set	Stake Found	Curb Inlet	Telephone Riser	Flag Pole		
I.P.F.	Iron Pipe Found	Fire Hydrant	Storm Pipe	Telephone Booth	Guy Wire		
AXLE	Axle Found	Water Meter	Cable Manhole	Gas Meter	Mailbox		
ECM	Fence Post	Water Valve	Electric Manhole	Gas Valve	Parking Block		
	Concrete Monument Existing	Water Reducer	Telephone Manhole	Light Pole	Satellite Dish		
P.K.F.	PK Nail Found	Clean Out	Water Manhole	Power Pole	Handicap Parking		
P.K.S.	PK Nail Set	Sanitary Sewer Manhole	Electric Meter	Telephone Pole	Water Spigot		
R.R.S.F.	Railroad Spike Found	Storm Sewer Manhole	Cable Riser	Guy Pole	Bollard		
R.R.S.S.	Railroad Spike Set						

Adjoining Property Line	Edge of Water	OHE	Overhead Electric Line	Evergreen Tree	
Subject Property Line	Ditch / Creek Centerline	OHT	Overhead Telephone Line	Deciduous Tree	
Easement Line	Minor Contour Line	UG	Underground Utility Line	Bush	
Building Setback Line	Index Contour Line	UGC	Underground Cable Line	Sign	
Centerline	Gas Line	UGE	Underground Electric Line		
Edge of Pavement	Sanitary Sewer Line	UGT	Underground Telephone Line		
Edge of Gravel	Water Line	FM	Forced Main Line		
Fence Line	Storm Sewer Line				
Landscape	Overhead Utility Line				
Woods / Tree line	Overhead Cable Line				

SUBDIVISION
TYPICAL LOT LAYOUT



Location Map



©2024

PARCEL NUMBER:
TAX MAP 088, PARCEL 051.05

DEED BOOK:
R2853, PAGE 305

PARCEL ADDRESS:
WILLIAMSPORT PIKE
COLUMBIA, TN 38401

EXISTING ZONING:
CD-3
(ZONING APPROVED AS RS-10 FROM ORDINANCE 3638)

BUILDING SETBACKS:
FRONT - 30'
SIDE - 10'
REAR - 30'

ACREAGE OF PARCEL:

TOTAL PROPERTY	±44.06 ACRES ~	±1,919,193.2 S.F.
REMAINING PROPERTY	±12.66 ACRES ~	±551,330.0 S.F.
PHASE 1	±16.33 ACRES ~	±711,252.2 S.F.
PHASE 2	±15.07 ACRES ~	±656,611.0 S.F.
R.O.W. DEDICATION	±2.22 ACRES ~	±96,923.9 S.F.

PROPERTY OWNER:
KCS PROPERTY LLC
1985 RIDGECREST DR
COLUMBIA, TN 38401

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2853, Page 305, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been fled.

Date _____ KCS Property LLC

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, STREET SIGNS, AND UTILITIES

I hereby certify that the streets, drainage, and utilities designated in Williamsport Landing, Phase 2 have been installed in accordance with City Specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

Date _____ City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date _____ Maury County E-911
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date _____ Director of Wastewater Department
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Williamsport Landing, Phase 2 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date _____ Columbia Power & Water Systems
Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date _____ City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

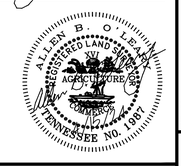
Date _____ Secretary, Planning Commission
Columbia, Tennessee

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

4/15/24 Allen B. O'Leary TN RLS #1987
Date Allen B. O'Leary Number

Register of Deed Recording Stamp



WES Engineers & Surveyors
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com
ENGINEERS & SURVEYORS

Client
KCS PROPERTY LLC
1985 RIDGECREST DR
COLUMBIA, TN 38401

FINAL PLAT
WILLIAMSPORT LANDING, PHASE 2
COLUMBIA, TN

REVISIONS	DATE

Drawn: EB
Checked: AO
Approved: AO
Date: 04-15-2024

Job. no. 22515
Scale:
Vertical: 1"=50'
Horizontal:

2 of 2

FILE:J:\WES_Engineers_Surveyors 2022\22515 - Williamsport Pike Dev - KCS\Dwg\Survey\01 - Final Plat\22515 - Phase 2 - Final Plat.dwg

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

9 day of April, 2024,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Wade Kincaid, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "CMPC") on the

_____ day of _____, 20_____,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS"); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the "IMPROVEMENTS"); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Williamsport Landing Phase 2 PROJECT	
Completed by the Developer	*Completed by the City*
Wade Kincaid / KCS Property DEVELOPER NAME	
Aaron Evens AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
4/9/24 DATE	DATE
1985 Ridgecrest Drive STREET	
Columbia, TN 38401 CITY, STATE, ZIP	
(931) 982-4196 PHONE	
aaron@kcsllc.com EMAIL	
Attest	*Attest*
Wade Kincaid ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
4/9/2024 DATE	DATE

April 15, 2024

City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Williamsport Landing, Phase 2, Final Plat**
City of Columbia Staff Review Submittal

On behalf of KCS Property, LLC, the owner of these 33 proposed single family lots, **WES Engineers & Surveyors** would like to submit this Final Plat to the City of Columbia for Planning Commission approval.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

Final Plat: ** 1 hard copy of all materials for submittal + PDF copy on a USB flash drive (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"
~~**All Others:** * Please submit the Application online at~~ City of Columbia | Permitting (onlama.com)

ADDRESS/LOCATION	Williamsport Pike, Columbia, TN		
	TAX MAP: 088	GROUP:	PARCEL: 051.05
SUMMARY OF NATURE OF REQUEST AND WORK	Request Final Plat approval for 33 single family residential lots - Phase 2 of Williamsport Landing.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Comprehensive Plan Amendment ❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Site Development Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations:** ❑ Annexation Permission Form **Annexations/Rezoning/Plan Amendments:** ❑ Requested Zone Listed ❑ Statement of Compliance with Comprehensive Plan ❑ Concept Plan **Preliminary Plats/Site Development Plans:** ❑ Plans and/or Plats conforming to City standards with signed and completed check list **All Annexations/Rezoning/Preliminary Plats/Site Development Plans and PUDS:** ❑ Receipt of Payment for Pre-Application Meeting ❑ Written Legal Description copy ❑ Columbia Water System Availability Letter ❑ Columbia Waste Water Department Will Serve Letter

	Plats/PUDs: ☑ Project Name (include Sections & Phases) Williamsport Landing, Phase 2 ☑ Total Number of Lots/Residential Units 33 ☐ Square Footage of Non-Residential Floor Space ☑ Total acreage ±15.07

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application. Any requests to defer or move the item to future meeting dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

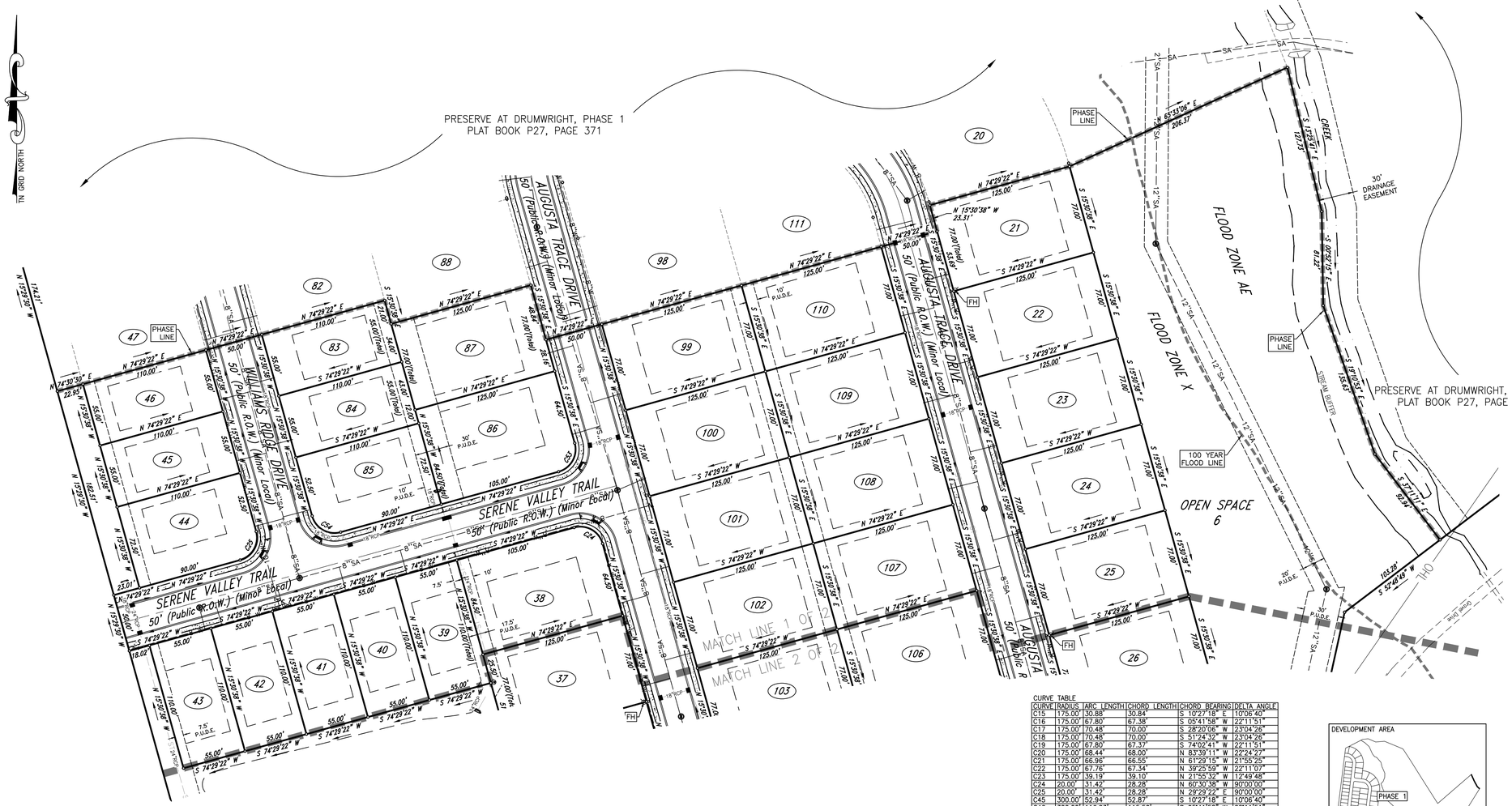
NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	KCS Property, LLC	PHONE	931-490-9782
ADDRESS	1985 Ridgecrest Dr, Columbia, TN	EMAIL	wade@kcsllc.com

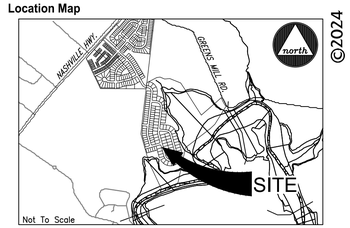
If owner is not a natural person, documentation must be provided showing signing authority on behalf of the entity. If multiple persons are listed as owners in the records of the Maury County Assessor, all owners must sign or the signatory must provide documentation of authority to apply on behalf of record owner (i.e., Power of Attorney or notarized Letter of Authorization). In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Allen O'Leary		4/10/24
APPLICANT NAME	APPLICANT SIGNATURE	DATE
KCS Property		4/9/24
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

Rev. 2/7/2024



Location Map



©2024

PARCEL NUMBER:
TAX MAP 051, PARCEL 034.00

DEED BOOK:
R2871, PAGE 1405

PLAT BOOK:
P11, PAGE 27

PARCEL ADDRESS:
2554 GREENS MILL RD
COLUMBIA, TN 38401

PROPERTY OWNER:
LENNAR HOMES OF TENNESSEE LLC
381 MALLORY STATION RD
SUITE 200
FRANKLIN, TN 37067

EXISTING ZONING:
PUD

BUILDING SETBACKS:
FRONT – 25'
SIDE – 7.5'
REAR – 20'

ACREAGE OF PARCEL:
±77.50 ACRES TOTAL
±51.98 ACRES PHASE 1
±25.52 ACRES PHASE 2
±2.34 ACRE – ±101,982.5 S.F. – R.O.W. DEDICATION

PURPOSE NOTE:
The purpose of this plat is to create 43 single family lots and dedicate right-of-way.

STORMWATER MANAGEMENT AGREEMENT:
RECORDED:
DEED BOOK: _____ PAGE: _____

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2871, Page 1405, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date _____ Lennar Homes of Tennessee LLC

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, STREET SIGNS, AND UTILITIES

I hereby certify that the streets, drainage, and utilities designated in Preserve at Drumwright, Phase 2 have been installed in accordance with City Specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

Date _____ City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date _____ Maury County E-911
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date _____ Director of Wastewater Department
Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Preserve at Drumwright, Phase 2 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date _____ Columbia Power & Water Systems
Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date _____ City Engineer
Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

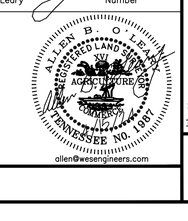
I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

Date _____ Secretary, Planning Commission
Columbia, Tennessee

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

4/15/24 Allen B. O'Leary TN RLS #1987
Date Allen B. O'Leary Number

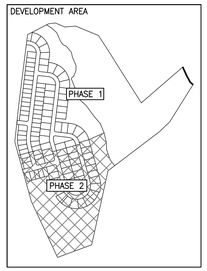


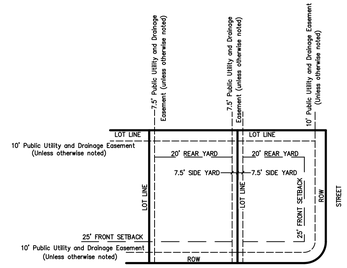
allen@wesengineers.com

Register of Deed Recording Stamp

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C15	175.00'	30.88'	30.84'	S 10°27'18" E	10°06'40"
C16	175.00'	67.80'	67.38'	S 05°41'58" W	22°11'51"
C17	175.00'	70.48'	70.00'	S 28°20'06" W	23°04'26"
C18	175.00'	70.48'	70.00'	S 51°24'32" W	23°04'26"
C19	175.00'	67.80'	67.37'	S 74°02'41" W	22°11'51"
C20	175.00'	68.44'	68.00'	N 83°39'11" W	22°24'27"
C21	175.00'	66.96'	66.55'	N 61°29'15" W	21°55'25"
C22	175.00'	67.76'	67.34'	N 39°25'59" W	22°11'07"
C23	175.00'	39.19'	39.10'	N 21°55'32" W	12°49'48"
C24	20.00'	31.42'	28.28'	N 60°30'38" W	90°00'00"
C25	20.00'	31.42'	28.28'	N 29°29'22" E	90°00'00"
C45	300.00'	52.94'	52.87'	S 10°27'18" E	10°06'40"
C46	300.00'	1116.23'	115.50'	S 05°41'58" W	22°11'51"
C47	290.00'	116.79'	116.00'	S 28°20'06" W	23°04'26"
C48	290.00'	116.79'	116.00'	S 51°24'32" W	23°04'26"
C49	290.00'	112.35'	111.65'	S 74°02'41" W	22°11'51"
C50	290.00'	113.41'	112.69'	N 83°39'11" W	22°24'27"
C51	290.00'	110.97'	110.29'	N 61°29'15" W	21°55'25"
C52	290.00'	112.29'	111.59'	N 39°25'59" W	22°11'07"
C53	20.00'	31.42'	28.28'	S 29°29'22" W	90°00'00"
C54	20.00'	31.42'	28.28'	N 60°30'38" W	90°00'00"
C68	125.00'	392.70'	250.00'	S 74°29'22" W	180°00'00"

AREA TABLE		
LOT	SQ. FT.	ACRES
21	9,625.0	0.22
22	9,625.0	0.22
23	9,625.0	0.22
24	9,625.0	0.22
25	9,625.0	0.22
38	10,476.7	0.24
39	6,050.0	0.14
40	6,050.0	0.14
41	6,050.0	0.14
42	6,050.0	0.14
43	6,050.0	0.14
44	7,889.2	0.18
45	6,050.0	0.14
46	6,050.0	0.14
83	6,050.0	0.14
84	6,050.0	0.14
85	7,889.2	0.18
86	10,476.7	0.24
87	9,625.0	0.22
99	9,625.0	0.22
100	9,625.0	0.22
101	9,625.0	0.22
102	9,625.0	0.22
107	9,625.0	0.22
108	9,625.0	0.22
109	9,625.0	0.22
110	9,625.0	0.22
OS-4	29,172.6	0.67
OS-6	291,488.3	6.69





SUBDIVISION
TYPICAL LOT LAYOUT

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED A PUBLIC UTILITY, AND DRAINAGE EASEMENT.

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulation as interpreted and regulated by the Department of Planning and Codes.
6. The area of the parcels as shown hereon.
7. This property currently identified as Tax Map No. 051, Parcel No. 034.00, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: P11, Page 26
9. Deed reference: Book R2871, Page 1405
10. Bearings based on: Tennessee State Plane, Fipzone 4100.
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0180E, dated April 16, 2007, and shown hereon graphically.
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.
18. All property corners are ½" rebar with cap reading "WES 1987" unless otherwise noted.

Legend

○ EIP	Iron Rod Found	✦ Bench Mark	▩ Catch Basin	E Electric Riser	∅ Power Pole	---------- Adjoining Property Line	— — — — Edge of Water	———OHE——— Overhead Electric Line
● IPS	Iron Rod Set	△ Stake Found	▀ Curb Inlet	◇ Telephone Riser	⚐ Flag Pole	———— Subject Property Line	———— Ditch / Creek Centerline	———OHT——— Overhead Telephone Line
⊙ I.P.F.	Iron Pipe Found	▽ Fire Hydrant	X Storm Pipe	T Telephone Booth	⟊ Guy Wire	———— Easement Line	———— Minor Contour Line	———UG——— Underground Utility Line
⊗ AXLE	Axle Found	Ⓦ Water Meter	Ⓒ Cable Manhole	◪ Gas Meter	♂ Mailbox	— — — — Building Setback Line	———— Index Contour Line	———UGC——— Underground Cable Line
▢ ECM	Fence Post	⋈ Water Valve	Ⓔ Electric Manhole	◪ Gas Valve	▭ Parking Block	———C——— Centerline	———G——— Gas Line	———UGE——— Underground Electric Line
○ P.K.F.	Concrete Monument Existing	⊠ Water Reducer	Ⓣ Telephone Manhole	◇ Light Pole	◎ Satellite Dish	———E——— Edge of Pavement	———SA——— Sanitary Sewer Line	———UGT——— Underground Telephone Line
○ P.K.F.	PK Nail Found	Ⓒ Clean Out	Ⓦ Water Manhole	⌀ Power Pole	♿ Handicap Parking	X Fence Line	———W——— Water Line	———FM——— Forced Main Line
⊙ P.K.S.	PK Nail Set	Ⓢ Sanitary Sewer Manhole	Ⓔ Electric Meter	⌀ Telephone Pole	◉ Water Spigot	Landscape	———ST——— Storm Sewer Line	
⊗ R.R.S.-F	Railroad Spike Found	Ⓢ Storm Sewer Manhole	▢ Cable Riser	⟲ Guy Pole	● Bollard	Woods / Tree line	———OHC——— Overhead Cable Line	
⊗ R.R.S.-S	Railroad Spike Set							

✳ Evergreen Tree	Ⓑ Deciduous Tree	⊙ Bush	⚑ Sign	

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
LENNAR HOMES
381 MALLORY STATION ROAD
SUITE 200
FRANKLIN, TN 37067

FINAL PLAT
PRESERVE AT DRUMWRIGHT, PHASE 2
COLUMBIA, TN

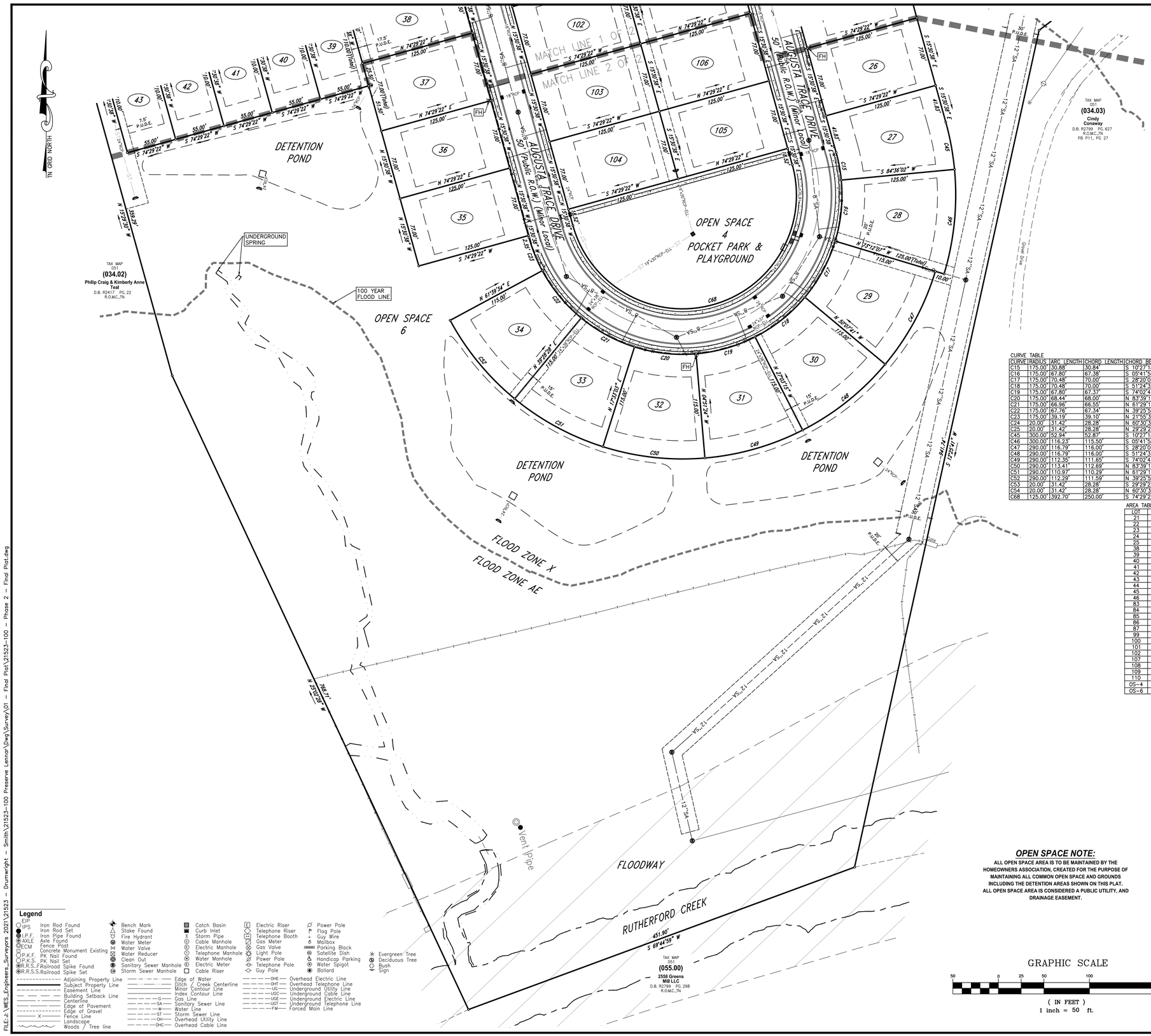
DATE	REVISIONS

Drawn: EB
Checked: AO
Approved: AO
Date: 04-15-2024

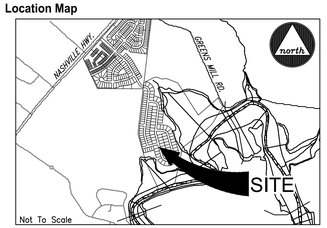
Job. no. 21523-100
Scale: Vertical: Horizontal: 1"=50'

1 of 2

FILE: J:\WES_Engineers_Surveyors 2021\21523 – Drumwright – Smith\21523-100 Preserve Lennar\Dwg\Survey\01 – Final Plat\21523-100 – Phase 2 – Final Plat.dwg



Location Map



Not To Scale

©2024

PARCEL NUMBER: TAX MAP 051, PARCEL 034.00

DEED BOOK: R2871, PAGE 1405

PLAT BOOK: P11, PAGE 27

PARCEL ADDRESS: 2558 GREENS MILL RD COLUMBIA, TN 38401

PROPERTY OWNER: LENNAR HOMES OF TENNESSEE LLC 381 MALLORY STATION RD SUITE 200 FRANKLIN, TN 37067

EXISTING ZONING: PUD

BUILDING SETBACKS: FRONT – 25' SIDE – 7.5' REAR – 20'

ACREAGE OF PARCEL: ±77.50 ACRES TOTAL ±51.98 ACRES PHASE 1 ±25.52 ACRES PHASE 2 ±2.34 ACRE – ±101,982.5 S.F. – R.O.W. DEDICATION

PURPOSE NOTE:
The purpose of this plat is to create 43 single family lots and dedicate right-of-way.

STORMWATER MANAGEMENT AGREEMENT:
RECORDED: _____
DEED BOOK: _____ PAGE: _____

DRIVEWAY NOTE:
All driveways shall be constructed to contain gutter flow within the street and right-of-way, particularly lots that do not have a sidewalk.

CERTIFICATE OF OWNERSHIP AND DEDICATION

I, (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2871, Page 1405, Maury County Registers Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Date — Lennar Homes of Tennessee LLC

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE, STREET SIGNS, AND UTILITIES

I hereby certify that the streets, drainage, and utilities designated in Preserve at Drumwright, Phase 2 have been installed in accordance with City Specifications, or a performance surety in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

Date — City Engineer, Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR SUBDIVISION NAME AND STREET NAMES

Subdivision name and street names approved by the City Engineering Department and by E-911 Maury County.

Date — Maury County E-911, Columbia, Tennessee

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with the current local and state government requirements, or a sufficient bond or other has been filed to guarantee said installation.

Date — Director of Wastewater Department, Columbia, Tennessee

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I, (we) hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled Preserve at Drumwright, Phase 2 has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date — Columbia Power & Water Systems, Columbia, Tennessee

CERTIFICATE OF COMPLIANCE

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations and other adopted ordinances and policies.

Date — City Engineer, Columbia, Tennessee

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register:

Date — Secretary, Planning Commission, Columbia, Tennessee

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief this is a true and accurate survey of the property shown hereon; that this is a category "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

4/15/24 — Allen B. O'Leary — TN RLS #1987

Date — Allen B. O'Leary — Number

ALLEN B. O'LEARY — REGISTERED LAND SURVEYOR — AGRICULTURE — SURVEYOR — TENNESSEE NO. 1987

allen@wesengineers.com

Register of Deed Recording Stamp

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT. ALL OPEN SPACE AREA IS CONSIDERED A PUBLIC UTILITY, AND DRAINAGE EASEMENT.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C15	175.00'	30.88'	30.84'	S 10°27'18" E	10°06'40"
C16	175.00'	67.80'	67.38'	S 05°41'58" W	22°11'51"
C17	175.00'	70.48'	70.00'	S 28°20'06" W	23°04'26"
C18	175.00'	70.48'	70.00'	S 51°24'32" W	23°04'26"
C19	175.00'	67.80'	67.37'	S 74°02'41" W	22°11'51"
C20	175.00'	68.44'	68.00'	N 83°39'11" W	22°24'27"
C21	175.00'	66.96'	66.55'	N 61°29'15" W	21°55'25"
C22	175.00'	67.76'	67.34'	N 39°25'59" W	22°11'07"
C23	175.00'	39.19'	39.10'	N 21°55'32" W	12°49'48"
C24	20.00'	31.42'	28.28'	N 60°30'38" W	90°00'00"
C25	20.00'	31.42'	28.28'	N 29°29'22" E	90°00'00"
C45	300.00'	52.94'	52.87'	S 10°27'18" E	10°06'40"
C46	300.00'	116.23'	115.50'	S 05°41'58" W	22°11'51"
C47	290.00'	116.79'	116.00'	S 28°20'06" W	23°04'26"
C48	290.00'	116.79'	116.00'	S 51°24'32" W	23°04'26"
C49	290.00'	112.35'	111.65'	S 74°02'41" W	22°11'51"
C50	290.00'	113.41'	112.69'	N 83°39'11" W	22°24'27"
C51	290.00'	110.97'	110.29'	N 61°29'15" W	21°55'25"
C52	290.00'	112.29'	111.59'	N 39°25'59" W	22°11'07"
C53	20.00'	31.42'	28.28'	S 29°29'22" W	90°00'00"
C54	20.00'	31.42'	28.28'	N 60°30'38" W	90°00'00"
C68	125.00'	392.70'	250.00'	S 74°29'22" W	180°00'00"

AREA TABLE

LOT	SQ. FT.	ACRES
21	9,625.0	0.22
22	9,625.0	0.22
23	9,625.0	0.22
24	9,625.0	0.22
25	9,625.0	0.22
38	10,476.7	0.24
39	6,050.0	0.14
40	6,050.0	0.14
41	6,050.0	0.14
42	6,050.0	0.14
43	6,050.0	0.14
44	7,889.2	0.18
45	6,050.0	0.14
46	5,050.0	0.14
83	6,050.0	0.14
84	6,050.0	0.14
85	7,889.2	0.18
86	10,476.7	0.24
87	9,625.0	0.22
99	9,625.0	0.22
100	9,625.0	0.22
101	9,625.0	0.22
102	9,625.0	0.22
107	9,625.0	0.22
108	9,625.0	0.22
109	9,625.0	0.22
110	9,625.0	0.22
OS–4	29,172.6	0.67
OS–6	291,488.3	6.69

Legend

EIP	Iron Rod Found	Bench Mark	Catch Basin	Electric Riser	Power Pole
IPS	Iron Rod Set	Stake Found	Curb Inlet	Telephone Riser	Flag Pole
I.P.F.	Iron Pipe Found	Fire Hydrant	Storm Pipe	Telephone Booth	Guy Wire
AXLE	Axle Found	Water Meter	Cable Manhole	Gas Meter	Mailbox
ECM	Fence Post	Water Valve	Electric Manhole	Gas Valve	Parking Block
	Concrete Monument Existing	Water Reducer	Telephone Manhole	Light Pole	Satellite Dish
P.K.F.	PK Nail Found	Clean Out	Water Manhole	Power Pole	Handicap Parking
P.K.S.	PK Nail Set	Sanitary Sewer Manhole	Electric Meter	Telephone Pole	Water Spigot
R.R.S.F.	Railroad Spike Found	Storm Sewer Manhole	Cable Riser	Guy Pole	Bollard
R.R.S.S.	Railroad Spike Set				

Adjoining Property Line	Edge of Water	OHE	Overhead Electric Line
Subject Property Line	Ditch / Creek Centerline	OHT	Overhead Telephone Line
Easement Line	Minor Contour Line	UG	Underground Utility Line
Building Setback Line	Index Contour Line	UGC	Underground Cable Line
Centerline	Gas Line	UGE	Underground Electric Line
Edge of Pavement	Sanitary Sewer Line	UGT	Underground Telephone Line
Edge of Gravel	Water Line	FM	Forced Main Line
Fence Line	Storm Sewer Line		
Landscape	Overhead Utility Line		
Woods / Tree line	Overhead Cable Line		

Evergreen Tree, Deciduous Tree, Bush, Sign

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
LENNAR HOMES
381 MALLORY STATION ROAD
SUITE 200
FRANKLIN, TN 37067

FINAL PLAT
PRESERVE AT DRUMWRIGHT, PHASE 2
COLUMBIA, TN

REVISIONS	DATE

Drawn: EB
Checked: AO
Approved: AO
Date: 04-15-2024

Job. no. 21523-100
Scale:
Vertical: 1"=50'
Horizontal:

2 of 2

FILE: k:\WES_Engineers_Surveyors 2021\21523 – Drumwright – Smith\21523-100 Preserve Lennar\Dwg\Survey\01 – Final Plat\21523-100 – Phase 2 – Final Plat.dwg

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

11th day of April, 20 24,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

LENNAR HOMES OF TENNESSEE, LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "CMPC") on the

_____ day of _____, 20____,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS"); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the "IMPROVEMENTS"); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

PRESERVE AT DRUMWRIGHT PHASE 2

PROJECT

Completed by the Developer	*Completed by the City*
LENNAR HOMES OF TENNESSEE, LLC	
DEVELOPER NAME	
NICK BRANUM	
AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
4/11/2024	
DATE	DATE
381 MALLORY STATION RD #200	
STREET	
FRANKLIN, TN 37067	
CITY, STATE, ZIP	
615-305-8321	
PHONE	
Nick.Branum@Lennar.com	
EMAIL	
Attest	*Attest*
Angela Lashley-Land Coordinator	
ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
4/11/2024	
DATE	DATE

April 15, 2024

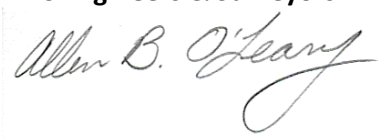
City of Columbia
Development Services
700 North Garden Street
Columbia, TN 38401

RE: **Project Name: Preserve at Drumwright, Phase 2, Final Plat**
City of Columbia Staff Review Submittal

On behalf of Lennar Homes of Tennessee LLC, the owner of these 43 proposed single family lots, **WES Engineers & Surveyors** would like to submit this Final Plat to the City of Columbia for Planning Commission approval. Included in the submittal is surety calc that was submitted with Preserve at Drumwright Phase 1 that covered the entire project.

If you have any questions or comments with this submittal, please do not hesitate to contact me directly.

Sincerely,
WES Engineers & Surveyors



Allen B. O'Leary, RLS
Principal

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

Final Plat: * *1 hard copy of all materials for submittal + PDF copy on a USB flash drive (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"
All Others: * Please submit the Application online at City of Columbia | Permitting (onlama.com)

ADDRESS/LOCATION	Nashville Hwy, Columbia, TN		
	TAX MAP: 051	GROUP:	PARCEL: 034.00/034.01
SUMMARY OF NATURE OF REQUEST AND WORK	Request Final Plat approval for 42 single family residential lots and dedication of right-of-way for Preserve at Drumwright, Phase 2.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Comprehensive Plan Amendment ❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Site Development Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations:** ❑ Annexation Permission Form **Annexations/Rezoning/Plan Amendments:** ❑ Requested Zone Listed ❑ Statement of Compliance with Comprehensive Plan ❑ Concept Plan **Preliminary Plats/Site Development Plans:** ❑ Plans and/or Plats conforming to City standards with signed and completed check list **All Annexations/Rezoning/Preliminary Plats/Site Development Plans and PUDS:** ❑ Receipt of Payment for Pre-Application Meeting ❑ Written Legal Description copy ❑ Columbia Water System Availability Letter ❑ Columbia Waste Water Department Will Serve Letter

Rev. 2/7/2024

	Plats/PUDs: ☑ Project Name (include Sections & Phases) Preserve at Drumwright, Phase 2 ☑ Total Number of Lots/Residential Units 42 ☐ Square Footage of Non-Residential Floor Space ☑ Total acreage ±25.52

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application. Any requests to defer or move the item to future meeting dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT
All communications go to the Applicant's email that is provided.

NAME	Allen B. O'Leary	PHONE	931-388-2329
ADDRESS	2486 Nashville Hwy, Columbia, TN	EMAIL	allen@wesengineers.com

PROPERTY OWNER NAME	Lennar Homes of Tennessee LLC	PHONE	615-305-8321
ADDRESS	381 Mallory Station Rd, Suite 200 Franklin, TN 37067	EMAIL	Nick.Branum@Lennar.com

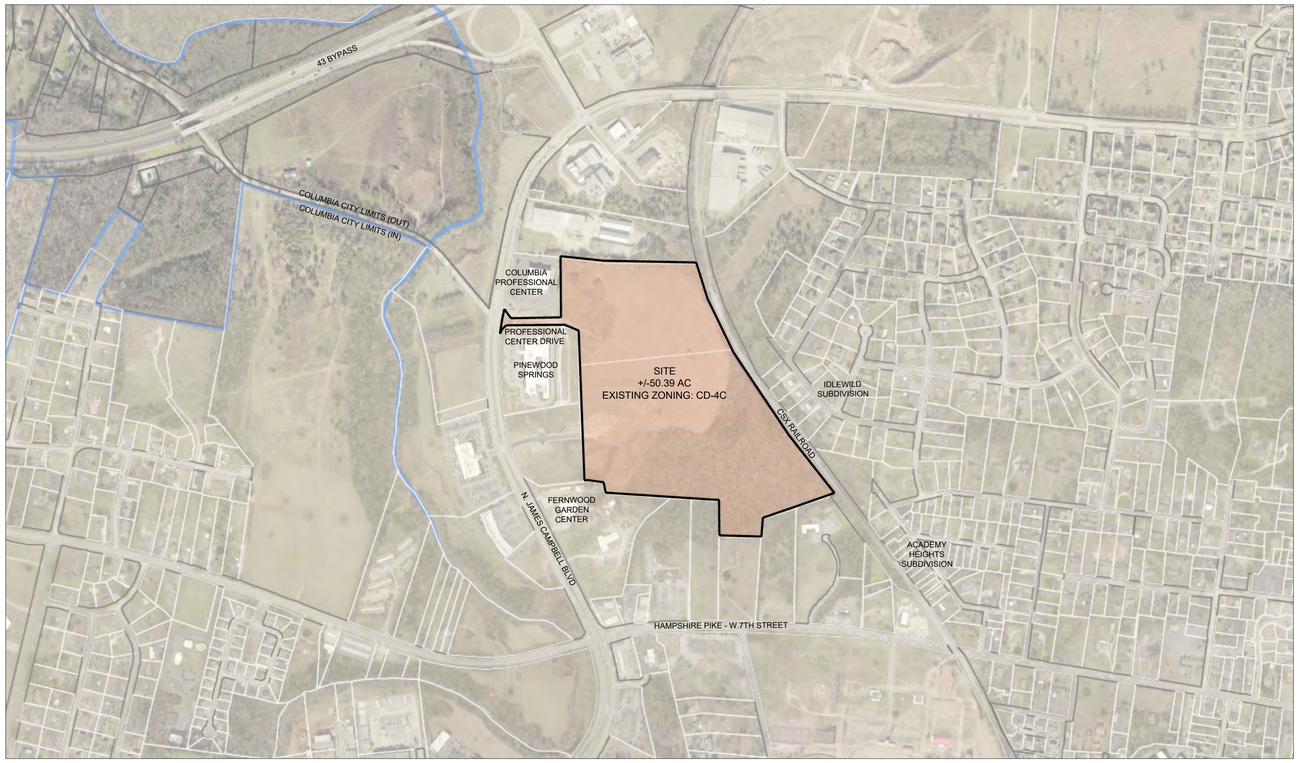
If owner is not a natural person, documentation must be provided showing signing authority on behalf of the entity. If multiple persons are listed as owners in the records of the Maury County Assessor, all owners must sign or the signatory must provide documentation of authority to apply on behalf of record owner (i.e., Power of Attorney or notarized Letter of Authorization). In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

LENNAR HOMES OF TENNESSEE, LLC		4/11/24
APPLICANT NAME	APPLICANT SIGNATURE	DATE
LENNAR HOMES OF TENNESSEE, LLC		4/11/24
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

Rev. 2/7/2024

JAMES CAMPBELL PROPERTY
SITE DEVELOPMENT PLAN

INTERSECTION OF N. JAMES CAMPBELL ROAD & PROFESSIONAL CENTER DRIVE
COLUMBIA, TENNESSEE



LOCATION MAP

0 500 1000
GRAPHIC SCALE 1"=500'-0"

DEVELOPER:
HRP RESIDENTIAL
5100 MARYLAND WAY
BRENTWOOD, TN 37027
ROB TURNER
rob@hrpresidential.com

APPLICANT/ LAND PLANNER:
GAMBLE DESIGN COLLABORATIVE
3020 STANSBERRY LANE, SUITE 201
FRANKLIN, TN 37064
GREG GAMBLE
615-975-5765
greg.gamble@gdc-tn.com

ENGINEER:
KIMLEY-HORN
10 LEA AVENUE, SUITE 400
NASHVILLE, TN 37210
LANDON ALLISON
615.208.5112
landon.allison@kimley-horn.com

ARCHITECT:
KSA
22 MIDDLETON STREET
NASHVILLE, TN 37210
615.255.1854

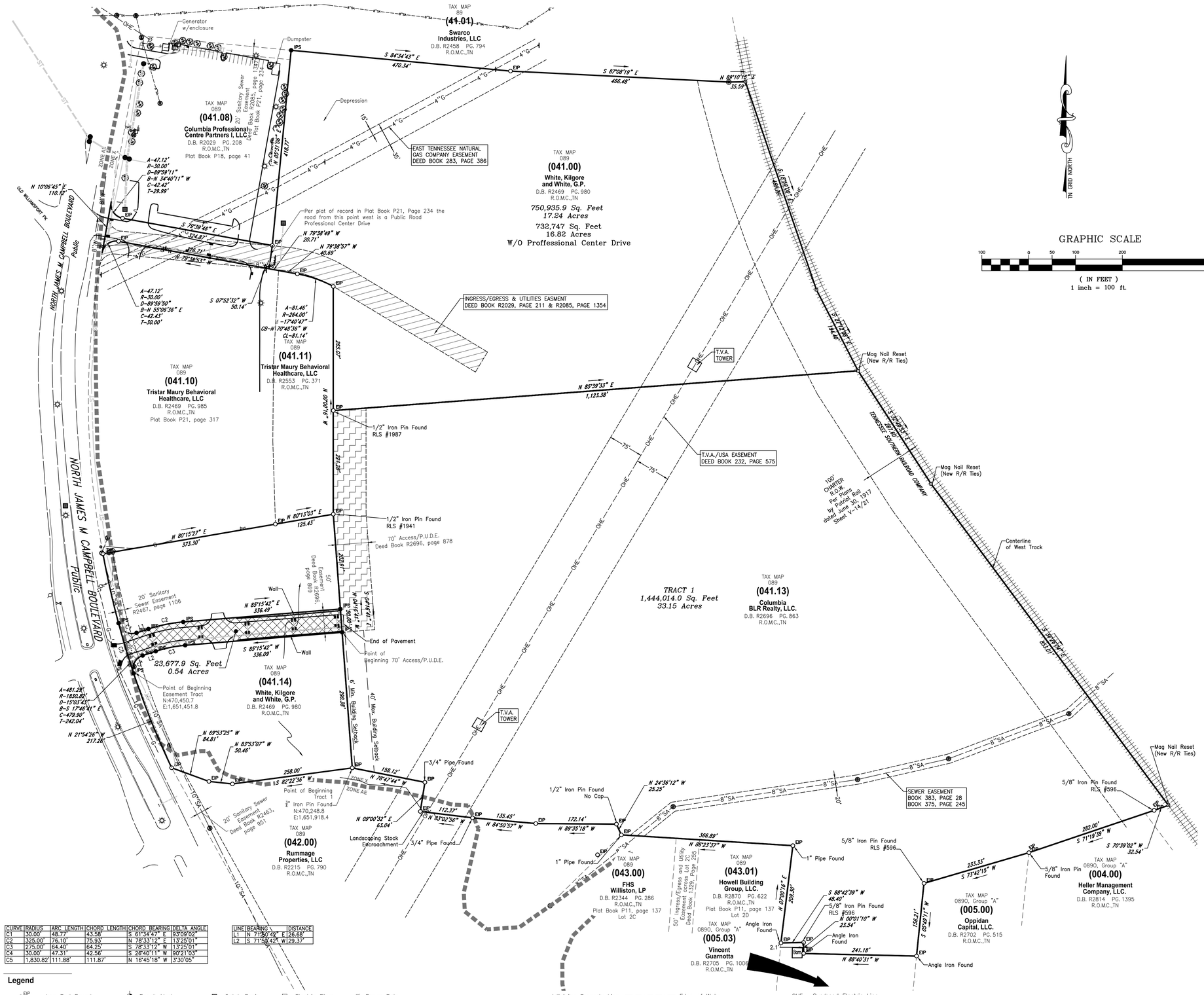
SHEET INDEX

C0.0	COVER SHEET
	STAMPED SURVEY BY OTHERS PAGE 1
	STAMPED SURVEY BY OTHERS PAGE 2
C1.0	OVERALL EXISTING CONDITIONS
C1.1-1.4	ENLARGED EXISTING CONDITIONS
C2.0	SITE DEVELOPMENT PLAN
C3.0	OVERALL GRADING & DRAINAGE PLAN
C3.1-3.4	ENLARGED GRADING & DRAINAGE PLAN
C5.0	OVERALL UTILITY PLAN
C5.1-5.4	ENLARGED UTILITY PLAN
L1.0	TREE CANOPY PRESERVATION
L2.0	OVERALL CODE MINIMUM LANDSCAPE PLAN
L2.1-2.4	ENLARGED CODE MINIMUM LANDSCAPE PLAN
L3.0	CIVIC SPACE

JEFFREY A. ROSIAK
REGISTERED
LANDSCAPE ARCHITECT
11-15-24

PRE-APP: Nov. 15, 2023
INITIAL SUBMITTAL: April 15, 2024

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE



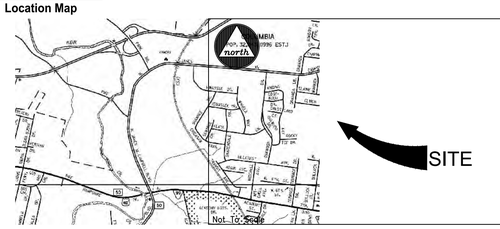
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	30.00'	48.77'	43.58'	S 61°34'47" E	93°09'02"
C2	325.00'	76.10'	75.93'	N 78°33'12" E	13°25'01"
C3	275.00'	64.40'	64.25'	S 78°33'12" W	13°25'01"
C4	30.00'	47.31'	42.56'	S 26°40'11" W	90°21'03"
C5	1,830.82'	111.88'	111.87'	N 16°45'18" W	3°30'05"

LINE	BEARING	DISTANCE
L1	N 71°50'49" E	26.68'
L2	S 71°50'42" W	29.37'

Legend

- EIP Iron Rod Found
- IPS Iron Rod Set
- I.P.F. Iron Pipe Found
- AXLE Axle Found
- FCM Fence Post
- Concrete Monument Existing
- P.K.F. PK Nail Found
- P.K.S. PK Nail Set
- R.R.S.-F. Railroad Spike Found
- R.R.S.S. Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Bollard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- Gas Line
- Sanitary Sewer Line
- Water Line
- Storm Sewer Line
- Overhead Utility Line
- Overhead Cable Line
- OHE Overhead Electric Line
- OHT Overhead Telephone Line
- UG Underground Utility Line
- UGC Underground Cable Line
- UGE Underground Electric Line
- UGT Underground Telephone Line
- FM Forced Main Line

Location Map



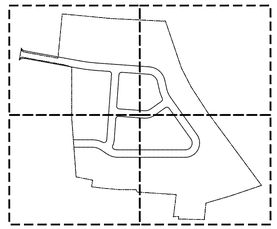
Legend

- EIP / PS — Iron Rod Found / Iron Rod Set
- I.P.F. — Iron Pipe Found
- AXLE — Axle Found
- ECM — Fence Post
- Concrete Monument Existing
- P.K.F. — PK Nail Found
- P.K.S. — PK Nail Set
- R.R.S.F. — Railroad Spike Found
- R.R.S.S. — Railroad Spike Set
- Bench Mark
- Stake Found
- Fire Hydrant
- Water Meter
- Water Valve
- Water Reducer
- Clean Out
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Catch Basin
- Curb Inlet
- Storm Pipe
- Cable Manhole
- Electric Manhole
- Telephone Manhole
- Water Manhole
- Electric Meter
- Cable Riser
- Electric Riser
- Telephone Riser
- Telephone Booth
- Gas Meter
- Gas Valve
- Light Pole
- Power Pole
- Telephone Pole
- Guy Pole
- Power Pole
- Flag Pole
- Guy Wire
- Mailbox
- Parking Block
- Satellite Dish
- Handicap Parking
- Water Spigot
- Ballard
- Evergreen Tree
- Deciduous Tree
- Bush
- Sign
- Adjoining Property Line
- Subject Property Line
- Easement Line
- Building Setback Line
- Centerline
- Edge of Pavement
- Edge of Gravel
- Fence Line
- Landscape
- Woods / Tree line
- Edge of Water
- Ditch / Creek Centerline
- Minor Contour Line
- Index Contour Line
- G — Gas Line
- SA — Sanitary Sewer Line
- W — Water Line
- ST — Storm Sewer Line
- OH — Overhead Utility Line
- OHC — Overhead Cable Line
- OHE — Overhead Electric Line
- OHT — Overhead Telephone Line
- UG — Underground Utility Line
- UGC — Underground Cable Line
- UGE — Underground Electric Line
- UGT — Underground Telephone Line
- FM — Forced Main Line

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

KEY MAP

NOT TO SCALE



NORTH JAMES M CAMPBELL BOULEVARD

PUBLIC

OLD WILLIAMSPORT PK

TAX MAP 089 (041.01) Swarco Industries, LLC D.B. R2458 PG. 794 R.O.M.C.,TN

TAX MAP 089 (041.10) Tristar Maury Behavioral Healthcare, LLC D.B. R2469 PG. 985 R.O.M.C.,TN Plat Book P21, page 317

TAX MAP 089 (041.11) Tristar Maury Behavioral Healthcare, LLC D.B. R2553 PG. 371 R.O.M.C.,TN

TAX MAP 089 (041.14) White, Kilgore and White, G.P. D.B. R2469 PG. 980 R.O.M.C.,TN

TAX MAP 089 (042.00) Rummage Properties, LLC D.B. R2215 PG. 790 R.O.M.C.,TN

TAX MAP 089 (043.00) Weston, LP D.B. R2344 PG. 286 R.O.M.C.,TN Plat Book P11, page 137 Lot 2C

TAX MAP 089 (043.01) Howell Building Group, LLC. D.B. R2870 PG. 622 R.O.M.C.,TN Plat Book P11, page 137 Lot 2D

TAX MAP 089 (041.13) Columbia BLR Realty, LLC. D.B. R2696 PG. 863 R.O.M.C.,TN

TAX MAP 0890, Group "A" (005.03) Vincent Guarnotta D.B. R2705 PG. 1006 R.O.M.C.,TN

TAX MAP 0890, Group "A" (005.00) Oppidan Capital, LLC. D.B. R2702 PG. 515 R.O.M.C.,TN

TAX MAP 0890, Group "A" (004.00) Heller Management Company, LLC. D.B. R2814 PG. 1395 R.O.M.C.,TN

EXISTING PROPERTY LINE, TYP.

EAST TENNESSEE NATURAL GAS COMPANY EASEMENT DEED BOOK 283, PAGE 386

EXISTING GAS LINE AND EASEMENT TO REMAIN, TYP.

WITHDRAW PROPERTY TO BE RETAINED
750,935.9 Sq. Feet
17.24 Acres
Shown hereon for informational purposes

EXISTING INGRESS AND EGRESS EASEMENT TO BE ABANDONED

INGRESS/EGRESS & UTILITIES EASEMENT DEED BOOK R2029, PAGE 211 & R2085, PAGE 1354

EXISTING PROPERTY LINE TO BE ABANDONED

150' TVA EASEMENT, TYP.

T.V.A./USA EASEMENT DEED BOOK 232, PAGE 575

T.V.A. TOWER

EXISTING 70' ACCESS AND P.U.D.E. EASEMENT TO BE ABANDONED

70' Access/P.U.D.E. Deed Book R2696, page 878

20' Sanitary Sewer Easement

20' Sanitary Sewer Easement R2467, page 1106

20' Sanitary Sewer Easement Deed Book R2463, page 951

50' Ingress/Egress and Utility Easement Deed Book 1329, page 255

TRACT 1
1,444,014.0 Sq. Feet
33.15 Acres

23,677.9 Sq. Feet
0.54 Acres

Point of Beginning Easement Tract N:470,450.7 E:1,651,451.8

Point of Beginning 70' Access/P.U.D.E.

Point of Beginning Tract 1 3" Iron Pin Found

ZONE X
ZONE AE

1/2" Iron Pin Found RLS #1987

1/2" Iron Pin Found RLS #1941

1/2" Iron Pin Found No Cap

3/4" Pipe Found

1" Pipe Found

5/8" Iron Pin Found RLS #596

5/8" Iron Pin Found

Angle Iron Found

Mag Nail Reset (New R/R Ties)

Centerline of West Track

TOP OF BANK

30' STREAM BUFFER LINE

SEWER EASEMENT BOOK 383, PAGE 28 BOOK 375, PAGE 245

Inv. – 604.1 3.5' Wide by 4.5' Tall Concrete Box

Inv.–607.5 48" Concrete Pipe

Wall

End of Pavement

Landscaping Stock Encroachment

Nd 470,248.8 E 1,651,918.4



GRAPHIC SCALE IN FEET
0 50 100 200

NORTH

OVERALL EXISTING CONDITIONS

C1.0

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NORTH JAMES M CAMPBELL BOULEVARD

OLD WILLIAMSPORT PK

NORTH JAMES

Swarco Industries, LLC
D.B. R2458 PG. 794
R.O.M.C.,TN

IPS

S 84° 34'43" E 470.34'

EIP

20' Sanitary Sewer Easement

EAST TENNESSEE NATURAL GAS COMPANY EASEMENT DEED BOOK 283, PAGE 386

15'

35'

N 05°31'06" E 418.77'

N 10°06'45" E 170.12'

WHEROW PR
TO BE RET
750,935.9
17.24
Shown her
informational

EXISTING INGRESS AND EGRESS EASEMENT TO BE ABANDONED

EIP

EIP

INGRESS/EGRESS & UTILITIES EASMENT
DEED BOOK R2029, PAGE 211 & R2085, PAGE 1354

TAX MAP 089 (041.11)
Tristar Maury Behavioral Healthcare, LLC
D.B. R2553 PG. 371
R.O.M.C.,TN

TAX MAP 089 (041.10)
Tristar Maury Behavioral Healthcare, LLC
D.B. R2469 PG. 985
R.O.M.C.,TN
Plat Book P21, page 317

265.07'

N 00°00'16" W

EIP

1/2" Iron Pin Found
RLS #1987

EXISTING 70' P.U.D.E. AND ACCESS EASEMENT TO BE ABANDONED

221.28'

1/2" Iron Pin Found
RLS #1941

EIP

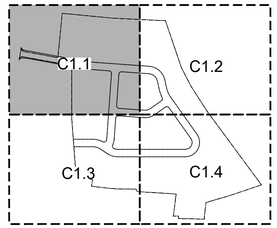
S 89°13'03" E

MATCHLINE SEE SHEET C1.2

MATCHLINE SEE SHEET C1.3

KEY MAP

NOT TO SCALE



BRENDAN JOSEPH LOFTIS
REGISTERED ENGINEER
AGRICULTURE
No. 001107
STATE OF TENNESSEE
4/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED EXISTING CONDITIONS

C1.1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

EIP

S 87°08'19" E
466.48'

N 89°10'15" E
35.59'

S 12°50'00" E
489.28'

S 27°12'08" E
194.40'

S 32°49'53" E
287.60'

TENNESSEE SOUTHERN RAILROAD COMPANY

Mag Nail Reset
(New R/R Ties)

Mag Nail Reset
(New R/R Ties)

WITHEROW PROPERTY
TO BE RETAINED

750,935.9 Sq. Feet
17.24 Acres

Shown hereon for
informational purposes

INTERNAL PROPERTY LINE
TO BE ABANDONED

N 85°39'33" E
1,123.38'

T.V.A.
TOWER

T.V.A./USA EASEMENT
DEED BOOK 232, PAGE 575

75'

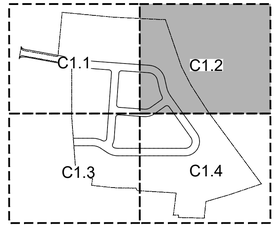
75'

MATCHLINE SEE SHEET C1.1

MATCHLINE SEE SHEET C1.4

KEY MAP

NOT TO SCALE



BRENDAN JOSEPH LEE
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
WINDER
NO. 00110795
STATE OF TENNESSEE
04/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED EXISTING CONDITIONS

C1.2

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

MATCHLINE SEE SHEET C1.1

MATCHLINE SEE SHEET C1.4

1/2" Iron Pin Found
RLS #1941

N 80°13'03" E
125.43'

EIP

N 80°15'27" E
373.30'

70' Access/P.U.D.E.
Deed Book R2696, page 878

202.91'

EXISTING 70' P.U.D.E. AND ACCESS EASEMENT TO BE ABANDONED

50' Easement Deed Book R2696, page 869

20' Sanitary Sewer Easement R2467, page 1106

Wall

N 85°15'42" E
336.49'

S 04°16'41" E
50.00'

N 04°16'41" W

IPS

C1 C2 C3 C4 C5 L2

S 85°15'42" W
336.09'

End of Pavement

Wall

23,677.9 Sq. Feet
0.54 Acres

TAX MAP 089
(041.14)
White, Kilgore and White, G.P.
D.B. R2469 PG. 980
R.O.M.C., TN

Point of Beginning Easement Tract
N:470,450.7
E:1,651,451.8

Point of Beginning 70' Access/P.U.D.E.

290.38'

A=481.29'
R=1830.82'
D=15°03'43"
B=S 17°46'41" E
C=479.90'
T=242.04'

N 21°54'26" W
217.26'

N 69°53'25" W
84.81'

N 83°53'07" W
50.46'

Point of Beginning Tract 1
3/4" Iron Pin Found

T.V.A. TOWER

ZONE X

ZONE AE

258.00'
S 82°22'36" W

158.12'
N 78°47'44" W

3/4" Pipe Found

112.37'
N 09°00'32" E
63.04'

N 83°02'56" W

135.45'
N 84°50'57" W

Landscaping Stock Encroachment

3/4" Pipe Found

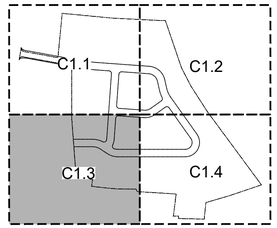
20' Sanitary Sewer Easement Deed Book R2463, page 951

N:470,248.8
E:1,651,918.4

TAX MAP 089
(042.00)
Rummage Properties, LLC
D.B. R2215 PG. 790
R.O.M.C., TN

JAMES M CAMPBELL BOULEVARD
Public

KEY MAP
NOT TO SCALE



GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

BRENDAN JOSEPH LOCKE
REGISTERED ENGINEER
AGRICULTURE
No. 001107
STATE OF TENNESSEE
04/15/2024

ENLARGED EXISTING CONDITIONS

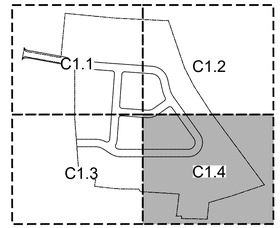
C1.3

MATCHLINE SEE SHEET C1.2

MATCHLINE SEE SHEET C1.3

KEY MAP

NOT TO SCALE



S 36°16'04" E
853.01'

SEWER EASEMENT
BOOK 383, PAGE 28
BOOK 375, PAGE 245

TOP OF BANK

30' STREAM BUFFER

8" SA

N 24°36'12" W
25.25'

172.14'
N 89°35'18" W

366.89'
N 86°23'37" W

TAX MAP
089
(043.01)
Howell Building
Group, LLC.
D.B. R2870 PG. 622
R.O.M.C.,TN
Plat Book P11, page 137
Lot 2D

TAX MAP
0890, Group "A"
(005.03)
Vincent
Guarnotta
D.B. R2705 PG. 1006
R.O.M.C.,TN

N 07°00'16" E
208.30'

S 88°42'39" W
48.40'

N 00°01'10" W
23.54'

241.18'
N 88°40'31" W

156.21'
S 05°49'11" W

233.33'
S 73°42'15" W

TAX MAP
0890, Group "A"
(005.00)
Oppidan
Capital, LLC.
D.B. R2702 PG. 515
R.O.M.C.,TN

282.00'
S 71°19'39" W

S 70°39'02" W
32.54'

D.B.

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

BRENDAN JOSEPH LOY
REGISTERED ENGINEER
AGRICULTURE
NUMBER
No. 0011079
STATE OF TENNESSEE
12/15/2023

ENLARGED EXISTING CONDITIONS

C1.4

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



0 100 200 300
GRAPHIC SCALE 1"=100'-0"

SITE DEVELOPMENT PLAN SITE DATA:

TOTAL SITE AREA: 2,194,949.9 SF; 50.93 AC
AREA BREAKDOWN:
ROW: 307,647 SF; 7.06 AC
PARKING LOT: 262,349 SF; 6.00 AC
CIVIC SPACE: 129,819 SF; 2.98 AC
TOTAL DWELLING UNITS: 444 UNITS
TOTAL COMMERCIAL: 30,140 SF COMMERCIAL
TOTAL DENSITY: 8.72 DUA

BUILDING SETBACKS:
FRONT AND CORNER: 6' MIN. - 40' MAX.
SIDE: 0'
REAR: 3' MIN.

BUILDING SUMMARY:

BUILDING NAME	BUILDING SITE #	TOTAL DWELLING UNITS	TOTAL COMMERCIAL SF	REQUIRED PARKING	FRONTAGE (LF)	FRONTAGE BUILDOUT
MIXED-USE 1	3	63	7,500	110*	208	169 LF; 81%
MIXED-USE 2	4	63	7,500	110*	206	169 LF; 82%
DAYCARE	6	0	15,120	115*	240	195 LF; 81%
LARGE MULTI-FAMILY 1	5	24	0	36*	124	123 LF; 99%
LARGE MULTI-FAMILY 2	24	21	0	31.5	128	128 LF; 100%
LARGE MULTI-FAMILY 3	30	24	0	36	128	128 LF; 100%
LARGE MULTI-FAMILY 4	31	24	0	36	128	128 LF; 100%
LARGE MULTI-FAMILY 5	26	21	0	31.5	128	128 LF; 100%
LARGE MULTI-FAMILY 6	27	21	0	31.5	128	128 LF; 100%
LARGE MULTI-FAMILY 7	28	21	0	31.5	128	128 LF; 100%
SMALL MULTI-FAMILY 1	18	6	0	9	95	61 LF; 65% **
SMALL MULTI-FAMILY 2	19	6	0	9	90	56 LF; 62%
SMALL MULTI-FAMILY 3	20	6	0	9	79	56 LF; 71%
SMALL MULTI-FAMILY 4	21	6	0	9	81	56 LF; 69%
SMALL MULTI-FAMILY 5	8	6	0	9*	122	91 LF; 75% **
SMALL MULTI-FAMILY 6	9	6	0	9*	84	56 LF; 67%
SMALL MULTI-FAMILY 7	10	6	0	9*	85	56 LF; 66%
SMALL MULTI-FAMILY 8	14	6	0	9*	91	56 LF; 62%
SMALL MULTI-FAMILY 9	13	6	0	9*	76	56 LF; 74%
SMALL MULTI-FAMILY 10	12	6	0	9*	76	56 LF; 74%
SMALL MULTI-FAMILY 11	11	6	0	9*	73	56 LF; 77%
SMALL MULTI-FAMILY 12	15	6	0	9	88	56 LF; 64%
SMALL MULTI-FAMILY 13	16	6	0	9	87	56 LF; 64%
SMALL MULTI-FAMILY 14	17	6	0	9	110	66 LF; 60% **
SMALL MULTI-FAMILY 15	37	6	0	9	76	56 LF; 74%
SMALL MULTI-FAMILY 16	38	6	0	9	74	56 LF; 76%
SMALL MULTI-FAMILY 17	39	6	0	9	75	56 LF; 75%
SMALL MULTI-FAMILY 18	40	6	0	9	74	56 LF; 76%
SMALL MULTI-FAMILY 19	41	6	0	9	75	56 LF; 75%
SMALL MULTI-FAMILY 20	42	6	0	9	74	56 LF; 76%
SMALL MULTI-FAMILY 21	43	6	0	9	79	56 LF; 71%
SMALL MULTI-FAMILY 22	44	6	0	9	90	56 LF; 62%
SMALL MULTI-FAMILY 23	36	6	0	9	81	56 LF; 69%
SMALL MULTI-FAMILY 24	35	6	0	9	84	56 LF; 67%
SMALL MULTI-FAMILY 25	34	6	0	9	85	56 LF; 66%
SMALL MULTI-FAMILY 26	33	6	0	9	90	56 LF; 62%
SMALL MULTI-FAMILY 27	32	6	0	9	138	83 LF; 60% **

PARKING SUMMARY:
*BLOCK TO UTILIZE SHARED PARKING FACTOR PER TABLE 4.3.12.B-2
REQUIRED PARKING RATIOS:
MULTI-FAMILY: 1.5 SPACES PER UNIT (444 UNITS = 666 REQUIRED SPACES)
COMMERCIAL: 1 PER 500 SF (15,000 SF = 30 REQUIRED SPACES)
DAYCARE: 1 SPACE PER EMPLOYEE + 0.5 SPACES PER STUDENT (204 STUDENTS + 13 EMPLOYEES = 115 SPACES)
CIVIC SPACE: 1 PER 5,000 SF (129,819 SF = 26 SPACES)

SHARED PARKING FACTOR:
MIXED-USE BLDG 1: 110 REQUIRED SPACES @ 1.2 SHARED RATIO = 92 REQUIRED SPACES; 104 SPACES PROVIDED ON BLOCK
MIXED-USE BLDG 2 + LARGE MULTI-FAMILY BLDG 1: 146 REQUIRED SPACES @ 1.2 SHARED RATIO = 122 REQUIRED SPACES; 127 PROVIDED ON BLOCK
DAYCARE + SMALL MULTI-FAMILY BLDG 5-11: 178 REQUIRED SPACES @ 1.2 SHARED RATIO = 148 REQUIRED SPACES; 166 PROVIDED ON BLOCK

TOTAL PARKING SPACES REQUIRED: 766
TOTAL PARKING SPACES PROVIDED: 788 PROVIDED AS ON-STREET PARKING + PARKING LOTS PROVIDED ON LOTS 1, 7, 25 & 29

BICYCLE PARKING REQUIRED:
MULTI-FAMILY: 1 PER 20 REQUIRED PARKING SPACES (666 SPACES = 34 BICYCLE)
COMMERCIAL: 1 PER 4,000 SF (30,120 SF = 8 BICYCLE)
TOTAL REQUIRED: 42 BICYCLE PARKING SPACES
TOTAL PROVIDED: 42 BICYCLE PARKING SPACES

FRONTAGE BUILD-OUT: 60% MINIMUM REQUIRED MULTI-FAMILY; 40% MINIMUM REQUIRED COMMERCIAL
ALL BUILDING SITES MEET THE REQUIRED MINIMUM FRONTAGE BUILD-OUT
**BUILD-OUT REQUIRES USE OF HEDGE SCREEN OR BUILDING SITE WIDTH REQUEST; HEDGE SCREEN INSTALLATION HEIGHT 3' MIN. SEE LANDSCAPE PLAN FOR LOCATION
BUILDING SITE 6: DAYCARE SITE REQUESTS AN ADMINISTRATIVELY APPROVED EXCEPTION TO THE 200' BUILDING SITE WIDTH MAXIMUM, FOR A TOTAL WIDTH OF 240'. THE BUILDING IS STILL LESS THAN 200 LF, AND THE ADDITIONAL WIDTH IS NECESSARY FOR THE NCLUSION OF AN ACCESSORY STRUCTURE PORTE-COCHERE FOR THE PROTECTION OF STUDENTS DURING DROP-OFF AND PICK-UP TIMES
BUILDING SITES 3 & 4: MIXED-USE BUILDING SITES REQUEST AN ADMINISTRATIVELY APPROVED EXCEPTION TO THE 200' BUILDING SITE WIDTH MAXIMUM FOR A TOTAL OF 208' AND 206' TO ACCOMODATE THE NECESSARY DISTANCE BETWEEN THE TWO STRUCTURES.
BUILDING SITES 8, 17, 18, & 32: HEDGE SCREENS INCLUDED TO MEET REQUIRED BUILD-OUT PERCENTAGES. THESE BUILDING SITES ARE EITHER ON CURVED FRONTAGES OR HAVE ADDITIONAL SIDE YARDS PROVIDED FOR USE SEPARATION AND AESTHETIC PURPOSES.

LOT/BUILDING SITE ENFRONTMENT: ALL BUILDING SITES ENFRONT THOROUGHFARE

BUILDING TYPE MIX: 85% MAX RESIDENTIAL; 20% MAX. LARGE MULTI-FAMILY BUILDING
COMMERCIAL: 20%
LARGE MULTI-FAMILY: 22%. REQUESTS AN ADMINISTRATIVELY APPROVED EXCEPTION TO ALLOW THE ADDITIONAL 2%

PRINCIPAL USE MIX: 85% MAXIMUM RESIDENTIAL USE
RESIDENTIAL BUILDING SITES: 13.7%; 7.0 AC

PLEASE SEE ARCHITECTURE ELEVATIONS FOR ALL MULTI-FAMILY BUILDING DIMENSIONS AND ELEVATION COMPLIANCE TABULATIONS. BUILDING DESIGN WILL ADHERE TO THE PRESCRIPTIVE STANDARDS OF CD-4C AT BUILDING PERMIT STAGE.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

JEFFREY A. ROSIK REGISTERED LANDSCAPE ARCHITECT AGRICULTURE

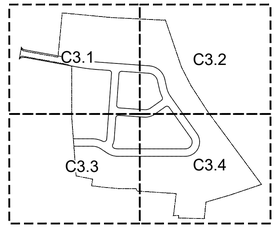
Date: APRIL 15, 2024
Revision Date
△
△
△

SITE DEVELOPMENT PLAN
SHEET
C2.0

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

KEY MAP

NOT TO SCALE



NOTES

1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN 10 YEAR FLOODPLAIN, PER FEMA FIRM MAP NUMBER 47119C0280E EFFECTIVE APRIL16, 2007

GRADING PLAN LEGEND

476.17	SPOT ELEVATION
TW	TOP OF WALL
BW	BOTTOM OF WALL
FFE ###	FINISH FLOOR ELEVATION

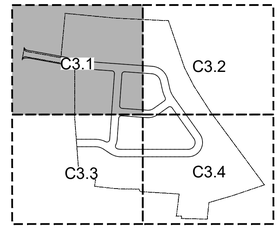
PROPOSED STORM PIPE, TYP.
STORMWATER MANAGEMENT POND #1
STORMWATER MANAGEMENT POND #2
STORMWATER MANAGEMENT POND #3
STORMWATER MANAGEMENT POND #4
STORMWATER MANAGEMENT POND #5
STORMWATER MANAGEMENT POND #6
PROPERTY LINE, TYP.
PROPOSED RETAINING WALL
PROPOSED RETAINING WALLS
TVA TOWER WITH 25' RADIUS WITH NO DISTURBANCE
30' STREAM BUFFER
NO DISTURBANCE OR MATERIAL STORAGE ALLOWED WITHIN TREE PROTECTION AREAS, TYP.
SEWER EASEMENT BOOK 383, PAGE 28 BOOK 375, PAGE 245
TENNESSEE NATURAL GAS COMPANY EASEMENT (DEED BOOK 283, PAGE 386)
Centerline of West Track
Mag Nail Reset (New R/R Ties)
Inv. – 604.1 3.5' Wide by 4.5' Tall Concrete Box
Inv.–607.5 48" Concrete Pipe TOP OF BANK
ZONE X
ZONE AE
Landscaping Stock Encroachment
Fence Encroachment
Wall Encroachment
Deed Book 6236, Page 207
Deed Book 6236, Page 207 Document 2
Deed Book 6236, Page 207 Document 3
Deed Book 6236, Page 207 Document 4
Deed Book 6236, Page 207 Document 5
Deed Book 6236, Page 207 Document 6
Deed Book 6236, Page 207 Document 7
Deed Book 6236, Page 207 Document 8
Deed Book 6236, Page 207 Document 9
Deed Book 6236, Page 207 Document 10
Deed Book 6236, Page 207 Document 11
Deed Book 6236, Page 207 Document 12
Deed Book 6236, Page 207 Document 13
Deed Book 6236, Page 207 Document 14
Deed Book 6236, Page 207 Document 15
Deed Book 6236, Page 207 Document 16
Deed Book 6236, Page 207 Document 17
Deed Book 6236, Page 207 Document 18
Deed Book 6236, Page 207 Document 19
Deed Book 6236, Page 207 Document 20
Deed Book 6236, Page 207 Document 21
Deed Book 6236, Page 207 Document 22
Deed Book 6236, Page 207 Document 23
Deed Book 6236, Page 207 Document 24
Deed Book 6236, Page 207 Document 25
Deed Book 6236, Page 207 Document 26
Deed Book 6236, Page 207 Document 27
Deed Book 6236, Page 207 Document 28
Deed Book 6236, Page 207 Document 29
Deed Book 6236, Page 207 Document 30
Deed Book 6236, Page 207 Document 31
Deed Book 6236, Page 207 Document 32
Deed Book 6236, Page 207 Document 33
Deed Book 6236, Page 207 Document 34
Deed Book 6236, Page 207 Document 35
Deed Book 6236, Page 207 Document 36
Deed Book 6236, Page 207 Document 37
Deed Book 6236, Page 207 Document 38
Deed Book 6236, Page 207 Document 39
Deed Book 6236, Page 207 Document 40
Deed Book 6236, Page 207 Document 41
Deed Book 6236, Page 207 Document 42
Deed Book 6236, Page 207 Document 43
Deed Book 6236, Page 207 Document 44
Deed Book 6236, Page 207 Document 45
Deed Book 6236, Page 207 Document 46
Deed Book 6236, Page 207 Document 47
Deed Book 6236, Page 207 Document 48
Deed Book 6236, Page 207 Document 49
Deed Book 6236, Page 207 Document 50
Deed Book 6236, Page 207 Document 51
Deed Book 6236, Page 207 Document 52
Deed Book 6236, Page 207 Document 53
Deed Book 6236, Page 207 Document 54
Deed Book 6236, Page 207 Document 55
Deed Book 6236, Page 207 Document 56
Deed Book 6236, Page 207 Document 57
Deed Book 6236, Page 207 Document 58
Deed Book 6236, Page 207 Document 59
Deed Book 6236, Page 207 Document 60
Deed Book 6236, Page 207 Document 61
Deed Book 6236, Page 207 Document 62
Deed Book 6236, Page 207 Document 63
Deed Book 6236, Page 207 Document 64
Deed Book 6236, Page 207 Document 65
Deed Book 6236, Page 207 Document 66
Deed Book 6236, Page 207 Document 67
Deed Book 6236, Page 207 Document 68
Deed Book 6236, Page 207 Document 69
Deed Book 6236, Page 207 Document 70
Deed Book 6236, Page 207 Document 71
Deed Book 6236, Page 207 Document 72
Deed Book 6236, Page 207 Document 73
Deed Book 6236, Page 207 Document 74
Deed Book 6236, Page 207 Document 75
Deed Book 6236, Page 207 Document 76
Deed Book 6236, Page 207 Document 77
Deed Book 6236, Page 207 Document 78
Deed Book 6236, Page 207 Document 79
Deed Book 6236, Page 207 Document 80
Deed Book 6236, Page 207 Document 81
Deed Book 6236, Page 207 Document 82
Deed Book 6236, Page 207 Document 83
Deed Book 6236, Page 207 Document 84
Deed Book 6236, Page 207 Document 85
Deed Book 6236, Page 207 Document 86
Deed Book 6236, Page 207 Document 87
Deed Book 6236, Page 207 Document 88
Deed Book 6236, Page 207 Document 89
Deed Book 6236, Page 207 Document 90
Deed Book 6236, Page 207 Document 91
Deed Book 6236, Page 207 Document 92
Deed Book 6236, Page 207 Document 93
Deed Book 6236, Page 207 Document 94
Deed Book 6236, Page 207 Document 95
Deed Book 6236, Page 207 Document 96
Deed Book 6236, Page 207 Document 97
Deed Book 6236, Page 207 Document 98
Deed Book 6236, Page 207 Document 99
Deed Book 6236, Page 207 Document 100
Deed Book 6236, Page 207 Document 101
Deed Book 6236, Page 207 Document 102
Deed Book 6236, Page 207 Document 103
Deed Book 6236, Page 207 Document 104
Deed Book 6236, Page 207 Document 105
Deed Book 6236, Page 207 Document 106
Deed Book 6236, Page 207 Document 107
Deed Book 6236, Page 207 Document 108
Deed Book 6236, Page 207 Document 109
Deed Book 6236, Page 207 Document 110
Deed Book 6236, Page 207 Document 111
Deed Book 6236, Page 207 Document 112
Deed Book 6236, Page 207 Document 113
Deed Book 6236, Page 207 Document 114
Deed Book 6236, Page 207 Document 115
Deed Book 6236, Page 207 Document 116
Deed Book 6236, Page 207 Document 117
Deed Book 6236, Page 207 Document 118
Deed Book 6236, Page 207 Document 119
Deed Book 6236, Page 207 Document 120
Deed Book 6236, Page 207 Document 121
Deed Book 6236, Page 207 Document 122
Deed Book 6236, Page 207 Document 123
Deed Book 6236, Page 207 Document 124
Deed Book 6236, Page 207 Document 125
Deed Book 6236, Page 207 Document 126
Deed Book 6236, Page 207 Document 127
Deed Book 6236, Page 207 Document 128
Deed Book 6236, Page 207 Document 129
Deed Book 6236, Page 207 Document 130
Deed Book 6236, Page 207 Document 131
Deed Book 6236, Page 207 Document 132
Deed Book 6236, Page 207 Document 133
Deed Book 6236, Page 207 Document 134
Deed Book 6236, Page 207 Document 135
Deed Book 6236, Page 207 Document 136
Deed Book 6236, Page 207 Document 137
Deed Book 6236, Page 207 Document 138
Deed Book 6236, Page 207 Document 139
Deed Book 6236, Page 207 Document 140
Deed Book 6236, Page 207 Document 141
Deed Book 6236, Page 207 Document 142
Deed Book 6236, Page 207 Document 143
Deed Book 6236, Page 207 Document 144
Deed Book 6236, Page 207 Document 145
Deed Book 6236, Page 207 Document 146
Deed Book 6236, Page 207 Document 147
Deed Book 6236, Page 207 Document 148
Deed Book 6236, Page 207 Document 149
Deed Book 6236, Page 207 Document 150
Deed Book 6236, Page 207 Document 151
Deed Book 6236, Page 207 Document 152
Deed Book 6236, Page 207 Document 153
Deed Book 6236, Page 207 Document 154
Deed Book 6236, Page 207 Document 155
Deed Book 6236, Page 207 Document 156
Deed Book 6236, Page 207 Document 157
Deed Book 6236, Page 207 Document 158
Deed Book 6236, Page 207 Document 159
Deed Book 6236, Page 207 Document 160
Deed Book 6236, Page 207 Document 161
Deed Book 6236, Page 207 Document 162
Deed Book 6236, Page 207 Document 163
Deed Book 6236, Page 207 Document 164
Deed Book 6236, Page 207 Document 165
Deed Book 6236, Page 207 Document 166
Deed Book 6236, Page 207 Document 167
Deed Book 6236, Page 207 Document 168
Deed Book 6236, Page 207 Document 169
Deed Book 6236, Page 207 Document 170
Deed Book 6236, Page 207 Document 171
Deed Book 6236, Page 207 Document 172
Deed Book 6236, Page 207 Document 173
Deed Book 6236, Page 207 Document 174
Deed Book 6236, Page 207 Document 175
Deed Book 6236, Page 207 Document 176
Deed Book 6236, Page 207 Document 177
Deed Book 6236, Page 207 Document 178
Deed Book 6236, Page 207 Document 179
Deed Book 6236, Page 207 Document 180
Deed Book 6236, Page 207 Document 181
Deed Book 6236, Page 207 Document 182
Deed Book 6236, Page 207 Document 183
Deed Book 6236, Page 207 Document 184
Deed Book 6236, Page 207 Document 185
Deed Book 6236, Page 207 Document 186
Deed Book 6236, Page 207 Document 187
Deed Book 6236, Page 207 Document 188
Deed Book 6236, Page 207 Document 189
Deed Book 6236, Page 207 Document 190
Deed Book 6236, Page 207 Document 191
Deed Book 6236, Page 207 Document 192
Deed Book 6236, Page 207 Document 193
Deed Book 6236, Page 207 Document 194
Deed Book 6236, Page 207 Document 195
Deed Book 6236, Page 207 Document 196
Deed Book 6236, Page 207 Document 197
Deed Book 6236, Page 207 Document 198
Deed Book 6236, Page 207 Document 199
Deed Book 6236, Page 207 Document 200
Deed Book 6236, Page 207 Document 201
Deed Book 6236, Page 207 Document 202
Deed Book 6236, Page 207 Document 203
Deed Book 6236, Page 207 Document 204
Deed Book 6236, Page 207 Document 205
Deed Book 6236, Page 207 Document 206
Deed Book 6236, Page 207 Document 207
Deed Book 6236, Page 207 Document 208
Deed Book 6236, Page 207 Document 209
Deed Book 6236, Page 207 Document 210
Deed Book 6236, Page 207 Document 211
Deed Book 6236, Page 207 Document 212
Deed Book 6236, Page 207 Document 213
Deed Book 6236, Page 207 Document 214
Deed Book 6236, Page 207 Document 215
Deed Book 6236, Page 207 Document 216
Deed Book 6236, Page 207 Document 217
Deed Book 6236, Page 207 Document 218
Deed Book 6236, Page 207 Document 219
Deed Book 6236, Page 207 Document 220
Deed Book 6236, Page 207 Document 221
Deed Book 6236, Page 207 Document 222
Deed Book 6236, Page 207 Document 223
Deed Book 6236, Page 207 Document 224
Deed Book 6236, Page 207 Document 225
Deed Book 6236, Page 207 Document 226
Deed Book 6236, Page 207 Document 227
Deed Book 6236, Page 207 Document 228
Deed Book 6236, Page 207 Document 229
Deed Book 6236, Page 207 Document 230
Deed Book 6236, Page 207 Document 231
Deed Book 6236, Page 207 Document 232
Deed Book 6236, Page 207 Document 233
Deed Book 6236, Page 207 Document 234
Deed Book 6236, Page 207 Document 235
Deed Book 6236, Page 207 Document 236
Deed Book 6236, Page 207 Document 237
Deed Book 6236, Page 207 Document 238
Deed Book 6236, Page 207 Document 239
Deed Book 6236, Page 207 Document 240
Deed Book 6236, Page 207 Document 241
Deed Book 6236, Page 207 Document 242
Deed Book 6236, Page 207 Document 243
Deed Book 6236, Page 207 Document 244
Deed Book 6236, Page 207 Document 245
Deed Book 6236, Page 207 Document 246
Deed Book 6236, Page 207 Document 247
Deed Book 6236, Page 207 Document 248
Deed Book 6236, Page 207 Document 249
Deed Book 6236, Page 207 Document 250
Deed Book 6236, Page 207 Document 251
Deed Book 6236, Page 207 Document 252
Deed Book 6236, Page 207 Document 253
Deed Book 6236, Page 207 Document 254
Deed Book 6236, Page 207 Document 255
Deed Book 6236, Page 207 Document 256
Deed Book 6236, Page 207 Document 257
Deed Book 6236, Page 207 Document 258
Deed Book 6236, Page 207 Document 259
Deed Book 6236, Page 207 Document 260
Deed Book 6236, Page 207 Document 261
Deed Book 6236, Page 207 Document 262
Deed Book 6236, Page 207 Document 263
Deed Book 6236, Page 207 Document 264
Deed Book 6236, Page 207 Document 265
Deed Book 6236, Page 207 Document 266
Deed Book 6236, Page 207 Document 267
Deed Book 6236, Page 207 Document 268
Deed Book 6236, Page 207 Document 269
Deed Book 6236, Page 207 Document 270
Deed Book 6236, Page 207 Document 271
Deed Book 6236, Page 207 Document 272
Deed Book 6236, Page 207 Document 273
Deed Book 6236, Page 207 Document 274
Deed Book 6236, Page 207 Document 275
Deed Book 6236, Page 207 Document 276
Deed Book 6236, Page 207 Document 277
Deed Book 6236, Page 207 Document 278
Deed Book 6236, Page 207 Document 279
Deed Book 6236, Page 207 Document 280
Deed Book 6236, Page 207 Document 281
Deed Book 6236, Page 207 Document 282
Deed Book 6236, Page 207 Document 283
Deed Book 6236, Page 207 Document 284
Deed Book 6236, Page 207 Document 285
Deed Book 6236, Page 207 Document 286
Deed Book 6236, Page 207 Document 287
Deed Book 6236, Page 207 Document 288
Deed Book 6236, Page 207 Document 289
Deed Book 6236, Page 207 Document 290
Deed Book 6236, Page 207 Document 291
Deed Book 6236, Page 207 Document 292
Deed Book 6236, Page 207 Document 293
Deed Book 6236, Page 207 Document 294
Deed Book 6236, Page 207 Document 295
Deed Book 6236, Page 207 Document 296
Deed Book 6236, Page 207 Document 297
Deed Book 6236, Page 207 Document 298
Deed Book 6236, Page 207 Document 299
Deed Book 6236, Page 207 Document 300
Deed Book 6236, Page 207 Document 301
Deed Book 6236, Page 207 Document 302
Deed Book 6236, Page 207 Document 303
Deed Book 6236, Page 207 Document 304
Deed Book 6236, Page 207 Document 305
Deed Book 6236, Page 207 Document 306
Deed Book 6236, Page 207 Document 307
Deed Book 6236, Page 207 Document 308
Deed Book 6236, Page 207 Document 309
Deed Book 6236, Page 207 Document 310
Deed Book 6236, Page 207 Document 311
Deed Book 6236, Page 207 Document 312
Deed Book 6236, Page 207 Document 313
Deed Book 6236, Page 207 Document 314
Deed Book 6236, Page 207 Document 315
Deed Book 6236, Page 207 Document 316
Deed Book 6236, Page 207 Document 317
Deed Book 6236, Page 207 Document 318
Deed Book 6236, Page 207 Document 319
Deed Book 6236, Page 207 Document 320
Deed Book 6236, Page 207 Document 321
Deed Book 6236, Page 207 Document 322
Deed Book 6236, Page 207 Document 323
Deed Book 6236, Page 207 Document 324
Deed Book 6236, Page 207 Document 325
Deed Book 6236, Page 207 Document 326
Deed Book 6236, Page 207 Document 327
Deed Book 6236, Page 207 Document 328
Deed Book 6236, Page 207 Document 329
Deed Book 6236, Page 207 Document 330
Deed Book 6236, Page 207 Document 331
Deed Book 6236, Page 207 Document 332
Deed Book 6236, Page 207 Document 333
Deed Book 6236, Page 207 Document 334
Deed Book 6236, Page 207 Document 335
Deed Book 6236, Page 207 Document 336
Deed Book 6236, Page 207 Document 337
Deed Book 6236, Page 207 Document 338
Deed Book 6236, Page 207 Document 339
Deed Book 6236, Page 207 Document 340
Deed Book 6236, Page 207 Document 341
Deed Book 6236, Page 207 Document 342
Deed Book 6236, Page 207 Document 343
Deed Book 6236, Page 207 Document 344
Deed Book 6236, Page 207 Document 345
Deed Book 6236, Page 207 Document 346
Deed Book 6236, Page 207 Document 347
Deed Book 6236, Page 207 Document 348
Deed Book 6236, Page 207 Document 349
Deed Book 6236, Page 207 Document 350
Deed Book 6236, Page 207 Document 351
Deed Book 6236, Page 207 Document 352
Deed Book 6236, Page 207 Document 353
Deed Book 6236, Page 207 Document 354
Deed Book 6236, Page 207 Document 355
Deed Book 6236, Page 207 Document 356
Deed Book 6236, Page 207 Document 357
Deed Book 6236, Page 207 Document 358
Deed Book 6236, Page 207 Document 359
Deed Book 6236, Page 207 Document 360
Deed Book 6236, Page 207 Document 361
Deed Book 6236, Page 207 Document 362
Deed Book 6236, Page 207 Document 363
Deed Book 6236, Page 207 Document 364
Deed Book 6236, Page 207 Document 365
Deed Book 6236, Page 207 Document 366
Deed Book 6236, Page 207 Document 367
Deed Book 6236, Page 207 Document 368
Deed Book 6236, Page 207 Document 369
Deed Book 6236, Page 207 Document 370
Deed Book 6236, Page 207 Document 371
Deed Book 6236, Page 207 Document 372
Deed Book 6236, Page 207 Document 373
Deed Book 6236, Page 207 Document 374
Deed Book 6236, Page 207 Document 375
Deed Book 6236, Page 207 Document 376
Deed Book 6236, Page 207 Document 377
Deed Book 6236, Page 207 Document 378
Deed Book 6236, Page 207 Document 379
Deed Book 6236, Page 207 Document 380
Deed Book 6236, Page 207 Document 381
Deed Book 6236, Page 207 Document 382
Deed Book 6236, Page 207 Document 383
Deed Book 6236, Page 207 Document 384
Deed Book 6236, Page 207 Document 385
Deed Book 6236, Page 207 Document 386
Deed Book 6236, Page 207 Document 387
Deed Book 6236, Page 207 Document 388
Deed Book 6236, Page 207 Document 389
Deed Book 6236, Page 207 Document 390
Deed Book 6236, Page 207 Document 391
Deed Book 6236, Page 207 Document 392
Deed Book 6236, Page 207 Document 393
Deed Book 6236, Page 207 Document 394
Deed Book 6236, Page 207 Document 395
Deed Book 6236, Page 207 Document 396
Deed Book 6236, Page 207 Document 397
Deed Book 6236, Page 207 Document 398
Deed Book 6236, Page 207 Document 399
Deed Book 6236, Page 207 Document 400
Deed Book 6236, Page 207 Document 401
Deed Book 6236, Page 207 Document 402
Deed Book 6236, Page 207 Document 403
Deed Book 6236, Page 207 Document 404
Deed Book 6236, Page 207 Document 405
Deed Book 6236, Page 207 Document 406
Deed Book 6236, Page 207 Document 407
Deed Book 6236, Page 207 Document 408
Deed Book 6236, Page 207 Document 409
Deed Book 6236, Page 207 Document 410
Deed Book 6236, Page 207 Document 411
Deed Book 6236, Page 207 Document 412
Deed Book 6236, Page 207 Document 413
Deed Book 6236, Page 207 Document 414
Deed Book 6236, Page 207 Document 415
Deed Book 6236, Page 207 Document 416
Deed Book 6236, Page 207 Document 417
Deed Book 6236, Page 207 Document 418
Deed Book 6236, Page 207 Document 419
Deed Book 6236, Page 207 Document 420
Deed Book 6236, Page 207 Document 421
Deed Book 6236, Page 207 Document 422
Deed Book 6236, Page 207 Document 423
Deed Book 6236, Page 207 Document 424
Deed Book 6236, Page 207 Document 425
Deed Book 6236, Page 207 Document 426
Deed Book 6236, Page 207 Document 427
Deed Book 6236, Page 207 Document 428
Deed Book 6236, Page 207 Document 429
Deed Book 6236, Page 207 Document 430
Deed Book 6236, Page 207 Document 431
Deed Book 6236, Page 207 Document 432
Deed Book 6236, Page 207 Document 433
Deed Book 6236, Page 207 Document 434
Deed Book 6236, Page 207 Document 435
Deed Book 6236, Page 207 Document 436
Deed Book 6236, Page 207 Document 437
Deed Book 6236, Page 207 Document 438
Deed Book 6236, Page 207 Document 439
Deed Book 6236, Page 207 Document 440
Deed Book 6236, Page 207 Document 441
Deed Book 6236, Page 207 Document 442
Deed Book 6236, Page 207 Document 443
Deed Book 6236, Page 207 Document 444
Deed Book 6236, Page 207 Document 445
Deed Book 6236, Page 207 Document 446
Deed Book 6236, Page 207 Document 447
Deed Book 6236, Page 207 Document 448
Deed Book 6236, Page 207 Document 449
Deed Book 6236, Page 207 Document 450
Deed Book 6236, Page 207 Document 451
Deed Book 6236, Page 207 Document 452
Deed Book 6236, Page 207 Document 453
Deed Book 6236, Page 207 Document 454
Deed Book 6236, Page 207 Document 455
Deed Book 6236, Page 207 Document 456
Deed Book 6236, Page 207 Document 457
Deed Book 6236, Page 207 Document 458
Deed Book 6236, Page 207 Document 459
Deed Book 6236, Page 207 Document 460
Deed Book 6236, Page 207 Document 461
Deed Book 6236, Page 207 Document 462
Deed Book 6236, Page 207 Document 463
Deed Book 6236, Page 207 Document 464
Deed Book 6236, Page 207 Document 465
Deed Book 6236, Page 207 Document 466
Deed Book 6236, Page 207 Document 467
Deed Book 6236, Page 207 Document 468
Deed Book 6236, Page 207 Document 469
Deed Book 6236, Page 207 Document 470
Deed Book 6236, Page 207 Document 471
Deed Book 6236, Page 207 Document 472
Deed Book 6236, Page 207 Document 473
Deed Book 6236, Page 207 Document 474
Deed Book 6236, Page 207 Document 475
Deed Book 6236, Page 207 Document 476
Deed Book 6236, Page 207 Document 477
Deed Book 6236, Page 207 Document 478
Deed Book 6236, Page 207 Document 479
Deed Book 6236, Page 207 Document 480
Deed Book 6236, Page 207 Document 481
Deed Book 6236, Page 207 Document 482
Deed Book 6236, Page 207 Document 483
Deed Book 6236, Page 207 Document 484
Deed Book 6236, Page 207 Document 485
Deed Book 6236, Page 207 Document 486
Deed Book 6236, Page 207 Document 487
Deed Book 6236, Page 207 Document 488
Deed Book 6236, Page 207 Document 489
Deed Book 6236, Page 207 Document 490
Deed Book 6236, Page 207 Document 491
Deed Book 6236, Page 207 Document 492
Deed Book 6236, Page 207 Document 493
Deed Book 6236, Page 207 Document 494
Deed Book 6236, Page 207 Document 495
Deed Book 6236, Page 207 Document 496
Deed Book 6236, Page 207 Document 497
Deed Book 6236, Page 207 Document 498
Deed Book 6236, Page 207 Document 499
Deed Book 6236, Page 207 Document 500
Deed Book 6236, Page 207 Document 501
Deed Book 6236, Page 207 Document 502
Deed Book 6236, Page 207 Document 503
Deed Book 6236, Page 207 Document 504
Deed Book 6236, Page 207 Document 505
Deed Book 6236, Page 207 Document 506
Deed Book 6236, Page 207 Document 507
Deed Book 6236, Page 207 Document 508
Deed Book 6236, Page 207 Document 509
Deed Book 6236, Page 207 Document 510
Deed Book 6236, Page 207 Document 511
Deed Book 6236, Page 207 Document 512
Deed Book 6236, Page 207 Document 513
Deed Book 6236, Page 207 Document 514
Deed Book 6236, Page 207 Document 515
Deed Book 6236, Page 207 Document 516
Deed Book 6236, Page 207 Document 517
Deed Book 6236, Page 207 Document 518
Deed Book 6236, Page 207 Document 519
Deed Book 6236, Page 207 Document 520
Deed Book 6236, Page 207 Document 521
Deed Book 6236, Page 207 Document 522
Deed Book 6236, Page 207 Document 523
Deed Book 6236, Page 207 Document 524
Deed Book 6236, Page 207 Document 525
Deed Book 6236, Page 207 Document 526
Deed Book 6236, Page 207 Document 527
Deed Book 6236, Page 207 Document 528
Deed Book 6236, Page 207 Document 529
Deed Book 6236, Page 207 Document 530
Deed Book 6236, Page 207 Document 531
Deed Book 6236, Page 207 Document 532
Deed Book 6236, Page 207 Document 533
Deed Book 6236, Page 207 Document 534
Deed Book 6236, Page 207 Document 535
Deed Book 6236, Page 207 Document 536
Deed Book 6236, Page 207 Document 537
Deed Book 6236, Page 207 Document 538
Deed Book 6236, Page 207 Document 539
Deed Book 6236, Page 207 Document 540
Deed Book 6236, Page 207 Document 541
Deed Book 6236, Page 207 Document 542
Deed Book 6236, Page 207 Document 543
Deed Book 6236, Page 207 Document 544
Deed Book 6236, Page 207 Document 545
Deed Book 6236, Page 207 Document 546
Deed Book 6236, Page 207 Document 547
Deed Book 6236, Page 207 Document 548
Deed Book 6236, Page 207 Document 549
Deed Book 6236, Page 207 Document 550
Deed Book 6236, Page 207 Document 551
Deed Book 6236, Page 207 Document 552
Deed Book 6236, Page 207 Document 553
Deed Book 6236, Page 207 Document 554
Deed Book 6236, Page 207 Document 555
Deed Book 6236, Page 207 Document 556
Deed Book 6236, Page 207 Document 557
Deed Book 6236, Page 207 Document 558
Deed Book 6236, Page 207 Document 559
Deed Book 6236, Page 207 Document 560
Deed Book 6236, Page 207 Document 561
Deed Book 6236, Page 207 Document 562
Deed Book 6236, Page 207 Document 563
Deed Book 6236, Page 207 Document 564
Deed Book 6236, Page 207 Document 565
Deed Book 6236, Page 207 Document 566
Deed Book 6236, Page 207 Document 567
Deed Book 6236, Page 207 Document 568
Deed Book 6236, Page 207 Document 569
Deed Book 6236, Page 207 Document 570
Deed Book 6236, Page 207 Document 571
Deed Book 6236, Page 207 Document 572
Deed Book 6236, Page 207 Document 573
Deed Book 6236, Page 207 Document 574
Deed Book 6236, Page 207 Document 575
Deed Book 6236, Page 207 Document 576
Deed Book 6236, Page 207 Document 577
Deed Book 6236, Page 207 Document 578
Deed Book 6236, Page 207 Document 579
Deed Book 6236, Page 207 Document 580
Deed Book 6236, Page 207 Document 581
Deed Book 6236, Page 207 Document 582
Deed Book 6236, Page 207 Document 583
Deed Book 6236, Page 207 Document 584
Deed Book 6236, Page 207 Document 585
Deed Book 6236, Page 207 Document 586
Deed Book 6236, Page 207 Document 587
Deed Book 6236, Page 207 Document 588
Deed Book 6236, Page 207 Document 589
Deed Book 6236, Page 207 Document 590
Deed Book 6236, Page 207 Document 591
Deed Book 6236, Page 207 Document 592
Deed Book 6236, Page 207 Document 593
Deed Book 6236, Page 207 Document 594
Deed Book 6236, Page 207 Document 595
Deed Book 6236, Page 207 Document 596
Deed Book 6236, Page 207 Document 597
Deed Book 6236, Page 207 Document 598
Deed Book 6236, Page 207 Document 599
Deed Book 6236, Page 207 Document 600
Deed Book 6236, Page 207 Document 601
Deed Book 6236, Page 207 Document 602
Deed Book 6236, Page 207 Document 603
Deed Book 6236, Page 207 Document 604
Deed Book 6236, Page 207 Document 605
Deed Book 6236, Page 207 Document 606
Deed Book 6236, Page 207 Document 607
Deed Book 6236, Page 207 Document 608
Deed Book 6236, Page 207 Document 609
Deed Book 6236, Page 207 Document 610
Deed Book 6236, Page 207 Document 611
Deed Book 6236, Page 207 Document 612
Deed Book 6236, Page 207 Document 613
Deed Book 6236, Page 207 Document 614
Deed Book 6236, Page 207 Document 615
Deed Book 6236, Page 207 Document 616
Deed Book 6236, Page 207 Document 617
Deed Book 6236, Page 207 Document 618
Deed Book 6236, Page 207 Document 619
Deed Book 6236, Page 207 Document 620
Deed Book 6236, Page 207 Document 621
Deed Book 6236, Page 207 Document 622
Deed Book 6236, Page 207 Document 623
Deed Book 6236, Page 207 Document 624
Deed Book 6236, Page 207 Document 625
Deed Book 6236, Page 207 Document 626
Deed Book 6236, Page 207 Document 627
Deed Book 6236, Page 207 Document 628
Deed Book 6236, Page 207 Document 629
Deed Book 6236, Page 207 Document 630
Deed Book 6236, Page 207 Document 631
Deed Book 6236, Page 207 Document 632
Deed Book 6236, Page 207 Document 633
Deed Book 6236, Page 207 Document 634
Deed Book 6236, Page 207 Document 635
Deed Book 6236, Page 207 Document 636
Deed Book 6236, Page 207 Document 637
Deed Book 6236, Page 207 Document 638
Deed Book 6236, Page 207 Document 639
Deed Book 6236, Page 207 Document 640
Deed Book 6236, Page 207 Document 641
Deed Book 6236, Page 207 Document 642
Deed Book 6236, Page 207 Document 643
Deed Book 6236, Page 207 Document 644
Deed Book 6236, Page 207 Document 645
Deed Book 6236, Page 207 Document 646
Deed Book 6236, Page 207 Document 647
Deed Book 6236, Page 207 Document 648
Deed Book 6236, Page 207 Document 649
Deed Book 6236, Page 207 Document 650
Deed Book 6236, Page 207 Document 651
Deed Book 6236, Page 207 Document 652
Deed Book 6236, Page 207 Document 653
Deed Book 6236, Page 207 Document 654
Deed Book 6236, Page 207 Document 655
Deed Book 6236, Page 207 Document 656
Deed Book 6236, Page 207 Document 657
Deed Book 6236, Page 207 Document 658
Deed Book 6236, Page 207 Document 659
Deed Book 6236, Page 207 Document 660
Deed Book 6236, Page 207 Document 661
Deed Book 6236, Page 207 Document 662
Deed Book 6236, Page 207 Document 663
Deed Book 6236, Page 207 Document 664
Deed Book 6236, Page 207 Document 665
Deed Book 6236, Page 207 Document 666
Deed Book 6236, Page 207 Document 667
Deed Book 6236, Page 207 Document 668
Deed Book 6236, Page 207 Document 669
Deed Book 6236, Page 207 Document 670
Deed Book 6236, Page 207 Document 671
Deed Book 6236, Page 207 Document 672
Deed Book 6236, Page 207 Document 673
Deed Book 6236, Page 207 Document 674
Deed Book 6236, Page 207 Document 675
Deed Book 6236, Page 207 Document 676
Deed Book 6236, Page 207 Document 677
Deed Book 6236, Page 207 Document 678
Deed Book 6236, Page 207 Document 679
Deed Book 6236, Page 207 Document 680
Deed Book 6236, Page 207 Document 681
Deed Book 6236, Page 207 Document 682
Deed Book 6236, Page 207 Document 683
Deed Book 6236, Page 207 Document 684
Deed Book 6236, Page 207 Document 685
Deed Book 6236, Page 207 Document 686
Deed Book 6236, Page 207 Document 687
Deed Book 6236, Page 207 Document 688
Deed Book 6236, Page 207 Document 689
Deed Book 6236, Page 207 Document 690
Deed Book 6236, Page 207 Document 691
Deed Book 6236, Page 207 Document 692
Deed Book 6236, Page 207 Document 693
Deed Book 6236, Page 207 Document 694
Deed Book 6236, Page 207 Document 695
Deed Book 6236, Page 207 Document 696
Deed Book 6236, Page 207 Document 697
Deed Book 6236, Page 207 Document 698
Deed Book 6236, Page 207 Document 699
Deed Book 6236, Page 207 Document 700
Deed Book 6236, Page 207 Document 701
Deed Book 6236, Page 207 Document 702
Deed Book 6236, Page 207 Document 703
Deed Book 6236, Page 207 Document 704
Deed Book 6236, Page 207 Document 705
Deed Book 6236, Page 207 Document 706
Deed Book 6236, Page 207 Document 707
Deed Book 6236, Page 207 Document 708
Deed Book 6236, Page 207 Document 709
Deed Book 6236, Page 207 Document 710
Deed Book 6236, Page 207 Document 711
Deed Book 6236, Page 207 Document 712
Deed Book 6236, Page 207 Document 713
Deed Book 6236, Page 207 Document 714
Deed Book 6236, Page 207 Document 715
Deed Book 6236, Page 207 Document 716
Deed Book 6236, Page 207 Document 717
Deed Book 6236, Page 207 Document 718
Deed Book 6236, Page 207 Document 719
Deed Book 6236, Page 207 Document 720
Deed Book 6236, Page 207 Document 721
Deed Book 6236, Page 207 Document 722
Deed Book 6236, Page 207 Document 723
Deed Book 6236, Page 207 Document 724
Deed Book 6236, Page 207 Document 725
Deed Book 6236, Page 207 Document 726
Deed Book 6236, Page 207 Document 727
Deed Book 6236, Page 207 Document 728
Deed Book 6236, Page 207 Document 729
Deed Book 6236, Page 207 Document 730
Deed Book 6236, Page 207 Document 731
Deed Book 6236, Page 207 Document 732
Deed Book 6236, Page 207 Document 733
Deed Book 6236, Page 207 Document 734
Deed Book 6236, Page 207 Document 735
Deed Book 6236, Page 207 Document 736
Deed Book 6236, Page 207 Document 737
Deed Book 6236, Page 207 Document 738
Deed Book 6236, Page 207 Document 739
Deed Book 6236, Page 207 Document 740
Deed Book 6236, Page 207 Document 741
Deed Book 6236, Page 207 Document 742
Deed Book 6236, Page 207 Document 743
Deed Book 6236, Page 207 Document 744
Deed Book 6236, Page 207 Document 745
Deed Book 6236, Page 207 Document 746
Deed Book 6236, Page 207 Document 747
Deed Book 6236, Page 207 Document 748
Deed Book 6236, Page 207 Document 749
Deed Book 6236, Page 207 Document 750
Deed Book 6236, Page 207 Document 751
Deed Book 6236, Page 207 Document 752
Deed Book 6236, Page 207 Document 753
Deed Book 6236, Page 207 Document 754
Deed Book 6236, Page 207 Document 755
Deed Book 6236, Page 207 Document 756
Deed Book 6236, Page 207 Document 757
Deed Book 6236, Page 207 Document 758
Deed Book 6236, Page 207 Document 759
Deed Book 6236, Page 207 Document 760
Deed Book 6236, Page 207 Document 761
Deed Book 6236, Page 207 Document 762
Deed Book 6236, Page 207 Document 763
Deed Book 6236, Page 207 Document 764
Deed Book 6236, Page 207 Document 765
Deed Book 6236, Page 207 Document 766
Deed Book 6236, Page 207 Document 767
Deed Book 6236, Page 207 Document 768
Deed Book 6236, Page 207 Document 769
Deed Book 6236, Page 207 Document 770
Deed Book 6236, Page 207 Document 771
Deed Book 6236, Page 207 Document 772
Deed Book 6236, Page 207 Document 773
Deed Book 6236, Page 207 Document 774
Deed Book 6236, Page 207 Document 775
Deed Book 6236, Page 207 Document 776
Deed Book 6236, Page 207 Document 777
Deed Book 6236, Page 207 Document 778
Deed Book 6236, Page 207 Document 779
Deed Book 6236, Page 207 Document 780
Deed Book 6236, Page 207 Document 781
Deed Book 6236, Page 207 Document 782
Deed Book 6236, Page 207 Document 783
Deed Book 6236, Page 207 Document 784
Deed Book 6236, Page 207 Document 785
Deed Book 6236, Page 207 Document 786
Deed Book 6236, Page 207 Document 787
Deed Book 6236, Page 207 Document 788
Deed Book 6236, Page 207 Document 789
Deed Book 6236, Page 207 Document 790
Deed Book

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



KEY MAP

NOT TO SCALE



NOTES

1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN 10 YEAR FLOODPLAIN, PER FEMA FIRM MAP NUMBER 47119C0280E EFFECTIVE APRIL16, 2007

GRADING PLAN LEGEND

476.17	SPOT ELEVATION
TW	TOP OF WALL
BW	BOTTOM OF WALL
FFE ###	FINISH FLOOR ELEVATION

BRENDAN JOSEPH HOLT — LICENSED PROFESSIONAL ENGINEER — AGRICULTURE — COMMERCE — No. 001107PE — STATE OF TENNESSEE — 04/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED GRADING & DRAINAGE PLAN

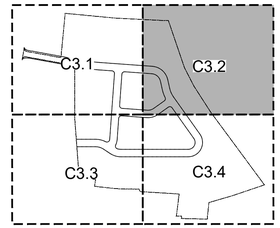
C3.1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



KEY MAP

NOT TO SCALE



NOTES

1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN 10 YEAR FLOODPLAIN, PER FEMA FIRM MAP NUMBER 47119C0280E EFFECTIVE APRIL16, 2007

GRADING PLAN LEGEND

676.17	SPOT ELEVATION
TW	TOP OF WALL
BW	BOTTOM OF WALL
FFE ###	FINISH FLOOR ELEVATION

BRENDAN JOSEPH LEE
REGISTERED ENGINEER
AGRICULTURE
5/15/2024
NO. 00110791
STATE OF TENNESSEE

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED GRADING AND DRAINAGE PLAN

C3.2

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

MATCHLINE SEE SHEET C3.1

MATCHLINE SEE SHEET C3.4

1/2" Iron Pin Found RLS #1941

N 80°13'03" E 125.43'

N 80°15'27" E 373.30'

N 85°15'42" E 336.49'

S 85°15'42" W 336.09'

S 82°22'36" W 258.00'

N 78°47'44" W

N 83°02'56" W

N 84°50'57" W

N 09°00'32" E 63.04'

N 69°53'25" W 84.81'

N 83°53'07" W 50.46'

N 21°54'26" W 217.26'

A=481.29'
R=1830.82'
D=15°03'43"
B=S 17°46'41" E
C=479.90'
T=242.04'

20' Sanitary Sewer Easement R2467, page 106

50' Easement Deed Book R2896 Page 869

20' Sanitary Sewer Easement Deed Book R2463, page 957

Edge of Pavement

Wall

Point of Beginning Easement Tract
N:470,450.7
E:1,651,451.8

83,677.9 Sq. Feet
0.54 Acres

TAX MAP 089
(041.14)
White, Kilgore and White, G.P.
D.B. R2469 PG. 980
R.O.M.C.,TN

N:470,248.8
E:1,651,918.4

TAX MAP 089
(042.00)
Rummage Properties, LLC
D.B. R2215 PG. 790
R.O.M.C.,TN

ZONE X
ZONE AE

3/4" Pipe Found

Landscaping Stock Encroachment

3/4" Pipe Found

TVA TOWER WITH 25' RADIUS OF NO DISTURBANCE

STORMWATER MANAGEMENT POND #3

SMALL MULTI-FAMILY BUILDING 7
FFE 650.50
FFE 640.50

SMALL MULTI-FAMILY BUILDING 8
FFE 634.50
FFE 624.50

SMALL MULTI-FAMILY BUILDING 9
FFE 636.50
FFE 626.50

SMALL MULTI-FAMILY BUILDING 10
FFE 640.50
FFE 630.50

SMALL MULTI-FAMILY BUILDING 11
FFE 643.50
FFE 633.50

SMALL MULTI-FAMILY BUILDING 12
FFE 627.00

SMALL MULTI-FAMILY BUILDING 13
FFE 629.50

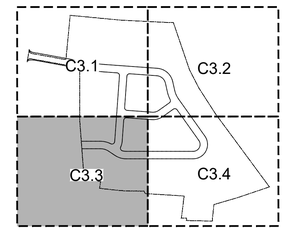
SMALL MULTI-FAMILY BUILDING 14
FFE 633.50

FFE 640.50
FFE 650.50

619.93 TW
619.43 BW

KEY MAP

NOT TO SCALE



NOTES

1. THE INFORMATION SHOWN ON THIS PLAN IS BASED UPON THE TENNESSEE STATE NAD83 COORDINATE SYSTEM.
2. NO PROPOSED BUILDINGS OR PORTION OF THE PROJECT FALLS WITHIN 10 YEAR FLOODPLAIN, PER FEMA FIRM MAP NUMBER 47119C0280E EFFECTIVE APRIL16, 2007

GRADING PLAN LEGEND

476.17	SPOT ELEVATION
TW	TOP OF WALL
BW	BOTTOM OF WALL
FFE ###	FINISH FLOOR ELEVATION

BENJAMIN JOSEPH SOM
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
COMMERCE
No. 00110794
STATE OF TENNESSEE
04/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED GRADING AND DRAINAGE PLAN

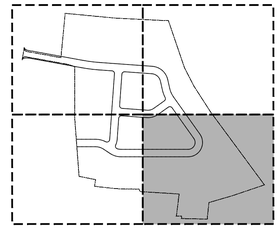
C3.3

MATCHLINE SEE SHEET C3.2

MATCHLINE SEE SHEET C3.3

KEY MAP

NOT TO SCALE



PROFESSIONAL CENTER DRIVE - MAIN NEIGHBORHOOD STREET - FLOW

PROPOSED RETAINING WALL

STORMWATER MANAGEMENT POND #4

STORMWATER MANAGEMENT POND #3

SEWER EASEMENT
BOOK 383, PAGE 28
BOOK 375, PAGE 245

30' STREAM BUFFER

TOP OF BANK

TAX MAP
089
(043.01)
Howell Building Group, LLC.
D.B. R2870 PG. 622
R.O.M.C.,TN
Plat Book P11, page 137
Lot 2D

TAX MAP
0890, Group "A"
(005.03)
Vincent Guarnotta
D.B. R2705 PG. 1006
R.O.M.C.,TN

TAX MAP
0890, Group "A"
(005.00)
Oppidan Capital, LLC.
D.B. R2702 PG. 515
R.O.M.C.,TN

D.B.

N 24°36'12" W 25.25'

N 89°35'18" W 119.14'

N 86°23'37" W 366.89'

N 07°00'16" E 206.50'

S 88°42'39" W 48.40'

N 00°01'10" W 23.54'

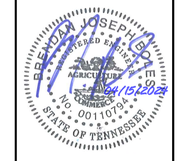
S 05°49'11" W 196.21'

N 88°40'31" W 241.78'

S 73°42'15" W 233.35'

S 71°19'39" W 282.00'

S 70°39'02" W 32.54'



NORTH

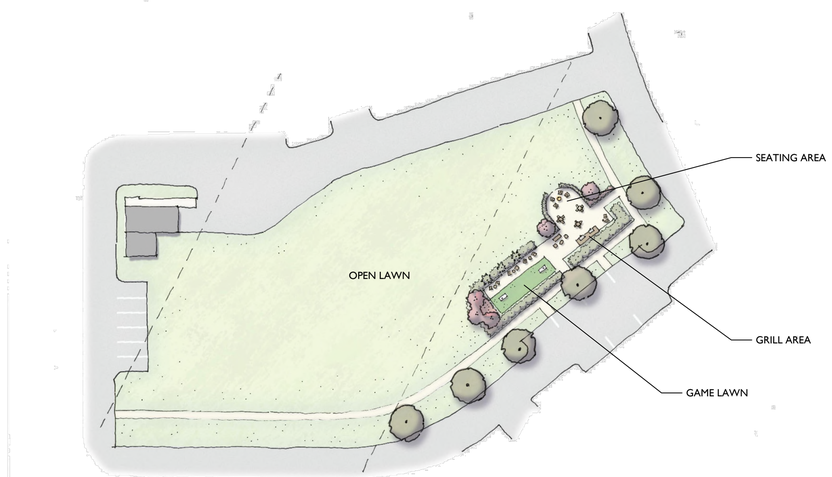
ENLARGED GRADING AND DRAINAGE PLAN

C3.4

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



1 L3.0 SQUARE - CIVIC SPACE 1
PLAN



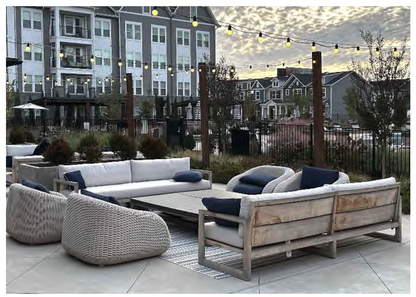
2 L3.0 SQUARE - CIVIC SPACE 2
PLAN



CIVIC SPACE		
REQUIRED: 5%-20% OF GROSS SITE AREA		
PROVIDED: 5.8% (2.97AC)		
TYPE:	AREA:	AMENITIES:
SQUARE 1	2.31 AC	HARDSCAPE; SEATING AREA, SITE FURNISHINGS, PAVILION, FORMAL PLANTINGS; PLAYGROUND
SQUARE 2	0.66 AC	HARDSCAPE, SITE FURNISHINGS, FORMAL PLANTINGS; GRILL PATIO

3 L3.0 CIVIC SPACE LOCATION PLAN
PLAN

CHARACTER IMAGES







GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL BLVD & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

JEFFREY A. ROSIAK REGISTERED LANDSCAPE ARCHITECT TENNESSEE
4/15/24

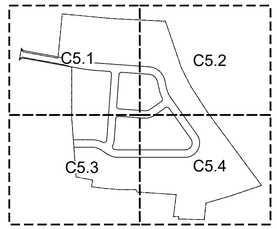
Date: APRIL 15, 2024
Revision Date
△
△
△

CIVIC SPACE PLAN
SHEET
L3.0

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

KEY MAP

NOT TO SCALE



UTILITY LEGEND

W	PROPOSED WATER LINE
SS SS	PROPOSED 8" SANITARY SEWER LINE
SS SS	EXISTING SANITARY SEWER LINE
W W	EXISTING WATER LINE
FH	PROPOSED FIRE HYDRANT

NORTH JAMES M CAMPBELL BOULEVARD PUBLIC

OLD WILLIAMSPORT PK

CONNECT TO EXISTING 8" SEWER

TIE INTO EXISTING 8" WATER

TIE INTO EXISTING 8" WATER

CONNECT TO EXISTING 10" SEWER

CONNECT TO EXISTING 8" SEWER

PROPOSED FIRE HYDRANT (TYP.)

TAX MAP 089 (041.01) Swarco Industries, LLC D.B. R2458 PG. 794 R.O.M.C.,TN

TAX MAP 089 (041.10) Tristar Maury Behavioral Healthcare, LLC D.B. R2469 PG. 985 R.O.M.C.,TN Plat Book P21, page 317

TAX MAP 089 (041.11) Tristar Maury Behavioral Healthcare, LLC D.B. R2553 PG. 371 R.O.M.C.,TN

TAX MAP 089 (041.14) White, Kilgore and White, G.P. D.B. R2469 PG. 980 R.O.M.C.,TN

TAX MAP 089 (042.00) Rummage Properties, LLC D.B. R2215 PG. 790 R.O.M.C.,TN

TAX MAP 089 (043.00) Wesson, LP D.B. R2344 PG. 286 R.O.M.C.,TN Plat Book P11, page 137 Lot 2C

TAX MAP 089 (043.01) Howell Building Group, LLC. D.B. R2870 PG. 622 R.O.M.C.,TN Plat Book P11, page 137 Lot 2D

TAX MAP 089 (041.13) Cooperative BLR Realty, LLC. D.B. R2696 PG. 863 R.O.M.C.,TN

TAX MAP 0890, Group "A" (005.03) Vincent Guarnotta D.B. R2705 PG. 1006 R.O.M.C.,TN

TAX MAP 0890, Group "A" (005.00) Oppidan Capital, LLC. D.B. R2702 PG. 515 R.O.M.C.,TN

TAX MAP 0890, Group "A" (004.00) Heller Management Company, LLC. D.B. R2814 PG. 1395 R.O.M.C.,TN

WITHDRAW PROPERTY TO BE RETAINED 750,935.9 Sq. Feet 17.24 acres Shown hereon for informational purposes

23,677.9 Sq. Feet 0.54 Acres

STORMWATER MANAGEMENT POND #1

STORMWATER MANAGEMENT POND #2

STORMWATER MANAGEMENT POND #3

STORMWATER MANAGEMENT POND #4

STORMWATER MANAGEMENT POND #5

STORMWATER MANAGEMENT POND #6

TRACT 1 444,044.6 Sq. Ft. 10.193 Acres

PROPERTY LINE, TYP.

TOP OF BANK

30' STREAM BUFFER

ZONE X

ZONE AE

T.V.A. TOWER

T.V.A./USA EASEMENT DEED BOOK 232, PAGE 572

TENNESSEE NATURAL GAS COMPANY EASEMENT DEED BOOK 93, PAGE 386

20' Sanitary Sewer Easement

20' Sanitary Sewer Easement Deed Book R2463, page 957

50' Ingress/Egress and Utility Easement Deed Book 1329, Page 255

50' Ingress/Egress and Utility Easement Deed Book R2696, Page 863

SEWER EASEMENT BOOK 383, PAGE 28 BOOK 375, PAGE 245

Centerline of West Track

Mag Nail Reset (New R/R Ties)

5/8" Iron Pin Found RLS #596

1/2" Iron Pin Found RLS #1987

1/2" Iron Pin Found RLS #1941

1/2" Iron Pin Found No. Cap

3/4" Pipe Found

1" Pipe Found

1" Iron Pin Found

Angle Iron Found

Point of Beginning Easement Tract N:470,450.7 E:1,651,451.8

Point of Beginning Tract 1

Point of Beginning 70' Access/P.U.D.E.

End of Pavement

Landscaping Stock Encroachment

Inv. – 604.1 3.5' Wide by 4.5' Tall Concrete Box

Inv.–607.5 48" Concrete Pipe

N:470,248.8 E:1,651,918.4

GRAPHIC SCALE IN FEET 0 50 100 200

NORTH

OVERALL UTILITY PLAN

C5.0

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NORTH JAMES M CAMPBELL BOULEVARD

OLD WILLIAMSPORT PK

CONNECT TO EXISTING SEWER

PROPOSED TIE IN TO EXISTING 8" WATER MAIN

20' Sanitary Sewer Easement

EAST TENNESSEE NATURAL GAS COMPANY EASEMENT DEED BOOK 283, PAGE 386

PROPOSED 20' SANITARY SEWER EASEMENT

Swarco Industries, LLC
D.B. R2458 PG. 794
R.O.M.C.,TN

IPS

S 84° 34'43" E 470.34'

N 05°31'06" E 418.77'

W 17°06'45" E 10.12'

35'

STORMWATER MANAGEMENT POND #1

PROPOSED FIRE HYDRANT (TYP.)

EIP

TAX MAP 089 (041.10)
Tristar Maury Behavioral Healthcare, LLC
D.B. R2469 PG. 985
R.O.M.C.,TN
Plat Book P21, page 317

TAX MAP 089 (041.11)
Tristar Maury Behavioral Healthcare, LLC
D.B. R2553 PG. 371
R.O.M.C.,TN

265.07'

N 00°00'16" W

1/2" Iron Pin Found
RLS #1987

STORMWATER MANAGEMENT POND #2

221.28'

1/2" Iron Pin Found
RLS #1941

N 00°13'03" E

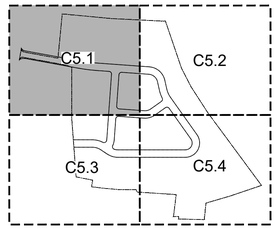
ONE WAY

MATCHLINE SEE SHEET C5.2

MATCHLINE SEE SHEET C5.3

KEY MAP

NOT TO SCALE



UTILITY LEGEND

W	PROPOSED WATER LINE
SS SS	PROPOSED 8" SANITARY SEWER LINE
SS SS	EXISTING SANITARY SEWER LINE
W W	EXISTING WATER LINE
FH	PROPOSED FIRE HYDRANT

BRENDAN JOSEPH GOLT
REGISTERED
AGRICULTURE
No. 001107
LICENSED
STATE OF TENNESSEE
04/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED UTILITY PLAN

C5.1

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

8" SAN

4" G

EIP

S 87°08'19" E
466.48'

N 89°10'15" E
35.59'

STORMWATER
MANAGEMENT POND #6

WITHEROW PROPERTY
TO BE RETAINED
750,935.9 Sq. Feet
17.24 Acres
Shown hereon for
informational purposes

LOADING

PROPOSED FIRE HYDRANT (TYP.)

8"W ss

MATCHLINE SEE SHEET C5.1

T.V.A.
TOWER

N 85°39'33" E
1,123.38'

T.V.A./USA EASEMENT
DEED BOOK 232, PAGE 575

75'

STORMWATER
MANAGEMENT POND #5

S 12°50'00" E
488.26'

S 27°12'08" E
194.40'

S 32°19'53" E
287.60'

TENNESSEE SOUTHERN RAILROAD COMPANY

Mag Nail Reset
(New R/R Ties)

Mag Nail Reset
(New R/R Ties)

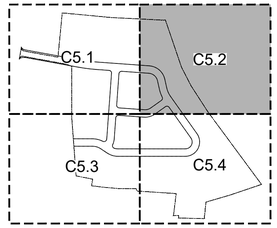
PROPOSED FIRE HYDRANT (TYP.)

MATCHLINE SEE SHEET C5.4

ONE

KEY MAP

NOT TO SCALE



UTILITY LEGEND

W	PROPOSED WATER LINE
SS SS	PROPOSED 8" SANITARY SEWER LINE
SS SS	EXISTING SANITARY SEWER LINE
W W	EXISTING WATER LINE
FH	PROPOSED FIRE HYDRANT

BENJAMIN JOSEPH LOPER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 0011079
STATE OF TENNESSEE
04/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED UTILITY PLAN

C5.2

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

MATCHLINE SEE SHEET C5.1

MATCHLINE SEE SHEET C5.4

1/2" Iron Pin Found
RLS #1941

N 80°13'03" E
125.43'

EIP

N 80°15'27" E
373.30'

202.91'

S 14°16'41" E
50.00'

50' Easement Deed Book R2696, page 869

20' Sanitary Sewer Easement R2467, page 1106

PROPOSED 20' SANITARY SEWER EASEMENT

N 85°15'42" E
336.49'

S 85°15'42" W
336.09'

Wall

End of Pavement

PROPOSED FIRE HYDRANT (TYP.)

PROPOSED TIE IN TO EXISTING 8" WATER MAIN

CONNECT TO EXISTING 10" SEWER

23,677.9 Sq. Feet
0.54 Acres

Point of Beginning
Easement Tract
N:470,450.7
E:1,651,451.8

A=481.29'
R=1830.82'
D=15°03'43"
B=S 17°46'47" E
C=479.90'
T=242.04'

TAX MAP
089
(041.14)
White, Kilgore and White, G.P.
D.B. R2469 PG. 980
R.O.M.C.,TN

Point of Beginning 70' Access/P.U.D.E.

290.38'

Point of Beginning
Tract 1
¾" Iron Pin Found

T.V.A. TOWER

N 21°54'26" W
217.26'

N 69°53'25" W
84.81'

N 83°53'07" W
50.46'

258.00'
S 82°22'36" W

ZONE X
ZONE AE

158.12'
N 78°47'44" W

STORMWATER MANAGEMENT POND #3

3/4" Pipe Found

112.37'

N 09°00'32" E
63.04'

N 83°02'56" W

135.45'
N 84°50'57" W

Landscaping Stock Encroachment

3/4" Pipe Found

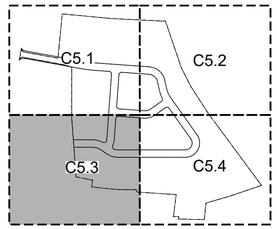
20' Sanitary Sewer Easement Deed Book R2463, page 951

N:470,248.8
E:1,651,918.4

TAX MAP
089
(042.00)
Rummage Properties, LLC
D.B. R2215 PG. 790
R.O.M.C.,TN

KEY MAP

NOT TO SCALE



UTILITY LEGEND

W	PROPOSED WATER LINE
SS	PROPOSED 8" SANITARY SEWER LINE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
FH	PROPOSED FIRE HYDRANT

BRENDAN JOSEPH LEE
REGISTERED ENGINEER
AGRICULTURE
No. 00110795
STATE OF TENNESSEE
04/15/2024

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED UTILITY PLAN

C5.3

MATCHLINE SEE SHEET C5.2

MATCHLINE SEE SHEET C5.3

PROPOSED FIRE HYDRANT (TYP.)

PROPOSED FIRE HYDRANT (TYP.)

STORMWATER
MANAGEMENT POND #4

PROPOSED 20' SANITARY
SEWER EASEMENT

SEWER EASEMENT
BOOK 383, PAGE 28
BOOK 375, PAGE 245

30' STREAM BUFFER

TOP OF BANK

CONNECT TO EXISTING SEWER

N 24°36'12" W
25.25'

S 36°49'04" E
853.01'

172.14'
N 89°35'18" W

366.89'
N 86°23'37" W

282.00'
S 71°19'39" W

S 70°39'02" W
32.54'

233.33'
S 73°42'15" W

156.21'
S 05°49'11" W

S 88°42'39" W
48.40'

N 00°01'10" W
23.54'

241.18'
N 88°40'31" W

N 07°00'16" E
209.30'

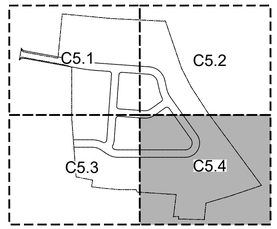
TAX MAP
089
(043.01)
Howell Building
Group, LLC.
D.B. R2870 PG. 622
R.O.M.C.,TN
Plat Book P11, page 137
Lot 2D

TAX MAP
089O, Group "A"
(005.03)
Vincent
Guarnotta
D.B. R2705 PG. 1006
R.O.M.C.,TN

TAX MAP
089O, Group "A"
(005.00)
Oppidan
Capital, LLC.
D.B. R2702 PG. 515
R.O.M.C.,TN

KEY MAP

NOT TO SCALE



UTILITY LEGEND

W	PROPOSED WATER LINE
SS SS	PROPOSED 8" SANITARY SEWER LINE
SS SS	EXISTING SANITARY SEWER LINE
W W	EXISTING WATER LINE
FH	PROPOSED FIRE HYDRANT

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

ENLARGED UTILITY PLAN

C5.4

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



CODE MINIMUM LANDSCAPE PLAN

THIS LANDSCAPE PLAN HAS BEEN DESIGNED TO MEET THE MINIMUM CODE REQUIREMENTS OF THE CITY OF COLUMBIA TN ZONING ORDINANCE FOR SITE DEVELOPMENT PLAN.

ZONING ORDINANCE 4.3.16 - CD-5 LANDSCAPING:
CONTINUOUS SHRUBS AROUND FOUNDATION AT FACADE. 1 SHRUB EVERY 10 LF
- SMALL MULTI-FAMILY BLDG 1, 3: REQ. 6 SHRUBS; PROVIDED: 10 SHRUBS
- SMALL MULTI-FAMILY BLDG 2, 4: REQ. 5 SHRUBS; PROVIDED: 9 SHRUBS
- SMALL MULTI-FAMILY BLDG 5-7: REQ. 5 SHRUBS; PROVIDED: 9 SHRUBS
- SMALL MULTI-FAMILY BLDG 8-11: REQ. 5 SHRUBS; PROVIDED: 9 SHRUBS
- SMALL MULTI-FAMILY BLDG 12, 14: REQ. 6 SHRUBS; PROVIDED: 10 SHRUBS
- SMALL MULTI-FAMILY BLDG 13, 15-22: REQ. 5 SHRUBS; PROVIDED: 9 SHRUBS
- SMALL MULTI-FAMILY BLDG 23-25: REQ. 5 SHRUBS; PROVIDED: 9 SHRUBS
- SMALL MULTI-FAMILY BLDG 26: REQ. 6 SHRUBS; PROVIDED: 10 SHRUBS
- SMALL MULTI-FAMILY BLDG 27: REQ. 6 SHRUBS; PROVIDED: 9 SHRUBS

- LARGE MULTI-FAMILY BLDG 1: REQ.13 SHRUBS; PROVIDED: 25 SHRUBS
- LARGE MULTI-FAMILY BLDG 2: REQ.13 SHRUBS; PROVIDED: 21 SHRUBS
- LARGE MULTI-FAMILY BLDG 3: REQ. 13 SHRUBS; PROVIDED: 25 SHRUBS
- LARGE MULTI-FAMILY BLDG 4: REQ. 13 SHRUBS; PROVIDED: 25 SHRUBS
- LARGE MULTI-FAMILY BLDG 5-7: REQ. 13 SHRUBS; PROVIDED: 23 SHRUBS

- DAYCARE: REQ. 17 SHRUBS; PROVIDED: 31 SHRUBS
- MIXED-USE BLDG 1-2: REQ. 17 SHRUBS; PROVIDED: 31 SHRUBS

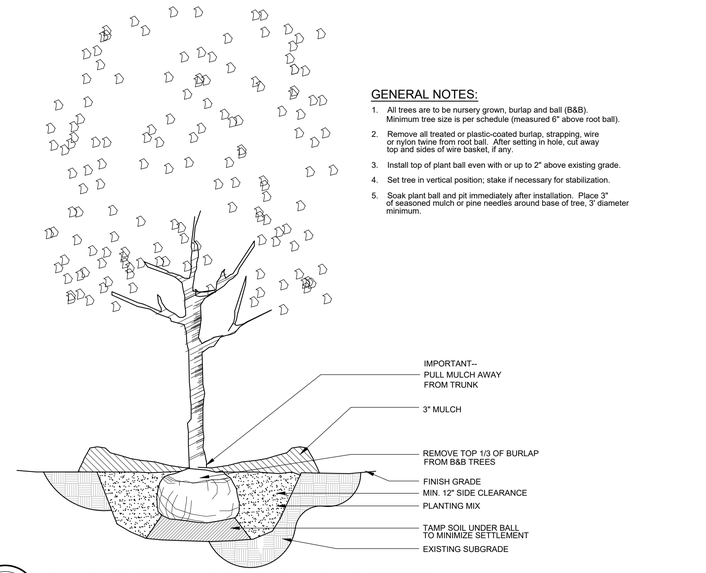
ZONING ORDINANCE 5.2.2.G-1 - URBAN CENTER STREET:
REQUIRED: 1 STREET TREE EVERY 50 LF.
PROVIDED: 1 STREET TREE EVERY 50 LF.

ZONING ORDINANCE 4.13.12.C - PARKING DESIGN:
REQUIRED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS.
PROVIDED: 1 SHADE TREE PER ISLAND/ 2 SHADE TREES FOR DOUBLE LENGTH ISLANDS

REQUIRED: 1 TREE PER 2,000 SF OF PARKING LOT
PROVIDED: xx SF PARKING AREA / 2,000 SF = xx TREES REQUIRED. PROVIDED: xx TREES

REQUIRED: 36" HEDGE TO SCREEN PARKING FROM CIVIC SPACE AND ADJACENT PROPERTY
PROVIDED: HEDGES PROVIDED AS REQUIRED.

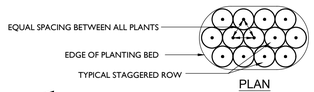
ZONING ORDINANCE 4.3.16.L - TREE PROTECTION:
CD-5 DOES NOT REQUIRED EXISTING TREE CANOPY PRESERVATION.
NO EXISTING TREES ARE DESIGNATED AS PRESERVED.

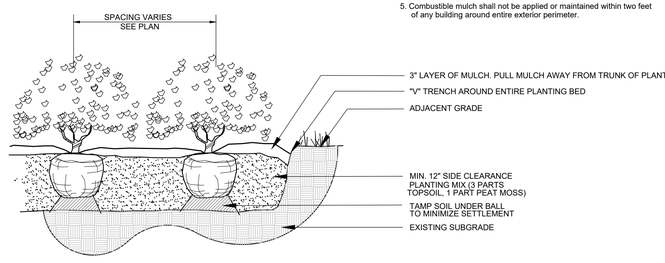


1 L1.0 SECTION — **SINGLE TRUNK DECIDUOUS TREE** — DETAIL # NTS

GENERAL NOTES:

1. All trees are to be nursery grown, burlap and ball (B&B). Minimum tree size is per schedule (measured 6" above root ball).
2. Remove all treated or plastic-coated burlap, strapping, wire or nylon twine from root ball. After setting in hole, cut away top and sides of wire basket, if any.
3. Install top of plant ball even with or up to 2" above existing grade.
4. Set tree in vertical position; stake if necessary for stabilization.
5. Soak plant ball and pit immediately after installation. Place 3" of seasoned mulch or pine needles around base of tree, 3' diameter minimum.





2 L1.0 SECTION — **SHRUB PLANTING** — DETAIL # NTS

GENERAL NOTES:

1. Install top of plant ball shall be level with finished grade.
2. Tamp planting mix firmly as pit is filled around each plant ball.
3. Soak each plant ball and pit immediately after installation.
4. Cut and remove burlap from top 1/3 of root ball. Non-degradable burlap shall be removed or rolled under ball after replacement of plant.
5. Combustible mulch shall not be applied or maintained within two feet of any building around entire exterior perimeter.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

JEFFREY A. ROSIAK REGISTERED LANDSCAPE ARCHITECT 4/15/24

Date: APRIL 15, 2024

Revision Date
△
△
△

LANDSCAPE PLAN
SHEET
L2.0



QTY / SYM — PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
14	AR	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	21%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN, MATCHING
11	LS	LIQUIDAMBAR STYRACIFLUA 'WARD'	CHEROKEE SWEETGUM	2.5" CAL	10' MIN.	15%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
13	NS	NYSSA SYLVATICA 'RED RAGE'	RED RAGE BLACKGUM	2.5" CAL	10' MIN.	20%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
10	QN	QUERCUS NUTTALLI	NUTTALL OAK	2.5" CAL	10' MIN.	15%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
7	QS	QUERCUS SHUMARDII	SHUMARD OAK	2.5" CAL	10' MIN.	18%		
SHRUBS								
10	BW	BUXUS SINICA VAR. INSULARIS 'WINTERGREEN'	WINTERGREEN KOREAN BOXWOOD		30" MIN.		36" O.C.	
16	DBC	DISTYLIUM HYBRID 'PIIDIST-II'	BLUE CASCADE DISTYLIUM		30" MIN.		36" O.C.	
17	IDB	ILEX CORNUTA 'DWARF BURFORD'	DWARF BURFORD HOLLY		30" MIN.		48" O.C.	
10	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY		30" MIN.		36" O.C.	
6	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA		30" MIN.		48" O.C.	
6	TEG	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE		30" MIN.		AS SHOWN	
21	VB	VIBURNUM X BURWOODII 'CONOY'	CONOY VIBURNUM		30" MIN.		36" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

N

0 100 200 300

GRAPHIC SCALE 1"=100'-0"

GAMBLE DESIGN COLLABORATIVE

DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

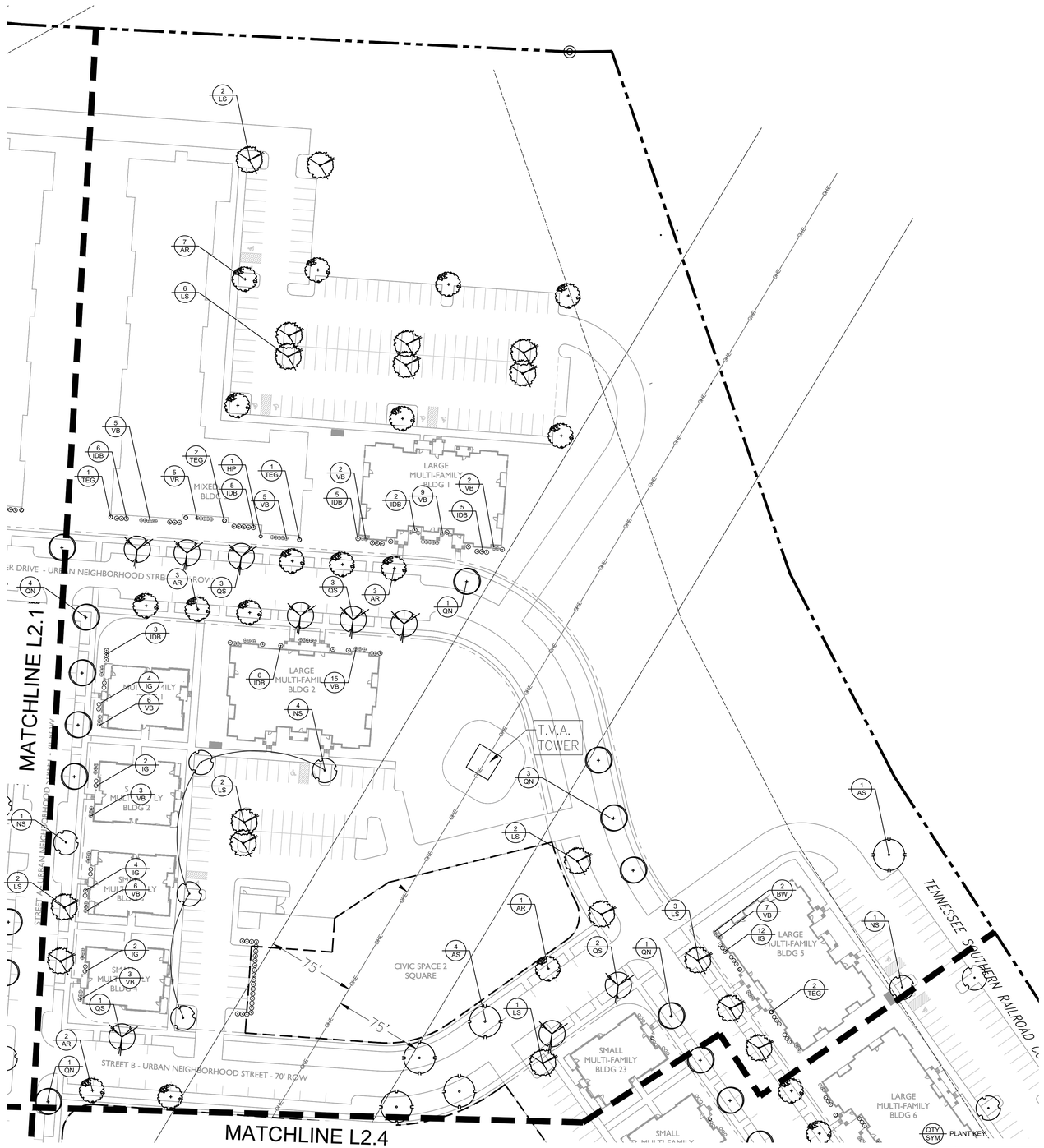
JEFFREY A. ROSIAK REGISTERED LANDSCAPE ARCHITECT AGRICULTURE

Date: APRIL 15, 2024

Revision Date
△
△
△

LANDSCAPE PLAN

SHEET L2.1



QTY / SYM PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
16	AR	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	21%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN, MATCHING
5	AS	ACER SACCHARUM 'LEGACY'	LEGACY SUGAR MAPLE	2.5" CAL	10' MIN.	11%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
17	LS	LIQUIDAMBAR STYRACIFLUA 'WARD'	CHEROKEE SWEETGUM	2.5" CAL	10' MIN.	15%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
6	NS	NYSSA SYLVATICA 'RED RAGE'	RED RAGE BLACKGUM	2.5" CAL	10' MIN.	20%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
10	QN	QUERCUS NUTTALLI	NUTTALL OAK	2.5" CAL	10' MIN.	15%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
9	QS	QUERCUS SHUMARDII	SHUMARD OAK	2.5" CAL	10' MIN.	18%		
SHRUBS								
2	BW	BUXUS SINICA VAR. INSULARIS 'WINTERGREEN'	WINTERGREEN KOREAN BOXWOOD		30" MIN.		36" O.C.	
32	IDB	ILEX CORNUTA 'DWARF BURFORD'	DWARF BURFORD HOLLY		30" MIN.		48" O.C.	
24	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY		30" MIN.		36" O.C.	
1	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA		30" MIN.		48" O.C.	
6	TEG	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE		30" MIN.		AS SHOWN	
68	VB	VIBURNUM X BURWOODII 'CONOY'	CONOY VIBURNUM		30" MIN.		36" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

N

0 100 200 300

GRAPHIC SCALE 1"=100'-0"

GAMBLE DESIGN COLLABORATIVE

DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

JEFFREY A. ROSIA REGISTERED LANDSCAPE ARCHITECT TENNESSEE

Date: APRIL 15, 2024

Revision Date

△

△

△

LANDSCAPE PLAN

SHEET

L2.2



QTY / SYM PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
2	AR	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	21%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN, MATCHING
1	AS	ACER SACCHARUM 'LEGACY'	LEGACY SUGAR MAPLE	2.5" CAL	10' MIN.	11%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
3	LS	LIQUIDAMBAR STYRACIFLUA 'WARD'	CHEROKEE SWEETGUM	2.5" CAL	10' MIN.	15%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
6	NS	NYSSA SYLVATICA 'RED RAGE'	RED RAGE BLACKGUM	2.5" CAL	10' MIN.	20%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
3	QN	QUERCUS NUTTALLI	NUTTALL OAK	2.5" CAL	10' MIN.	15%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
10	QS	QUERCUS SHUMARDII	SHUMARD OAK	2.5" CAL	10' MIN.	18%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
SHRUBS								
64	DBC	DISTYLIUM HYBRID 'PIIDIST-II'	BLUE CASCADE DISTYLIUM		30" MIN.		36" O.C.	
5	IDB	ILEX CORNUTA 'DWARF BURFORD'	DWARF BURFORD HOLLY		30" MIN.		48" O.C.	
10	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA		30" MIN.		48" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

N

0 100 200 300

GRAPHIC SCALE 1"=100'-0"

GAMBLE DESIGN COLLABORATIVE

DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

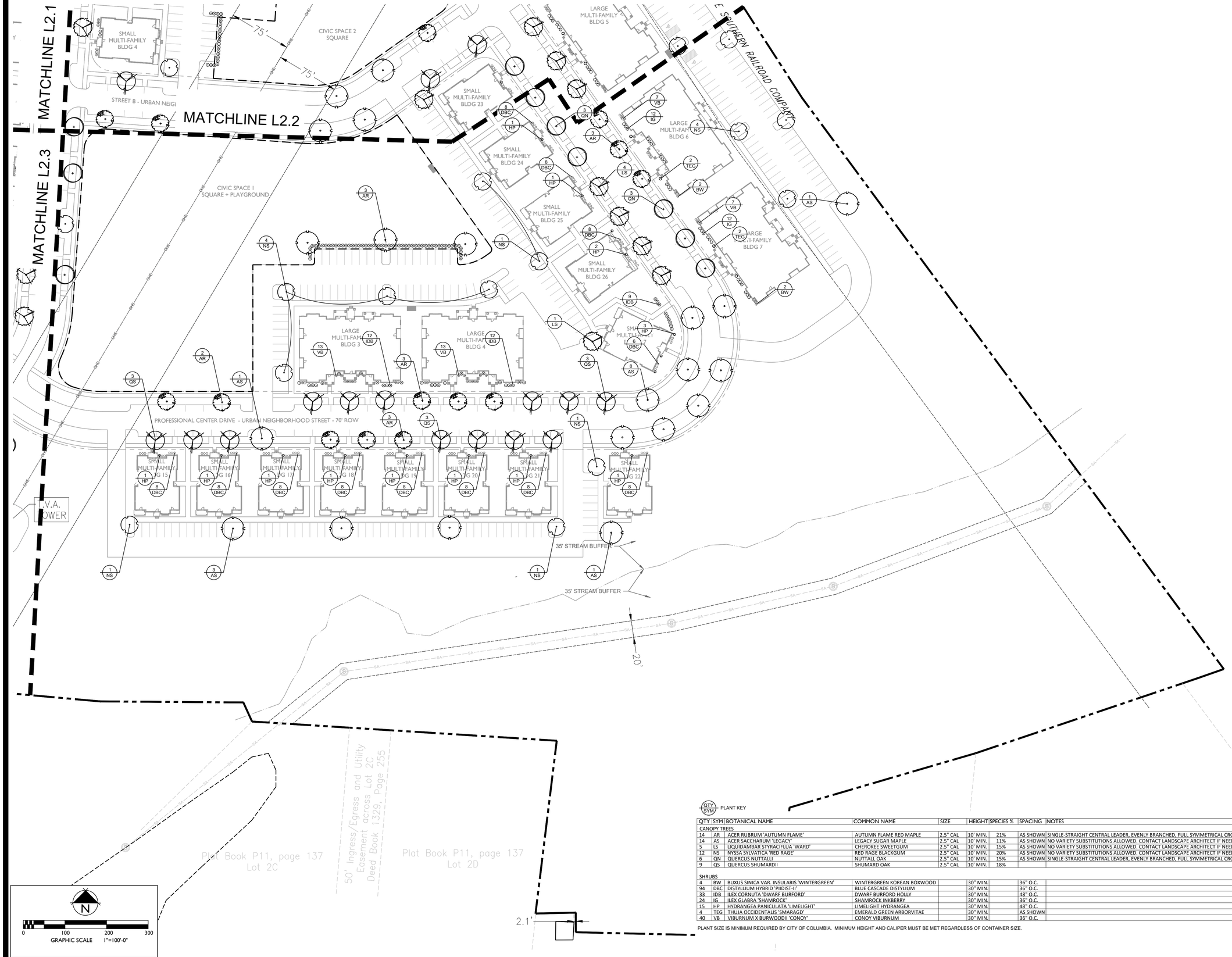
JEFFREY A. ROSIAK REGISTERED LANDSCAPE ARCHITECT

Date: APRIL 15, 2024

Revision Date
△
△
△

LANDSCAPE PLAN

SHEET L2.3



QTY / SYM PLANT KEY

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPECIES %	SPACING	NOTES
CANOPY TREES								
14	AR	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	2.5" CAL	10' MIN.	21%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN, MATCHING
14	AS	ACER SACCHARUM 'LEGACY'	LEGACY SUGAR MAPLE	2.5" CAL	10' MIN.	11%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
5	LS	LIQUIDAMBAR STYRACIFLUA 'WARD'	CHEROKEE SWEETGUM	2.5" CAL	10' MIN.	15%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
12	NS	NYSSA SYLVATICA 'RED RAGE'	RED RAGE BLACKGUM	2.5" CAL	10' MIN.	20%	AS SHOWN	NO VARIETY SUBSTITUTIONS ALLOWED. CONTACT LANDSCAPE ARCHITECT IF NEED TO REPLACE
6	QN	QUERCUS NUTTALLI	NUTTALL OAK	2.5" CAL	10' MIN.	15%	AS SHOWN	SINGLE-STRAIGHT CENTRAL LEADER, EVENLY BRANCHED, FULL SYMMETRICAL CROWN
9	QS	QUERCUS SHUMARDII	SHUMARD OAK	2.5" CAL	10' MIN.	18%		
SHRUBS								
4	BW	BUXUS SINICA VAR. INSULARIS 'WINTERGREEN'	WINTERGREEN KOREAN BOXWOOD		30" MIN.		36" O.C.	
94	DBC	DISTYLLIUM HYBRID 'PIIDIST-II'	BLUE CASCADE DISTYLIUM		30" MIN.		36" O.C.	
33	IDB	ILEX CORNUTA 'DWARF BURFORD'	DWARF BURFORD HOLLY		30" MIN.		48" O.C.	
24	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY		30" MIN.		36" O.C.	
15	HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA		30" MIN.		48" O.C.	
4	TEG	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE		30" MIN.		AS SHOWN	
40	VB	VIBURNUM X BURWOODII 'CONOY'	CONOY VIBURNUM		30" MIN.		36" O.C.	

PLANT SIZE IS MINIMUM REQUIRED BY CITY OF COLUMBIA. MINIMUM HEIGHT AND CALIPER MUST BE MET REGARDLESS OF CONTAINER SIZE.

GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

JEFFREY A. ROSIA REGISTERED LANDSCAPE ARCHITECT

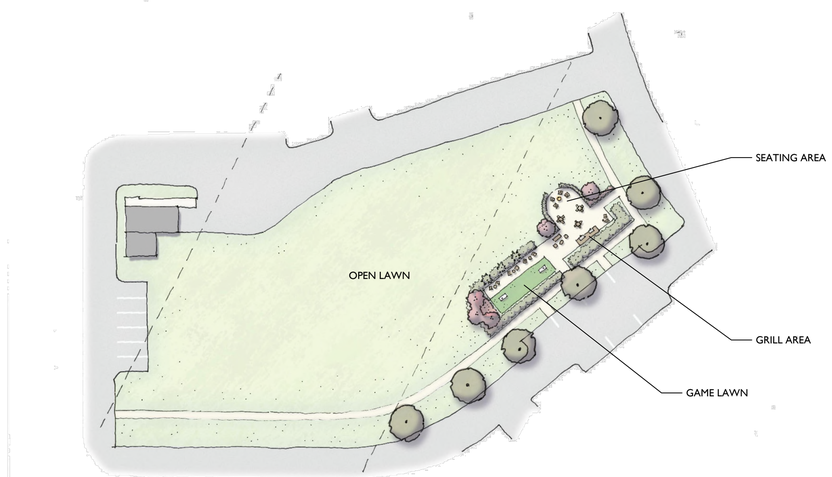
Date: APRIL 15, 2024

Revision Date
△
△
△

LANDSCAPE PLAN
SHEET
L2.4



1 L3.0 SQUARE - CIVIC SPACE 1
PLAN



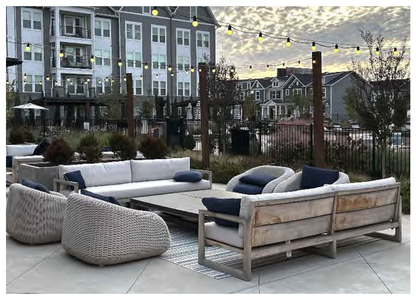
2 L3.0 SQUARE - CIVIC SPACE 2
PLAN



CIVIC SPACE		
REQUIRED: 5%-20% OF GROSS SITE AREA		
PROVIDED: 5.8% (2.97AC)		
TYPE:	AREA:	AMENITIES:
SQUARE 1	2.31 AC	HARDSCAPE; SEATING AREA, SITE FURNISHINGS, PAVILION, FORMAL PLANTINGS; PLAYGROUND
SQUARE 2	0.66 AC	HARDSCAPE, SITE FURNISHINGS, FORMAL PLANTINGS; GRILL PATIO

3 L3.0 CIVIC SPACE LOCATION PLAN
PLAN

CHARACTER IMAGES







GAMBLE DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

JAMES CAMPBELL BLVD PROPERTY
SITE DEVELOPMENT PLAN & PRELIMINARY PLAT
JAMES CAMPBELL & PROFESSIONAL CENTER DRIVE, Columbia, Tennessee

JEFFREY A. ROSIAK REGISTERED LANDSCAPE ARCHITECT TENNESSEE

Date: APRIL 15, 2024

Revision Date
△
△
△

CIVIC SPACE PLAN

SHEET
L3.0



2 SIDE ELEVATION
3/16" = 1'-0"



1 3A FRONT/3C REAR ELEVATION
3/16" = 1'-0"



4 SIDE ELEVATION
3/16" = 1'-0"



3 3C FRONT/3A REAR ELEVATION
3/16" = 1'-0"

NOTE: MIRRORED VERSION OF THIS BUILDING MAY BE USED

KLINE SWINNEY ASSOCIATES
22 middleton street • nashville, tennessee • 37210
architecture + interior design + planning

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
Association Collegiate Schools of Architecture
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

3A/3C EXTERIOR ELEVATIONS

COLUMBIA MIXED USE
COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO. Project Number
DATE Issue Date
SHEET NO. A5.01

4/11/2024 3:20:46 PM



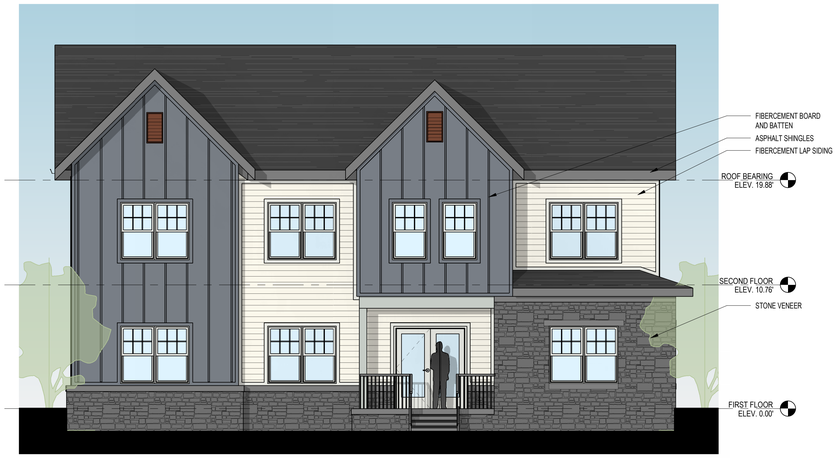
2 SIDE ELEVATION
3/16" = 1'-0"



1 3B FRONT ELEVATION
3/16" = 1'-0"



4 SIDE ELEVATION
3/16" = 1'-0"



3 3B REAR ELEVATION
3/16" = 1'-0"

NOTE: MIRRORED VERSION OF THIS BUILDING MAY BE USED

KLINE SWINNEY ASSOCIATES
22 middleton street • nashville, tennessee • 37210
architecture + interior design + planning
American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Institute of Architects
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

3B EXTERIOR ELEVATIONS

COLUMBIA MIXED USE
COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO.
Project Number

DATE
Issue Date

SHEET NO.
A1.00

4/11/2024 5:19:57 PM



1 END ELEVATION 'A' - BUILDING TYPE 1A
1/8" = 1'-0"



2 END ELEVATION 'C' - BUILDING TYPE 1A
1/8" = 1'-0"



3 SIDE ELEVATION 'B' - BUILDING TYPE 1A
1/8" = 1'-0"



4 SIDE ELEVATION 'D' - BUILDING TYPE 1A
1/8" = 1'-0"

KLINE SWINNEY ASSOCIATES
architecture + interior design + planning
22 middleton street • nashville, tennessee • 37210

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Concrete Institute
Tennessee Society of Architects

EXTERIOR ELEVATIONS - BUILDING TYPE 1A

COLUMBIA MIXED USE DEVELOPMENT
COLUMBIA, TENNESSEE

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect. KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

REVISIONS

PROJECT NO. 2138
DATE 4/11/2024
SHEET NO. 1A5.01

4/11/2024 7:15:35 AM



1 END ELEVATION 'A' - BUILDING TYPE 1B
1/8" = 1'-0"



2 END ELEVATION 'C' - BUILDING TYPE 1B
1/8" = 1'-0"



3 SIDE ELEVATION 'B' - BUILDING TYPE 1B
1/8" = 1'-0"



4 SIDE ELEVATION 'D' - BUILDING TYPE 1B
1/8" = 1'-0"

KLINE SWINNEY ASSOCIATES
architecture + interior design + planning
22 middleton street • nashville, tennessee • 37210

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Concrete Institute
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect. KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

EXTERIOR ELEVATIONS - BUILDING TYPE 1B

COLUMBIA MIXED USE DEVELOPMENT
COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO. 2138
DATE 4/11/2024
SHEET NO. 1A5.01

4/11/2024 7:22:38 AM



1 END ELEVATION 'A' - BUILDING TYPE 2A
1/8" = 1'-0"



2 END ELEVATION 'C' - BUILDING TYPE 2A
1/8" = 1'-0"



3 SIDE ELEVATION 'B' - BUILDING TYPE 2A
1/8" = 1'-0"



4 SIDE ELEVATION 'D' - BUILDING TYPE 2A
1/8" = 1'-0"

22 middleton street • nashville, tennessee • 37210
KLINE SWINNEY ASSOCIATES
architecture + interior design + planning

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Concrete Institute
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

EXTERIOR ELEVATIONS - BUILDING TYPE 2A

COLUMBIA MIXED USE DEVELOPMENT
COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO. 2138
DATE 4/11/2024
SHEET NO. 2A5.01

4/11/2024 7:20:05 AM



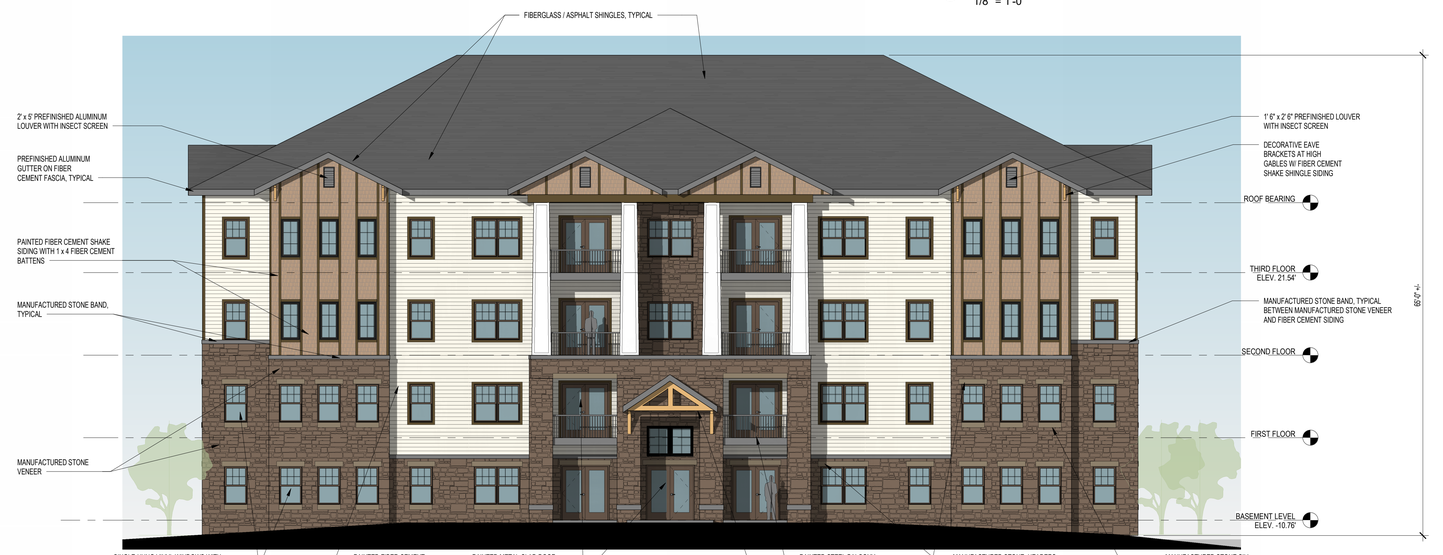
1 END ELEVATION 'A' - BUILDING TYPE 2B
1/8" = 1'-0"



2 END ELEVATION 'C' - BUILDING TYPE 2B
1/8" = 1'-0"



3 SIDE ELEVATION 'B' - BUILDING TYPE 2B
1/8" = 1'-0"



4 SIDE ELEVATION 'D' - BUILDING TYPE 2B
1/8" = 1'-0"

22 middleton street • nashville, tennessee • 37210
KLINE SWINNEY ASSOCIATES
architecture + interior design + planning

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Concrete Institute
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

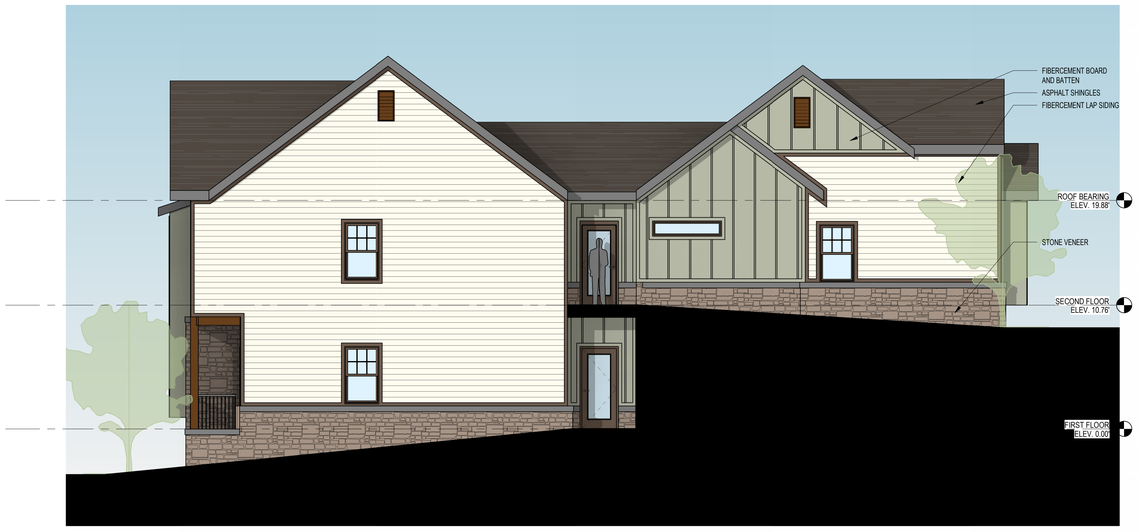
EXTERIOR ELEVATIONS - BUILDING TYPE 2B

COLUMBIA MIXED USE DEVELOPMENT
COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO. 2138
DATE 4/11/2024
SHEET NO. 2A5.01

4/11/2024 7:12:03 AM



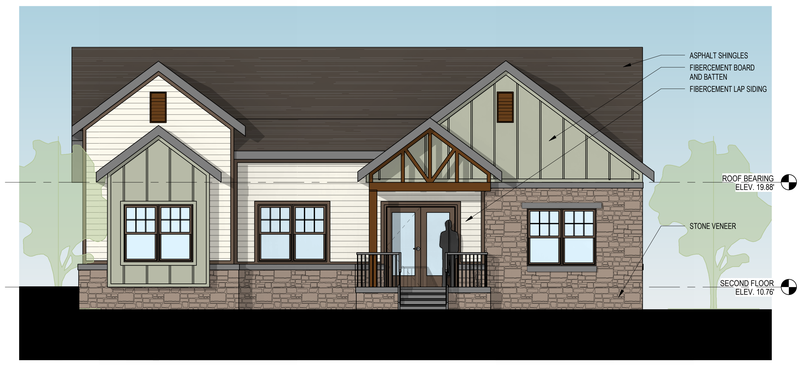
2 SIDE ELEVATION
3/16" = 1'-0"



1 4A FRONT/REAR ELEVATION
3/16" = 1'-0"



4 SIDE ELEVATION
3/16" = 1'-0"



3 4A FRONT/REAR ELEVATION
3/16" = 1'-0"

NOTE: MIRRORED VERSION OF THIS BUILDING MAY BE USED

KLINE SWINNEY ASSOCIATES
22 middleton street • nashville, tennessee • 37210
architecture + interior design + planning

American Institute of Architects
United States Green Building Council
Urban Land Institute Nashville Chapter
National Council of Architectural Registration Boards
Construction Specifications Institute
Association for Preservation Technology
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

4A EXTERIOR ELEVATIONS

COLUMBIA MIXED USE
COLUMBIA, TENNESSEE

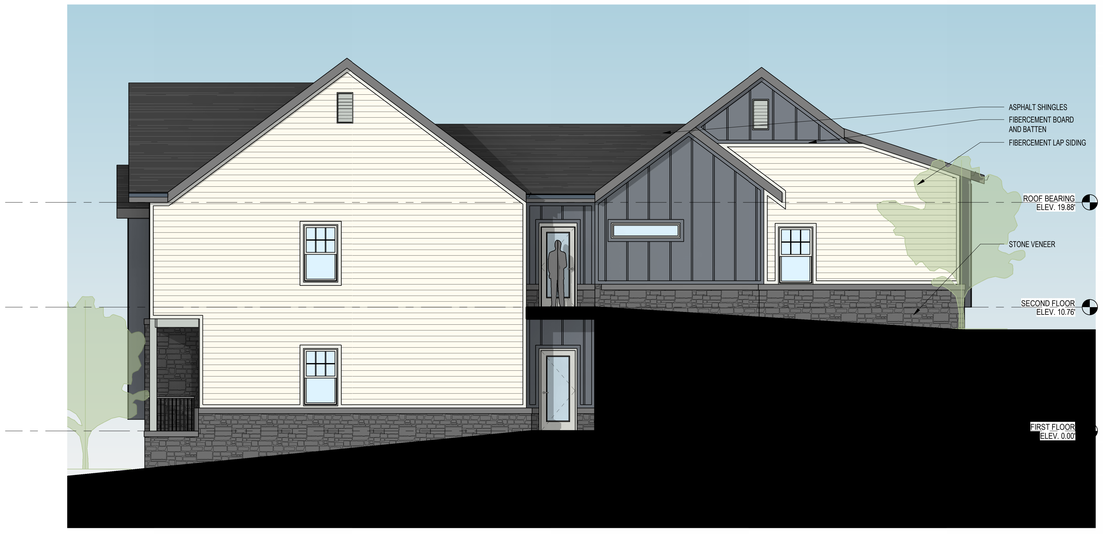
REVISIONS

PROJECT NO.
Project Number

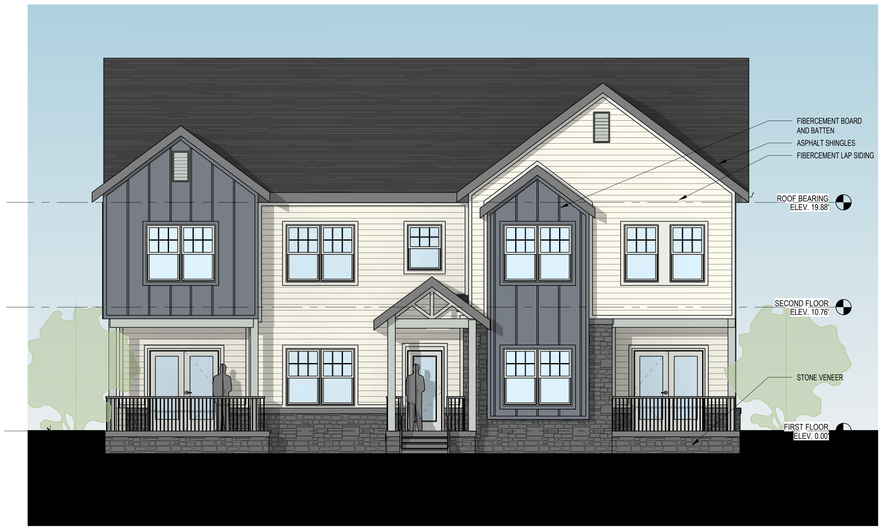
DATE
Issue Date

SHEET NO.
A5.01

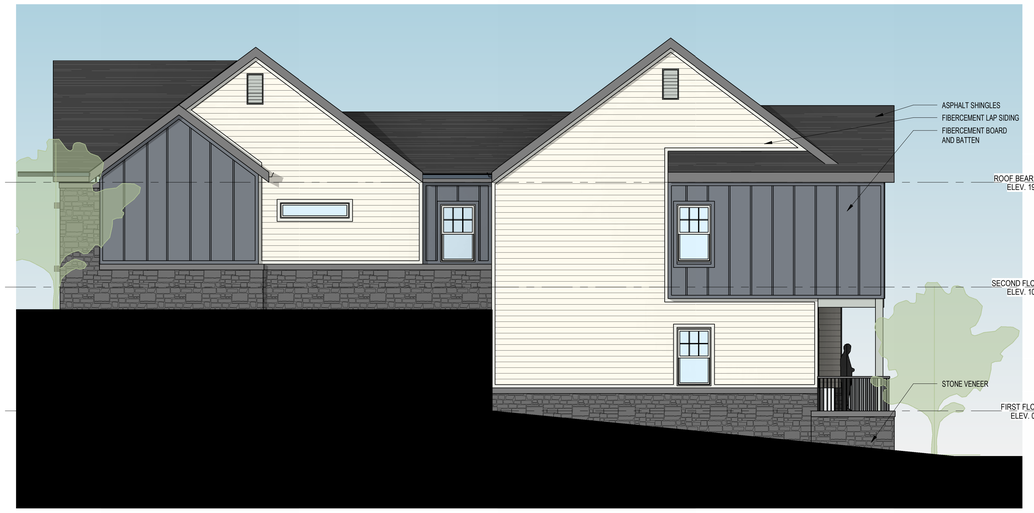
4/11/2024 3:19:20 PM



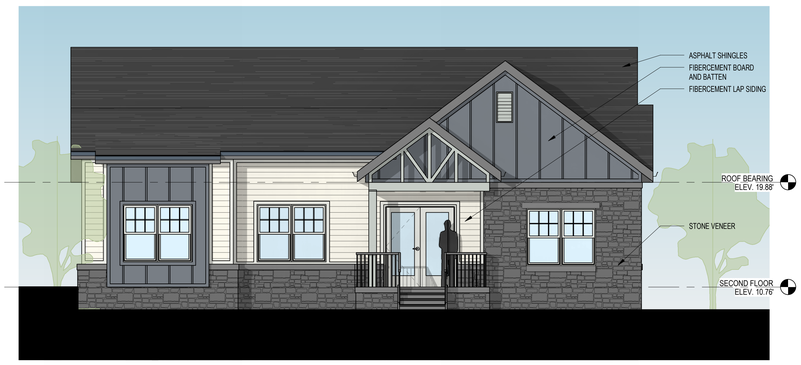
2 SIDE ELEVATION
3/16" = 1'-0"



1 4B FRONT/REAR ELEVATION
3/16" = 1'-0"



4 SIDE ELEVATION
3/16" = 1'-0"



3 4B FRONT/REAR ELEVATION
3/16" = 1'-0"

NOTE: MIRRORED VERSION OF THIS BUILDING MAY BE USED

KLINE SWINNEY ASSOCIATES
architecture + interior design + planning
22 middleton street • nashville, tennessee • 37210

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
Association Collegiate Schools of Architecture
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

4B EXTERIOR ELEVATIONS

COLUMBIA MIXED USE
COLUMBIA, TENNESSEE

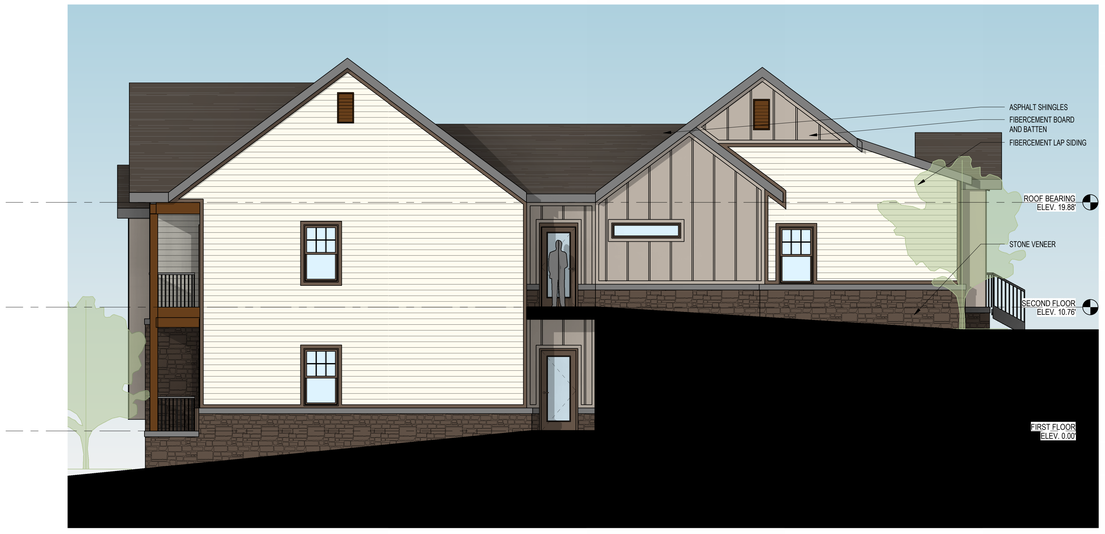
REVISIONS

PROJECT NO.
Project Number

DATE
Issue Date

SHEET NO.
A5.01

4/11/2024 3:17:29 PM



2 SIDE ELEVATION
3/16" = 1'-0"



1 4C FRONT/REAR ELEVATION
3/16" = 1'-0"



4 SIDE ELEVATION
3/16" = 1'-0"



3 4C FRONT/REAR ELEVATION
3/16" = 1'-0"

NOTE: MIRRORED VERSION OF THIS BUILDING MAY BE USED

KLINE SWINNEY ASSOCIATES
22 middleton street • nashville, tennessee • 37210
architecture + interior design + planning

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
Association for Preservation Technology
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

4C EXTERIOR ELEVATIONS

COLUMBIA MIXED USE
COLUMBIA, TENNESSEE

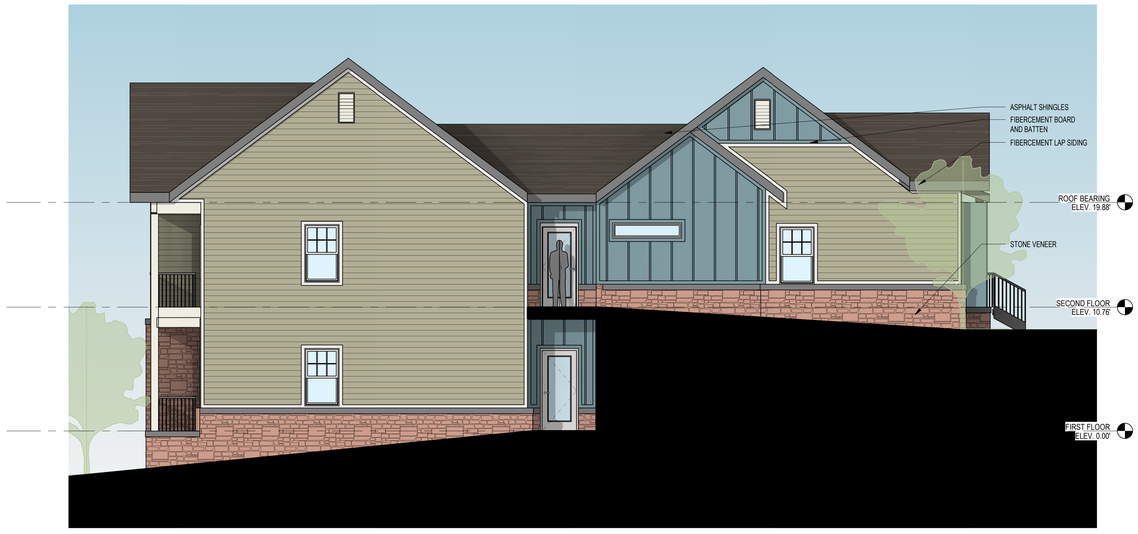
REVISIONS

PROJECT NO.
Project Number

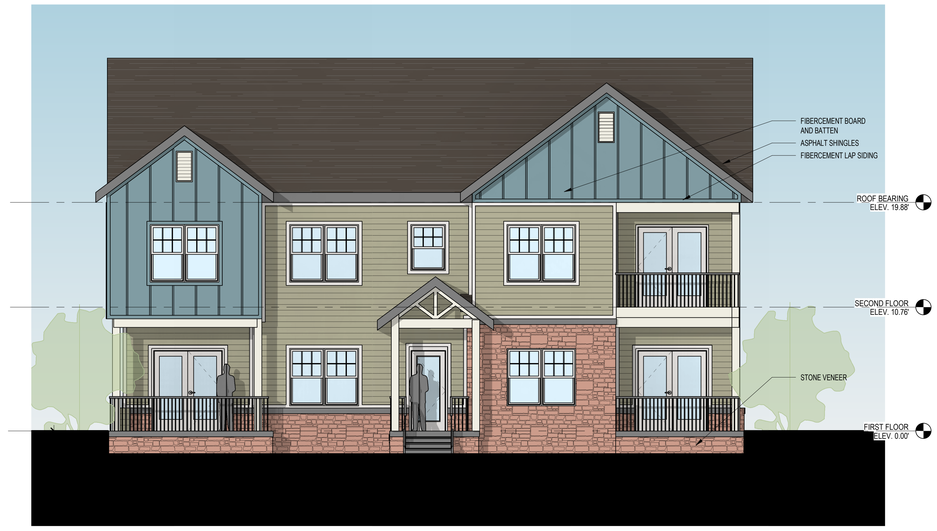
DATE
Issue Date

SHEET NO.
A5.01

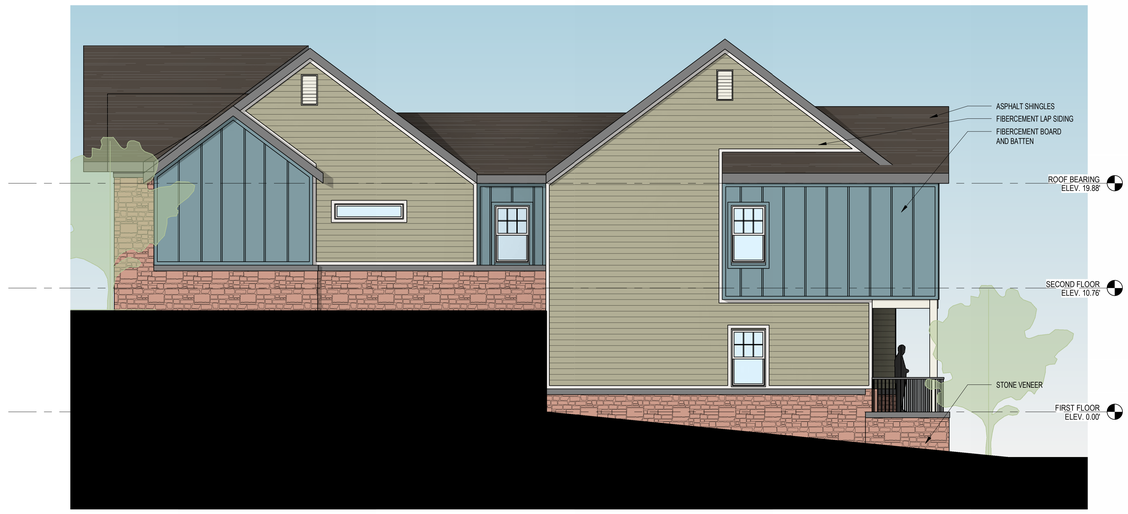
4/11/2024 3:28:51 PM



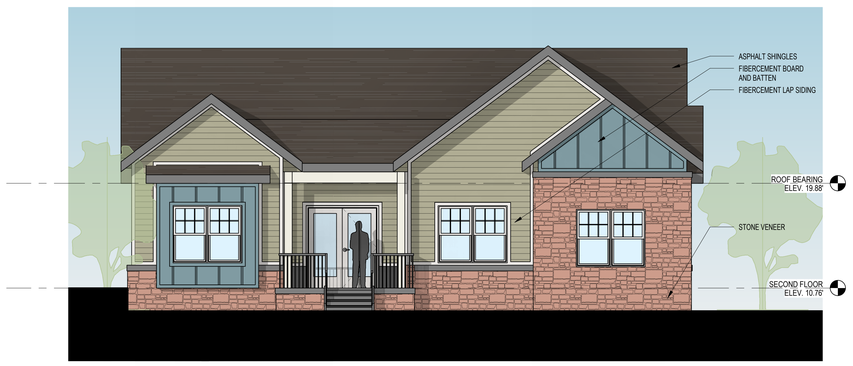
2 SIDE ELEVATION
3/16" = 1'-0"



1 4D FRONT/REAR ELEVATION
3/16" = 1'-0"



4 SIDE ELEVATION
3/16" = 1'-0"



3 4D FRONT/REAR ELEVATION
3/16" = 1'-0"

NOTE: MIRRORED VERSION OF THIS BUILDING MAY BE USED

KLINE SWINNEY ASSOCIATES
22 middleton street • nashville, tennessee • 37210
architecture + interior design + planning
American Institute of Architects
United States Green Building Council
Urban Land Institute Nashville
National Council of Architectural Registration Boards
Construction Specifications Institute
Association for Preservation Technology
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

4D EXTERIOR ELEVATIONS

COLUMBIA MIXED USE
COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO.
Project Number
DATE
Issue Date
SHEET NO.
A5.01

4/11/2024 3:25:22 PM



1 MIXED USE BUILDING 1 - SIDE ELEVATION

3/32" = 1'-0"



2 MIXED USE BUILDING 1 - FRONT ELEVATION

3/32" = 1'-0"



3 MIXED USE BUILDING 1 - REAR ELEVATION

3/32" = 1'-0"



4 MIXED USE BUILDING 1 - SIDE ELEVATION

3/32" = 1'-0"

KLINE SWINNEY ASSOCIATES
architecture + interior design + planning
22 middleton street • nashville, tennessee • 37210

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Concrete Institute
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

EXTERIOR ELEVATIONS - MIXED USE BUILDING 1

COLUMBIA MIXED USE DEVELOPMENT

COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO. 2138

DATE 4/11/2024

SHEET NO. 2A5.02

4/13/2024 10:32:52 PM



1 MIXED USE BUILDING 2 - SIDE ELEVATION

3/32" = 1'-0"



2 MIXED USE BUILDING 2 - FRONT ELEVATION

3/32" = 1'-0"



3 MIXED USE BUILDING 2 - REAR ELEVATION

3/32" = 1'-0"



4 MIXED USE BUILDING 2 - SIDE ELEVATION

3/32" = 1'-0"

KLINE SWINNEY ASSOCIATES
architecture + interior design + planning
22 middleton street • nashville, tennessee • 37210

American Institute of Architects
United States Green Building Council
National Council of Architectural Registration Boards
Construction Specifications Institute
American Concrete Institute
Tennessee Society of Architects

Reproduction of these drawings or any part thereof is prohibited without written approval of the architect, KLINE SWINNEY ASSOCIATES. These drawings are protected by U.S. copyright laws and violators are subject to legal recourse.

EXTERIOR ELEVATIONS - MIXED USE BUILDING 2

COLUMBIA MIXED USE DEVELOPMENT

COLUMBIA, TENNESSEE

REVISIONS

PROJECT NO. 2138

DATE 4/11/2024

SHEET NO. 2A5.03

4/13/2024 10:21:38 PM

Traffic Impact Study

HRP - Columbia

April 2024

FOR SUBMITTAL TO:

City of Columbia, Tennessee

PREPARED FOR:

HRP Residential

Kimley»Horn

Traffic Impact Study

HRP - Columbia

FOR SUBMITTAL TO:

City of Columbia, Tennessee

PREPARED FOR:

HRP Residential



04/12/2024

PREPARED BY:

Kimley»Horn
4031 Aspen Grove Drive, Suite 200
Franklin, Tennessee 37067
615.564.2701

April 2024

Project Number 118517000

Kimley»Horn

CONTENTS

1.0 Executive Summary 3

1.1 No-Build Improvement Recommendations *4*

1.2 Build Improvement Recommendations *4*

2.0 Introduction 5

3.0 Existing Conditions 8

3.1 Vehicular Network *8*

3.2 Vehicular Volumes *8*

4.0 No-Build Conditions 11

4.1 No-Build Improvements By others *11*

4.2 Future Transportation Infrastructure Improvements *11*

5.0 Build Conditions 14

5.1 Site Access and Circulation *14*

5.2 Trip Generation *15*

5.3 Trip Distribution and Assignment *15*

6.0 Turn lane Evaluation 19

7.0 Capacity Analyses 20

8.0 Conclusion 23

8.1 No-Build Development Improvement Recommendations *23*

8.2 Development Improvement Recommendations *24*

FIGURES

Figure 1: Site Location Map 6
Figure 2: Site Aerial 7
Figure 3: Existing 2023 Intersection Geometry 9
Figure 4: Existing 202 Traffic Volumes 10
Figure 5: Projected 2026 No-Build Intersection Geometry 12
Figure 6: Projected 2026 No-Build Traffic Volumes 13
Figure 7: Trip Distribution & Assignment 16
Figure 8: Project Trips 17
Figure 9: Projected 2026 Build Traffic Volumes 18
Figure 10: Build 2026 Intersection Geometry 22

TABLES

Table 1: Roadway Network 8
Table 2: Intersection Peak Hours 8
Table 3: Intersection Sight Distance 14
Table 4: Trip Generation 15
Table 5: Turn Lane Warrants 19
Table 6: Level-of-Service Summary 21

APPENDICES

Appendix A: Site Plan
Appendix B: Traffic Count Data
Appendix C: Volume Development
Appendix D: *Synchro* Reports
Appendix E: Turn Lane Warrants
Appendix F: Improvement Concepts

1.0 EXECUTIVE SUMMARY

This traffic study evaluated the anticipated traffic impacts associated with the *HRP - Columbia* development, which is expected to be completed in 2026 (referred to herein as build-out year). As currently envisioned, the development will consist of approximately 444 multifamily units, a 15,150 square foot daycare center, and 15,000 square feet of commercial retail. The approximate 50.39-acre site is located north of Hampshire Pike and east of James Campbell Boulevard within the City of Columbia, Tennessee.

This following scenarios were considered in this analysis:

- Existing 2023 Conditions
- Projected 2026 No-Build Conditions
- Projected 2026 Build Conditions

The study network for this analysis includes the following intersections:

1. Highway 43 Westbound Ramps at Industrial Park Road
2. Highway 43 Eastbound Ramps at Industrial Park Road
3. James Campbell Boulevard at Industrial Park Road
4. James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1
5. James Campbell Boulevard at Medical Plaza Driveway/Site Driveway 2
6. James Campbell Boulevard at Hampshire Pike

The proposed development will be served by two full-movement driveways that will operate under two-way stop control (TWSC). Both driveways will be along James Campbell Boulevard as an extension of existing driveways.

The results of the analyses show that all study intersections currently operate at an acceptable overall LOS during the AM and PM peak hours with the exception of Industrial Park Road at Highway 43 Eastbound Ramps (Intersection 2). Under the projected 2026 No-Build and Build conditions, all study intersections are projected to operate at an acceptable overall LOS during the AM and PM peak hours with planned improvements.

1.1 NO-BUILD IMPROVEMENT RECOMMENDATIONS

The following development improvements are recommended to serve the Projected 2026 No-Build traffic conditions (Note: this would be the improvements needed to serve the background traffic and is unrelated to the *HRP - Columbia* development).

- Intersection 2 – Highway 43 EB Ramps at Industrial Park Road
  - Install a traffic signal (Columbia Fueling Center response from the City)
- Intersection 3 – James Campbell Boulevard at Industrial Park Road
  - Southbound shared through/left-turn lane along Industrial Park Road is to be restriped to provide a shared left/through/right-turn lane and signal timings will be adjusted as necessary after lane modification (Steadfast Hampshire Pike)
- Intersection 4 – James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1
  - Add one (1) northbound left-turn lane along James Campbell Boulevard (Steadfast Hampshire Pike)
- Intersection 6 – James Campbell Boulevard at Hampshire Pike
  - Add one (1) southbound right-turn lane along James Campbell Boulevard and signal timings will be adjusted as necessary after lane modification (Steadfast Hampshire Pike)

1.2 BUILD IMPROVEMENT RECOMMENDATIONS

The following development improvements are recommended to serve the Projected 2026 Build traffic conditions (Note: this would be the improvements needed to serve the traffic associated with the *HRP - Columbia* development).

- Intersection 4 – James Campbell Boulevard at Site Driveway 1
  - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site.
- Intersection 5 – James Campbell Boulevard at Site Driveway 2
  - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
  - Construct one (1) southbound left-turn lane
  - Construct one (1) northbound right-turn lane

2.0 INTRODUCTION

This report presents the analysis of the anticipated traffic impacts associated with the *HRP - Columbia* development, which is expected to be completed in 2026 (referred to herein as build-out year). As currently envisioned, the development will consist of approximately 444 multifamily units, a 15,150 square foot daycare center, and 15,000 square feet of commercial retail. The approximate 50.39-acre site is located north of Hampshire Pike and east of James Campbell Boulevard within the City of Columbia, Tennessee.

This report will summarize the analyses of the following scenarios:

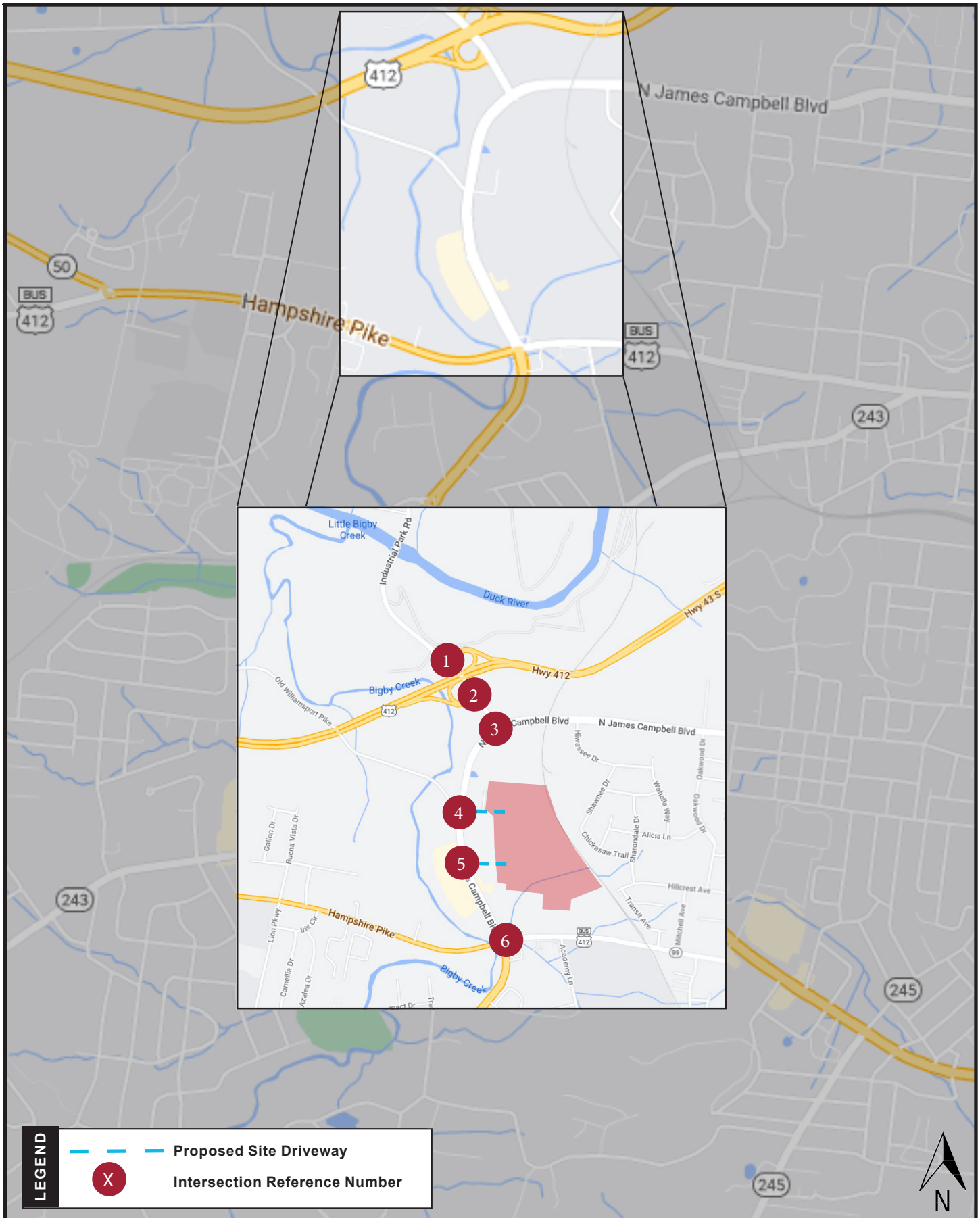
- Existing 2023 Conditions
- Projected 2026 No-Build Conditions
- Projected 2026 Build Conditions

The study network for this analysis includes the following intersections:

1. Highway 43 Westbound Ramps at Industrial Park Road
2. Highway 43 Eastbound Ramps at Industrial Park Road
3. James Campbell Boulevard at Industrial Park Road
4. James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1
5. James Campbell Boulevard at Medical Plaza Driveway/Site Driveway 2
6. James Campbell Boulevard at Hampshire Pike

For the purposes of this traffic impact study, Highway 43 Ramps, James Campbell Boulevard (at Intersection 3), Old Williamsport Pike, Medical Plaza Driveway, Site Driveway 1, Site Driveway 2, and Hampshire Pike are considered to have an east-west orientation. James Campbell Boulevard (at all other intersections) and Industrial Park Road are considered to have a north-south orientation.

Figure 1 provides a location map of the project site. **Figure 2** provides an aerial image of the project site. A site plan is also included in **Appendix A**.



Kimley»Horn	HRP - Columbia Traffic Impact Study	Site Location Map	Figure 1

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report



Kimley»Horn	HRP - Columbia Traffic Impact Study	Site Aerial	Figure 2

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report

3.0 EXISTING CONDITIONS

3.1 VEHICULAR NETWORK

Characteristics for the roadways within the study are summarized in **Table 1**.

Table 1: Roadway Network				
Roadway	**Number of Lanes**	**Posted Speed Limit (MPH)**	**City of Columbia Classification**	**2023 TDOT AADT**
Highway 43	4	65	Freeway	26,421
Industrial Park Road	2+TWTL	45	Principle Arterial	13,360
James Campbell Boulevard	4	45	Principal Arterial	16,977
Old Williamsport Pike	2	35	Major Local	1,151
Hampshire Pike	2	45	Principle Arterial / Minor Arterial	11,705 / 6,601

The existing road geometry is illustrated in **Figure 3.**

3.2 VEHICULAR VOLUMES

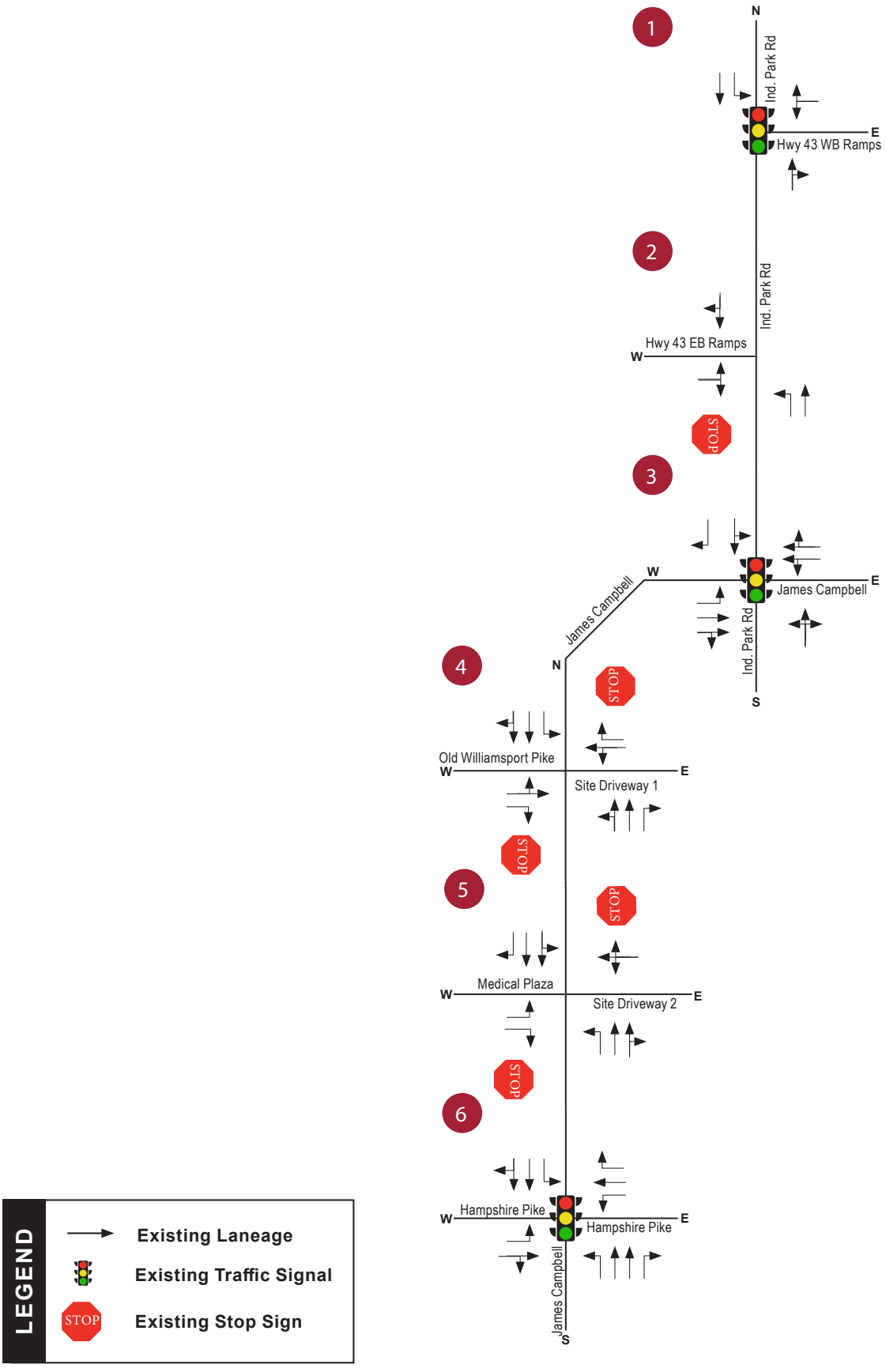
Vehicle peak hour turning movement counts (TMCs) were performed at each study intersection. The TMCs were collected during the AM period (6:00 AM – 9:00 AM) and the PM period (2:00 PM – 6:00 PM) on Wednesday, August 30, 2023. Peak hours for the study intersection are shown in **Table 2**.

Table 2: Intersection Peak Hours		
Intersection	**AM Peak Hour**	**PM Peak Hour**
1. Highway 43 Westbound Ramps at Industrial Park Road	7:00 AM – 8:00 AM	4:00 PM – 5:00 PM
2. Highway 43 Eastbound Ramps at Industrial Park Road	7:15 AM – 8:15 AM	3:30 PM – 4:30 PM
3. James Campbell Boulevard at Industrial Park Road	7:15 AM – 8:15 AM	3:30 PM – 4:30 PM
4. James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1	7:00 AM – 8:00 AM	3:30 PM – 4:30 PM
5. James Campbell Boulevard at Medical Plaza Driveway/Site Driveway 2	7:00 AM – 8:00 AM	3:30 PM – 4:30 PM
6. James Campbell Boulevard at Hampshire Pike	7:15 AM – 8:15 AM	2:45 PM – 3:45 PM

In addition to the TMCs, a 24-hour average daily traffic (ADT) count was also collected at the following location:

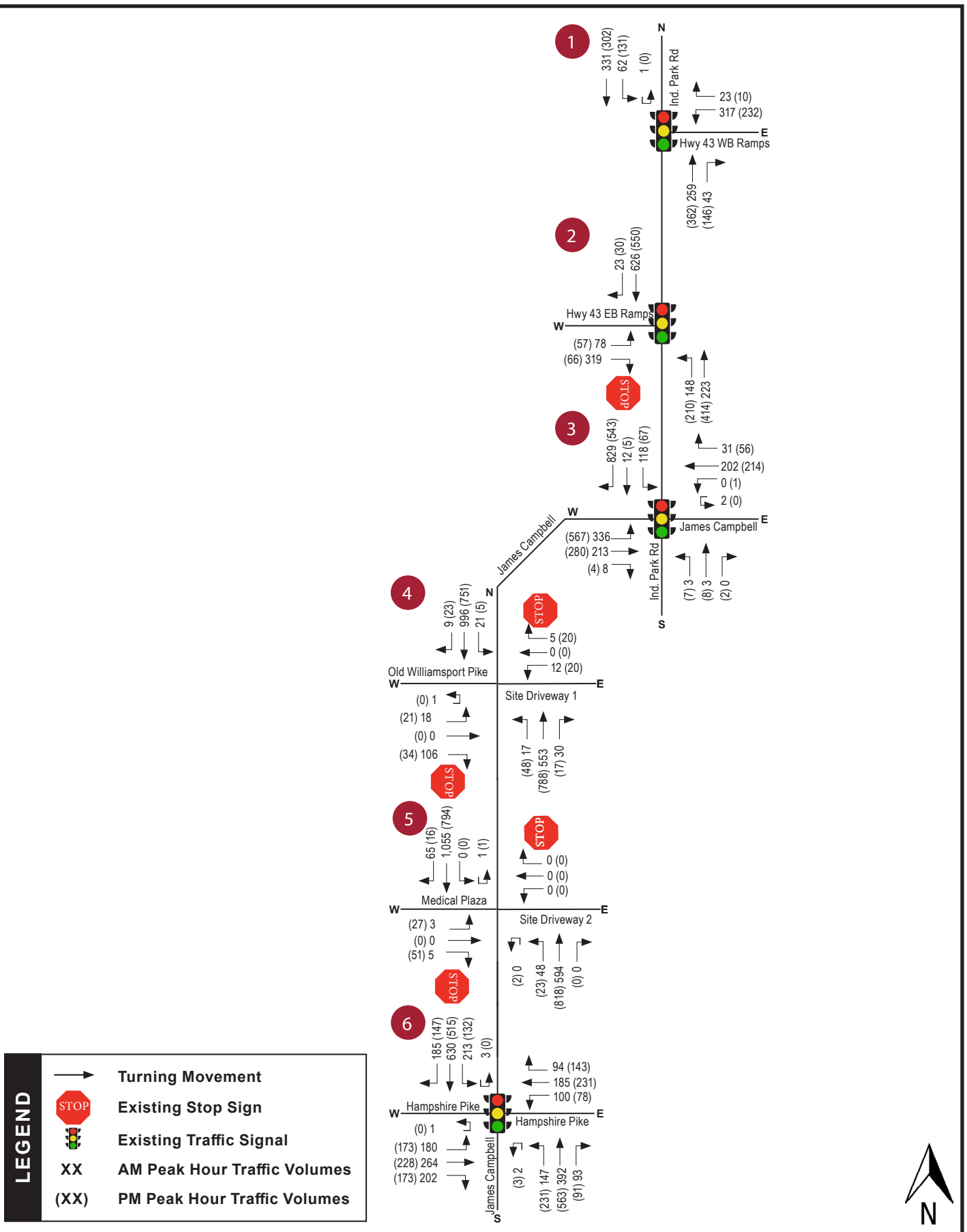
- James Campbell Boulevard south of Old Williamsport Pike (18,966 daily vehicles – 9,355 NB, 9,611 SB)

The Existing 2023 peak hour traffic volumes are shown in **Figure 4**. The complete traffic count data is provided in **Appendix B**.



Kimley»Horn	HRP - Columbia Traffic Impact Study	Existing 2023 Geometry	Figure 3

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report



Kimley»Horn	HRP - Columbia Traffic Impact Study	Existing 2023 Traffic Volumes	Figure 4

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report

4.0 NO-BUILD CONDITIONS

Background traffic is defined as expected traffic on the roadway in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates.

To account for background traffic, the Existing 2023 traffic volumes were increased by 2.5% per year for three years to account for the expected background growth through year 2026. Additionally, project trips associated with the following developments were included in the Projected 2026 No-Build Traffic volumes:

- Williamsport Pike Development
  - Project trips added from TIA dated December 2020.
- Steadfast Hampshire Pike
  - Project trips added from TIA dated October 2021.
- Columbia Fueling Center
  - Project trips added from TIS dated August 5, 2022.

4.1 NO-BUILD IMPROVEMENTS BY OTHERS

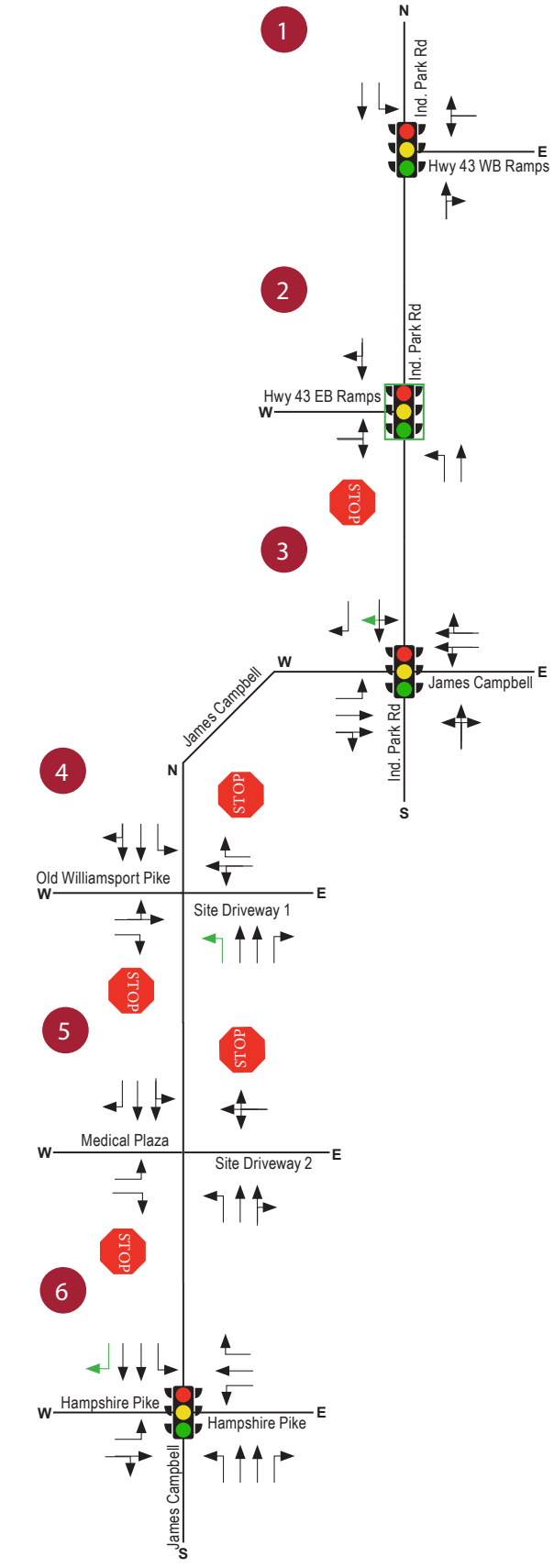
The following development improvements have been identified in traffic studies for nearby developments to serve the Projected 2026 No-Build traffic conditions.

- Intersection 2 – Highway 43 EB Ramps at Industrial Park Road
  - Install a traffic signal (Columbia Fueling Center response from the City)
- Intersection 3 – James Campbell Boulevard at Industrial Park Road
  - Southbound shared through/left-turn lane along Industrial Park Road is to be restriped to provide a shared left/through/right-turn lane and signal timings will be adjusted as necessary after lane modification (Steadfast Hampshire Pike)
- Intersection 4 – James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1
  - Add one (1) northbound left-turn lane along James Campbell Boulevard (Steadfast Hampshire Pike)
- Intersection 6 – James Campbell Boulevard at Hampshire Pike
  - Add one (1) southbound right-turn lane along James Campbell Boulevard and signal timings will be adjusted as necessary after lane modification (Steadfast Hampshire Pike)

4.2 FUTURE TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS

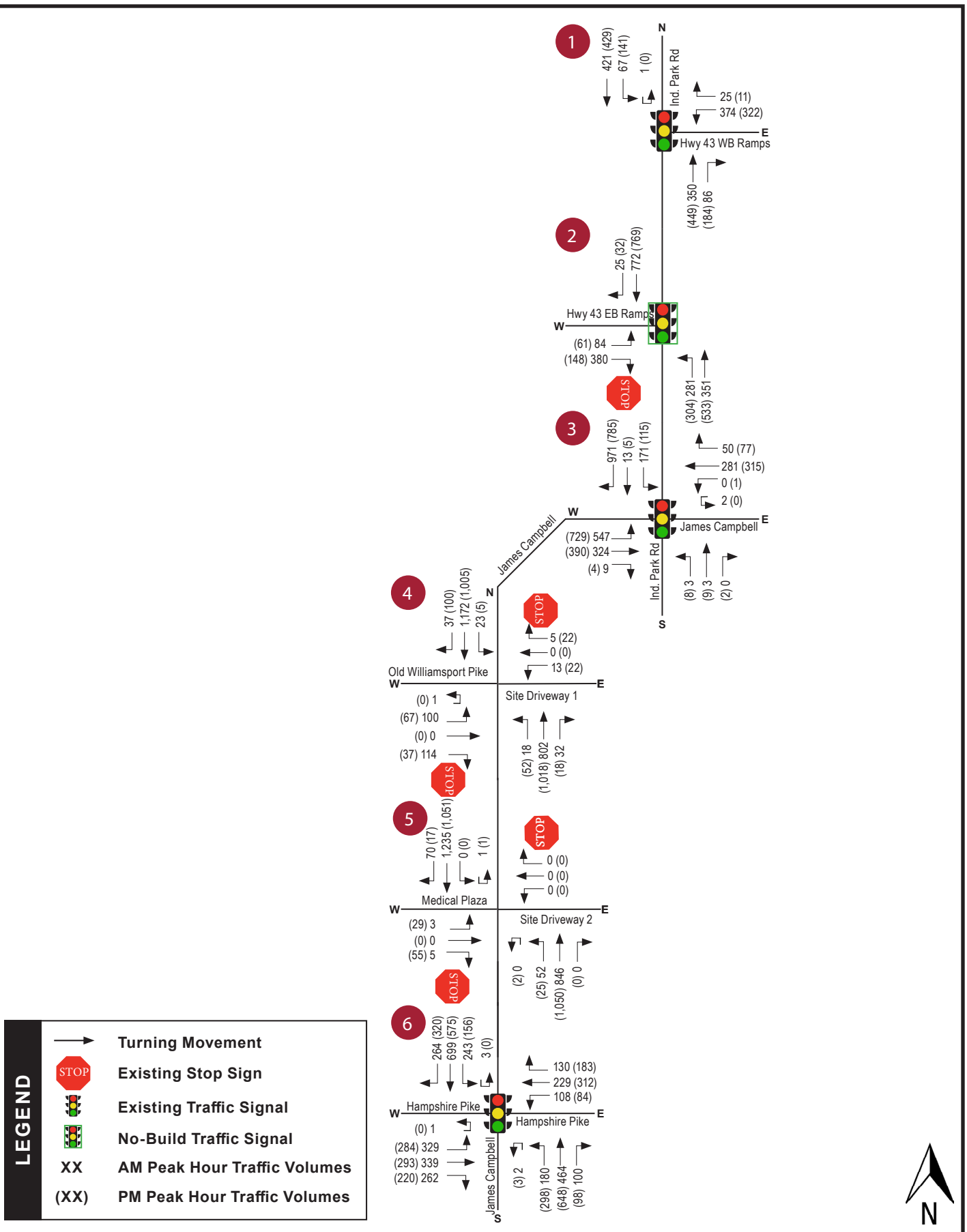
Tennessee Department of Transportation (TDOT) transportation projects were researched for currently planned/programmed transportation projects within the vicinity of the study area.

No other improvements were identified to be included in the capacity analyses. **Figure 5** shows the Projected 2026 No-Build intersection geometry and **Figure 6** illustrates the Projected 2026 No-Build traffic volumes.



Kimley»Horn	HRP - Columbia Traffic Impact Study	No-Build 2026 Geometry	Figure 5

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report



Kimley»Horn

HRP - Columbia Traffic Impact Study

No-Build 2026 Traffic Volumes

Figure 6

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report

5.0 BUILD CONDITIONS

5.1 SITE ACCESS AND CIRCULATION

A brief description of the site access is as follows:

- Site Driveway 1
  - Existing full-movement, unsignalized driveway along James Campbell Boulevard aligned with Old Williamsport Pike. The intersection currently operates under side street stop control and has one (1) ingress lane entering the site and two (2) egress lane exiting the site.
- Site Driveway 2
  - Proposed full-movement, unsignalized driveway along James Campbell Boulevard aligned with a business driveway approximately 1350' north of Hampshire Pike. The intersection is proposed to operate under side street stop control and has one (1) ingress lane entering the site and one (1) egress lane exiting the site.

Intersection sight distance measurements and calculations were performed for all site access points using methodology provided in *A Policy on Geometric Design of Highways and Streets, 6th Edition (2011)*, published by the American Association of State Highways and Transportation Officials (AASHTO).

Table 3: Intersection Sight Distance

Intersection	Direction	Required	Available
4. James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1	WBL	500' – AASHTO	550'+
	WBR	430' – AASHTO	Approx 450'
5. James Campbell Boulevard at Medical Plaza Driveway/Site Driveway 2	WBL	500' – AASHTO	550'+
	WBR	430' – AASHTO	500'+

Refer to the site plan in **Appendix A** for a visual representation of vehicular access and circulation throughout the proposed development.

5.2 TRIP GENERATION

Traffic for the proposed development was calculated using equations contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, *11th Edition*, using equations where available.

Internal capture (or mixed-use) reductions represent the concept that trips generated by individual land uses within a site may remain internal to the site. Mixed-use vehicle trip reductions are calculated using guidance from the *ITE Trip Generation Handbook, 3rd Edition*.

Alternative modes of transportation include pedestrians, bicyclists, and transit users. Alternate mode reductions account for the notion that some site-generated trips will occur by a means other than automobile.

A pass-by trip occurs when a proposed development diverts traffic that is already traveling on a street adjacent to the site. Pass-by reductions are calculated using guidance from the *ITE Trip Generation Handbook, 3rd Edition*.

The trip generation for the site was performed with no reductions to gross trips to present a more conservative analysis.

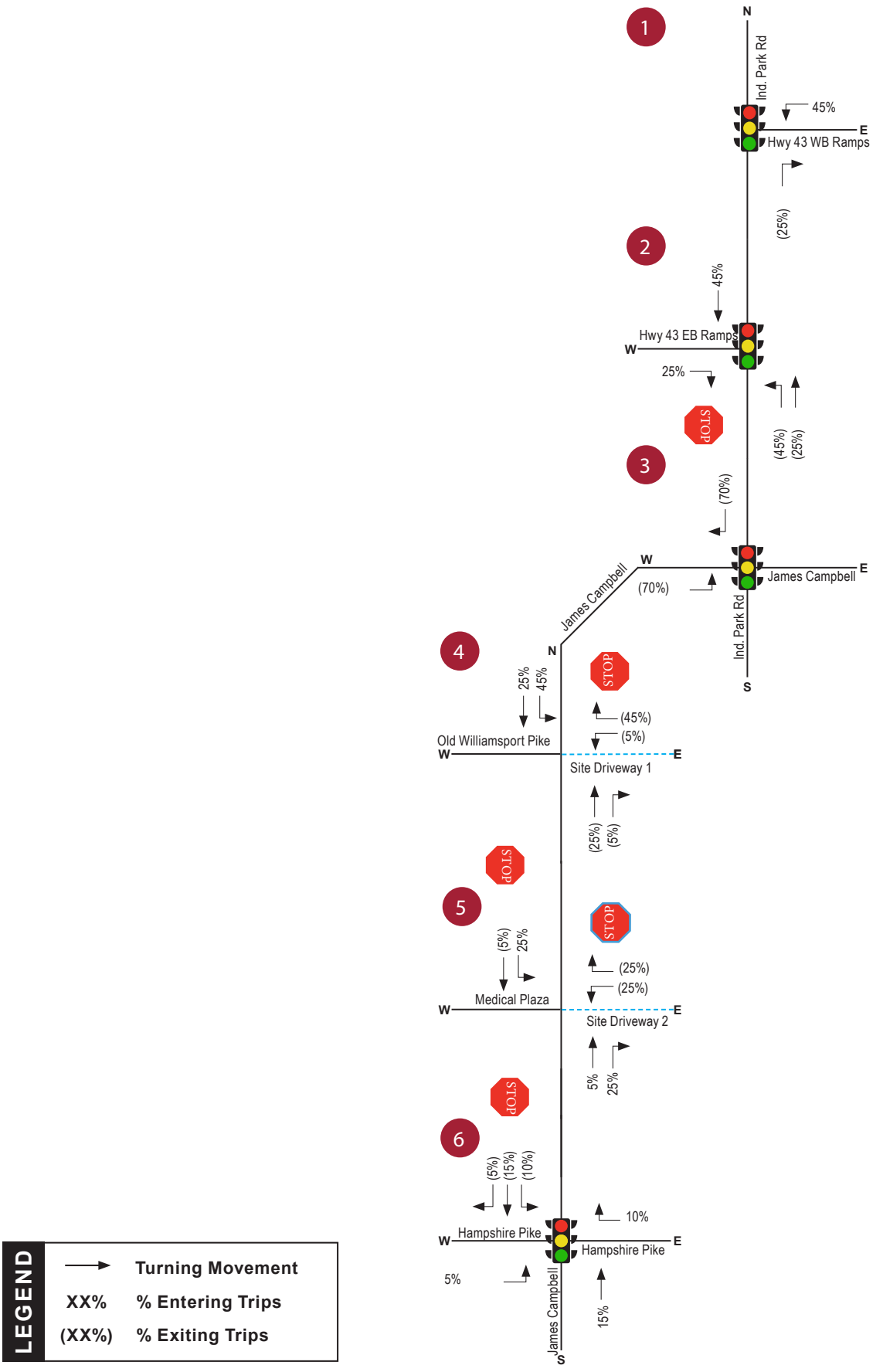
Table 4 summarizes the project trip generation. **Appendix C** provides a detailed trip generation worksheet for the proposed development.

Table 4: Trip Generation

ITE Code	Land Use	Density	Daily		AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
220	Multifamily Housing (Low-Rise)	444 units	1,461	1,461	38	122	133	78
565	Day Care Center	15,150 s.f.	361	361	89	78	79	89
822	Strip Retail Plaza (<40K)	15,000 s.f.	431	431	23	15	52	52
Gross Trips			**2,253**	**2,253**	**150**	**215**	**264**	**219**

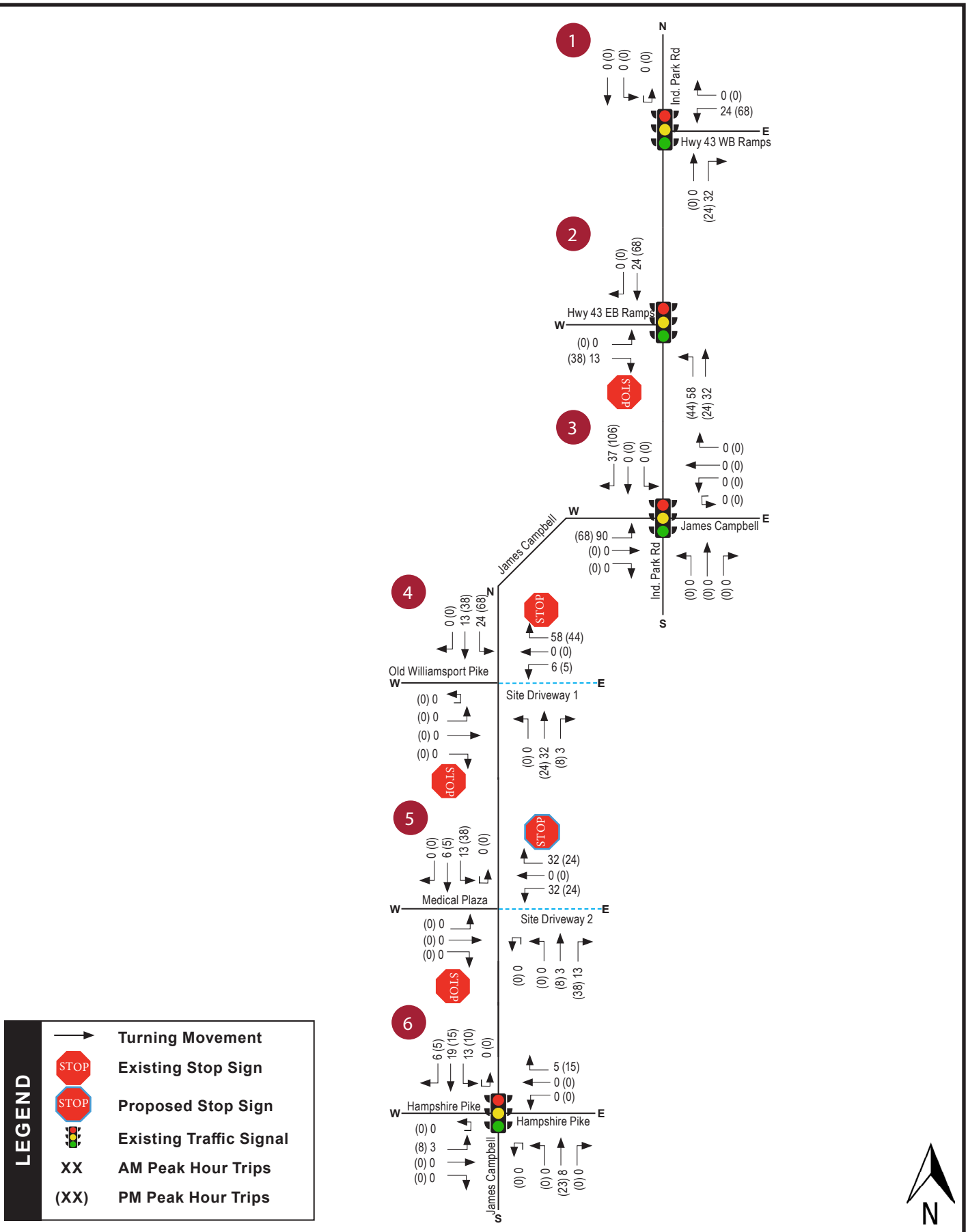
5.3 TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution and assignment of new project trips was based on a review of land uses and population densities in the area and the existing peak hour turning movement counts. **Figure 7** provides the directional distribution and assignment of new project trips. **Figure 8** illustrates the assignment of project trips to the study network. The Projected 2026 Build peak hour volumes are shown in **Figure 9**. **Appendix C** provides intersection volume worksheets for all intersections and driveways within the study network.



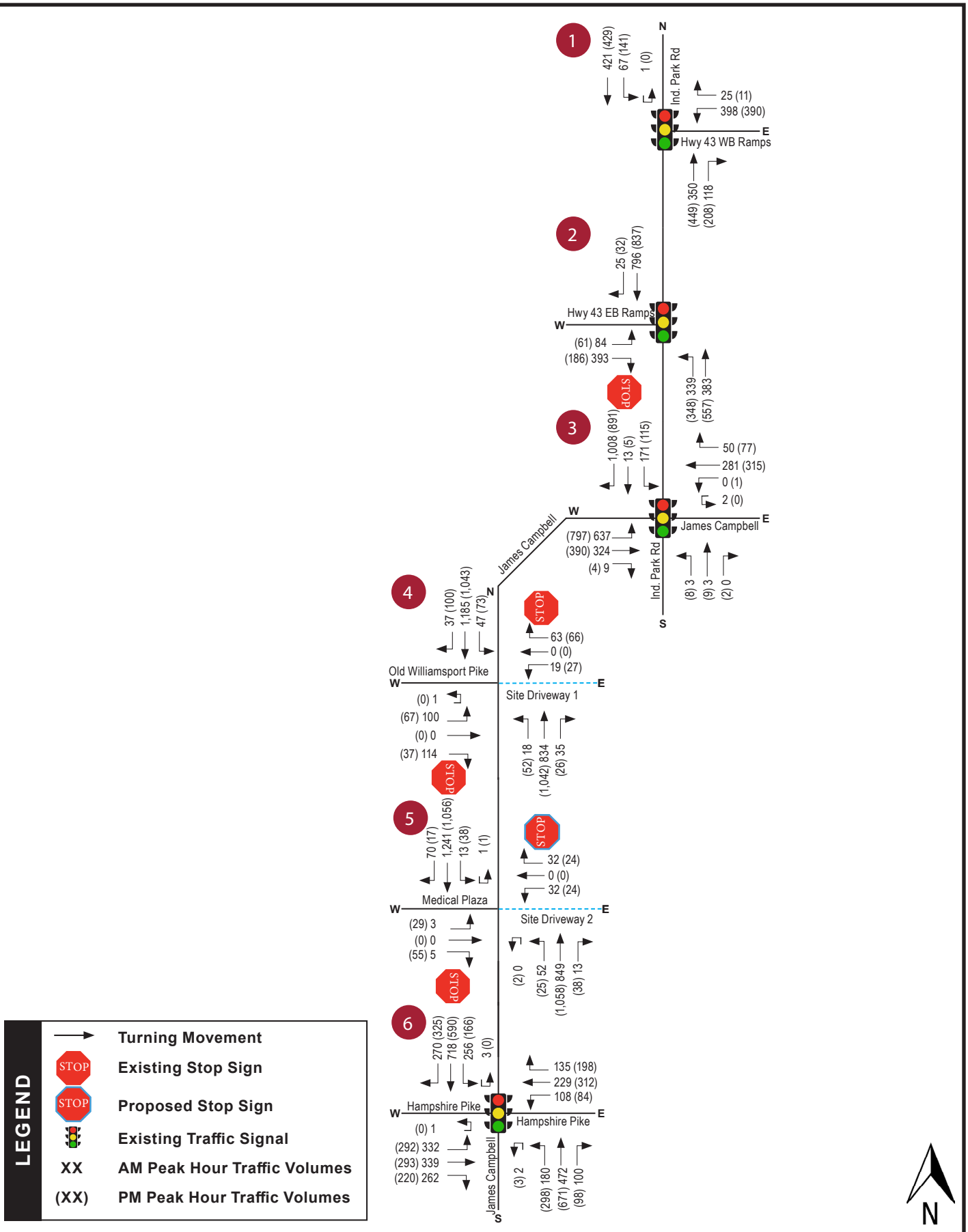
Kimley»Horn	HRP - Columbia Traffic Impact Study	Trip Distribution & Assignment	Figure 7

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report



Kimley»Horn	HRP - Columbia Traffic Impact Study	Project Trips	Figure 8

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report



Kimley»Horn	HRP - Columbia Traffic Impact Study	Build 2026 Traffic Volumes	Figure 9

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report

6.0 TURN LANE EVALUATION

TDOT HSAM Vol 3 Geometric Design Criteria was used to evaluate if turn lanes should be implemented along the major road at the unsignalized site driveways. From the TDOT HSAM, the following methodologies were applied to perform these evaluations:

- Figure 3-17 (“Left-Turn Warrant Along Four-Lane Rural Roadways (Unsignalized)
- Figure 3-18 (“Right-Turn Lane Warrant Along Four-Lane Roadway (Unsignalized Intersection with Two-Way Stop-Control”)

The results of the turn lane warrants are summarized in **Table 6**. **Appendix E** provides the TDOT Turn Lane Warrant charts used for the analysis.

Table 5: Turn Lane Warrants

Intersection	Movement	Analysis Scenario	AM Peak Hour	PM Peak Hour
5. James Campbell Boulevard at Medical Plaza Driveway / Driveway 2	NBR	Build 2026	Not Warranted	Warranted
	SBL	Build 2026	Warranted	Warranted

Per the TDOT HSAM, "The volume-based warrants indicate situations where turn lanes would help to mitigate traffic conflicts, not necessarily situations where a turn lane is required or must be constructed. Turn lanes can have an adverse safety and operational effect for pedestrians and bicyclists. All existing and future users of the roadway should be considered when determining turn lane needs."

A northbound right-turn lane is warranted at the intersection of James Campbell Boulevard at Medical Plaza Driveway/Site Driveway 2 (Intersection 5) during the PM peak hour but not during the AM peak hour.

A southbound left-turn lane is warranted at the intersection of James Campbell Boulevard at Medical Plaza Driveway/Site Driveway 2 (Intersection 5) during both the AM and PM peak hours.

7.0 CAPACITY ANALYSES

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study network intersections using *Synchro, Version 11.0. Synchro* software uses methodologies contained in the *Highway Capacity Manual, 6th Edition* to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F the worst.

Levels-of-service for unsignalized intersections, with stop control on the minor street only, are reported for the side-street approaches and major street left-turns. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delay turning onto a major roadway.

Levels-of-service for signalized and all-way stop controlled (AWSC) intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably.

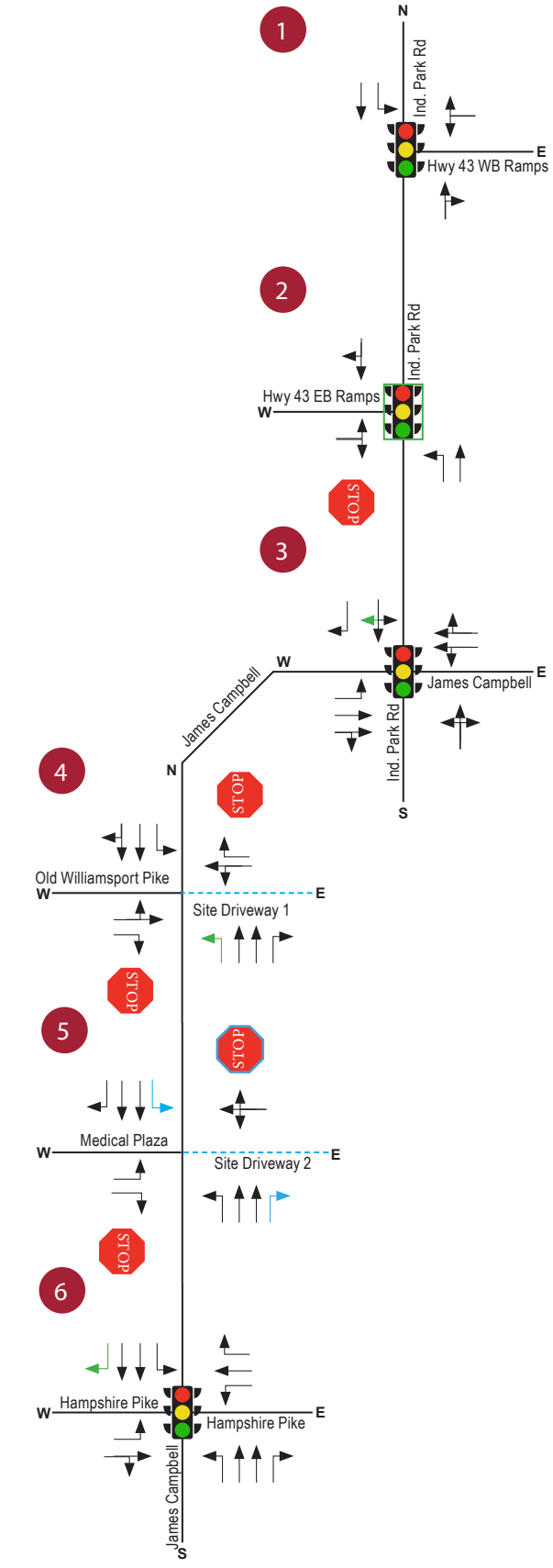
Capacity analyses were performed for the AM and PM peak hours under the Existing 2023, Projected 2026 No-Build, and Projected 2026 Build traffic conditions. The results of the capacity analyses are summarized in **Table 5**. The *Synchro* analyses reports are included in **Appendix D**.

The peak hour results for the existing scenario consist of the existing lane configuration/geometry at the intersections today. The No-Build scenario includes improvements made by other developments as outlined in Section 4.1. The Build scenario is consistent with the No-Build lane geometry with the addition of the turn lanes that were shown as warranted in section 7.0 at intersection 5.

Table 6: Level-of-Service Summary *LOS (Delay in Seconds)*							
Intersection	**Approach/ Movement**	**Existing 2023**		**Projected 2026 No-Build**		**Projected 2026 Build**	
		AM Peak	**PM Peak**	**AM Peak**	**PM Peak**	**AM Peak**	**PM Peak**
1. Highway 43 Westbound Ramps at Industrial Park Road (signalized)	Overall	C (28.3)	B (18.4)	D (35.9)	C (26.7)	D (37.8)	D (36.6)
2. Highway 43 Eastbound Ramps at Industrial Park Road (unsignalized/ signalized)	EB	F (176)	E (41.7)	--	--	--	--
	NBL	B (10.5)	A (9.8)	--	--	--	--
	Overall	--	--	C (34.5)	A (8.3)	E (58.9)	B (10.2)
3. James Campbell Boulevard at Industrial Park Road (signalized)	Overall	D (43.5)	B (15.0)	C (28.0)	C (22.0)	D (38.8)	C (25.5)
4. James Campbell Boulevard at Old Williamsport Pike / Site Driveway 1 (unsignalized)	EB	C (18.9)	C (17.5)	F (115.6)	E (48.6)	F (153.0)	F (94.5)
	WB	C (21.1)	C (20.3)	D (30.3)	D (27.9)	C (20.3)	D (26.8)
	NBL	B (11.4)	B (10.1)	B (13.0)	B (12.3)	B (13.2)	B (12.6)
	SBL	A (9.0)	A (9.8)	B (10.2)	B (11.0)	B (10.7)	B (12.0)
5. James Campbell Boulevard at Medical Plaza Driveway / Site Driveway 2 (unsignalized)	EB	C (20.4)	C (16.5)	D (25.8)	C (22.6)	D (26.9)	D (25.3)
	WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	D (32.5)	D (31.8)
	NBL	B (12.5)	B (10.0)	B (14.4)	B (11.5)	B (14.4)	B (11.6)
	SBL	A (9.0)	A (9.8)	B (10.1)	B (11.0)	B (10.3)	B (11.8)
6. James Campbell Boulevard at Hampshire Pike (signalized)	Overall	D (36.6)	C (32.5)	E (59.6)	D (46.9)	E (61.2)	D (47.9)

All of the study intersections currently operate and are projected to operate at an acceptable overall LOS during both the AM and PM peak hours with the exception of Industrial Park Road at Highway 43 Eastbound Ramps (Intersection 2). Any overall LOS E for signalized intersections was first observed under the projected No-Build conditions with the addition of the project maintaining the same LOS letter as the No-Build. Additionally, low levels-of-service for unsignalized side street approaches are not uncommon, as vehicles may experience significant delay turning onto a major roadway.

The recommended lane configuration with the No-Build improvements as well as the site driveways is shown visually in **Figure 10.**



Kimley»Horn	HRP - Columbia Traffic Impact Study	Build 2026 Geometry	Figure 10

K:\NSH_LDEV\118517000 - HRP James Campbell\5-Traffic\4-Report

8.0 CONCLUSION

This traffic study evaluated the traffic impacts associated with the *HRP - Columbia* development located north of Hampshire Pike and east of James Campbell Boulevard within City of Columbia, Tennessee. The development, which is approximately 50.39-acres in size, will include 444 multifamily units, a 15,150 square foot daycare center, and 15,000 square feet of commercial retail.

The study network was analyzed for the weekday AM and PM peak hours under Existing 2023 conditions, Projected 2026 No-Build conditions (three years of background traffic growth plus project traffic associated with *Steadfast Hampshire Pike, Williamsport Pike,* and *Columbia Fueling Center* developments), and Projected 2026 Build conditions (Projected 2026 No-Build conditions plus traffic generated by the proposed *HRP - Columbia* development).

The results of the analyses show that all study intersections currently operate at an acceptable overall LOS during the AM and PM peak hours with the exception of Industrial Park Road at Highway 43 Eastbound Ramps (Intersection 2). Under the projected 2026 No-Build and Build conditions, all study intersections are projected to operate at an acceptable overall LOS during the AM and PM peak hours with planned improvements.

8.1 NO-BUILD DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following development improvements are recommended to serve the Projected 2026 No-Build traffic conditions (Note: this would be the improvements needed to serve the background traffic and is unrelated to the *HRP - Columbia* development).

- Intersection 2 – Highway 43 EB Ramps at Industrial Park Road
  - Install a traffic signal (Columbia Fueling Center response from the City)
- Intersection 3 – James Campbell Boulevard at Industrial Park Road
  - Southbound shared through/left-turn lane along Industrial Park Road is to be restriped to provide a shared left/through/right-turn lane and signal timings will be adjusted as necessary after lane modification (Steadfast Hampshire Pike)
- Intersection 4 – James Campbell Boulevard at Old Williamsport Pike/Site Driveway 1
  - Add one (1) northbound left-turn lane along James Campbell Boulevard (Steadfast Hampshire Pike)
- Intersection 6 – James Campbell Boulevard at Hampshire Pike
  - Add one (1) southbound right-turn lane along James Campbell Boulevard and signal timings will be adjusted as necessary after lane modification (Steadfast Hampshire Pike)

8.2 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

Based on the results of this traffic impact study, Kimley-Horn and Associates, Inc. recommends the following development improvements to serve the Projected 2026 Build traffic conditions (Note: this would be the improvements needed to serve the traffic associated with the *HRP - Columbia* development).

- Intersection 4 – James Campbell Boulevard at Site Driveway 1
  - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site.
- Intersection 5 – James Campbell Boulevard at Site Driveway 2
  - Construct one (1) ingress lane entering the site and one (1) egress lane exiting the site
  - Construct one (1) southbound left-turn lane
  - Construct one (1) northbound right-turn lane

APPENDIX A

Site Plan



Kimley»Horn

JAMES CAMPBELL BOULEVARD PROPERTY

CITY OF COLUMBIA, MAURY COUNTY, TENNESSEE

GRAPHIC SCALE IN FEET
0 50 100 200

NORTH

APPENDIX B

Traffic Count Data

Bi-Directional Class Count || Bi-Directional 60min

Columbia TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1
N James Campbell Blvd,
south of Old Williamsport Pike

Date
Wednesday, August 30, 2023

Lat/Long
35.622168°, -87.067233°

Weather
Partly Cloudy
75°F

Click here for Detailed Weather

0000 - 2400 (Weekday 24h Session) (08-30-2023)
Bi-Directional 60min

	Bi-Directional 60min													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	**Total**
0000 - 0100	1	71	12	2	1	0	0	0	1	0	0	0	0	**88**
0100 - 0200	0	67	12	0	2	1	0	0	1	0	0	0	0	**83**
0200 - 0300	0	46	4	0	2	0	0	0	0	0	0	0	0	**52**
0300 - 0400	0	53	15	0	4	1	0	0	4	0	0	0	0	**77**
0400 - 0500	0	112	25	0	2	1	0	0	1	0	0	0	0	**141**
0500 - 0600	0	331	87	0	8	0	0	0	6	0	0	0	0	**432**
0600 - 0700	1	654	211	18	6	15	0	7	2	0	0	0	0	**914**
0700 - 0800	3	1276	361	33	27	4	0	4	11	0	0	0	0	**1719**
0800 - 0900	1	753	273	8	26	2	0	5	10	1	0	0	0	**1079**
0900 - 1000	0	688	247	3	25	2	0	4	8	0	0	0	0	**977**
1000 - 1100	3	720	260	3	19	0	0	3	7	0	0	0	0	**1015**
1100 - 1200	2	800	273	1	32	10	0	6	4	0	0	0	0	**1128**
1200 - 1300	5	764	262	4	20	8	0	13	8	1	0	0	0	**1085**
1300 - 1400	8	799	241	3	27	1	0	14	8	1	0	0	0	**1102**
1400 - 1500	4	1022	312	33	24	8	0	4	9	0	0	0	0	**1416**
1500 - 1600	4	1190	337	12	15	9	0	6	9	0	0	0	0	**1582**
1600 - 1700	11	1311	295	10	11	3	0	0	7	1	0	0	0	**1649**
1700 - 1800	2	1066	318	1	4	6	0	1	2	0	0	0	0	**1400**
1800 - 1900	3	803	179	0	6	0	0	1	1	0	0	0	0	**993**
1900 - 2000	4	646	139	0	1	0	0	3	2	0	0	0	0	**795**
2000 - 2100	4	431	83	0	3	1	0	0	1	0	0	0	0	**523**
2100 - 2200	5	303	41	0	2	1	0	0	1	0	0	0	0	**353**
2200 - 2300	1	192	24	0	2	0	0	0	0	0	0	0	0	**219**
2300 - 2400	0	117	21	0	5	0	0	0	1	0	0	0	0	**144**

Session Total	62	14215	4032	131	274	73	0	71	104	4	0	0	0	**18966**
Session Average	2.58	592.29	168.00	5.46	11.42	3.04	0.00	2.96	4.33	0.17	0.00	0.00	0.00	**790.25**
Session Percentage	0.33	74.95	21.26	0.69	1.44	0.38	0.00	0.37	0.55	0.02	0.00	0.00	0.00	

AM Peak Hour	0700 - 0800	0700 - 0800	0700 - 0800	0700 - 0800	0700 - 0800	0600 - 0700	-	0600 - 0700	0700 - 0800	0800 - 0900	-	-	-	**0700 - 0800**
AM Peak Volume	3	1276	361	33	27	15	0	7	11	1	0	0	0	**1719**

Noon Peak Hour	1300 - 1400	1400 - 1500	1400 - 1500	1400 - 1500	1100 - 1200	1100 - 1200	-	1300 - 1400	1400 - 1500	1200 - 1300	-	-	-	**1400 - 1500**
Noon Peak Volume	8	1022	312	33	32	10	0	14	9	1	0	0	0	**1416**

PM Peak Hour	1600 - 1700	1600 - 1700	1500 - 1600	1500 - 1600	1500 - 1600	1500 - 1600	-	1500 - 1600	1500 - 1600	1600 - 1700	-	-	-	**1600 - 1700**
PM Peak Volume	11	1311	337	12	15	9	0	6	9	1	0	0	0	**1649**

Bi-Directional Class Count || Volume Summary 60min

Columbia TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1
N James Campbell Blvd,
south of Old Williamsport Pike

Date
Wednesday, August 30, 2023

Lat/Long
35.622168°, -87.067233°

Weather
Partly Cloudy
75°F

Click here for Detailed Weather

0000 - 2400 (Weekday 24h Session) (08-30-2023)
Volume Summary 60min

	Volume Summary 60min		
TIME	NB	SB	**Total**
0000 - 0100	40	48	**88**
0100 - 0200	27	56	**83**
0200 - 0300	26	26	**52**
0300 - 0400	41	36	**77**
0400 - 0500	83	58	**141**
0500 - 0600	265	167	**432**
0600 - 0700	425	489	**914**
0700 - 0800	602	1117	**1719**
0800 - 0900	425	654	**1079**
0900 - 1000	478	499	**977**
1000 - 1100	486	529	**1015**
1100 - 1200	589	539	**1128**

	Volume Summary 60min		
Time	NB	SB	**Total**
1200 - 1300	532	553	**1085**
1300 - 1400	546	556	**1102**
1400 - 1500	707	709	**1416**
1500 - 1600	824	758	**1582**
1600 - 1700	906	743	**1649**
1700 - 1800	698	702	**1400**
1800 - 1900	520	473	**993**
1900 - 2000	449	346	**795**
2000 - 2100	288	235	**523**
2100 - 2200	209	144	**353**
2200 - 2300	112	107	**219**
2300 - 2400	77	67	**144**

Session Total	9355	9611	**18966**
Session Average	389.79	400.46	**790.25**
Session Percentage	49.33	50.67	

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
0715 - 0730	0	2	0	-	0	2	25	1	195	-	0	221	77	38	1	-	0	116	0	64	8	-	0	72	411
0730 - 0745	1	0	0	-	0	1	30	3	236	-	0	269	89	63	1	-	0	153	0	47	5	-	1	53	476
0745 - 0800	0	1	0	-	0	1	43	5	241	-	0	289	95	77	5	-	0	177	0	66	10	-	0	76	543
0800 - 0815	2	0	0	-	0	2	20	3	157	-	0	180	75	35	1	-	0	111	0	25	8	-	1	34	327
Total	3	3	0	0	0	6	118	12	829	0	0	959	336	213	8	0	0	557	0	202	31	0	2	235	1757
Approach %	50.00	50.00	0.00	0.00	0.00	-	12.30	1.25	86.44	0.00	0.00	-	60.32	38.24	1.44	0.00	0.00	-	0.00	85.96	13.19	0.00	0.85	-	
PHF	0.38	0.38	0.00	0.00	0.00	**0.75**	0.69	0.60	0.86	0.00	0.00	**0.83**	0.88	0.69	0.40	0.00	0.00	**0.79**	0.00	0.77	0.78	0.00	0.50	**0.77**	**0.81**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
0715 - 0730	0	0	0	-	0	0	25	1	192	-	0	218	72	36	1	-	0	109	0	62	8	-	0	70	397
0730 - 0745	1	0	0	-	0	1	29	3	228	-	0	260	77	59	1	-	0	137	0	44	4	-	1	49	447
0745 - 0800	0	0	0	-	0	0	41	5	231	-	0	277	88	74	5	-	0	167	0	63	9	-	0	72	516
0800 - 0815	2	0	0	-	0	2	19	2	152	-	0	173	65	32	1	-	0	98	0	24	7	-	1	32	305
Total	3	0	0	0	0	3	114	11	803	0	0	928	302	201	8	0	0	511	0	193	28	0	2	223	1665
Approach %	100.00	0.00	0.00	0.00	0.00	-	12.28	1.19	86.53	0.00	0.00	-	59.10	39.33	1.57	0.00	0.00	-	0.00	86.55	12.56	0.00	0.90	-	
PHF	0.38	0.00	0.00	0.00	0.00	**0.38**	0.70	0.55	0.87	0.00	0.00	**0.84**	0.86	0.68	0.40	0.00	0.00	**0.76**	0.00	0.77	0.78	0.00	0.50	**0.77**	**0.81**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
0715 - 0730	0	1	0	-	0	1	0	0	1	-	0	1	3	2	0	-	0	5	0	2	0	-	0	2	9
0730 - 0745	0	0	0	-	0	0	1	0	6	-	0	7	9	3	0	-	0	12	0	3	1	-	0	4	23
0745 - 0800	0	1	0	-	0	1	2	0	9	-	0	11	7	3	0	-	0	10	0	3	1	-	0	4	26
0800 - 0815	0	0	0	-	0	0	1	1	3	-	0	5	9	1	0	-	0	10	0	1	1	-	0	2	17
Total	0	2	0	0	0	2	4	1	19	0	0	24	28	9	0	0	0	37	0	9	3	0	0	12	75
Approach %	0.00	100.00	0.00	0.00	0.00	-	16.67	4.17	79.17	0.00	0.00	-	75.68	24.32	0.00	0.00	0.00	-	0.00	75.00	25.00	0.00	0.00	-	
PHF	0.00	0.50	0.00	0.00	0.00	**0.50**	0.50	0.25	0.53	0.00	0.00	**0.55**	0.78	0.75	0.00	0.00	0.00	**0.77**	0.00	0.75	0.75	0.00	0.00	**0.75**	**0.72**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
0715 - 0730	0	1	0	-	0	1	0	0	2	-	0	2	2	0	0	-	0	2	0	0	0	-	0	0	5
0730 - 0745	0	0	0	-	0	0	0	0	2	-	0	2	3	1	0	-	0	4	0	0	0	-	0	0	6
0745 - 0800	0	0	0	-	0	0	0	0	1	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
0800 - 0815	0	0	0	-	0	0	0	0	2	-	0	2	1	2	0	-	0	3	0	0	0	-	0	0	5
Total	0	1	0	0	0	1	0	0	7	0	0	7	6	3	0	0	0	9	0	0	0	0	0	0	17
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	66.67	33.33	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.00	**0.25**	0.00	0.00	0.88	0.00	0.00	**0.88**	0.50	0.38	0.00	0.00	0.00	**0.56**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.71**

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	1400 - 1800
Peak Hour	1530 - 1630

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
1530 - 1545	2	2	1	-	0	5	23	2	135	-	0	160	132	77	2	-	0	211	1	45	17	-	0	63	439
1545 - 1600	1	1	1	-	0	3	11	0	141	-	0	152	118	63	2	-	0	183	0	58	15	-	0	73	411
1600 - 1615	4	2	0	-	0	6	14	1	141	-	0	156	161	67	0	-	0	228	0	53	16	-	0	69	459
1615 - 1630	0	3	0	-	0	3	19	2	126	-	0	147	156	73	0	-	0	229	0	58	8	-	0	66	445
Total	7	8	2	0	0	17	67	5	543	0	0	615	567	280	4	0	0	851	1	214	56	0	0	271	1754
Approach %	41.18	47.06	11.76	0.00	0.00	-	10.89	0.81	88.29	0.00	0.00	-	66.63	32.90	0.47	0.00	0.00	-	0.37	78.97	20.66	0.00	0.00	-	
PHF	0.44	0.67	0.50	0.00	0.00	**0.71**	0.73	0.63	0.96	0.00	0.00	**0.96**	0.88	0.91	0.50	0.00	0.00	**0.93**	0.25	0.92	0.82	0.00	0.00	**0.93**	**0.96**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
1530 - 1545	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1545 - 1600	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1600 - 1615	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
1530 - 1545	2	2	1	-	0	5	23	1	131	-	0	155	128	75	2	-	0	205	1	42	17	-	0	60	425
1545 - 1600	1	1	1	-	0	3	11	0	135	-	0	146	114	62	2	-	0	178	0	57	13	-	0	70	397
1600 - 1615	4	2	0	-	0	6	14	0	139	-	0	153	154	67	0	-	0	221	0	52	14	-	0	66	446
1615 - 1630	0	1	0	-	0	1	18	1	124	-	0	143	151	71	0	-	0	222	0	58	8	-	0	66	432
Total	7	6	2	0	0	15	66	2	529	0	0	597	547	275	4	0	0	826	1	209	52	0	0	262	1700
Approach %	46.67	40.00	13.33	0.00	0.00	-	11.06	0.34	88.61	0.00	0.00	-	66.22	33.29	0.48	0.00	0.00	-	0.38	79.77	19.85	0.00	0.00	-	
PHF	0.44	0.75	0.50	0.00	0.00	**0.63**	0.72	0.50	0.95	0.00	0.00	**0.96**	0.89	0.92	0.50	0.00	0.00	**0.93**	0.25	0.90	0.76	0.00	0.00	**0.94**	**0.95**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
1530 - 1545	0	0	0	-	0	0	0	0	3	-	0	3	3	1	0	-	0	4	0	1	0	-	0	1	8
1545 - 1600	0	0	0	-	0	0	0	0	3	-	0	3	3	1	0	-	0	4	0	1	1	-	0	2	9
1600 - 1615	0	0	0	-	0	0	0	1	1	-	0	2	7	0	0	-	0	7	0	1	2	-	0	3	12
1615 - 1630	0	1	0	-	0	1	0	1	0	-	0	1	4	2	0	-	0	6	0	0	0	-	0	0	8
Total	0	1	0	0	0	1	0	2	7	0	0	9	17	4	0	0	0	21	0	3	3	0	0	6	37
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	22.22	77.78	0.00	0.00	-	80.95	19.05	0.00	0.00	0.00	-	0.00	50.00	50.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.00	**0.25**	0.00	0.50	0.58	0.00	0.00	**0.75**	0.61	0.50	0.00	0.00	0.00	**0.75**	0.00	0.75	0.38	0.00	0.00	**0.50**	**0.77**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						Industrial Park Rd						N James Campbell Blvd (West)						N James Campbell Blvd (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	1.1	1.2	1.3		1.4	Total	1.5	1.6	1.7		1.8	Total	1.9	1.10	1.11		1.12	Total	1.13	1.14	1.15		1.16	Total	Total
1530 - 1545	0	0	0	-	0	0	0	1	1	-	0	2	1	1	0	-	0	2	0	2	0	-	0	2	6
1545 - 1600	0	0	0	-	0	0	0	0	3	-	0	3	1	0	0	-	0	1	0	0	1	-	0	1	5
1600 - 1615	0	0	0	-	0	0	0	0	1	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
1615 - 1630	0	1	0	-	0	1	1	0	2	-	0	3	1	0	0	-	0	1	0	0	0	-	0	0	5
Total	0	1	0	0	0	1	1	1	7	0	0	9	3	1	0	0	0	4	0	2	1	0	0	3	17
Approach %	0.00	100.00	0.00	0.00	0.00	-	11.11	11.11	77.78	0.00	0.00	-	75.00	25.00	0.00	0.00	0.00	-	0.00	66.67	33.33	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.00	**0.25**	0.25	0.25	0.58	0.00	0.00	**0.75**	0.75	0.25	0.00	0.00	0.00	**0.50**	0.00	0.25	0.25	0.00	0.00	**0.38**	**0.71**

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	0600 - 0900
Peak Hour	0700 - 0800

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
0700 - 0715	5	117	4	-	0	126	2	181	2	-	0	185	4	0	13	-	1	18	8	0	2	-	0	10	339
0715 - 0730	6	117	1	-	0	124	3	249	3	-	0	255	0	0	33	-	0	33	4	0	2	-	0	6	418
0730 - 0745	1	160	12	-	0	173	6	278	0	-	0	284	8	0	35	-	0	43	0	0	1	-	0	1	501
0745 - 0800	5	159	13	-	0	177	10	288	4	-	0	302	6	0	25	-	0	31	0	0	0	-	0	0	510
Total	17	553	30	0	0	600	21	996	9	0	0	1026	18	0	106	0	1	125	12	0	5	0	0	17	1768
Approach %	2.83	92.17	5.00	0.00	0.00	-	2.05	97.08	0.88	0.00	0.00	-	14.40	0.00	84.80	0.00	0.80	-	70.59	0.00	29.41	0.00	0.00	-	
PHF	0.71	0.86	0.58	0.00	0.00	**0.85**	0.53	0.86	0.56	0.00	0.00	**0.85**	0.56	0.00	0.76	0.00	0.25	**0.73**	0.38	0.00	0.63	0.00	0.00	**0.43**	**0.87**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
0700 - 0715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
0700 - 0715	4	109	4	-	0	117	2	176	2	-	0	180	4	0	11	-	1	16	8	0	2	-	0	10	323
0715 - 0730	6	110	1	-	0	117	3	244	3	-	0	250	0	0	33	-	0	33	4	0	2	-	0	6	406
0730 - 0745	1	145	12	-	0	158	6	267	0	-	0	273	7	0	32	-	0	39	0	0	1	-	0	1	471
0745 - 0800	5	150	13	-	0	168	10	275	4	-	0	289	5	0	25	-	0	30	0	0	0	-	0	0	487
Total	16	514	30	0	0	560	21	962	9	0	0	992	16	0	101	0	1	118	12	0	5	0	0	17	1687
Approach %	2.86	91.79	5.36	0.00	0.00	-	2.12	96.98	0.91	0.00	0.00	-	13.56	0.00	85.59	0.00	0.85	-	70.59	0.00	29.41	0.00	0.00	-	
PHF	0.67	0.86	0.58	0.00	0.00	**0.83**	0.53	0.87	0.56	0.00	0.00	**0.86**	0.57	0.00	0.77	0.00	0.25	**0.76**	0.38	0.00	0.63	0.00	0.00	**0.43**	**0.87**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
0700 - 0715	1	5	0	-	0	6	0	4	0	-	0	4	0	0	2	-	0	2	0	0	0	-	0	0	12
0715 - 0730	0	5	0	-	0	5	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	8
0730 - 0745	0	11	0	-	0	11	0	9	0	-	0	9	1	0	3	-	0	4	0	0	0	-	0	0	24
0745 - 0800	0	9	0	-	0	9	0	12	0	-	0	12	1	0	0	-	0	1	0	0	0	-	0	0	22
Total	1	30	0	0	0	31	0	28	0	0	0	28	2	0	5	0	0	7	0	0	0	0	0	0	66
Approach %	3.23	96.77	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	28.57	0.00	71.43	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.25	0.68	0.00	0.00	0.00	**0.70**	0.00	0.58	0.00	0.00	0.00	**0.58**	0.50	0.00	0.42	0.00	0.00	**0.44**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.69**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
0700 - 0715	0	3	0	-	0	3	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	4
0715 - 0730	0	2	0	-	0	2	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	4
0730 - 0745	0	4	0	-	0	4	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	6
0745 - 0800	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
Total	0	9	0	0	0	9	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	15
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.56	0.00	0.00	0.00	**0.56**	0.00	0.75	0.00	0.00	0.00	**0.75**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.63**

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	1400 - 1800
Peak Hour	1530 - 1630

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
1530 - 1545	14	192	6	-	0	212	2	186	3	-	0	191	7	0	16	-	0	23	5	0	4	-	0	9	435
1545 - 1600	6	162	7	-	0	175	0	192	7	-	0	199	5	0	11	-	0	16	6	0	7	-	0	13	403
1600 - 1615	12	237	4	-	0	253	1	194	7	-	0	202	7	0	3	-	0	10	6	0	6	-	0	12	477
1615 - 1630	16	197	0	-	0	213	2	179	6	-	0	187	2	0	4	-	0	6	3	0	3	-	0	6	412
Total	48	788	17	0	0	853	5	751	23	0	0	779	21	0	34	0	0	55	20	0	20	0	0	40	1727
Approach %	5.63	92.38	1.99	0.00	0.00	-	0.64	96.41	2.95	0.00	0.00	-	38.18	0.00	61.82	0.00	0.00	-	50.00	0.00	50.00	0.00	0.00	-	
PHF	0.75	0.83	0.61	0.00	0.00	**0.84**	0.63	0.97	0.82	0.00	0.00	**0.96**	0.75	0.00	0.53	0.00	0.00	**0.60**	0.83	0.00	0.71	0.00	0.00	**0.77**	**0.91**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
1530 - 1545	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1545 - 1600	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1600 - 1615	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
1530 - 1545	11	187	6	-	0	204	2	179	3	-	0	184	7	0	16	-	0	23	5	0	4	-	0	9	420
1545 - 1600	6	157	7	-	0	170	0	185	7	-	0	192	5	0	11	-	0	16	6	0	7	-	0	13	391
1600 - 1615	12	229	3	-	0	244	1	191	7	-	0	199	7	0	3	-	0	10	5	0	6	-	0	11	464
1615 - 1630	16	191	0	-	0	207	2	177	6	-	0	185	2	0	2	-	0	4	3	0	3	-	0	6	402
Total	45	764	16	0	0	825	5	732	23	0	0	760	21	0	32	0	0	53	19	0	20	0	0	39	1677
Approach %	5.45	92.61	1.94	0.00	0.00	-	0.66	96.32	3.03	0.00	0.00	-	39.62	0.00	60.38	0.00	0.00	-	48.72	0.00	51.28	0.00	0.00	-	
PHF	0.70	0.83	0.57	0.00	0.00	**0.85**	0.63	0.96	0.82	0.00	0.00	**0.95**	0.75	0.00	0.50	0.00	0.00	**0.58**	0.79	0.00	0.71	0.00	0.00	**0.75**	**0.90**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
1530 - 1545	3	3	0	-	0	6	0	4	0	-	0	4	0	0	0	-	0	0	0	0	0	-	0	0	10
1545 - 1600	0	4	0	-	0	4	0	4	0	-	0	4	0	0	0	-	0	0	0	0	0	-	0	0	8
1600 - 1615	0	8	1	-	0	9	0	2	0	-	0	2	0	0	0	-	0	0	1	0	0	-	0	1	12
1615 - 1630	0	5	0	-	0	5	0	0	0	-	0	0	0	0	2	-	0	2	0	0	0	-	0	0	7
Total	3	20	1	0	0	24	0	10	0	0	0	10	0	0	2	0	0	2	1	0	0	0	0	1	37
Approach %	12.50	83.33	4.17	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	
PHF	0.25	0.63	0.25	0.00	0.00	**0.67**	0.00	0.63	0.00	0.00	0.00	**0.63**	0.00	0.00	0.25	0.00	0.00	**0.25**	0.25	0.00	0.00	0.00	0.00	**0.25**	**0.77**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Old Williamsport Pike (West)						Old Williamsport Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	2.1	2.2	2.3		2.4	Total	2.5	2.6	2.7		2.8	Total	2.9	2.10	2.11		2.12	Total	2.13	2.14	2.15		2.16	Total	Total
1530 - 1545	0	2	0	-	0	2	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	5
1545 - 1600	0	1	0	-	0	1	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	4
1600 - 1615	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
1615 - 1630	0	1	0	-	0	1	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	3
Total	0	4	0	0	0	4	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	13
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.50	0.00	0.00	0.00	**0.50**	0.00	0.75	0.00	0.00	0.00	**0.75**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.65**

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	0600 - 0900
Peak Hour	0700 - 0800

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
0700 - 0715	9	132	0	-	0	141	0	194	8	-	0	202	0	0	1	-	0	1	0	0	0	-	0	0	344
0715 - 0730	7	127	0	-	0	134	0	267	18	-	0	285	0	0	0	-	0	0	0	0	0	-	0	0	419
0730 - 0745	16	165	0	-	0	181	0	297	17	-	1	315	0	0	1	-	0	1	0	0	0	-	0	0	497
0745 - 0800	16	170	0	-	0	186	0	297	22	-	0	319	3	0	3	-	0	6	0	0	0	-	0	0	511
Total	48	594	0	0	0	642	0	1055	65	0	1	1121	3	0	5	0	0	8	0	0	0	0	0	0	1771
Approach %	7.48	92.52	0.00	0.00	0.00	-	0.00	94.11	5.80	0.00	0.09	-	37.50	0.00	62.50	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.75	0.87	0.00	0.00	0.00	**0.86**	0.00	0.89	0.74	0.00	0.25	**0.88**	0.25	0.00	0.42	0.00	0.00	**0.33**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.87**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
0700 - 0715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
0700 - 0715	9	122	0	-	0	131	0	187	8	-	0	195	0	0	1	-	0	1	0	0	0	-	0	0	327
0715 - 0730	7	121	0	-	0	128	0	262	18	-	0	280	0	0	0	-	0	0	0	0	0	-	0	0	408
0730 - 0745	16	149	0	-	0	165	0	283	17	-	1	301	0	0	1	-	0	1	0	0	0	-	0	0	467
0745 - 0800	16	162	0	-	0	178	0	285	21	-	0	306	3	0	3	-	0	6	0	0	0	-	0	0	490
Total	48	554	0	0	0	602	0	1017	64	0	1	1082	3	0	5	0	0	8	0	0	0	0	0	0	1692
Approach %	7.97	92.03	0.00	0.00	0.00	-	0.00	93.99	5.91	0.00	0.09	-	37.50	0.00	62.50	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.75	0.85	0.00	0.00	0.00	**0.85**	0.00	0.89	0.76	0.00	0.25	**0.88**	0.25	0.00	0.42	0.00	0.00	**0.33**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.86**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
0700 - 0715	0	7	0	-	0	7	0	6	0	-	0	6	0	0	0	-	0	0	0	0	0	-	0	0	13
0715 - 0730	0	4	0	-	0	4	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	7
0730 - 0745	0	12	0	-	0	12	0	12	0	-	0	12	0	0	0	-	0	0	0	0	0	-	0	0	24
0745 - 0800	0	8	0	-	0	8	0	11	1	-	0	12	0	0	0	-	0	0	0	0	0	-	0	0	20
Total	0	31	0	0	0	31	0	32	1	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	64
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	96.97	3.03	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.65	0.00	0.00	0.00	**0.65**	0.00	0.67	0.25	0.00	0.00	**0.69**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.67**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
0700 - 0715	0	3	0	-	0	3	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	4
0715 - 0730	0	2	0	-	0	2	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	4
0730 - 0745	0	4	0	-	0	4	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	6
0745 - 0800	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
Total	0	9	0	0	0	9	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	15
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.56	0.00	0.00	0.00	**0.56**	0.00	0.75	0.00	0.00	0.00	**0.75**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.63**

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	1400 - 1800
Peak Hour	1530 - 1630

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
1530 - 1545	11	210	0	-	1	222	0	206	6	-	0	212	4	0	8	-	0	12	0	0	0	-	0	0	446
1545 - 1600	4	162	0	-	0	166	0	201	5	-	0	206	6	0	19	-	0	25	0	0	0	-	0	0	397
1600 - 1615	4	247	0	-	0	251	0	199	3	-	1	203	7	0	17	-	0	24	0	0	0	-	0	0	478
1615 - 1630	4	199	0	-	1	204	0	188	2	-	0	190	10	0	7	-	0	17	0	0	0	-	0	0	411
Total	23	818	0	0	2	843	0	794	16	0	1	811	27	0	51	0	0	78	0	0	0	0	0	0	1732
Approach %	2.73	97.03	0.00	0.00	0.24	-	0.00	97.90	1.97	0.00	0.12	-	34.62	0.00	65.38	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.52	0.83	0.00	0.00	0.50	**0.84**	0.00	0.96	0.67	0.00	0.25	**0.96**	0.68	0.00	0.67	0.00	0.00	**0.78**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.91**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
1530 - 1545	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1545 - 1600	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1600 - 1615	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
1530 - 1545	11	203	0	-	1	215	0	199	6	-	0	205	4	0	8	-	0	12	0	0	0	-	0	0	432
1545 - 1600	3	159	0	-	0	162	0	194	5	-	0	199	5	0	19	-	0	24	0	0	0	-	0	0	385
1600 - 1615	4	238	0	-	0	242	0	195	3	-	1	199	7	0	17	-	0	24	0	0	0	-	0	0	465
1615 - 1630	4	194	0	-	1	199	0	184	2	-	0	186	10	0	7	-	0	17	0	0	0	-	0	0	402
Total	22	794	0	0	2	818	0	772	16	0	1	789	26	0	51	0	0	77	0	0	0	0	0	0	1684
Approach %	2.69	97.07	0.00	0.00	0.24	-	0.00	97.85	2.03	0.00	0.13	-	33.77	0.00	66.23	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.50	0.83	0.00	0.00	0.50	**0.85**	0.00	0.97	0.67	0.00	0.25	**0.96**	0.65	0.00	0.67	0.00	0.00	**0.80**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.91**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
1530 - 1545	0	6	0	-	0	6	0	4	0	-	0	4	0	0	0	-	0	0	0	0	0	-	0	0	10
1545 - 1600	1	2	0	-	0	3	0	4	0	-	0	4	1	0	0	-	0	1	0	0	0	-	0	0	8
1600 - 1615	0	9	0	-	0	9	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	12
1615 - 1630	0	4	0	-	0	4	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	6
Total	1	21	0	0	0	22	0	13	0	0	0	13	1	0	0	0	0	1	0	0	0	0	0	0	36
Approach %	4.55	95.45	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.25	0.58	0.00	0.00	0.00	**0.61**	0.00	0.81	0.00	0.00	0.00	**0.81**	0.25	0.00	0.00	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.75**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	N James Campbell Blvd (South)						N James Campbell Blvd (North)						Business Driveway						Driveway						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	3.1	3.2	3.3		3.4	Total	3.5	3.6	3.7		3.8	Total	3.9	3.10	3.11		3.12	Total	3.13	3.14	3.15		3.16	Total	Total
1530 - 1545	0	1	0	-	0	1	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	4
1545 - 1600	0	1	0	-	0	1	0	3	0	-	0	3	0	0	0	-	0	0	0	0	0	-	0	0	4
1600 - 1615	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
1615 - 1630	0	1	0	-	0	1	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	3
Total	0	3	0	0	0	3	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	12
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.75	0.00	0.00	0.00	**0.75**	0.00	0.75	0.00	0.00	0.00	**0.75**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.75**

Peak Hour Turning Movement Count

Columbia TN

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	37	86	15	-	0	138	45	129	72	-	0	246	36	65	47	-	0	148	26	70	16	-	0	112	644
0730 - 0745	42	111	32	-	0	185	72	170	48	-	1	291	60	68	54	-	1	183	21	48	25	-	0	94	753
0745 - 0800	31	102	27	-	1	161	52	206	38	-	1	297	56	74	56	-	0	186	27	40	32	-	0	99	743
0800 - 0815	37	93	19	-	1	150	44	125	27	-	1	197	28	57	45	-	0	130	26	27	21	-	0	74	551
Total	147	392	93	0	2	634	213	630	185	0	3	1031	180	264	202	0	1	647	100	185	94	0	0	379	2691
Approach %	23.19	61.83	14.67	0.00	0.32	-	20.66	61.11	17.94	0.00	0.29	-	27.82	40.80	31.22	0.00	0.15	-	26.39	48.81	24.80	0.00	0.00	-	
PHF	0.88	0.88	0.73	0.00	0.50	**0.86**	0.74	0.76	0.64	0.00	0.75	**0.87**	0.75	0.89	0.90	0.00	0.25	**0.87**	0.93	0.66	0.73	0.00	0.00	**0.85**	**0.89**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	31	82	15	-	0	128	45	124	72	-	0	241	33	64	44	-	0	141	24	66	16	-	0	106	616
0730 - 0745	41	104	31	-	0	176	68	161	47	-	1	277	52	64	52	-	1	169	20	47	24	-	0	91	713
0745 - 0800	31	96	25	-	1	153	50	200	35	-	1	286	54	73	54	-	0	181	26	37	32	-	0	95	715
0800 - 0815	36	81	17	-	1	135	42	121	27	-	1	191	28	55	44	-	0	127	25	26	19	-	0	70	523
Total	139	363	88	0	2	592	205	606	181	0	3	995	167	256	194	0	1	618	95	176	91	0	0	362	2567
Approach %	23.48	61.32	14.86	0.00	0.34	-	20.60	60.90	18.19	0.00	0.30	-	27.02	41.42	31.39	0.00	0.16	-	26.24	48.62	25.14	0.00	0.00	-	
PHF	0.85	0.87	0.71	0.00	0.50	**0.84**	0.75	0.76	0.63	0.00	0.75	**0.87**	0.77	0.88	0.90	0.00	0.25	**0.85**	0.91	0.67	0.71	0.00	0.00	**0.85**	**0.90**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	6	2	0	-	0	8	0	3	0	-	0	3	3	1	1	-	0	5	2	4	0	-	0	6	22
0730 - 0745	1	3	0	-	0	4	4	7	1	-	0	12	8	4	2	-	0	14	1	0	1	-	0	2	32
0745 - 0800	0	6	1	-	0	7	2	5	3	-	0	10	2	1	1	-	0	4	1	2	0	-	0	3	24
0800 - 0815	1	9	2	-	0	12	1	3	0	-	0	4	0	1	1	-	0	2	1	1	2	-	0	4	22
Total	8	20	3	0	0	31	7	18	4	0	0	29	13	7	5	0	0	25	5	7	3	0	0	15	100
Approach %	25.81	64.52	9.68	0.00	0.00	-	24.14	62.07	13.79	0.00	0.00	-	52.00	28.00	20.00	0.00	0.00	-	33.33	46.67	20.00	0.00	0.00	-	
PHF	0.33	0.56	0.38	0.00	0.00	**0.65**	0.44	0.64	0.33	0.00	0.00	**0.60**	0.41	0.44	0.63	0.00	0.00	**0.45**	0.63	0.44	0.38	0.00	0.00	**0.63**	**0.78**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	0	2	0	-	0	2	0	2	0	-	0	2	0	0	2	-	0	2	0	0	0	-	0	0	6
0730 - 0745	0	4	1	-	0	5	0	2	0	-	0	2	0	0	0	-	0	0	0	1	0	-	0	1	8
0745 - 0800	0	0	1	-	0	1	0	1	0	-	0	1	0	0	1	-	0	1	0	1	0	-	0	1	4
0800 - 0815	0	3	0	-	0	3	1	1	0	-	0	2	0	1	0	-	0	1	0	0	0	-	0	0	6
Total	0	9	2	0	0	11	1	6	0	0	0	7	0	1	3	0	0	4	0	2	0	0	0	2	24
Approach %	0.00	81.82	18.18	0.00	0.00	-	14.29	85.71	0.00	0.00	0.00	-	0.00	25.00	75.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.56	0.50	0.00	0.00	**0.55**	0.25	0.75	0.00	0.00	0.00	**0.88**	0.00	0.25	0.38	0.00	0.00	**0.50**	0.00	0.50	0.00	0.00	0.00	**0.50**	**0.75**

Click here for Map

Peak Hour Turning Movement Count

Columbia TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	1400 - 1800
Peak Hour	1445 - 1545

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	59	134	26	-	2	221	36	119	35	-	0	190	50	54	38	-	0	142	15	61	29	-	0	105	658
1500 - 1515	55	142	26	-	1	224	33	101	29	-	0	163	58	69	48	-	0	175	22	76	48	-	0	146	708
1515 - 1530	57	135	14	-	0	206	30	145	39	-	0	214	37	57	43	-	0	137	21	49	29	-	0	99	656
1530 - 1545	60	152	25	-	0	237	33	150	44	-	0	227	28	48	44	-	0	120	20	45	37	-	0	102	686
Total	231	563	91	0	3	888	132	515	147	0	0	794	173	228	173	0	0	574	78	231	143	0	0	452	2708
Approach %	26.01	63.40	10.25	0.00	0.34	-	16.62	64.86	18.51	0.00	0.00	-	30.14	39.72	30.14	0.00	0.00	-	17.26	51.11	31.64	0.00	0.00	-	
PHF	0.96	0.93	0.88	0.00	0.38	**0.94**	0.92	0.86	0.84	0.00	0.00	**0.87**	0.75	0.83	0.90	0.00	0.00	**0.82**	0.89	0.76	0.74	0.00	0.00	**0.77**	**0.96**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1500 - 1515	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1515 - 1530	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1530 - 1545	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	58	127	26	-	2	213	36	113	35	-	0	184	42	51	36	-	0	129	14	59	28	-	0	101	627
1500 - 1515	54	134	24	-	1	213	31	96	28	-	0	155	58	68	43	-	0	169	20	73	45	-	0	138	675
1515 - 1530	57	131	14	-	0	202	29	142	39	-	0	210	37	53	41	-	0	131	21	47	28	-	0	96	639
1530 - 1545	58	146	21	-	0	225	31	146	43	-	0	220	27	46	42	-	0	115	20	45	37	-	0	102	662
Total	227	538	85	0	3	853	127	497	145	0	0	769	164	218	162	0	0	544	75	224	138	0	0	437	2603
Approach %	26.61	63.07	9.96	0.00	0.35	-	16.51	64.63	18.86	0.00	0.00	-	30.15	40.07	29.78	0.00	0.00	-	17.16	51.26	31.58	0.00	0.00	-	
PHF	0.98	0.92	0.82	0.00	0.38	**0.95**	0.88	0.85	0.84	0.00	0.00	**0.87**	0.71	0.80	0.94	0.00	0.00	**0.80**	0.89	0.77	0.77	0.00	0.00	**0.79**	**0.96**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	1	6	0	-	0	7	0	4	0	-	0	4	8	2	1	-	0	11	1	2	1	-	0	4	26
1500 - 1515	1	6	2	-	0	9	2	5	0	-	0	7	0	0	4	-	0	4	1	2	3	-	0	6	26
1515 - 1530	0	2	0	-	0	2	1	2	0	-	0	3	0	3	1	-	0	4	0	2	1	-	0	3	12
1530 - 1545	1	6	4	-	0	11	1	2	1	-	0	4	0	2	2	-	0	4	0	0	0	-	0	0	19
Total	3	20	6	0	0	29	4	13	1	0	0	18	8	7	8	0	0	23	2	6	5	0	0	13	83
Approach %	10.34	68.97	20.69	0.00	0.00	-	22.22	72.22	5.56	0.00	0.00	-	34.78	30.43	34.78	0.00	0.00	-	15.38	46.15	38.46	0.00	0.00	-	
PHF	0.75	0.83	0.38	0.00	0.00	**0.66**	0.50	0.65	0.25	0.00	0.00	**0.64**	0.25	0.58	0.50	0.00	0.00	**0.52**	0.50	0.75	0.42	0.00	0.00	**0.54**	**0.80**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	0	1	0	-	0	1	0	2	0	-	0	2	0	1	1	-	0	2	0	0	0	-	0	0	5
1500 - 1515	0	2	0	-	0	2	0	0	1	-	0	1	0	1	1	-	0	2	1	1	0	-	0	2	7
1515 - 1530	0	2	0	-	0	2	0	1	0	-	0	1	0	1	1	-	0	2	0	0	0	-	0	0	5
1530 - 1545	1	0	0	-	0	1	1	2	0	-	0	3	1	0	0	-	0	1	0	0	0	-	0	0	5
Total	1	5	0	0	0	6	1	5	1	0	0	7	1	3	3	0	0	7	1	1	0	0	0	2	22
Approach %	16.67	83.33	0.00	0.00	0.00	-	14.29	71.43	14.29	0.00	0.00	-	14.29	42.86	42.86	0.00	0.00	-	50.00	50.00	0.00	0.00	0.00	-	
PHF	0.25	0.63	0.00	0.00	0.00	**0.75**	0.25	0.63	0.25	0.00	0.00	**0.58**	0.25	0.75	0.75	0.00	0.00	**0.88**	0.25	0.25	0.00	0.00	0.00	**0.25**	**0.79**

Click here for Map

Peak Hour Turning Movement Count

Columbia TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	37	86	15	-	0	138	45	129	72	-	0	246	36	65	47	-	0	148	26	70	16	-	0	112	644
0730 - 0745	42	111	32	-	0	185	72	170	48	-	1	291	60	68	54	-	1	183	21	48	25	-	0	94	753
0745 - 0800	31	102	27	-	1	161	52	206	38	-	1	297	56	74	56	-	0	186	27	40	32	-	0	99	743
0800 - 0815	37	93	19	-	1	150	44	125	27	-	1	197	28	57	45	-	0	130	26	27	21	-	0	74	551
Total	147	392	93	0	2	634	213	630	185	0	3	1031	180	264	202	0	1	647	100	185	94	0	0	379	2691
Approach %	23.19	61.83	14.67	0.00	0.32	-	20.66	61.11	17.94	0.00	0.29	-	27.82	40.80	31.22	0.00	0.15	-	26.39	48.81	24.80	0.00	0.00	-	
PHF	0.88	0.88	0.73	0.00	0.50	**0.86**	0.74	0.76	0.64	0.00	0.75	**0.87**	0.75	0.89	0.90	0.00	0.25	**0.87**	0.93	0.66	0.73	0.00	0.00	**0.85**	**0.89**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	31	82	15	-	0	128	45	124	72	-	0	241	33	64	44	-	0	141	24	66	16	-	0	106	616
0730 - 0745	41	104	31	-	0	176	68	161	47	-	1	277	52	64	52	-	1	169	20	47	24	-	0	91	713
0745 - 0800	31	96	25	-	1	153	50	200	35	-	1	286	54	73	54	-	0	181	26	37	32	-	0	95	715
0800 - 0815	36	81	17	-	1	135	42	121	27	-	1	191	28	55	44	-	0	127	25	26	19	-	0	70	523
Total	139	363	88	0	2	592	205	606	181	0	3	995	167	256	194	0	1	618	95	176	91	0	0	362	2567
Approach %	23.48	61.32	14.86	0.00	0.34	-	20.60	60.90	18.19	0.00	0.30	-	27.02	41.42	31.39	0.00	0.16	-	26.24	48.62	25.14	0.00	0.00	-	
PHF	0.85	0.87	0.71	0.00	0.50	**0.84**	0.75	0.76	0.63	0.00	0.75	**0.87**	0.77	0.88	0.90	0.00	0.25	**0.85**	0.91	0.67	0.71	0.00	0.00	**0.85**	**0.90**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	6	2	0	-	0	8	0	3	0	-	0	3	3	1	1	-	0	5	2	4	0	-	0	6	22
0730 - 0745	1	3	0	-	0	4	4	7	1	-	0	12	8	4	2	-	0	14	1	0	1	-	0	2	32
0745 - 0800	0	6	1	-	0	7	2	5	3	-	0	10	2	1	1	-	0	4	1	2	0	-	0	3	24
0800 - 0815	1	9	2	-	0	12	1	3	0	-	0	4	0	1	1	-	0	2	1	1	2	-	0	4	22
Total	8	20	3	0	0	31	7	18	4	0	0	29	13	7	5	0	0	25	5	7	3	0	0	15	100
Approach %	25.81	64.52	9.68	0.00	0.00	-	24.14	62.07	13.79	0.00	0.00	-	52.00	28.00	20.00	0.00	0.00	-	33.33	46.67	20.00	0.00	0.00	-	
PHF	0.33	0.56	0.38	0.00	0.00	**0.65**	0.44	0.64	0.33	0.00	0.00	**0.60**	0.41	0.44	0.63	0.00	0.00	**0.45**	0.63	0.44	0.38	0.00	0.00	**0.63**	**0.78**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
0715 - 0730	0	2	0	-	0	2	0	2	0	-	0	2	0	0	2	-	0	2	0	0	0	-	0	0	6
0730 - 0745	0	4	1	-	0	5	0	2	0	-	0	2	0	0	0	-	0	0	0	1	0	-	0	1	8
0745 - 0800	0	0	1	-	0	1	0	1	0	-	0	1	0	0	1	-	0	1	0	1	0	-	0	1	4
0800 - 0815	0	3	0	-	0	3	1	1	0	-	0	2	0	1	0	-	0	1	0	0	0	-	0	0	6
Total	0	9	2	0	0	11	1	6	0	0	0	7	0	1	3	0	0	4	0	2	0	0	0	2	24
Approach %	0.00	81.82	18.18	0.00	0.00	-	14.29	85.71	0.00	0.00	0.00	-	0.00	25.00	75.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.56	0.50	0.00	0.00	**0.55**	0.25	0.75	0.00	0.00	0.00	**0.88**	0.00	0.25	0.38	0.00	0.00	**0.50**	0.00	0.50	0.00	0.00	0.00	**0.50**	**0.75**

Click here for Map

Peak Hour Turning Movement Count

Columbia TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	1400 - 1800
Peak Hour	1445 - 1545

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	59	134	26	-	2	221	36	119	35	-	0	190	50	54	38	-	0	142	15	61	29	-	0	105	658
1500 - 1515	55	142	26	-	1	224	33	101	29	-	0	163	58	69	48	-	0	175	22	76	48	-	0	146	708
1515 - 1530	57	135	14	-	0	206	30	145	39	-	0	214	37	57	43	-	0	137	21	49	29	-	0	99	656
1530 - 1545	60	152	25	-	0	237	33	150	44	-	0	227	28	48	44	-	0	120	20	45	37	-	0	102	686
Total	231	563	91	0	3	888	132	515	147	0	0	794	173	228	173	0	0	574	78	231	143	0	0	452	2708
Approach %	26.01	63.40	10.25	0.00	0.34	-	16.62	64.86	18.51	0.00	0.00	-	30.14	39.72	30.14	0.00	0.00	-	17.26	51.11	31.64	0.00	0.00	-	
PHF	0.96	0.93	0.88	0.00	0.38	**0.94**	0.92	0.86	0.84	0.00	0.00	**0.87**	0.75	0.83	0.90	0.00	0.00	**0.82**	0.89	0.76	0.74	0.00	0.00	**0.77**	**0.96**

Bikes

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1500 - 1515	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1515 - 1530	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1530 - 1545	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	58	127	26	-	2	213	36	113	35	-	0	184	42	51	36	-	0	129	14	59	28	-	0	101	627
1500 - 1515	54	134	24	-	1	213	31	96	28	-	0	155	58	68	43	-	0	169	20	73	45	-	0	138	675
1515 - 1530	57	131	14	-	0	202	29	142	39	-	0	210	37	53	41	-	0	131	21	47	28	-	0	96	639
1530 - 1545	58	146	21	-	0	225	31	146	43	-	0	220	27	46	42	-	0	115	20	45	37	-	0	102	662
Total	227	538	85	0	3	853	127	497	145	0	0	769	164	218	162	0	0	544	75	224	138	0	0	437	2603
Approach %	26.61	63.07	9.96	0.00	0.35	-	16.51	64.63	18.86	0.00	0.00	-	30.15	40.07	29.78	0.00	0.00	-	17.16	51.26	31.58	0.00	0.00	-	
PHF	0.98	0.92	0.82	0.00	0.38	**0.95**	0.88	0.85	0.84	0.00	0.00	**0.87**	0.71	0.80	0.94	0.00	0.00	**0.80**	0.89	0.77	0.77	0.00	0.00	**0.79**	**0.96**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	1	6	0	-	0	7	0	4	0	-	0	4	8	2	1	-	0	11	1	2	1	-	0	4	26
1500 - 1515	1	6	2	-	0	9	2	5	0	-	0	7	0	0	4	-	0	4	1	2	3	-	0	6	26
1515 - 1530	0	2	0	-	0	2	1	2	0	-	0	3	0	3	1	-	0	4	0	2	1	-	0	3	12
1530 - 1545	1	6	4	-	0	11	1	2	1	-	0	4	0	2	2	-	0	4	0	0	0	-	0	0	19
Total	3	20	6	0	0	29	4	13	1	0	0	18	8	7	8	0	0	23	2	6	5	0	0	13	83
Approach %	10.34	68.97	20.69	0.00	0.00	-	22.22	72.22	5.56	0.00	0.00	-	34.78	30.43	34.78	0.00	0.00	-	15.38	46.15	38.46	0.00	0.00	-	
PHF	0.75	0.83	0.38	0.00	0.00	**0.66**	0.50	0.65	0.25	0.00	0.00	**0.64**	0.25	0.58	0.50	0.00	0.00	**0.52**	0.50	0.75	0.42	0.00	0.00	**0.54**	**0.80**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound						Westbound						
	TN-50 N James Campbell Blvd						N James Campbell Blvd						TN-99 Hampshire Pike (West)						TN-99 Hampshire Pike (East)						
	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Left	Thru	Right		U-Turn	App	Int
Time	4.1	4.2	4.3		4.4	Total	4.5	4.6	4.7		4.8	Total	4.9	4.10	4.11		4.12	Total	4.13	4.14	4.15		4.16	Total	Total
1445 - 1500	0	1	0	-	0	1	0	2	0	-	0	2	0	1	1	-	0	2	0	0	0	-	0	0	5
1500 - 1515	0	2	0	-	0	2	0	0	1	-	0	1	0	1	1	-	0	2	1	1	0	-	0	2	7
1515 - 1530	0	2	0	-	0	2	0	1	0	-	0	1	0	1	1	-	0	2	0	0	0	-	0	0	5
1530 - 1545	1	0	0	-	0	1	1	2	0	-	0	3	1	0	0	-	0	1	0	0	0	-	0	0	5
Total	1	5	0	0	0	6	1	5	1	0	0	7	1	3	3	0	0	7	1	1	0	0	0	2	22
Approach %	16.67	83.33	0.00	0.00	0.00	-	14.29	71.43	14.29	0.00	0.00	-	14.29	42.86	42.86	0.00	0.00	-	50.00	50.00	0.00	0.00	0.00	-	
PHF	0.25	0.63	0.00	0.00	0.00	**0.75**	0.25	0.63	0.25	0.00	0.00	**0.58**	0.25	0.75	0.75	0.00	0.00	**0.88**	0.25	0.25	0.00	0.00	0.00	**0.25**	**0.79**

Peak Hour Turning Movement Count

Columbia TN

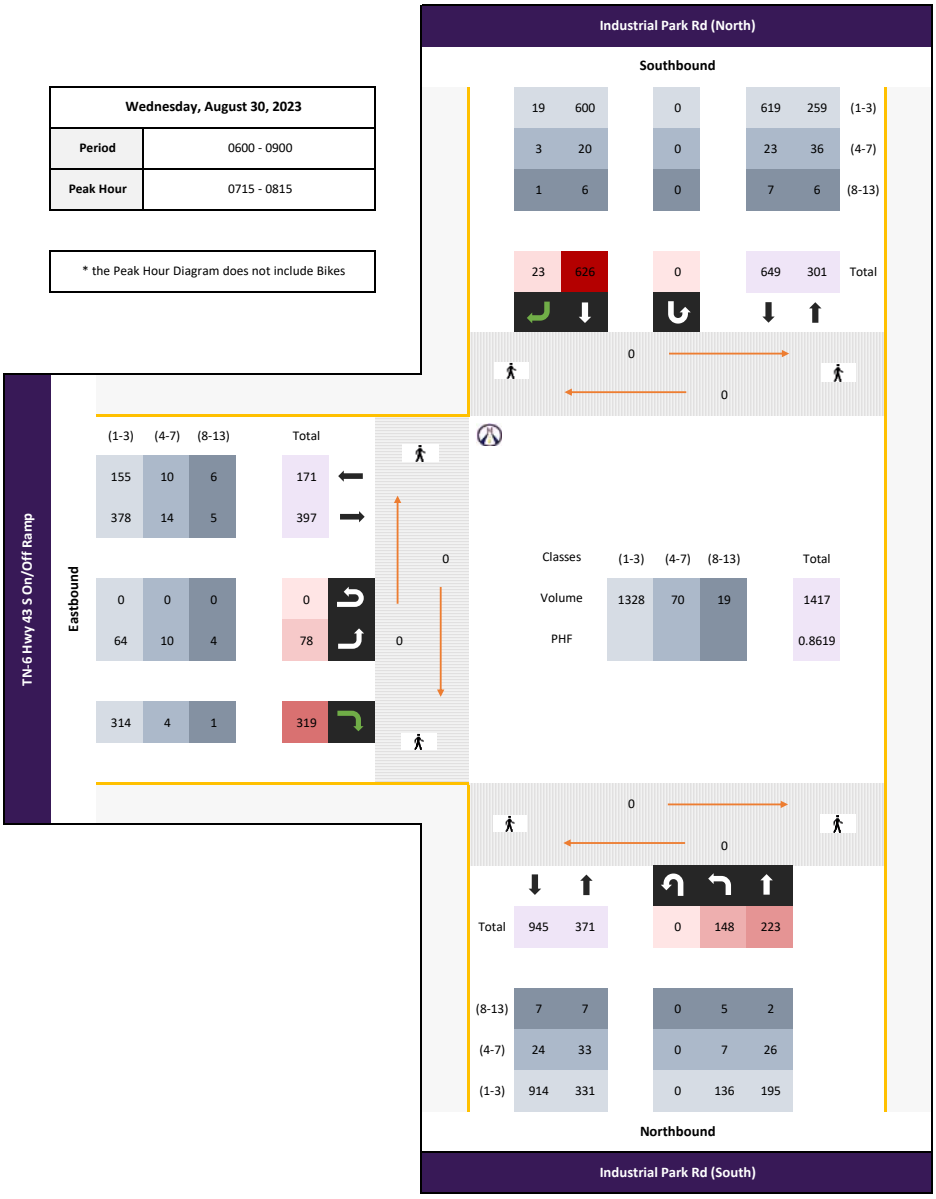
Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	0600 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
0715 - 0730	28	55	-	-	0	83	-	143	8	-	0	151	22	-	82	-	0	104	-	-	-	-	-	0	338
0730 - 0745	39	58	-	-	0	97	-	175	4	-	0	179	14	-	92	-	0	106	-	-	-	-	-	0	382
0745 - 0800	45	62	-	-	0	107	-	183	3	-	0	186	24	-	94	-	0	118	-	-	-	-	-	0	411
0800 - 0815	36	48	-	-	0	84	-	125	8	-	0	133	18	-	51	-	0	69	-	-	-	-	-	0	286
Total	148	223	0	0	0	371	0	626	23	0	0	649	78	0	319	0	0	397	0	0	0	0	0	0	1417
Approach %	39.89	60.11	0.00	0.00	0.00	-	0.00	96.46	3.54	0.00	0.00	-	19.65	0.00	80.35	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.82	0.90	0.00	0.00	0.00	**0.87**	0.00	0.86	0.72	0.00	0.00	**0.87**	0.81	0.00	0.85	0.00	0.00	**0.84**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.86**

Bikes

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
0715 - 0730	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
0730 - 0745	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
0745 - 0800	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
0800 - 0815	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
0715 - 0730	24	52	-	-	0	76	-	140	6	-	0	146	20	-	82	-	0	102	-	-	-	-	-	0	324
0730 - 0745	36	48	-	-	0	84	-	169	2	-	0	171	12	-	89	-	0	101	-	-	-	-	-	0	356
0745 - 0800	43	55	-	-	0	98	-	172	3	-	0	175	20	-	93	-	0	113	-	-	-	-	-	0	386
0800 - 0815	33	40	-	-	0	73	-	119	8	-	0	127	12	-	50	-	0	62	-	-	-	-	-	0	262
Total	136	195	0	0	0	331	0	600	19	0	0	619	64	0	314	0	0	378	0	0	0	0	0	0	1328
Approach %	41.09	58.91	0.00	0.00	0.00	-	0.00	96.93	3.07	0.00	0.00	-	16.93	0.00	83.07	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.79	0.89	0.00	0.00	0.00	**0.84**	0.00	0.87	0.59	0.00	0.00	**0.88**	0.80	0.00	0.84	0.00	0.00	**0.84**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.86**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
0715 - 0730	1	3	-	-	0	4	-	1	2	-	0	3	2	-	0	-	0	2	-	-	-	-	-	0	9
0730 - 0745	1	9	-	-	0	10	-	5	1	-	0	6	1	-	2	-	0	3	-	-	-	-	-	0	19
0745 - 0800	2	7	-	-	0	9	-	10	0	-	0	10	3	-	1	-	0	4	-	-	-	-	-	0	23
0800 - 0815	3	7	-	-	0	10	-	4	0	-	0	4	4	-	1	-	0	5	-	-	-	-	-	0	19
Total	7	26	0	0	0	33	0	20	3	0	0	23	10	0	4	0	0	14	0	0	0	0	0	0	70
Approach %	21.21	78.79	0.00	0.00	0.00	-	0.00	86.96	13.04	0.00	0.00	-	71.43	0.00	28.57	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.58	0.72	0.00	0.00	0.00	**0.83**	0.00	0.50	0.38	0.00	0.00	**0.58**	0.63	0.00	0.50	0.00	0.00	**0.70**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.76**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
0715 - 0730	3	0	-	-	0	3	-	2	0	-	0	2	0	-	0	-	0	0	-	-	-	-	-	0	5
0730 - 0745	2	1	-	-	0	3	-	1	1	-	0	2	1	-	1	-	0	2	-	-	-	-	-	0	7
0745 - 0800	0	0	-	-	0	0	-	1	0	-	0	1	1	-	0	-	0	1	-	-	-	-	-	0	2
0800 - 0815	0	1	-	-	0	1	-	2	0	-	0	2	2	-	0	-	0	2	-	-	-	-	-	0	5
Total	5	2	0	0	0	7	0	6	1	0	0	7	4	0	1	0	0	5	0	0	0	0	0	0	19
Approach %	71.43	28.57	0.00	0.00	0.00	-	0.00	85.71	14.29	0.00	0.00	-	80.00	0.00	20.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.42	0.50	0.00	0.00	0.00	**0.58**	0.00	0.75	0.25	0.00	0.00	**0.88**	0.50	0.00	0.25	0.00	0.00	**0.63**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.68**

Peak Hour Turning Movement Count

Columbia TN

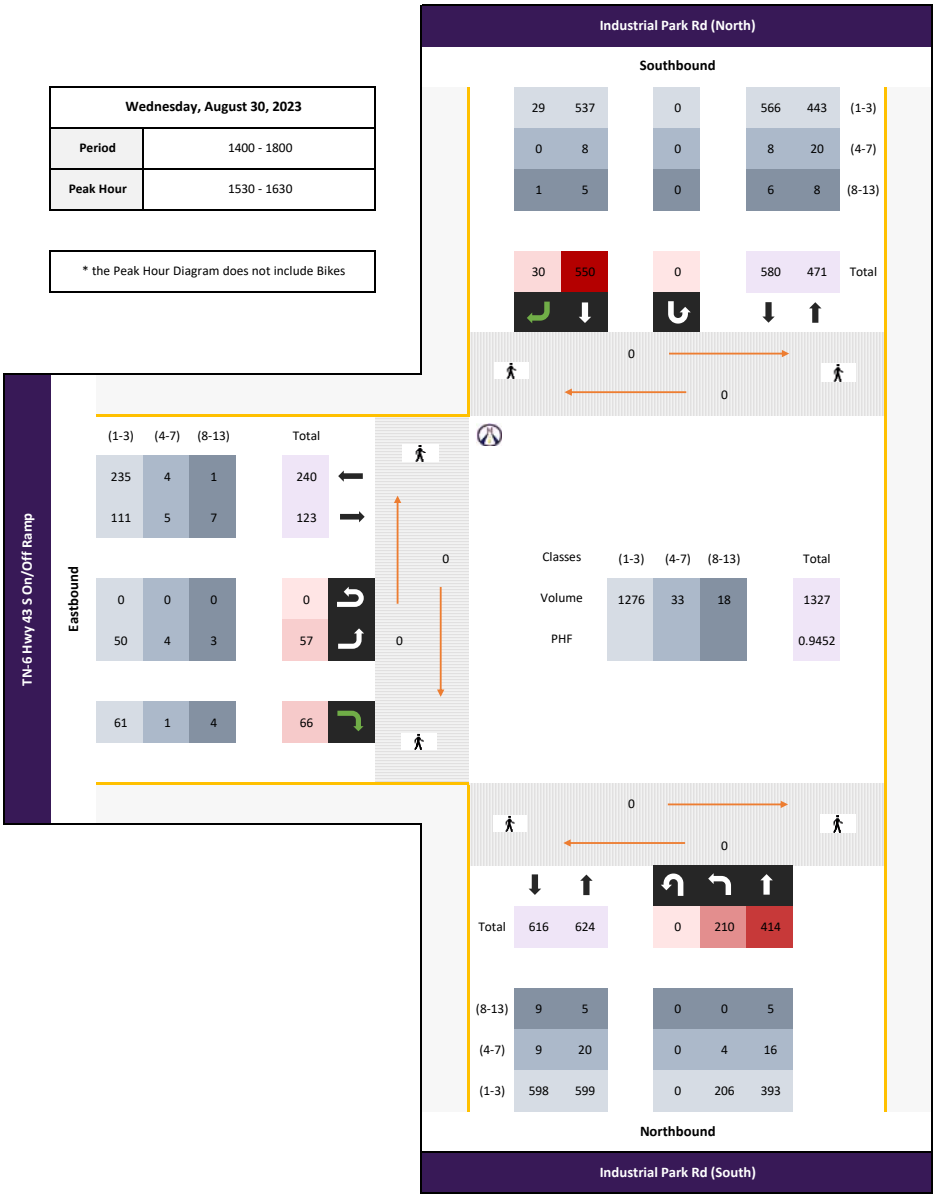
Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Wednesday, August 30, 2023	
Period	1400 - 1800
Peak Hour	1530 - 1630

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
1530 - 1545	46	102	-	-	0	148	-	148	8	-	0	156	16	-	16	-	0	32	-	-	-	-	-	0	336
1545 - 1600	50	85	-	-	0	135	-	140	3	-	0	143	15	-	15	-	0	30	-	-	-	-	-	0	308
1600 - 1615	53	122	-	-	0	175	-	137	11	-	0	148	10	-	18	-	0	28	-	-	-	-	-	0	351
1615 - 1630	61	105	-	-	0	166	-	125	8	-	0	133	16	-	17	-	0	33	-	-	-	-	-	0	332
Total	210	414	0	0	0	624	0	550	30	0	0	580	57	0	66	0	0	123	0	0	0	0	0	0	1327
Approach %	33.65	66.35	0.00	0.00	0.00	-	0.00	94.83	5.17	0.00	0.00	-	46.34	0.00	53.66	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.86	0.85	0.00	0.00	0.00	**0.89**	0.00	0.93	0.68	0.00	0.00	**0.93**	0.89	0.00	0.92	0.00	0.00	**0.93**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.95**

Bikes

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
1530 - 1545	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1545 - 1600	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1600 - 1615	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
1615 - 1630	0	0	-	-	0	0	-	0	0	-	0	0	0	-	0	-	0	0	-	-	-	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
1530 - 1545	45	99	-	-	0	144	-	145	8	-	0	153	14	-	14	-	0	28	-	-	-	-	-	0	325
1545 - 1600	50	79	-	-	0	129	-	135	3	-	0	138	14	-	14	-	0	28	-	-	-	-	-	0	295
1600 - 1615	52	116	-	-	0	168	-	134	11	-	0	145	9	-	18	-	0	27	-	-	-	-	-	0	340
1615 - 1630	59	99	-	-	0	158	-	123	7	-	0	130	13	-	15	-	0	28	-	-	-	-	-	0	316
Total	206	393	0	0	0	599	0	537	29	0	0	566	50	0	61	0	0	111	0	0	0	0	0	0	1276
Approach %	34.39	65.61	0.00	0.00	0.00	-	0.00	94.88	5.12	0.00	0.00	-	45.05	0.00	54.95	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.87	0.85	0.00	0.00	0.00	**0.89**	0.00	0.93	0.66	0.00	0.00	**0.92**	0.89	0.00	0.85	0.00	0.00	**0.99**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.94**

Single Unit Trucks (4-7)

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
1530 - 1545	1	2	-	-	0	3	-	2	0	-	0	2	1	-	1	-	0	2	-	-	-	-	-	0	7
1545 - 1600	0	4	-	-	0	4	-	3	0	-	0	3	0	-	0	-	0	0	-	-	-	-	-	0	7
1600 - 1615	1	6	-	-	0	7	-	2	0	-	0	2	0	-	0	-	0	0	-	-	-	-	-	0	9
1615 - 1630	2	4	-	-	0	6	-	1	0	-	0	1	3	-	0	-	0	3	-	-	-	-	-	0	10
Total	4	16	0	0	0	20	0	8	0	0	0	8	4	0	1	0	0	5	0	0	0	0	0	0	33
Approach %	20.00	80.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	80.00	0.00	20.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.50	0.67	0.00	0.00	0.00	**0.71**	0.00	0.67	0.00	0.00	0.00	**0.67**	0.33	0.00	0.25	0.00	0.00	**0.42**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.83**

Combination Trucks (8-13)

	Northbound						Southbound						Eastbound												
	Industrial Park Rd (South)						Industrial Park Rd (North)						TN-6 Hwy 43 S On/Off Ramp												
	Left	Thru			U-Turn	App		Thru	Right		U-Turn	App	Left		Right		U-Turn	App						App	Int
Time	6.1	6.2			6.3	Total		6.4	6.5		6.6	Total	6.7		6.8		6.9	Total						Total	Total
1530 - 1545	0	1	-	-	0	1	-	1	0	-	0	1	1	-	1	-	0	2	-	-	-	-	-	0	4
1545 - 1600	0	2	-	-	0	2	-	2	0	-	0	2	1	-	1	-	0	2	-	-	-	-	-	0	6
1600 - 1615	0	0	-	-	0	0	-	1	0	-	0	1	1	-	0	-	0	1	-	-	-	-	-	0	2
1615 - 1630	0	2	-	-	0	2	-	1	1	-	0	2	0	-	2	-	0	2	-	-	-	-	-	0	6
Total	0	5	0	0	0	5	0	5	1	0	0	6	3	0	4	0	0	7	0	0	0	0	0	0	18
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	83.33	16.67	0.00	0.00	-	42.86	0.00	57.14	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.63	0.00	0.00	0.00	**0.63**	0.00	0.63	0.25	0.00	0.00	**0.75**	0.75	0.00	0.50	0.00	0.00	**0.88**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.75**

APPENDIX C

Volume Development

Trip Generation - HRP Columbia

ITE Code	Land Use	Setting/Location	Density		Daily			AM Peak Hour			PM Peak Hour		
					Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
220	Multifamily Housing (Low-Rise)	General Urban/Suburban	444	d.u.	2,922	1,461	1,461	160	38	122	211	133	78
822	Strip Retail Plaza(<40K)	General Urban/Suburban	15,000	s.f.	862	431	431	38	23	15	104	52	52
565	Day Care Center	General Urban/Suburban	15,150	s.f.	722	361	361	167	89	78	168	79	89
GROSS TRIPS					**4,506**	**2,253**	**2,253**	**365**	**150**	**215**	**483**	**264**	**219**

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Highway 43 WB Ramps at Industrial Park Road

AM PEAK HOUR

	Eastbound				Highway 43 WB Ramps Westbound				Industrial Park Road Northbound				Industrial Park Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes						**317**		**23**			**259**	**43**	**1**	**62**	**331**		**1036**
Existing Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Conflicting Pedestrians						0		0				0		0			
Heavy Vehicles						11		0			30	1		7	17		
Heavy Vehicle %	2	2	2	2	2	3	2	2	2	2	12	2	2	11	5	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor (Build-Out)	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips (Build-Out)	0	0	0	0	0	24	0	2	0	0	20	3	0	5	25	0	79
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	0	0	10	0	0	0	0	41	10	0	0	42	0	103
Steadfast Hampshire Pike Distribution IN						50%									50%		
Steadfast Hampshire Pike Distribution OUT											50%	50%					
Steadfast Hampshire Pike Trips	0	0	0	0	0	16	0	0	0	0	26	27	0	0	16	0	85
Williamsport Pike Distribution IN						50%									50%		
Williamsport Pike Distribution OUT											50%	50%					
Williamsport Pike Trips	0	0	0	0	0	7	0	0	0	0	4	3	0	0	7	0	20
No-Build 2026 AM Volumes	**0**	**0**	**0**	**0**	**0**	**374**	**0**	**25**	**0**	**0**	**350**	**86**	**1**	**67**	**421**	**0**	**1323**
Project Traffic																	
Trip Distribution IN						45%											
Trip Distribution OUT												25%					
Project Trips	0	0	0	0	0	24	0	0	0	0	0	32	0	0	0	0	56
Build 2026 AM Volumes	**0**	**0**	**0**	**0**	**0**	**398**	**0**	**25**	**0**	**0**	**350**	**118**	**1**	**67**	**421**	**0**	**1379**
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	79.7%	0.0%	92.0%	0.0%	0.0%	74.0%	36.4%	100.0%	92.5%	78.7%	0.0%	75.1%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	8.0%	0.0%	0.0%	26.0%	36.4%	0.0%	7.5%	21.3%	0.0%	20.8%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.1%	0.0%	0.0%	0.0%	0.0%	4.1%

PM PEAK HOUR

	Eastbound				Highway 43 WB Ramps Westbound				Industrial Park Road Northbound				Industrial Park Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes						**232**		**10**			**362**	**146**		**131**	**302**		**1183**
Existing Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Conflicting Pedestrians						0		0				0		0			
Heavy Vehicles						7		0			18	5		6	4		
Heavy Vehicle %	2	2	2	2	2	3	2	2	2	2	5	3	2	5	2	2	
Background Traffic																	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips	0	0	0	0	0	18	0	1	0	0	28	11	0	10	23	0	91
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	0	0	10	0	0	0	0	41	10	0	0	42	0	103
Steadfast Hampshire Pike Distribution IN						50%									50%		
Steadfast Hampshire Pike Distribution OUT											50%	50%					
Steadfast Hampshire Pike Trips	0	0	0	0	0	45	0	0	0	0	15	14	0	0	45	0	119
Williamsport Pike Distribution IN						50%									50%		
Williamsport Pike Distribution OUT											50%	50%					
Williamsport Pike Trips	0	0	0	0	0	17	0	0	0	0	4	3	0	0	17	0	40.95
No-Build 2026 PM Volumes	**0**	**0**	**0**	**0**	**0**	**322**	**0**	**11**	**0**	**0**	**449**	**184**	**0**	**141**	**429**	**0**	**1537**
Project Traffic																	
Trip Distribution IN						45%											
Trip Distribution OUT												25%					
Project Trips	0	0	0	0	0	68	0	0	0	0	0	24	0	0	0	0	92
Build 2026 PM Volumes	**0**	**0**	**0**	**0**	**0**	**390**	**0**	**11**	**0**	**0**	**449**	**208**	**0**	**141**	**429**	**0**	**1629**
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	59.4%	0.0%	90.9%	0.0%	0.0%	80.6%	70.2%	0.0%	92.9%	70.3%	0.0%	72.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	23.2%	0.0%	9.1%	0.0%	0.0%	19.4%	18.3%	0.0%	7.1%	29.7%	0.0%	21.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	17.4%	0.0%	0.0%	0.0%	0.0%	0.0%	11.5%	0.0%	0.0%	0.0%	0.0%	5.6%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 2

Highway 43 EB Ramps at Industrial Park Road

AM PEAK HOUR

	Highway 43 EB Ramps Eastbound				- Westbound				Industrial Park Road Northbound				Industrial Park Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes		**78**		**319**						**148**	**223**				**626**	**23**	**1417**
Existing Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
Conflicting Pedestrians		0		0						0						0	
Heavy Vehicles		14		5						12	28				26	4	
Heavy Vehicle %	2	18	2	2	2	2	2	2	2	8	13	2	2	2	4	17	
Background Traffic																	
Annual Growth Rate (Build-Out)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor (Build-Out)	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips (Build-Out)	0	6	0	25	0	0	0	0	0	11	17	0	0	0	48	2	109
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	11	0	0	0	0	0	11	51	0	0	0	52	0	125
Steadfast Hampshire Pike Distribution IN				35%											65%		
Steadfast Hampshire Pike Distribution OUT										65%	35%						
Steadfast Hampshire Pike Trips	0		0	17	0	0	0	0	0	98	53	0	0	0	32	0	200
Williamsport Pike Distribution IN				35%											65%		
Williamsport Pike Distribution OUT										65%	35%						
Williamsport Pike Trips	0	0	0	7	0	0	0	0	0	13	7	0	0	0	14	0	41
No-Build 2026 AM Volumes	**0**	**84**	**0**	**380**	**0**	**0**	**0**	**0**	**0**	**281**	**351**	**0**	**0**	**0**	**772**	**25**	**1892**
Project Traffic																	
Trip Distribution IN				25%											45%		
Trip Distribution OUT										45%	25%						
Project Trips	0	0	0	13	0	0	0	0	0	58	32	0	0	0	24	0	127
Build 2026 AM Volumes	**0**	**84**	**0**	**393**	**0**	**0**	**0**	**0**	**0**	**339**	**383**	**0**	**0**	**0**	**796**	**25**	**2019**
% from Existing (Build-Out)	0.0%	92.9%	0.0%	81.3%	0.0%	0.0%	0.0%	0.0%	0.0%	43.6%	58.2%	0.0%	0.0%	0.0%	78.7%	92.0%	70.2%
% from Background Growth (Build-Out)	0.0%	7.1%	0.0%	15.4%	0.0%	0.0%	0.0%	0.0%	0.0%	39.3%	33.4%	0.0%	0.0%	0.0%	18.3%	8.0%	23.5%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	17.1%	8.4%	0.0%	0.0%	0.0%	3.0%	0.0%	6.3%

PM PEAK HOUR

	Highway 43 EB Ramps Eastbound				- Westbound				Industrial Park Road Northbound				Industrial Park Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes		**57**		**66**						**210**	**414**				**550**	**30**	**1327**
Existing Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Conflicting Pedestrians		0		0						0						0	
Heavy Vehicles		7		5						4	21				13	1	
Heavy Vehicle %	2	12	2	8	2	2	2	2	2	2	5	2	2	2	2	3	
Background Traffic																	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips	0	4	0	5	0	0	0	0	0	16	32	0	0	0	42	2	101
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	10	0	0	0	0	0	11	51	0	0	0	52	0	124
Steadfast Hampshire Pike Distribution IN				35%											65%		
Steadfast Hampshire Pike Distribution OUT										65%	35%						
Steadfast Hampshire Pike Trips	0	0	0	49	0	0	0	0	0	54	29	0	0	0	90	0	222
Williamsport Pike Distribution IN				35%											65%		
Williamsport Pike Distribution OUT										65%	35%						
Williamsport Pike Trips	0	0	0	19	0	0	0	0	0	13	7	0	0	0	34	0	73
No-Build 2026 PM Volumes	**0**	**61**	**0**	**148**	**0**	**0**	**0**	**0**	**0**	**304**	**533**	**0**	**0**	**0**	**769**	**32**	**1847**
Project Traffic																	
Trip Distribution IN				25%											45%		
Trip Distribution OUT										45%	25%						
Project Trips	0	0	0	38	0	0	0	0	0	44	24	0	0	0	68	0	174
Build 2026 PM Volumes	**0**	**61**	**0**	**186**	**0**	**0**	**0**	**0**	**0**	**348**	**557**	**0**	**0**	**0**	**837**	**32**	**2021**
% from Existing (Build-Out)	0.0%	93.4%	0.0%	35.4%	0.0%	0.0%	0.0%	0.0%	0.0%	60.4%	74.3%	0.0%	0.0%	0.0%	65.7%	93.8%	65.7%
% from Background Growth (Build-Out)	0.0%	6.6%	0.0%	44.1%	0.0%	0.0%	0.0%	0.0%	0.0%	27.0%	21.4%	0.0%	0.0%	0.0%	26.1%	6.3%	25.7%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	20.4%	0.0%	0.0%	0.0%	0.0%	0.0%	12.6%	4.3%	0.0%	0.0%	0.0%	8.1%	0.0%	8.6%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 3

James Campbell Blvd at Industrial Park Road

AM PEAK HOUR

	James Campbell Boulevard Eastbound				James Campbell Boulevard Westbound				Industrial Park Road Northbound				Industrial Park Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes		**336**	**213**	**8**	**2**	**0**	**202**	**31**		**3**	**3**	**0**		**118**	**12**	**829**	**1757**
Existing Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles		34	12	0	0	0	9	3		0	3	0		4	1	26	
Heavy Vehicle %	2	10	6	2	2	2	4	10	2	2	100	2	2	3	8	3	
Background Traffic																	
Annual Growth Rate (Build-Out)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor (Build-Out)	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips (Build-Out)	0	26	16	1	0	0	16	2	0	0	0	0	0	9	1	64	135
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	14	63	0	0	0	47	17	0	0	0	0	0	44	0	8	193
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	151	12	0	0	0	6	0	0	0	0	0	0	0	0	49	218
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	20	20	0	0	0	10	0	0	0	0	0	0	0	0	21	71
No-Build 2026 AM Volumes	**0**	**547**	**324**	**9**	**2**	**0**	**281**	**50**	**0**	**3**	**3**	**0**	**0**	**171**	**13**	**971**	**2374**
Project Traffic																	
Trip Distribution IN																70%	
Trip Distribution OUT		70%															
Project Trips	0	90	0	0	0	0	0	0	0	0	0	0	0	0	0	37	127
Build 2026 AM Volumes	**0**	**637**	**324**	**9**	**2**	**0**	**281**	**50**	**0**	**3**	**3**	**0**	**0**	**171**	**13**	**1008**	**2501**
% from Existing (Build-Out)	0.0%	52.7%	65.7%	88.9%	100.0%	0.0%	71.9%	62.0%	0.0%	100.0%	100.0%	0.0%	0.0%	69.0%	92.3%	82.2%	70.3%
% from Background Growth (Build-Out)	0.0%	33.1%	34.3%	11.1%	0.0%	0.0%	28.1%	38.0%	0.0%	0.0%	0.0%	0.0%	0.0%	31.0%	7.7%	14.1%	24.7%
% from Project Trips (Build-Out)	0.0%	14.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	5.1%

PM PEAK HOUR

	James Campbell Boulevard Eastbound				James Campbell Boulevard Westbound				Industrial Park Road Northbound				Industrial Park Road Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes		**567**	**280**	**4**		**1**	**214**	**56**		**7**	**8**	**2**		**67**	**5**	**543**	**1754**
Existing Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles		20	5	0		0	5	4		0	2	0		1	3	14	
Heavy Vehicle %	2	4	2	2	2	2	2	7	2	2	25	2	2	2	60	3	
Background Traffic																	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips	0	44	22	0	0	0	16	4	0	1	1	0	0	5	0	42	135
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	15	61	0	0	0	46	17	0	0	0	0	0	43	0	8	190
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	83	7	0	0	0	12	0	0	0	0	0	0	0	0	139	241
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	20	20	0	0	0	27	0	0	0	0	0	0	0	0	53	120
No-Build 2026 PM Volumes	**0**	**729**	**390**	**4**	**0**	**1**	**315**	**77**	**0**	**8**	**9**	**2**	**0**	**115**	**5**	**785**	**2440**
Project Traffic																	
Trip Distribution IN																70%	
Trip Distribution OUT		70%															
Project Trips	0	68	0	0	0	0	0	0	0	0	0	0	0	0	0	106	174
Build 2026 PM Volumes	**0**	**797**	**390**	**4**	**0**	**1**	**315**	**77**	**0**	**8**	**9**	**2**	**0**	**115**	**5**	**891**	**2614**
% from Existing (Build-Out)	0.0%	71.1%	71.8%	100.0%	0.0%	100.0%	67.9%	72.7%	0.0%	87.5%	88.9%	100.0%	0.0%	58.3%	100.0%	60.9%	67.1%
% from Background Growth (Build-Out)	0.0%	20.3%	28.2%	0.0%	0.0%	0.0%	32.1%	27.3%	0.0%	12.5%	11.1%	0.0%	0.0%	41.7%	0.0%	27.2%	26.2%
% from Project Trips (Build-Out)	0.0%	8.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.9%	6.7%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

James Campbell Blvd at Old Williamsport Pk/Site Driveway 1

AM PEAK HOUR

	Old Williamsport Pike Eastbound				Site Driveway 1 Westbound				James Campbell Boulevard Northbound				James Campbell Boulevard Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	**1**	**18**	**0**	**106**		**12**	**0**	**5**		**17**	**553**	**30**		**21**	**996**	**9**	**1768**
Existing Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	2	0	5		0	0	0		1	39	0		0	34	0	
Heavy Vehicle %	2	11	2	5	2	2	2	2	2	6	7	2	2	2	3	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor (Build-Out)	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips (Build-Out)	0	1	0	8	0	1	0	0	0	1	43	2	0	2	77	1	136
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	0	0	0	0	0	0	0	84	0	0	0	40	0	124
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	81	0	0	0	0	0	0	0	0	82	0	0	0	28	27	218
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	0	0	0	0	0	0	0	0	0	40	0	0	0	31	0	71
No-Build 2026 AM Volumes	**1**	**100**	**0**	**114**	**0**	**13**	**0**	**5**	**0**	**18**	**802**	**32**	**0**	**23**	**1172**	**37**	**2317**
Project Traffic																	
Trip Distribution IN												5%		45%	25%		
Trip Distribution OUT						5%		45%			25%						
Project Trips	0	0	0	0	0	6	0	58	0	0	32	3	0	24	13	0	136
Build 2026 AM Volumes	**1**	**100**	**0**	**114**	**0**	**19**	**0**	**63**	**0**	**18**	**834**	**35**	**0**	**47**	**1185**	**37**	**2453**
% from Existing (Build-Out)	100.0%	18.0%	0.0%	93.0%	0.0%	63.2%	0.0%	7.9%	0.0%	94.4%	66.3%	85.7%	0.0%	44.7%	84.1%	24.3%	72.1%
% from Background Growth (Build-Out)	0.0%	82.0%	0.0%	7.0%	0.0%	5.3%	0.0%	0.0%	0.0%	5.6%	29.9%	5.7%	0.0%	4.3%	14.9%	75.7%	22.4%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	31.6%	0.0%	92.1%	0.0%	0.0%	3.8%	8.6%	0.0%	51.1%	1.1%	0.0%	5.5%

PM PEAK HOUR

	Old Williamsport Pike Eastbound				Site Driveway 1 Westbound				James Campbell Boulevard Northbound				James Campbell Boulevard Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes		**21**	**0**	**34**		**20**	**0**	**20**		**48**	**788**	**17**		**5**	**751**	**23**	**1727**
Existing Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles		0	0	2		1	0	0		3	24	1		0	19	0	
Heavy Vehicle %	2	2	2	6	2	5	2	2	2	6	3	6	2	2	3	2	
Background Traffic																	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips	0	2	0	3	0	2	0	2	0	4	61	1	0	0	58	2	135
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	0	0	0	0	0	0	0	83	0	0	0	40	0	123
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	44	0	0	0	0	0	0	0	0	46	0	0	0	76	75	241
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	0	0	0	0	0	0	0	0	0	40	0	0	0	80	0	120
No-Build 2026 PM Volumes	**0**	**67**	**0**	**37**	**0**	**22**	**0**	**22**	**0**	**52**	**1018**	**18**	**0**	**5**	**1005**	**100**	**2346**
Project Traffic																	
Trip Distribution IN												5%		45%	25%		
Trip Distribution OUT						5%		45%			25%						
Project Trips	0	0	0	0	0	5	0	44	0	0	24	8	0	68	38	0	187
Build 2026 PM Volumes	**0**	**67**	**0**	**37**	**0**	**27**	**0**	**66**	**0**	**52**	**1042**	**26**	**0**	**73**	**1043**	**100**	**2533**
% from Existing (Build-Out)	0.0%	31.3%	0.0%	91.9%	0.0%	74.1%	0.0%	30.3%	0.0%	92.3%	75.6%	65.4%	0.0%	6.8%	72.0%	23.0%	68.2%
% from Background Growth (Build-Out)	0.0%	68.7%	0.0%	8.1%	0.0%	7.4%	0.0%	3.0%	0.0%	7.7%	22.1%	3.8%	0.0%	0.0%	24.4%	77.0%	24.4%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	18.5%	0.0%	66.7%	0.0%	0.0%	2.3%	30.8%	0.0%	93.2%	3.6%	0.0%	7.4%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 5

James Campbell Blvd at Medical Plaza Driveway/Site Driveway 2

AM PEAK HOUR

	Medical Plaza Driveway Eastbound				Site Driveway 2 Westbound				James Campbell Boulevard Northbound				James Campbell Boulevard Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes		**3**	**0**	**5**		**0**	**0**	**0**		**48**	**594**	**0**	**1**	**0**	**1055**	**65**	**1771**
Existing Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles		0	0	0		0	0	0		0	40	0	0	0	38	1	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	7	2	2	2	4	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor (Build-Out)	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	4	46	0	0	0	81	5	136
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	0	0	0	0	0	0	0	84	0	0	0	40	0	124
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	0	0	0	0	0	0	0	0	0	82	0	0	0	28	0	110
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	0	0	0	0	0	0	0	0	0	40	0	0	0	31	0	71
No-Build 2026 AM Volumes	**0**	**3**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**52**	**846**	**0**	**1**	**0**	**1235**	**70**	**2212**
Project Traffic																	
Trip Distribution IN											5%	25%		25%			
Trip Distribution OUT						25%		25%							5%		
Project Trips	0	0	0	0	0	32	0	32	0	0	3	13	0	13	6	0	99
Build 2026 AM Volumes	**0**	**3**	**0**	**5**	**0**	**32**	**0**	**32**	**0**	**52**	**849**	**13**	**1**	**13**	**1241**	**70**	**2311**
% from Existing (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.3%	70.0%	0.0%	100.0%	0.0%	85.0%	92.9%	76.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	29.7%	0.0%	0.0%	0.0%	14.5%	7.1%	19.1%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.4%	100.0%	0.0%	100.0%	0.5%	0.0%	4.3%

PM PEAK HOUR

	Medical Plaza Driveway Eastbound				Site Driveway 2 Westbound				James Campbell Boulevard Northbound				James Campbell Boulevard Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes		**27**	**0**	**51**		**0**	**0**	**0**	**2**	**23**	**818**	**0**	**1**	**0**	**794**	**16**	**1732**
Existing Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles		1	0	0		0	0	0	0	1	24	0	0	0	22	0	
Heavy Vehicle %	2	4	2	2	2	2	2	2	2	4	3	2	2	2	3	2	
Background Traffic																	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips	0	2	0	4	0	0	0	0	0	2	63	0	0	0	61	1	133
Columbia Fuel Station Distribution IN																	
Columbia Fuel Station Distribution OUT																	
Columbia Fuel Station Trips	0	0	0	0	0	0	0	0	0	0	83	0	0	0	40	0	123
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	0	0	0	0	0	0	0	0	0	46	0	0	0	76	0	122
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	0	0	0	0	0	0	0	0	0	40	0	0	0	80	0	120
No-Build 2026 PM Volumes	**0**	**29**	**0**	**55**	**0**	**0**	**0**	**0**	**2**	**25**	**1050**	**0**	**1**	**0**	**1051**	**17**	**2230**
Project Traffic																	
Trip Distribution IN											5%	25%		25%			
Trip Distribution OUT						25%		25%							5%		
Project Trips	0	0	0	0	0	24	0	24	0	0	8	38	0	38	5	0	137
Build 2026 PM Volumes	**0**	**29**	**0**	**55**	**0**	**24**	**0**	**24**	**2**	**25**	**1058**	**38**	**1**	**38**	**1056**	**17**	**2367**
% from Existing (Build-Out)	0.0%	93.1%	0.0%	92.7%	0.0%	0.0%	0.0%	0.0%	100.0%	92.0%	77.3%	0.0%	100.0%	0.0%	75.2%	94.1%	73.2%
% from Background Growth (Build-Out)	0.0%	6.9%	0.0%	7.3%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	21.9%	0.0%	0.0%	0.0%	24.3%	5.9%	21.0%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.8%	100.0%	0.0%	100.0%	0.5%	0.0%	5.8%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 6

James Campbell Blvd at Hampshire Pk

AM PEAK HOUR

	Hampshire Pike Eastbound				Hampshire Pike Westbound				James Campbell Boulevard Northbound				James Campbell Boulevard Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 AM Volumes	**1**	**180**	**264**	**202**		**100**	**185**	**94**	**2**	**147**	**392**	**93**	**3**	**213**	**630**	**185**	**2691**
Existing Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	13	8	8		5	9	3	0	8	29	5	0	8	24	4	
Heavy Vehicle %	2	7	3	4	2	5	5	3	2	5	7	5	2	4	4	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor (Build-Out)	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips (Build-Out)	0	14	20	16	0	8	14	7	0	11	30	7	0	16	49	14	206
Columbia Fuel Station Distribution IN		15%						35%			50%						
Columbia Fuel Station Distribution OUT														35%	50%	15%	
Columbia Fuel Station Trips	0	13	0	0	0	0	0	29	0	0	42	0	0	14	20	6	124
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	82	25	24	0	0	16	0	0	11	0	0	0	0	0	28	186
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	40	30	20	0	0	14	0	0	11	0	0	0	0	0	31	146
No-Build 2026 AM Volumes	**1**	**329**	**339**	**262**	**0**	**108**	**229**	**130**	**2**	**180**	**464**	**100**	**3**	**243**	**699**	**264**	**3353**
Project Traffic																	
Trip Distribution IN		5%						10%			15%						
Trip Distribution OUT														10%	15%	5%	
Project Trips	0	3	0	0	0	0	0	5	0	0	8	0	0	13	19	6	54
Build 2026 AM Volumes	**1**	**332**	**339**	**262**	**0**	**108**	**229**	**135**	**2**	**180**	**472**	**100**	**3**	**256**	**718**	**270**	**3407**
% from Existing (Build-Out)	100.0%	54.3%	77.9%	77.1%	0.0%	92.6%	80.8%	69.4%	100.0%	81.7%	83.1%	93.0%	100.0%	83.2%	87.7%	68.5%	79.0%
% from Background Growth (Build-Out)	0.0%	44.8%	22.1%	22.9%	0.0%	7.4%	19.2%	26.9%	0.0%	18.3%	15.3%	7.0%	0.0%	11.7%	9.6%	29.3%	19.4%
% from Project Trips (Build-Out)	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%	1.7%	0.0%	0.0%	5.1%	2.6%	2.2%	1.6%

PM PEAK HOUR

	Hampshire Pike Eastbound				Hampshire Pike Westbound				James Campbell Boulevard Northbound				James Campbell Boulevard Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2023 PM Volumes		**173**	**228**	**173**		**78**	**231**	**143**	**3**	**231**	**563**	**91**		**132**	**515**	**147**	**2708**
Existing Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles		9	10	11		3	7	5	0	4	25	6		5	18	2	
Heavy Vehicle %	2	5	4	6	2	4	3	3	2	2	4	7	2	4	3	2	
Background Traffic																	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Growth Factor	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	1.077	
Growth Trips	0	13	18	13	0	6	18	11	0	18	43	7	0	10	40	11	208
Columbia Fuel Station Distribution IN		15%						35%			50%						
Columbia Fuel Station Distribution OUT														35%	50%	15%	
Columbia Fuel Station Trips	0	12	0	0	0	0	0	29	0	0	42	0	0	14	20	6	123
Steadfast Hampshire Pike Distribution IN																	
Steadfast Hampshire Pike Distribution OUT																	
Steadfast Hampshire Pike Trips	0	46	17	14	0	0	23	0	0	22	0	0	0	0	0	76	198
Williamsport Pike Distribution IN																	
Williamsport Pike Distribution OUT																	
Williamsport Pike Trips	0	40	30	20	0	0	40	0	0	27	0	0	0	0	0	80	237
No-Build 2026 PM Volumes	**0**	**284**	**293**	**220**	**0**	**84**	**312**	**183**	**3**	**298**	**648**	**98**	**0**	**156**	**575**	**320**	**3474**
Project Traffic																	
Trip Distribution IN		5%						10%			15%						
Trip Distribution OUT														10%	15%	5%	
Project Trips	0	8	0	0	0	0	0	15	0	0	23	0	0	10	15	5	76
Build 2026 PM Volumes	**0**	**292**	**293**	**220**	**0**	**84**	**312**	**198**	**3**	**298**	**671**	**98**	**0**	**166**	**590**	**325**	**3550**
% from Existing (Build-Out)	0.0%	59.2%	77.8%	78.6%	0.0%	92.9%	74.0%	72.2%	100.0%	77.5%	84.0%	92.9%	0.0%	79.5%	87.3%	45.2%	76.3%
% from Background Growth (Build-Out)	0.0%	38.1%	22.2%	21.4%	0.0%	7.1%	26.0%	20.2%	0.0%	22.5%	12.6%	7.1%	0.0%	14.5%	10.2%	53.2%	21.6%
% from Project Trips (Build-Out)	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	7.6%	0.0%	0.0%	3.4%	0.0%	0.0%	6.0%	2.5%	1.5%	2.1%

APPENDIX D

Synchro Reports



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	317	23	259	43	63	331
Future Volume (veh/h)	317	23	259	43	63	331
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1870	1722	1870	1737	1826
Adj Flow Rate, veh/h	360	26	294	49	72	376
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	2	12	2	11	5
Cap, veh/h	373	27	632	105	512	1096
Arrive On Green	0.23	0.23	0.44	0.44	0.08	0.60
Sat Flow, veh/h	1631	118	1439	240	1654	1826
Grp Volume(v), veh/h	387	0	0	343	72	376
Grp Sat Flow(s),veh/h/ln	1753	0	0	1679	1654	1826
Q Serve(g_s), s	15.3	0.0	0.0	10.1	1.5	7.3
Cycle Q Clear(g_c), s	15.3	0.0	0.0	10.1	1.5	7.3
Prop In Lane	0.93	0.07		0.14	1.00	
Lane Grp Cap(c), veh/h	401	0	0	737	512	1096
V/C Ratio(X)	0.97	0.00	0.00	0.47	0.14	0.34
Avail Cap(c_a), veh/h	401	0	0	737	671	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	0.0	13.8	8.8	7.1
Incr Delay (d2), s/veh	36.0	0.0	0.0	2.1	0.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	0.0	0.0	3.6	0.4	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.7	0.0	0.0	16.0	8.9	7.9
LnGrp LOS	E	A	A	B	A	A
Approach Vol, veh/h	387		343			448
Approach Delay, s/veh	62.7		16.0			8.1
Approach LOS	E		B			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.3	36.7		22.0		48.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	12.0	24.0		16.0		42.0
Max Q Clear Time (g_c+I1), s	3.5	12.1		17.3		9.3
Green Ext Time (p_c), s	0.1	1.4		0.0		2.2

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

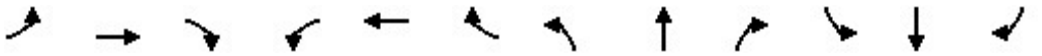
Intersection	
Int Delay, s/veh	50.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	319	148	223	626	23
Future Vol, veh/h	78	319	148	223	626	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	18	2	8	13	4	17
Mvmt Flow	91	371	172	259	728	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1345	742	755	0	-	0
Stage 1	742	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Critical Hdwy	6.58	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.58	-	-	-	-	-
Critical Hdwy Stg 2	5.58	-	-	-	-	-
Follow-up Hdwy	3.662	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	154	416	829	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	416	829	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	176	4.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	829	-	361	-	-
HCM Lane V/C Ratio	0.208	-	1.279	-	-
HCM Control Delay (s)	10.5	-	176	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.8	-	20.9	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	336	213	8	2	202	31	3	3	0	118	12	829
Future Volume (veh/h)	336	213	8	2	202	31	3	3	0	118	12	829
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1811	1870	1870	1841	1752	1870	418	1870	1856	1781	1856
Adj Flow Rate, veh/h	415	263	10	2	249	38	4	4	0	0	0	1189
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	10	6	2	2	4	10	2	100	2	3	8	3
Cap, veh/h	752	2252	85	41	1414	211	74	25	0	0	384	1130
Arrive On Green	0.14	0.67	0.67	0.47	0.47	0.47	0.22	0.22	0.00	0.00	0.00	0.22
Sat Flow, veh/h	1668	3380	128	3	2984	446	76	117	0	0	1781	3145
Grp Volume(v), veh/h	415	133	140	153	0	136	8	0	0	0	0	1189
Grp Sat Flow(s),veh/h/ln	1668	1721	1788	1838	0	1595	193	0	0	0	1781	1572
Q Serve(g_s), s	11.1	2.6	2.6	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	20.0
Cycle Q Clear(g_c), s	11.1	2.6	2.6	4.4	0.0	4.5	1.4	0.0	0.0	0.0	0.0	20.0
Prop In Lane	1.00		0.07	0.01		0.28	0.50		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	752	1146	1191	910	0	756	100	0	0	0	384	1130
V/C Ratio(X)	0.55	0.12	0.12	0.17	0.00	0.18	0.08	0.00	0.00	0.00	0.00	1.05
Avail Cap(c_a), veh/h	881	1146	1191	910	0	756	100	0	0	0	384	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	5.6	5.6	14.0	0.0	14.0	29.1	0.0	0.0	0.0	0.0	29.8
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.4	0.0	0.5	0.1	0.0	0.0	0.0	0.0	41.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.8	0.8	1.8	0.0	1.6	0.1	0.0	0.0	0.0	0.0	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	5.8	5.8	14.4	0.0	14.6	29.3	0.0	0.0	0.0	0.0	71.5
LnGrp LOS	A	A	A	B	A	B	C	A	A	A	A	F
Approach Vol, veh/h		688			289			8			1189	
Approach Delay, s/veh		7.5			14.5			29.3			71.5	
Approach LOS		A			B			C			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	17.8	50.0		25.0		67.8		25.0				
Change Period (Y+Rc), s	4.5	6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s	20.5	44.0		18.0		44.0		20.0				
Max Q Clear Time (g_c+I1), s	13.1	6.5		3.4		4.6		22.0				
Green Ext Time (p_c), s	0.3	4.3		0.0		3.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		43.5	
HCM 6th LOS		D	

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	0	106	12	0	5	17	553	30	21	996	9
Future Vol, veh/h	19	0	106	12	0	5	17	553	30	21	996	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	135	-	-	150	135	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	11	2	5	2	2	2	6	7	2	2	3	2
Mvmt Flow	22	0	122	14	0	6	20	636	34	24	1145	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1556	1908	578	1297	1879	318	1155	0	0	670	0	0
Stage 1	1198	1198	-	676	676	-	-	-	-	-	-	-
Stage 2	358	710	-	621	1203	-	-	-	-	-	-	-
Critical Hdwy	7.72	6.54	7	7.54	6.54	6.94	4.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.72	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.72	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.61	4.02	3.35	3.52	4.02	3.32	2.26	-	-	2.22	-	-
Pot Cap-1 Maneuver	70	68	452	119	71	678	578	-	-	916	-	-
Stage 1	183	257	-	409	451	-	-	-	-	-	-	-
Stage 2	608	435	-	442	256	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	65	63	452	82	65	678	578	-	-	916	-	-
Mov Cap-2 Maneuver	140	166	-	189	162	-	-	-	-	-	-	-
Stage 1	173	250	-	387	426	-	-	-	-	-	-	-
Stage 2	570	411	-	314	249	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	21.1	0.6	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	578	-	-	140	452	189	678	916	-	-
HCM Lane V/C Ratio	0.034	-	-	0.156	0.27	0.073	0.008	0.026	-	-
HCM Control Delay (s)	11.4	0.3	-	35.4	15.9	25.5	10.4	9	-	-
HCM Lane LOS	B	A	-	E	C	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.1	0.2	0	0.1	-	-

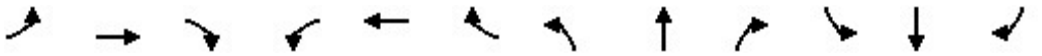
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	5	0	0	0	48	594	0	1	1055	65
Future Vol, veh/h	3	0	5	0	0	0	48	594	0	1	1055	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	230	-	-	-	-	200
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	7	2	2	4	2
Mvmt Flow	3	0	6	0	0	0	55	683	0	1	1213	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1667	2008	607	1402	2083	342	1288	0	0	683	0	0
Stage 1	1215	1215	-	793	793	-	-	-	-	-	-	-
Stage 2	452	793	-	609	1290	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	63	59	439	100	52	654	534	-	-	906	-	-
Stage 1	192	252	-	348	398	-	-	-	-	-	-	-
Stage 2	557	398	-	449	232	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	58	53	439	91	46	654	534	-	-	906	-	-
Mov Cap-2 Maneuver	136	158	-	198	126	-	-	-	-	-	-	-
Stage 1	172	251	-	312	357	-	-	-	-	-	-	-
Stage 2	500	357	-	441	231	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.4	0	0.9	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	534	-	-	136	439	-	906	-	-
HCM Lane V/C Ratio	0.103	-	-	0.025	0.013	-	0.001	-	-
HCM Control Delay (s)	12.5	-	-	32.2	13.3	0	9	0	-
HCM Lane LOS	B	-	-	D	B	A	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	0	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	264	202	100	185	94	149	392	93	216	630	185
Future Volume (veh/h)	181	264	202	100	185	94	149	392	93	216	630	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1856	1841	1826	1826	1856	1826	1796	1826	1841	1841	1870
Adj Flow Rate, veh/h	203	297	227	112	208	106	167	440	104	243	708	208
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	3	4	5	5	3	5	7	5	4	4	2
Cap, veh/h	487	349	267	246	562	484	199	680	308	293	918	416
Arrive On Green	0.11	0.36	0.36	0.06	0.31	0.31	0.11	0.20	0.20	0.17	0.26	0.26
Sat Flow, veh/h	1711	976	746	1739	1826	1572	1739	3413	1547	1753	3497	1585
Grp Volume(v), veh/h	203	0	524	112	208	106	167	440	104	243	708	208
Grp Sat Flow(s),veh/h/ln	1711	0	1721	1739	1826	1572	1739	1706	1547	1753	1749	1585
Q Serve(g_s), s	7.4	0.0	27.5	4.3	8.7	4.9	9.2	11.6	5.6	13.1	18.3	10.9
Cycle Q Clear(g_c), s	7.4	0.0	27.5	4.3	8.7	4.9	9.2	11.6	5.6	13.1	18.3	10.9
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	487	0	615	246	562	484	199	680	308	293	918	416
V/C Ratio(X)	0.42	0.00	0.85	0.46	0.37	0.22	0.84	0.65	0.34	0.83	0.77	0.50
Avail Cap(c_a), veh/h	734	0	615	583	839	723	444	1568	711	430	1607	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	29.1	23.8	26.5	25.1	42.5	36.0	33.7	39.4	33.4	30.6
Incr Delay (d2), s/veh	2.1	0.0	13.9	0.5	0.2	0.1	3.6	1.0	0.6	19.3	1.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	12.9	1.7	3.6	1.7	4.0	4.7	2.1	6.9	7.5	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	43.0	24.3	26.6	25.2	46.1	37.1	34.3	58.7	34.8	31.6
LnGrp LOS	C	A	D	C	C	C	D	D	C	E	C	C
Approach Vol, veh/h		727			426			711			1159	
Approach Delay, s/veh		36.7			25.7			38.8			39.2	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	40.0	22.4	24.5	15.9	35.2	16.2	30.7
Change Period (Y+Rc), s	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	24.0	45.0	25.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	6.3	29.5	15.1	13.6	9.4	10.7	11.2	20.3
Green Ext Time (p_c), s	0.1	1.3	1.3	3.1	1.5	0.8	0.1	5.4

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	232	10	362	146	131	302
Future Volume (veh/h)	232	10	362	146	131	302
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1870	1826	1856	1826	1870
Adj Flow Rate, veh/h	249	11	389	157	141	325
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	2	5	3	5	2
Cap, veh/h	297	13	557	225	447	1197
Arrive On Green	0.18	0.18	0.45	0.45	0.10	0.64
Sat Flow, veh/h	1677	74	1237	499	1739	1870
Grp Volume(v), veh/h	261	0	0	546	141	325
Grp Sat Flow(s),veh/h/ln	1758	0	0	1736	1739	1870
Q Serve(g_s), s	9.4	0.0	0.0	16.6	2.4	5.0
Cycle Q Clear(g_c), s	9.4	0.0	0.0	16.6	2.4	5.0
Prop In Lane	0.95	0.04		0.29	1.00	
Lane Grp Cap(c), veh/h	312	0	0	781	447	1197
V/C Ratio(X)	0.84	0.00	0.00	0.70	0.32	0.27
Avail Cap(c_a), veh/h	429	0	0	781	594	1197
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	0.0	14.5	9.5	5.2
Incr Delay (d2), s/veh	10.1	0.0	0.0	5.2	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	6.3	0.7	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.2	0.0	0.0	19.6	9.9	5.7
LnGrp LOS	D	A	A	B	A	A
Approach Vol, veh/h	261		546			466
Approach Delay, s/veh	36.2		19.6			7.0
Approach LOS	D		B			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.5	35.5		17.6		48.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	12.0	24.0		16.0		42.0
Max Q Clear Time (g_c+I1), s	4.4	18.6		11.4		7.0
Green Ext Time (p_c), s	0.2	1.6		0.3		1.8

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

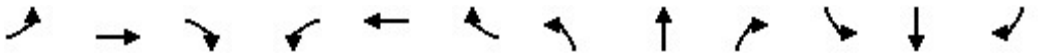
Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	66	210	414	550	30
Future Vol, veh/h	57	66	210	414	550	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	12	8	2	5	2	3
Mvmt Flow	60	69	221	436	579	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1473	595	611	0	-	0
Stage 1	595	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Critical Hdwy	6.52	6.28	4.12	-	-	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-	-
Follow-up Hdwy	3.608	3.372	2.218	-	-	-
Pot Cap-1 Maneuver	133	493	968	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	493	968	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.7	3.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	968	-	222	-	-
HCM Lane V/C Ratio	0.228	-	0.583	-	-
HCM Control Delay (s)	9.8	-	41.7	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.9	-	3.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	567	280	4	1	214	56	7	8	2	67	5	543
Future Volume (veh/h)	567	280	4	1	214	56	7	8	2	67	5	543
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1870	1870	1870	1870	1796	1870	1530	1870	1870	1011	1856
Adj Flow Rate, veh/h	591	292	4	1	223	58	7	8	2	0	0	644
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	2	2	2	2	7	2	25	2	2	60	3
Cap, veh/h	854	2508	34	39	1270	321	115	110	23	0	188	1181
Arrive On Green	0.19	0.70	0.70	0.46	0.46	0.46	0.19	0.19	0.19	0.00	0.00	0.19
Sat Flow, veh/h	1753	3589	49	1	2750	695	333	592	123	0	1011	3145
Grp Volume(v), veh/h	591	144	152	150	0	132	17	0	0	0	0	644
Grp Sat Flow(s),veh/h/ln	1753	1777	1862	1869	0	1577	1048	0	0	0	1011	1572
Q Serve(g_s), s	15.9	2.5	2.5	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	15.3
Cycle Q Clear(g_c), s	15.9	2.5	2.5	4.5	0.0	4.7	0.9	0.0	0.0	0.0	0.0	15.3
Prop In Lane	1.00		0.03	0.01		0.44	0.41		0.12	0.00		1.00
Lane Grp Cap(c), veh/h	854	1242	1301	901	0	728	248	0	0	0	188	1181
V/C Ratio(X)	0.69	0.12	0.12	0.17	0.00	0.18	0.07	0.00	0.00	0.00	0.00	0.55
Avail Cap(c_a), veh/h	899	1242	1301	901	0	728	251	0	0	0	212	1257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	4.7	4.7	15.0	0.0	15.1	31.9	0.0	0.0	0.0	0.0	23.4
Incr Delay (d2), s/veh	1.7	0.2	0.2	0.4	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.8	0.8	1.8	0.0	1.6	0.3	0.0	0.0	0.0	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.0	4.9	4.9	15.4	0.0	15.6	32.0	0.0	0.0	0.0	0.0	23.5
LnGrp LOS	A	A	A	B	A	B	C	A	A	A	A	C
Approach Vol, veh/h		887			282			17			644	
Approach Delay, s/veh		8.3			15.5			32.0			23.5	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	22.6	50.0		22.7		72.6		22.7				
Change Period (Y+Rc), s	4.5	6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s	20.5	44.0		18.0		44.0		20.0				
Max Q Clear Time (g_c+I1), s	17.9	6.7		2.9		4.5		17.3				
Green Ext Time (p_c), s	0.2	4.2		0.0		3.3		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		15.0	
HCM 6th LOS		B	

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	34	20	0	20	48	788	17	5	751	23
Future Vol, veh/h	21	0	34	20	0	20	48	788	17	5	751	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	135	-	-	150	135	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	6	5	2	2	6	3	6	2	3	2
Mvmt Flow	23	0	37	22	0	22	53	866	19	5	825	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1387	1839	425	1395	1832	433	850	0	0	885	0	0
Stage 1	848	848	-	972	972	-	-	-	-	-	-	-
Stage 2	539	991	-	423	860	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	7.02	7.6	6.54	6.94	4.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.36	3.55	4.02	3.32	2.26	-	-	2.22	-	-
Pot Cap-1 Maneuver	102	75	567	98	75	571	759	-	-	760	-	-
Stage 1	322	376	-	265	329	-	-	-	-	-	-	-
Stage 2	494	322	-	571	371	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	64	567	81	64	571	759	-	-	760	-	-
Mov Cap-2 Maneuver	188	172	-	172	165	-	-	-	-	-	-	-
Stage 1	278	373	-	228	284	-	-	-	-	-	-	-
Stage 2	409	278	-	530	368	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.5	20.3	1.1	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	759	-	-	188	567	172	571	760	-	-
HCM Lane V/C Ratio	0.069	-	-	0.123	0.066	0.128	0.038	0.007	-	-
HCM Control Delay (s)	10.1	0.6	-	26.8	11.8	29	11.6	9.8	-	-
HCM Lane LOS	B	A	-	D	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.2	0.4	0.1	0	-	-

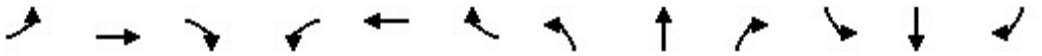
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	0	51	0	0	0	25	818	0	1	794	16
Future Vol, veh/h	27	0	51	0	0	0	25	818	0	1	794	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	230	-	-	-	-	200
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	2	2	2	2	2	4	3	2	2	3	2
Mvmt Flow	30	0	56	0	0	0	27	899	0	1	873	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1379	1828	437	1392	1846	450	891	0	0	899	0	0
Stage 1	875	875	-	953	953	-	-	-	-	-	-	-
Stage 2	504	953	-	439	893	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.54	6.94	7.54	6.54	6.94	4.18	-	-	4.14	-	-
Critical Hdwy Stg 1	6.58	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.02	3.32	3.52	4.02	3.32	2.24	-	-	2.22	-	-
Pot Cap-1 Maneuver	102	76	567	101	74	556	744	-	-	751	-	-
Stage 1	306	365	-	278	336	-	-	-	-	-	-	-
Stage 2	513	336	-	567	358	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	73	567	88	71	556	744	-	-	751	-	-
Mov Cap-2 Maneuver	210	189	-	193	182	-	-	-	-	-	-	-
Stage 1	295	364	-	268	324	-	-	-	-	-	-	-
Stage 2	494	324	-	509	357	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	0	0.3	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	744	-	-	210	567	-	751	-	-
HCM Lane V/C Ratio	0.037	-	-	0.141	0.099	-	0.001	-	-
HCM Control Delay (s)	10	-	-	24.9	12	0	9.8	0	-
HCM Lane LOS	B	-	-	C	B	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.3	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	228	173	78	231	143	234	563	91	132	515	147
Future Volume (veh/h)	173	228	173	78	231	143	234	563	91	132	515	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1811	1841	1856	1856	1870	1841	1796	1841	1856	1870
Adj Flow Rate, veh/h	180	238	180	81	241	149	244	586	95	138	536	153
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	4	6	4	3	3	2	4	7	4	3	2
Cap, veh/h	465	366	277	324	599	508	279	867	377	183	728	327
Arrive On Green	0.10	0.38	0.38	0.05	0.32	0.32	0.16	0.25	0.25	0.10	0.21	0.21
Sat Flow, veh/h	1739	973	736	1753	1856	1572	1781	3497	1522	1753	3526	1585
Grp Volume(v), veh/h	180	0	418	81	241	149	244	586	95	138	536	153
Grp Sat Flow(s),veh/h/ln	1739	0	1708	1753	1856	1572	1781	1749	1522	1753	1763	1585
Q Serve(g_s), s	6.0	0.0	18.8	2.8	9.4	6.6	12.5	14.1	4.7	7.1	13.2	7.9
Cycle Q Clear(g_c), s	6.0	0.0	18.8	2.8	9.4	6.6	12.5	14.1	4.7	7.1	13.2	7.9
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	0	642	324	599	508	279	867	377	183	728	327
V/C Ratio(X)	0.39	0.00	0.65	0.25	0.40	0.29	0.87	0.68	0.25	0.75	0.74	0.47
Avail Cap(c_a), veh/h	760	0	642	714	897	760	478	1691	736	452	1704	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	24.0	20.6	24.5	23.6	38.4	31.6	28.1	40.5	34.6	32.4
Incr Delay (d2), s/veh	1.9	0.0	5.1	0.1	0.2	0.1	4.1	0.9	0.3	20.1	1.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	7.9	1.1	3.9	2.3	5.5	5.7	1.6	4.0	5.5	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	0.0	29.1	20.7	24.7	23.7	42.5	32.6	28.4	60.6	36.0	33.5
LnGrp LOS	B	A	C	C	C	C	D	C	C	E	D	C
Approach Vol, veh/h		598			471			925			827	
Approach Delay, s/veh		26.0			23.7			34.8			39.7	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	40.0	15.7	28.1	14.2	35.1	19.6	24.2
Change Period (Y+Rc), s	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	24.0	45.0	25.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	4.8	20.8	9.1	16.1	8.0	11.4	14.5	15.2
Green Ext Time (p_c), s	0.0	1.7	0.9	4.1	1.3	1.0	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	374	25	350	86	68	421
Future Volume (veh/h)	374	25	350	86	68	421
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1870	1722	1870	1737	1826
Adj Flow Rate, veh/h	425	28	398	98	77	478
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	2	12	2	11	5
Cap, veh/h	454	30	730	180	391	1164
Arrive On Green	0.28	0.28	0.37	0.37	0.05	0.64
Sat Flow, veh/h	1642	108	1334	329	1654	1826
Grp Volume(v), veh/h	454	0	0	496	77	478
Grp Sat Flow(s),veh/h/ln	1754	0	0	1663	1654	1826
Q Serve(g_s), s	35.4	0.0	0.0	33.0	2.7	18.0
Cycle Q Clear(g_c), s	35.4	0.0	0.0	33.0	2.7	18.0
Prop In Lane	0.94	0.06		0.20	1.00	
Lane Grp Cap(c), veh/h	485	0	0	910	391	1164
V/C Ratio(X)	0.94	0.00	0.00	0.54	0.20	0.41
Avail Cap(c_a), veh/h	651	0	0	910	395	1164
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.55	1.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	30.5	16.0	12.4
Incr Delay (d2), s/veh	17.7	0.0	0.0	1.3	0.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	0.0	0.0	14.1	1.0	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.1	0.0	0.0	31.8	16.3	13.5
LnGrp LOS	E	A	A	C	B	B
Approach Vol, veh/h	454		496			555
Approach Delay, s/veh	67.1		31.8			13.9
Approach LOS	E		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.6	82.6		44.7		95.3
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	7.0	63.0		52.0		76.0
Max Q Clear Time (g_c+I1), s	4.7	35.0		37.4		20.0
Green Ext Time (p_c), s	0.0	3.1		1.3		3.0

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	380	281	351	772	25
Future Volume (veh/h)	84	380	281	351	772	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1633	1870	1781	1707	1841	1648
Adj Flow Rate, veh/h	98	163	327	408	898	27
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	18	2	8	13	4	17
Cap, veh/h	106	176	353	1263	1038	31
Arrive On Green	0.20	0.20	0.12	0.74	0.58	0.58
Sat Flow, veh/h	540	899	1697	1707	1778	53
Grp Volume(v), veh/h	262	0	327	408	0	925
Grp Sat Flow(s),veh/h/ln	1444	0	1697	1707	0	1831
Q Serve(g_s), s	24.9	0.0	14.7	11.4	0.0	59.5
Cycle Q Clear(g_c), s	24.9	0.0	14.7	11.4	0.0	59.5
Prop In Lane	0.37	0.62	1.00			0.03
Lane Grp Cap(c), veh/h	283	0	353	1263	0	1069
V/C Ratio(X)	0.93	0.00	0.93	0.32	0.00	0.87
Avail Cap(c_a), veh/h	346	0	452	1263	0	1069
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.00	0.72
Uniform Delay (d), s/veh	55.3	0.0	36.9	6.2	0.0	24.5
Incr Delay (d2), s/veh	27.3	0.0	3.0	0.1	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	0.0	11.3	3.5	0.0	25.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	82.6	0.0	39.8	6.3	0.0	31.5
LnGrp LOS	F	A	D	A	A	C
Approach Vol, veh/h	262			735	925	
Approach Delay, s/veh	82.6			21.2	31.5	
Approach LOS	F			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		108.1		31.9	21.8	86.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		97.5		33.5	25.5	67.5
Max Q Clear Time (g_c+I1), s		13.4		26.9	16.7	61.5
Green Ext Time (p_c), s		2.5		0.5	0.6	3.1

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	547	324	9	2	281	50	3	3	0	171	13	971
Future Volume (veh/h)	547	324	9	2	281	50	3	3	0	171	13	971
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1811	1870	1870	1841	1752	1870	418	1870	1856	1781	1856
Adj Flow Rate, veh/h	675	400	11	2	347	62	4	4	0	0	0	1436
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	10	6	2	2	4	10	2	100	2	3	8	3
Cap, veh/h	699	2021	55	27	732	129	61	28	0	0	589	2005
Arrive On Green	0.31	0.59	0.59	0.25	0.25	0.25	0.33	0.33	0.00	0.00	0.00	0.33
Sat Flow, veh/h	1668	3421	94	3	2906	511	66	84	0	0	1781	3145
Grp Volume(v), veh/h	675	201	210	219	0	192	8	0	0	0	0	1436
Grp Sat Flow(s),veh/h/ln	1668	1721	1794	1838	0	1583	151	0	0	0	1781	1572
Q Serve(g_s), s	40.6	7.6	7.6	0.0	0.0	14.5	0.0	0.0	0.0	0.0	0.0	42.6
Cycle Q Clear(g_c), s	40.6	7.6	7.6	14.1	0.0	14.5	1.8	0.0	0.0	0.0	0.0	42.6
Prop In Lane	1.00		0.05	0.01		0.32	0.50		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	699	1017	1060	489	0	398	88	0	0	0	589	2005
V/C Ratio(X)	0.97	0.20	0.20	0.45	0.00	0.48	0.09	0.00	0.00	0.00	0.00	0.72
Avail Cap(c_a), veh/h	741	1017	1060	489	0	398	88	0	0	0	636	2089
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.09
Uniform Delay (d), s/veh	24.3	13.3	13.3	44.5	0.0	44.6	32.0	0.0	0.0	0.0	0.0	16.9
Incr Delay (d2), s/veh	23.7	0.4	0.4	3.0	0.0	4.1	0.2	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	2.9	3.1	6.8	0.0	6.0	0.2	0.0	0.0	0.0	0.0	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	13.7	13.7	47.4	0.0	48.7	32.1	0.0	0.0	0.0	0.0	17.0
LnGrp LOS	D	B	B	D	A	D	C	A	A	A	A	B
Approach Vol, veh/h		1086			411			8			1436	
Approach Delay, s/veh		35.0			48.0			32.1			17.0	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	47.5	41.2		51.3		88.7		51.3				
Change Period (Y+Rc), s	4.5	6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s	46.5	18.0		5.0		69.0		50.0				
Max Q Clear Time (g_c+I1), s	42.6	16.5		3.8		9.6		44.6				
Green Ext Time (p_c), s	0.4	0.6		0.0		5.0		1.7				

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	101	0	114	13	0	5	18	802	32	23	1172	37
Future Vol, veh/h	101	0	114	13	0	5	18	802	32	23	1172	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	135	0	-	150	135	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	11	2	5	2	2	2	6	7	2	2	3	2
Mvmt Flow	116	0	131	15	0	6	21	922	37	26	1347	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1924	2422	695	1690	2406	461	1390	0	0	959	0	0
Stage 1	1421	1421	-	964	964	-	-	-	-	-	-	-
Stage 2	503	1001	-	726	1442	-	-	-	-	-	-	-
Critical Hdwy	7.72	6.54	7	7.54	6.54	6.94	4.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.72	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.72	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.61	4.02	3.35	3.52	4.02	3.32	2.26	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 36	32	378	61	33	547	468	-	-	713	-	-
Stage 1	132	201	-	274	332	-	-	-	-	-	-	-
Stage 2	497	319	-	382	196	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 33	29	378	37	30	547	468	-	-	713	-	-
Mov Cap-2 Maneuver	~ 99	117	-	126	112	-	-	-	-	-	-	-
Stage 1	126	194	-	262	317	-	-	-	-	-	-	-
Stage 2	470	305	-	240	189	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	115.6	30.3	0.3	0.2
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	468	-	-	99	378	126	547	713	-	-
HCM Lane V/C Ratio	0.044	-	-	1.173	0.347	0.119	0.011	0.037	-	-
HCM Control Delay (s)	13	-	-	224.1	19.5	37.4	11.7	10.2	-	-
HCM Lane LOS	B	-	-	F	C	E	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.8	1.5	0.4	0	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

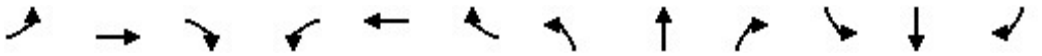
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	5	0	0	0	52	846	0	1	1235	70
Future Vol, veh/h	3	0	5	0	0	0	52	846	0	1	1235	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	230	-	-	-	-	200
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	7	2	2	4	2
Mvmt Flow	3	0	6	0	0	0	60	972	0	1	1420	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2028	2514	710	1804	2594	486	1500	0	0	972	0	0
Stage 1	1422	1422	-	1092	1092	-	-	-	-	-	-	-
Stage 2	606	1092	-	712	1502	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	34	28	376	50	25	527	443	-	-	705	-	-
Stage 1	143	200	-	229	289	-	-	-	-	-	-	-
Stage 2	451	289	-	389	183	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	30	24	376	44	21	527	443	-	-	705	-	-
Mov Cap-2 Maneuver	95	111	-	130	83	-	-	-	-	-	-	-
Stage 1	124	198	-	198	250	-	-	-	-	-	-	-
Stage 2	390	250	-	380	181	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.8	0	0.8	0
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	443	-	-	95	376	-	705	-	-
HCM Lane V/C Ratio	0.135	-	-	0.036	0.015	-	0.002	-	-
HCM Control Delay (s)	14.4	-	-	44.3	14.7	0	10.1	0	-
HCM Lane LOS	B	-	-	E	B	A	B	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	0	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	339	262	108	229	130	182	464	100	246	699	264
Future Volume (veh/h)	330	339	262	108	229	130	182	464	100	246	699	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1856	1841	1826	1826	1856	1826	1796	1826	1841	1841	1870
Adj Flow Rate, veh/h	371	381	294	121	257	146	204	521	112	276	785	297
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	3	4	5	5	3	5	7	5	4	4	2
Cap, veh/h	468	316	244	191	369	318	234	772	350	318	988	448
Arrive On Green	0.19	0.33	0.33	0.07	0.20	0.20	0.13	0.23	0.23	0.18	0.28	0.28
Sat Flow, veh/h	1711	971	749	1739	1826	1572	1739	3413	1547	1753	3497	1585
Grp Volume(v), veh/h	371	0	675	121	257	146	204	521	112	276	785	297
Grp Sat Flow(s),veh/h/ln	1711	0	1721	1739	1826	1572	1739	1706	1547	1753	1749	1585
Q Serve(g_s), s	17.4	0.0	35.0	5.8	14.1	8.8	12.4	15.0	6.5	16.5	22.3	17.8
Cycle Q Clear(g_c), s	17.4	0.0	35.0	5.8	14.1	8.8	12.4	15.0	6.5	16.5	22.3	17.8
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	468	0	560	191	369	318	234	772	350	318	988	448
V/C Ratio(X)	0.79	0.00	1.21	0.63	0.70	0.46	0.87	0.67	0.32	0.87	0.79	0.66
Avail Cap(c_a), veh/h	532	0	560	471	764	658	404	1428	647	391	1463	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	36.3	32.7	39.8	37.7	45.6	38.0	34.7	42.8	35.7	34.1
Incr Delay (d2), s/veh	11.5	0.0	108.5	1.3	0.9	0.4	4.3	1.0	0.5	23.4	1.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	30.6	2.4	6.1	3.3	5.4	6.1	2.4	8.9	9.3	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	144.8	34.0	40.7	38.1	50.0	39.0	35.2	66.1	37.6	35.7
LnGrp LOS	D	A	F	C	D	D	D	D	D	E	D	D
Approach Vol, veh/h		1046			524			837			1358	
Approach Delay, s/veh		106.5			38.4			41.2			43.0	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	40.0	25.5	29.3	25.9	26.8	19.5	35.4
Change Period (Y+Rc), s	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	24.0	45.0	25.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	7.8	37.0	18.5	17.0	19.4	16.1	14.4	24.3
Green Ext Time (p_c), s	0.1	0.0	1.1	3.7	1.5	1.0	0.1	6.1

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	322	11	449	184	141	429
Future Volume (veh/h)	322	11	449	184	141	429
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1870	1826	1856	1826	1870
Adj Flow Rate, veh/h	346	12	483	198	152	461
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	2	5	3	5	2
Cap, veh/h	377	13	701	287	377	1267
Arrive On Green	0.22	0.22	0.57	0.57	0.06	0.68
Sat Flow, veh/h	1696	59	1231	504	1739	1870
Grp Volume(v), veh/h	359	0	0	681	152	461
Grp Sat Flow(s),veh/h/ln	1760	0	0	1735	1739	1870
Q Serve(g_s), s	23.9	0.0	0.0	33.4	4.1	12.7
Cycle Q Clear(g_c), s	23.9	0.0	0.0	33.4	4.1	12.7
Prop In Lane	0.96	0.03		0.29	1.00	
Lane Grp Cap(c), veh/h	392	0	0	988	377	1267
V/C Ratio(X)	0.92	0.00	0.00	0.69	0.40	0.36
Avail Cap(c_a), veh/h	513	0	0	988	407	1267
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.85	1.00	1.00
Uniform Delay (d), s/veh	45.6	0.0	0.0	18.3	14.9	8.3
Incr Delay (d2), s/veh	18.1	0.0	0.0	3.4	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	0.0	0.0	13.0	1.4	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.6	0.0	0.0	21.6	15.6	9.1
LnGrp LOS	E	A	A	C	B	A
Approach Vol, veh/h	359		681			613
Approach Delay, s/veh	63.6		21.6			10.7
Approach LOS	E		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	74.4		32.7		87.3
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	58.0		35.0		73.0
Max Q Clear Time (g_c+I1), s	6.1	35.4		25.9		14.7
Green Ext Time (p_c), s	0.1	4.5		0.8		2.8

Intersection Summary			
HCM 6th Ctrl Delay		26.7	
HCM 6th LOS		C	



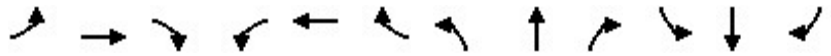
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	148	304	533	769	32
Future Volume (veh/h)	61	148	304	533	769	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1722	1781	1870	1826	1870	1856
Adj Flow Rate, veh/h	64	15	320	561	809	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	12	8	2	5	2	3
Cap, veh/h	80	19	540	1575	1371	54
Arrive On Green	0.06	0.06	0.06	0.86	0.77	0.77
Sat Flow, veh/h	1283	301	1781	1826	1787	71
Grp Volume(v), veh/h	80	0	320	561	0	841
Grp Sat Flow(s),veh/h/ln	1604	0	1781	1826	0	1858
Q Serve(g_s), s	5.9	0.0	4.2	7.3	0.0	23.1
Cycle Q Clear(g_c), s	5.9	0.0	4.2	7.3	0.0	23.1
Prop In Lane	0.80	0.19	1.00			0.04
Lane Grp Cap(c), veh/h	100	0	540	1575	0	1425
V/C Ratio(X)	0.80	0.00	0.59	0.36	0.00	0.59
Avail Cap(c_a), veh/h	234	0	799	1575	0	1425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.00	0.79
Uniform Delay (d), s/veh	55.5	0.0	7.0	1.6	0.0	5.9
Incr Delay (d2), s/veh	13.7	0.0	0.1	0.1	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.2	0.8	0.0	7.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	69.3	0.0	7.1	1.7	0.0	7.4
LnGrp LOS	E	A	A	A	A	A
Approach Vol, veh/h	80			881	841	
Approach Delay, s/veh	69.3			3.6	7.4	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		108.0		12.0	11.5	96.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		93.5		17.5	24.5	64.5
Max Q Clear Time (g_c+I1), s		9.3		7.9	6.2	25.1
Green Ext Time (p_c), s		3.7		0.1	0.8	6.7

Intersection Summary		
HCM 6th Ctrl Delay		8.3
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	729	390	4	1	315	77	8	9	2	115	5	785
Future Volume (veh/h)	729	390	4	1	315	77	8	9	2	115	5	785
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1870	1870	1870	1870	1796	1870	1530	1870	1870	1011	1856
Adj Flow Rate, veh/h	759	406	4	1	328	80	8	9	2	0	0	950
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	2	2	2	2	7	2	25	2	2	60	3
Cap, veh/h	815	2435	24	31	980	235	113	110	21	0	236	1631
Arrive On Green	0.29	0.68	0.68	0.35	0.35	0.35	0.23	0.23	0.23	0.00	0.00	0.23
Sat Flow, veh/h	1753	3605	36	1	2784	667	301	470	91	0	1011	3145
Grp Volume(v), veh/h	759	200	210	219	0	190	19	0	0	0	0	950
Grp Sat Flow(s),veh/h/ln	1753	1777	1864	1869	0	1582	862	0	0	0	1011	1572
Q Serve(g_s), s	31.7	4.9	4.9	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0	25.0
Cycle Q Clear(g_c), s	31.7	4.9	4.9	10.3	0.0	10.6	1.2	0.0	0.0	0.0	0.0	25.0
Prop In Lane	1.00		0.02	0.00		0.42	0.42		0.11	0.00		1.00
Lane Grp Cap(c), veh/h	815	1200	1259	688	0	557	243	0	0	0	236	1631
V/C Ratio(X)	0.93	0.17	0.17	0.32	0.00	0.34	0.08	0.00	0.00	0.00	0.00	0.58
Avail Cap(c_a), veh/h	993	1200	1259	688	0	557	243	0	0	0	270	1737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.61
Uniform Delay (d), s/veh	15.5	7.1	7.1	28.5	0.0	28.6	35.8	0.0	0.0	0.0	0.0	19.9
Incr Delay (d2), s/veh	12.2	0.3	0.3	1.2	0.0	1.7	0.1	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	1.7	1.8	4.7	0.0	4.1	0.4	0.0	0.0	0.0	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	7.4	7.4	29.7	0.0	30.3	35.8	0.0	0.0	0.0	0.0	20.1
LnGrp LOS	C	A	A	C	A	C	D	A	A	A	A	C
Approach Vol, veh/h		1169			409			19			950	
Approach Delay, s/veh		20.6			30.0			35.8			20.1	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	38.8	48.3		33.0		87.0		33.0				
Change Period (Y+Rc), s	4.5	6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s	46.5	16.0		5.0		67.0		32.0				
Max Q Clear Time (g_c+I1), s	33.7	12.6		3.2		6.9		27.0				
Green Ext Time (p_c), s	0.6	1.3		0.0		5.0		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	0	37	22	0	22	52	1018	18	5	1005	100
Future Vol, veh/h	67	0	37	22	0	22	52	1018	18	5	1005	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	135	0	-	150	135	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	6	5	2	2	6	3	6	2	3	2
Mvmt Flow	74	0	41	24	0	24	57	1119	20	5	1104	110

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1843	2422	607	1795	2457	560	1214	0	0	1139	0	0
Stage 1	1169	1169	-	1233	1233	-	-	-	-	-	-	-
Stage 2	674	1253	-	562	1224	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	7.02	7.6	6.54	6.94	4.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.36	3.55	4.02	3.32	2.26	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 46	32	430	49	30	472	549	-	-	609	-	-
Stage 1	205	265	-	183	247	-	-	-	-	-	-	-
Stage 2	410	242	-	471	250	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 40	28	430	41	27	472	549	-	-	609	-	-
Mov Cap-2 Maneuver	126	120	-	119	106	-	-	-	-	-	-	-
Stage 1	184	263	-	164	221	-	-	-	-	-	-	-
Stage 2	349	217	-	423	248	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.6	27.9	0.6	0
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	549	-	-	126	430	119	472	609	-	-
HCM Lane V/C Ratio	0.104	-	-	0.584	0.095	0.203	0.051	0.009	-	-
HCM Control Delay (s)	12.3	-	-	67.6	14.2	42.8	13	11	-	-
HCM Lane LOS	B	-	-	F	B	E	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.9	0.3	0.7	0.2	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

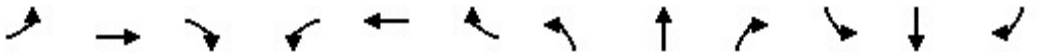
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	55	0	0	0	27	1050	0	1	1051	17
Future Vol, veh/h	29	0	55	0	0	0	27	1050	0	1	1051	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	230	-	-	-	-	200
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	2	2	2	2	2	4	3	2	2	3	2
Mvmt Flow	32	0	60	0	0	0	30	1154	0	1	1155	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1794	2371	578	1794	2390	577	1174	0	0	1154	0	0
Stage 1	1157	1157	-	1214	1214	-	-	-	-	-	-	-
Stage 2	637	1214	-	580	1176	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.54	6.94	7.54	6.54	6.94	4.18	-	-	4.14	-	-
Critical Hdwy Stg 1	6.58	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.02	3.32	3.52	4.02	3.32	2.24	-	-	2.22	-	-
Pot Cap-1 Maneuver	50	34	459	51	33	460	580	-	-	601	-	-
Stage 1	205	269	-	193	253	-	-	-	-	-	-	-
Stage 2	427	253	-	467	263	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	48	32	459	42	31	460	580	-	-	601	-	-
Mov Cap-2 Maneuver	138	130	-	129	122	-	-	-	-	-	-	-
Stage 1	194	268	-	183	240	-	-	-	-	-	-	-
Stage 2	405	240	-	403	262	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	0	0.3	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	580	-	-	138	459	-	601	-	-
HCM Lane V/C Ratio	0.051	-	-	0.231	0.132	-	0.002	-	-
HCM Control Delay (s)	11.5	-	-	38.8	14	0	11	0	-
HCM Lane LOS	B	-	-	E	B	A	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.5	-	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	293	220	84	312	183	301	648	98	156	575	320
Future Volume (veh/h)	284	293	220	84	312	183	301	648	98	156	575	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1811	1841	1856	1856	1870	1841	1796	1841	1856	1870
Adj Flow Rate, veh/h	296	305	229	88	325	191	314	675	102	162	599	333
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	4	6	4	3	3	2	4	7	4	3	2
Cap, veh/h	378	308	231	162	390	330	342	1140	496	203	913	410
Arrive On Green	0.16	0.32	0.32	0.05	0.21	0.21	0.19	0.33	0.33	0.12	0.26	0.26
Sat Flow, veh/h	1739	976	733	1753	1856	1572	1781	3497	1522	1753	3526	1585
Grp Volume(v), veh/h	296	0	534	88	325	191	314	675	102	162	599	333
Grp Sat Flow(s),veh/h/ln	1739	0	1709	1753	1856	1572	1781	1749	1522	1753	1763	1585
Q Serve(g_s), s	14.0	0.0	34.5	4.3	18.6	12.1	19.2	17.9	5.4	10.0	16.8	21.9
Cycle Q Clear(g_c), s	14.0	0.0	34.5	4.3	18.6	12.1	19.2	17.9	5.4	10.0	16.8	21.9
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	378	0	539	162	390	330	342	1140	496	203	913	410
V/C Ratio(X)	0.78	0.00	0.99	0.54	0.83	0.58	0.92	0.59	0.21	0.80	0.66	0.81
Avail Cap(c_a), veh/h	493	0	539	463	752	638	401	1418	617	379	1429	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	37.8	34.1	42.0	39.4	44.0	31.2	27.0	47.8	36.7	38.6
Incr Delay (d2), s/veh	12.7	0.0	36.6	1.0	1.8	0.6	22.1	0.5	0.2	22.2	0.8	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	19.1	1.8	8.4	4.6	10.2	7.3	1.9	5.5	7.1	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	74.5	35.2	43.8	40.0	66.1	31.7	27.2	70.0	37.5	43.0
LnGrp LOS	D	A	E	D	D	D	E	C	C	E	D	D
Approach Vol, veh/h		830			604			1091			1094	
Approach Delay, s/veh		62.3			41.3			41.2			44.0	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	40.0	18.8	41.2	22.6	28.3	26.3	33.7
Change Period (Y+Rc), s	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	24.0	45.0	25.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	6.3	36.5	12.0	19.9	16.0	20.6	21.2	23.9
Green Ext Time (p_c), s	0.0	0.0	0.9	4.7	1.7	1.3	0.1	4.9

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	398	25	350	118	68	421
Future Volume (veh/h)	398	25	350	118	68	421
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1870	1722	1870	1737	1826
Adj Flow Rate, veh/h	452	28	398	134	77	478
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	2	12	2	11	5
Cap, veh/h	480	30	656	221	347	1137
Arrive On Green	0.29	0.29	0.36	0.36	0.05	0.62
Sat Flow, veh/h	1649	102	1233	415	1654	1826
Grp Volume(v), veh/h	481	0	0	532	77	478
Grp Sat Flow(s),veh/h/ln	1755	0	0	1647	1654	1826
Q Serve(g_s), s	37.5	0.0	0.0	37.1	2.8	18.7
Cycle Q Clear(g_c), s	37.5	0.0	0.0	37.1	2.8	18.7
Prop In Lane	0.94	0.06		0.25	1.00	
Lane Grp Cap(c), veh/h	511	0	0	877	347	1137
V/C Ratio(X)	0.94	0.00	0.00	0.61	0.22	0.42
Avail Cap(c_a), veh/h	652	0	0	877	351	1137
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.53	1.00	1.00
Uniform Delay (d), s/veh	48.4	0.0	0.0	33.0	18.1	13.5
Incr Delay (d2), s/veh	19.2	0.0	0.0	1.7	0.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	0.0	0.0	15.8	1.0	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.6	0.0	0.0	34.6	18.4	14.6
LnGrp LOS	E	A	A	C	B	B
Approach Vol, veh/h	481		532			555
Approach Delay, s/veh	67.6		34.6			15.2
Approach LOS	E		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.6	80.6		46.8		93.2
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	7.0	63.0		52.0		76.0
Max Q Clear Time (g_c+I1), s	4.8	39.1		39.5		20.7
Green Ext Time (p_c), s	0.0	3.3		1.3		3.0

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	393	339	383	796	25
Future Volume (veh/h)	84	393	339	383	796	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1633	1870	1781	1707	1841	1648
Adj Flow Rate, veh/h	98	177	394	445	926	27
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	18	2	8	13	4	17
Cap, veh/h	105	190	360	1247	918	27
Arrive On Green	0.21	0.21	0.18	0.73	0.52	0.52
Sat Flow, veh/h	512	924	1697	1707	1779	52
Grp Volume(v), veh/h	276	0	394	445	0	953
Grp Sat Flow(s),veh/h/ln	1441	0	1697	1707	0	1831
Q Serve(g_s), s	26.3	0.0	25.5	13.3	0.0	72.2
Cycle Q Clear(g_c), s	26.3	0.0	25.5	13.3	0.0	72.2
Prop In Lane	0.36	0.64	1.00			0.03
Lane Grp Cap(c), veh/h	296	0	360	1247	0	945
V/C Ratio(X)	0.93	0.00	1.09	0.36	0.00	1.01
Avail Cap(c_a), veh/h	345	0	360	1247	0	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.00	0.70
Uniform Delay (d), s/veh	54.7	0.0	49.7	6.9	0.0	33.9
Incr Delay (d2), s/veh	29.2	0.0	46.6	0.1	0.0	26.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	0.0	17.1	4.2	0.0	36.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	83.9	0.0	96.3	7.0	0.0	60.5
LnGrp LOS	F	A	F	A	A	F
Approach Vol, veh/h	276			839	953	
Approach Delay, s/veh	83.9			48.9	60.5	
Approach LOS	F			D	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.7		33.3	30.0	76.7
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		97.5		33.5	25.5	67.5
Max Q Clear Time (g_c+I1), s		15.3		28.3	27.5	74.2
Green Ext Time (p_c), s		2.8		0.4	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		58.9
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	637	324	9	2	281	50	3	3	0	171	13	1008
Future Volume (veh/h)	637	324	9	2	281	50	3	3	0	171	13	1008
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1811	1870	1870	1841	1752	1870	418	1870	1856	1781	1856
Adj Flow Rate, veh/h	786	400	11	2	347	62	4	4	0	0	0	1481
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	10	6	2	2	4	10	2	100	2	3	8	3
Cap, veh/h	717	2027	56	27	664	117	60	27	0	0	586	2079
Arrive On Green	0.33	0.59	0.59	0.23	0.23	0.23	0.33	0.33	0.00	0.00	0.00	0.33
Sat Flow, veh/h	1668	3421	94	3	2906	511	64	82	0	0	1781	3145
Grp Volume(v), veh/h	786	201	210	219	0	192	8	0	0	0	0	1481
Grp Sat Flow(s),veh/h/ln	1668	1721	1794	1838	0	1583	146	0	0	0	1781	1572
Q Serve(g_s), s	46.5	7.5	7.6	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	42.2
Cycle Q Clear(g_c), s	46.5	7.5	7.6	14.6	0.0	14.9	1.8	0.0	0.0	0.0	0.0	42.2
Prop In Lane	1.00		0.05	0.01		0.32	0.50		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	717	1020	1063	446	0	361	87	0	0	0	586	2079
V/C Ratio(X)	1.10	0.20	0.20	0.49	0.00	0.53	0.09	0.00	0.00	0.00	0.00	0.71
Avail Cap(c_a), veh/h	717	1020	1063	446	0	361	87	0	0	0	636	2168
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.09
Uniform Delay (d), s/veh	26.6	13.2	13.2	47.3	0.0	47.4	32.2	0.0	0.0	0.0	0.0	15.2
Incr Delay (d2), s/veh	63.0	0.4	0.4	3.8	0.0	5.5	0.2	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.6	2.9	3.0	7.0	0.0	6.3	0.2	0.0	0.0	0.0	0.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.6	13.6	13.6	51.2	0.0	52.9	32.3	0.0	0.0	0.0	0.0	15.3
LnGrp LOS	F	B	B	D	A	D	C	A	A	A	A	B
Approach Vol, veh/h		1197			411			8			1481	
Approach Delay, s/veh		63.5			52.0			32.3			15.3	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	51.0	38.0		51.0		89.0		51.0				
Change Period (Y+Rc), s	4.5	6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s	46.5	18.0		5.0		69.0		50.0				
Max Q Clear Time (g_c+I1), s	48.5	16.9		3.8		9.6		44.2				
Green Ext Time (p_c), s	0.0	0.5		0.0		5.0		1.8				

Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	14.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	101	0	114	19	0	63	18	834	35	47	1185	37
Future Vol, veh/h	101	0	114	19	0	63	18	834	35	47	1185	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	135	0	-	150	135	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	11	2	5	2	2	2	6	7	2	2	3	2
Mvmt Flow	116	0	131	22	0	72	21	959	40	54	1362	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2014	2533	703	1790	2514	480	1405	0	0	999	0	0
Stage 1	1492	1492	-	1001	1001	-	-	-	-	-	-	-
Stage 2	522	1041	-	789	1513	-	-	-	-	-	-	-
Critical Hdwy	7.72	6.54	7	7.54	6.54	6.94	4.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.72	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.72	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.61	4.02	3.35	3.52	4.02	3.32	2.26	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 31	27	373	51	28	532	462	-	-	689	-	-
Stage 1	119	185	-	260	319	-	-	-	-	-	-	-
Stage 2	483	305	-	350	181	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 24	24	373	30	25	532	462	-	-	689	-	-
Mov Cap-2 Maneuver	~ 86	101	-	111	100	-	-	-	-	-	-	-
Stage 1	~ 114	171	-	248	305	-	-	-	-	-	-	-
Stage 2	398	291	-	209	167	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	153	20.3	0.3	0.4
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	462	-	-	86	373	111	532	689	-	-
HCM Lane V/C Ratio	0.045	-	-	1.35	0.351	0.197	0.136	0.078	-	-
HCM Control Delay (s)	13.2	-	-	$ 303.4	19.8	45.2	12.8	10.7	-	-
HCM Lane LOS	B	-	-	F	C	E	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	8.7	1.5	0.7	0.5	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

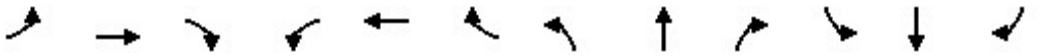
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	5	32	0	32	52	849	13	14	1241	70
Future Vol, veh/h	3	0	5	32	0	32	52	849	13	14	1241	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	230	-	200	200	-	200
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	7	2	2	4	2
Mvmt Flow	3	0	6	37	0	37	60	976	15	16	1426	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2066	2569	713	1841	2634	488	1506	0	0	991	0	0
Stage 1	1458	1458	-	1096	1096	-	-	-	-	-	-	-
Stage 2	608	1111	-	745	1538	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	31	26	374	47	23	526	441	-	-	693	-	-
Stage 1	136	192	-	228	287	-	-	-	-	-	-	-
Stage 2	450	283	-	372	176	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	22	374	41	19	526	441	-	-	693	-	-
Mov Cap-2 Maneuver	89	104	-	126	78	-	-	-	-	-	-	-
Stage 1	118	188	-	197	248	-	-	-	-	-	-	-
Stage 2	362	245	-	358	172	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.9	32.5	0.8	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	441	-	-	89	374	203	693	-	-
HCM Lane V/C Ratio	0.136	-	-	0.039	0.015	0.362	0.023	-	-
HCM Control Delay (s)	14.4	-	-	47.1	14.8	32.5	10.3	-	-
HCM Lane LOS	B	-	-	E	B	D	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	0	1.6	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	339	262	108	229	135	182	472	100	259	718	270
Future Volume (veh/h)	333	339	262	108	229	135	182	472	100	259	718	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1856	1841	1826	1826	1856	1826	1796	1826	1841	1841	1870
Adj Flow Rate, veh/h	374	381	294	121	257	152	204	530	112	291	807	303
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	3	4	5	5	3	5	7	5	4	4	2
Cap, veh/h	464	312	241	191	360	310	233	768	348	330	1009	457
Arrive On Green	0.20	0.32	0.32	0.07	0.20	0.20	0.13	0.22	0.22	0.19	0.29	0.29
Sat Flow, veh/h	1711	971	749	1739	1826	1572	1739	3413	1547	1753	3497	1585
Grp Volume(v), veh/h	374	0	675	121	257	152	204	530	112	291	807	303
Grp Sat Flow(s),veh/h/ln	1711	0	1721	1739	1826	1572	1739	1706	1547	1753	1749	1585
Q Serve(g_s), s	17.9	0.0	35.0	5.9	14.3	9.3	12.5	15.5	6.6	17.6	23.2	18.3
Cycle Q Clear(g_c), s	17.9	0.0	35.0	5.9	14.3	9.3	12.5	15.5	6.6	17.6	23.2	18.3
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	464	0	554	191	360	310	233	768	348	330	1009	457
V/C Ratio(X)	0.81	0.00	1.22	0.63	0.71	0.49	0.87	0.69	0.32	0.88	0.80	0.66
Avail Cap(c_a), veh/h	521	0	554	466	755	650	400	1412	640	387	1447	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	36.9	33.3	40.8	38.8	46.2	38.7	35.2	43.0	35.8	34.1
Incr Delay (d2), s/veh	12.5	0.0	114.3	1.3	1.0	0.4	4.9	1.1	0.5	24.6	2.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	31.4	2.5	6.3	3.5	5.5	6.4	2.4	9.6	9.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	0.0	151.2	34.6	41.8	39.2	51.1	39.8	35.8	67.6	37.9	35.7
LnGrp LOS	D	A	F	C	D	D	D	D	D	E	D	D
Approach Vol, veh/h		1049			530			846			1401	
Approach Delay, s/veh		111.0			39.4			42.0			43.6	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	40.0	26.5	29.5	26.3	26.5	19.6	36.4
Change Period (Y+Rc), s	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	24.0	45.0	25.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	7.9	37.0	19.6	17.5	19.9	16.3	14.5	25.2
Green Ext Time (p_c), s	0.1	0.0	0.9	3.8	1.4	1.0	0.1	6.2

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	390	11	449	208	141	429
Future Volume (veh/h)	390	11	449	208	141	429
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1870	1826	1856	1826	1870
Adj Flow Rate, veh/h	419	12	483	224	152	461
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	2	5	3	5	2
Cap, veh/h	447	13	626	290	282	1194
Arrive On Green	0.26	0.26	0.36	0.36	0.06	0.64
Sat Flow, veh/h	1708	49	1180	547	1739	1870
Grp Volume(v), veh/h	432	0	0	707	152	461
Grp Sat Flow(s),veh/h/ln	1761	0	0	1727	1739	1870
Q Serve(g_s), s	28.8	0.0	0.0	43.6	4.5	14.2
Cycle Q Clear(g_c), s	28.8	0.0	0.0	43.6	4.5	14.2
Prop In Lane	0.97	0.03		0.32	1.00	
Lane Grp Cap(c), veh/h	461	0	0	916	282	1194
V/C Ratio(X)	0.94	0.00	0.00	0.77	0.54	0.39
Avail Cap(c_a), veh/h	514	0	0	916	311	1194
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.81	1.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	0.0	32.2	21.2	10.4
Incr Delay (d2), s/veh	23.8	0.0	0.0	5.1	1.6	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	0.0	0.0	19.9	1.9	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.1	0.0	0.0	37.4	22.8	11.4
LnGrp LOS	E	A	A	D	C	B
Approach Vol, veh/h	432		707			613
Approach Delay, s/veh	67.1		37.4			14.2
Approach LOS	E		D			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	69.6		37.4		82.6
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	58.0		35.0		73.0
Max Q Clear Time (g_c+I1), s	6.5	45.6		30.8		16.2
Green Ext Time (p_c), s	0.1	3.7		0.6		2.8

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	186	348	557	837	32
Future Volume (veh/h)	61	186	348	557	837	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1722	1781	1870	1826	1870	1856
Adj Flow Rate, veh/h	64	24	366	586	881	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	12	8	2	5	2	3
Cap, veh/h	79	30	492	1563	1347	49
Arrive On Green	0.07	0.07	0.07	0.86	0.75	0.75
Sat Flow, veh/h	1142	428	1781	1826	1793	65
Grp Volume(v), veh/h	89	0	366	586	0	913
Grp Sat Flow(s),veh/h/ln	1588	0	1781	1826	0	1859
Q Serve(g_s), s	6.6	0.0	5.1	8.2	0.0	28.9
Cycle Q Clear(g_c), s	6.6	0.0	5.1	8.2	0.0	28.9
Prop In Lane	0.72	0.27	1.00			0.04
Lane Grp Cap(c), veh/h	110	0	492	1563	0	1396
V/C Ratio(X)	0.81	0.00	0.74	0.37	0.00	0.65
Avail Cap(c_a), veh/h	232	0	736	1563	0	1396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.00	0.72
Uniform Delay (d), s/veh	55.1	0.0	11.9	1.8	0.0	7.3
Incr Delay (d2), s/veh	13.1	0.0	0.2	0.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	4.6	1.1	0.0	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.2	0.0	12.2	1.9	0.0	9.1
LnGrp LOS	E	A	B	A	A	A
Approach Vol, veh/h	89			952	913	
Approach Delay, s/veh	68.2			5.8	9.1	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.2		12.8	12.6	94.6
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		93.5		17.5	24.5	64.5
Max Q Clear Time (g_c+I1), s		10.2		8.6	7.1	30.9
Green Ext Time (p_c), s		3.9		0.1	1.0	7.6

Intersection Summary		
HCM 6th Ctrl Delay		10.2
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	797	390	4	1	315	77	8	9	2	115	5	891
Future Volume (veh/h)	797	390	4	1	315	77	8	9	2	115	5	891
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1870	1870	1870	1870	1796	1870	1530	1870	1870	1011	1856
Adj Flow Rate, veh/h	830	406	4	1	328	80	8	9	2	0	0	1060
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	2	2	2	2	7	2	25	2	2	60	3
Cap, veh/h	850	2419	24	30	801	192	109	106	20	0	240	1834
Arrive On Green	0.35	0.67	0.67	0.29	0.29	0.29	0.24	0.24	0.24	0.00	0.00	0.24
Sat Flow, veh/h	1753	3605	36	1	2784	667	280	445	85	0	1011	3145
Grp Volume(v), veh/h	830	200	210	219	0	190	19	0	0	0	0	1060
Grp Sat Flow(s),veh/h/ln	1753	1777	1864	1869	0	1582	810	0	0	0	1011	1572
Q Serve(g_s), s	39.0	5.0	5.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0	25.4
Cycle Q Clear(g_c), s	39.0	5.0	5.0	11.3	0.0	11.7	1.2	0.0	0.0	0.0	0.0	25.4
Prop In Lane	1.00		0.02	0.00		0.42	0.42		0.11	0.00		1.00
Lane Grp Cap(c), veh/h	850	1192	1251	568	0	455	235	0	0	0	240	1834
V/C Ratio(X)	0.98	0.17	0.17	0.39	0.00	0.42	0.08	0.00	0.00	0.00	0.00	0.58
Avail Cap(c_a), veh/h	923	1192	1251	568	0	455	235	0	0	0	270	1927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.38
Uniform Delay (d), s/veh	17.9	7.3	7.3	34.5	0.0	34.6	35.4	0.0	0.0	0.0	0.0	15.7
Incr Delay (d2), s/veh	22.8	0.3	0.3	2.0	0.0	2.8	0.1	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.7	1.8	1.9	5.3	0.0	4.7	0.4	0.0	0.0	0.0	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	7.6	7.6	36.5	0.0	37.4	35.4	0.0	0.0	0.0	0.0	15.8
LnGrp LOS	D	A	A	D	A	D	D	A	A	A	A	B
Approach Vol, veh/h		1240			409			19			1060	
Approach Delay, s/veh		29.8			36.9			35.4			15.8	
Approach LOS		C			D			D			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	46.0	40.5		33.5		86.5		33.5				
Change Period (Y+Rc), s	4.5	6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s	41.5	16.0		5.0		67.0		32.0				
Max Q Clear Time (g_c+I1), s	41.0	13.7		3.2		7.0		27.4				
Green Ext Time (p_c), s	0.6	0.9		0.0		5.0		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	0	37	27	0	66	52	1042	26	73	1043	100
Future Vol, veh/h	67	0	37	27	0	66	52	1042	26	73	1043	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	135	0	-	150	135	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	6	5	2	2	6	3	6	2	3	2
Mvmt Flow	74	0	41	30	0	73	57	1145	29	80	1146	110

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2048	2649	628	1992	2675	573	1256	0	0	1174	0	0
Stage 1	1361	1361	-	1259	1259	-	-	-	-	-	-	-
Stage 2	687	1288	-	733	1416	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	7.02	7.6	6.54	6.94	4.22	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.36	3.55	4.02	3.32	2.26	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 32	23	416	35	22	463	528	-	-	591	-	-
Stage 1	156	215	-	176	240	-	-	-	-	-	-	-
Stage 2	403	233	-	372	202	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 22	18	416	~ 26	17	463	528	-	-	591	-	-
Mov Cap-2 Maneuver	88	77	-	97	76	-	-	-	-	-	-	-
Stage 1	139	186	-	157	214	-	-	-	-	-	-	-
Stage 2	303	208	-	290	175	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	94.5	26.8	0.6	0.7
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	528	-	-	88	416	97	463	591	-	-
HCM Lane V/C Ratio	0.108	-	-	0.837	0.098	0.306	0.157	0.136	-	-
HCM Control Delay (s)	12.6	-	-	138.6	14.6	57.7	14.2	12	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	4.4	0.3	1.2	0.6	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

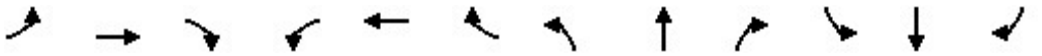
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	55	24	0	24	27	1058	38	39	1056	17
Future Vol, veh/h	29	0	55	24	0	24	27	1058	38	39	1056	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	230	-	200	200	-	200
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	2	2	2	2	2	4	3	2	2	3	2
Mvmt Flow	32	0	60	26	0	26	30	1163	42	43	1160	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1888	2511	580	1889	2488	582	1179	0	0	1205	0	0
Stage 1	1246	1246	-	1223	1223	-	-	-	-	-	-	-
Stage 2	642	1265	-	666	1265	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.54	6.94	7.54	6.54	6.94	4.18	-	-	4.14	-	-
Critical Hdwy Stg 1	6.58	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.02	3.32	3.52	4.02	3.32	2.24	-	-	2.22	-	-
Pot Cap-1 Maneuver	42	28	458	43	29	456	577	-	-	575	-	-
Stage 1	181	244	-	190	250	-	-	-	-	-	-	-
Stage 2	424	239	-	415	239	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	36	25	458	34	25	456	577	-	-	575	-	-
Mov Cap-2 Maneuver	118	104	-	117	108	-	-	-	-	-	-	-
Stage 1	172	226	-	180	237	-	-	-	-	-	-	-
Stage 2	379	227	-	333	221	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.3	31.8	0.3	0.4
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	577	-	-	118	458	186	575	-	-
HCM Lane V/C Ratio	0.051	-	-	0.27	0.132	0.284	0.075	-	-
HCM Control Delay (s)	11.6	-	-	46.4	14.1	31.8	11.8	-	-
HCM Lane LOS	B	-	-	E	B	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1	0.5	1.1	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	293	220	84	312	198	301	671	98	166	590	325
Future Volume (veh/h)	292	293	220	84	312	198	301	671	98	166	590	325
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1811	1841	1856	1856	1870	1841	1796	1841	1856	1870
Adj Flow Rate, veh/h	304	305	229	88	325	206	314	699	102	173	615	339
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	4	6	4	3	3	2	4	7	4	3	2
Cap, veh/h	377	305	229	159	378	320	342	1131	492	214	926	417
Arrive On Green	0.16	0.31	0.31	0.05	0.20	0.20	0.19	0.32	0.32	0.12	0.26	0.26
Sat Flow, veh/h	1739	976	733	1753	1856	1572	1781	3497	1522	1753	3526	1585
Grp Volume(v), veh/h	304	0	534	88	325	206	314	699	102	173	615	339
Grp Sat Flow(s),veh/h/ln	1739	0	1709	1753	1856	1572	1781	1749	1522	1753	1763	1585
Q Serve(g_s), s	14.6	0.0	34.9	4.4	18.9	13.4	19.4	18.9	5.4	10.8	17.4	22.4
Cycle Q Clear(g_c), s	14.6	0.0	34.9	4.4	18.9	13.4	19.4	18.9	5.4	10.8	17.4	22.4
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	0	535	159	378	320	342	1131	492	214	926	417
V/C Ratio(X)	0.81	0.00	1.00	0.55	0.86	0.64	0.92	0.62	0.21	0.81	0.66	0.81
Avail Cap(c_a), veh/h	482	0	535	456	746	632	398	1407	612	376	1418	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	38.4	34.8	43.0	40.8	44.4	32.0	27.4	47.8	36.8	38.7
Incr Delay (d2), s/veh	14.3	0.0	38.7	1.1	2.3	0.8	22.6	0.6	0.2	22.1	0.8	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	19.6	1.9	8.6	5.1	10.4	7.7	1.9	5.9	7.3	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	77.1	35.9	45.3	41.6	66.9	32.6	27.7	69.9	37.7	43.4
LnGrp LOS	D	A	E	D	D	D	E	C	C	E	D	D
Approach Vol, veh/h		838			619			1115			1127	
Approach Delay, s/veh		64.6			42.7			41.8			44.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	40.0	19.7	41.2	23.2	27.8	26.5	34.4
Change Period (Y+Rc), s	5.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	35.0	24.0	45.0	25.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	6.4	36.9	12.8	20.9	16.6	20.9	21.4	24.4
Green Ext Time (p_c), s	0.0	0.0	1.0	4.9	1.6	1.4	0.1	5.0

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

APPENDIX E

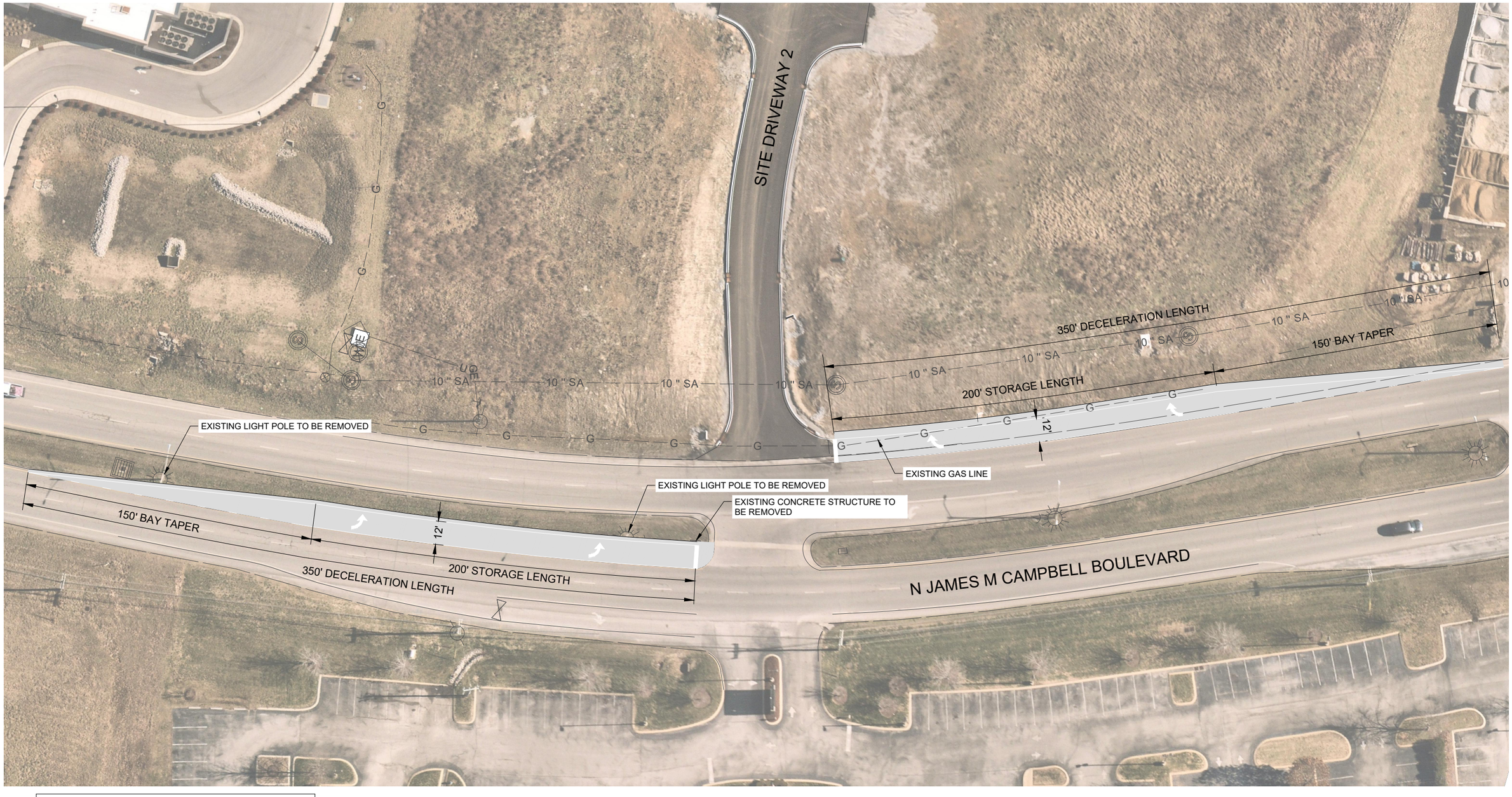
Turn Lane Warrants


Right Turn Lane Warrant 4 Lane Roadway (Intersection 5 NBR)
Right-Turn Volume, Veh/h
140
120
100
80
60
40
20
0
300
500
700
900
1100
1300
1500
1700
1900
Major-Road Volume, (one direction), veh/h
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
AM Peak
PM Peak


Left-Turn Lane Warrant 2 (Intersection 5 SB)
Left-Turn Volume, Veh/h
Major Arterial Volume, veh/h/ln
0
5
10
15
20
25
30
35
40
45
50
0
100
200
300
400
500
(a) Three-Leg Intersection
AM Peak
PM Peak
(b) Four-Leg Intersection

APPENDIX F

Improvement Concepts



LANE CHANGE AND DECELERATION DISTANCE	
DESIGN SPEED (MPH)	DISTANCE (FT)
45	350

Kimley»Horn

HRP - Columbia

Left and Right Turn Lanes Exhibit

October 23, 2023

April 12, 2024
Mr. Brendan Boles PE
Kimley-Horn
10 Lea Avenue, Suite 400
Nashville, TN 37210
Sent via email: brendan.boles@kimley-horn.com; landon.allison@kimley-horn.com
RE: Water Availability Letter
North James Mixed Use
North James Campbell Blvd
Tax Map 89, Parcel 41.13
Columbia, Maury County, TN

Dear Mr. Boles:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development includes a 15,150 square-foot daycare, 15,000 square feet of unspecified commercial space in two mixed-use buildings, 444 residential units across the mixed-use and multi-family buildings, and an amenity center with pool. CPWS has evaluated the projected water demands for the proposed development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,500 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Sprinklers are mandatory, based on available flow and fire flow requirements indicated in the application for water service.
- To provide 1,500 gpm to the daycare, a new 10-inch main must be extended across N James M Campbell Blvd at the development's North entrance.
- To serve the multifamily buildings, a new 8-inch main must be extended across N James M Campbell Blvd at the development's South entrance.

- Multi-family units will be served by redundant master meters providing combined fire protection and domestic water service. Any sub-metering for rental units will be the responsibility of the applicant.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (521.3 SFUs)	$194,381.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: TBD per fire meter (1 meter, daycare, cost of meter)	TBD
Meter Fee: TBD per fire meter (2 meters, mixed use, cost of meter)	TBD
Meter Fee: TBD per 3" domestic meter (2 meters, mixed use, at cost)	TBD
Meter Fee: TBD per master meter (2 meters, multifamily, cost of meter)	TBD
Meter Fee: $710 per 1" domestic meter (1 meter, daycare)	$710
Meter Fee: $710 per 1" irrigation meter (1 meter)	$710
Impact Fee: $75,000 per 3" domestic meter (2 meters, mixed use)	$150,000
Impact Fee: $7,500 per 1" domestic meter (1 meter, daycare)	$7,500
Impact Fee: $7,500 per 1" irrigation meter (1 meter)	$7,500
Impact Fee: $150,000 per 4" meter equivalent (multi-family)	$150,000
Total Meter and Impact Fees Due =	**$316,420**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.



Sincerely,
Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 23-031

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

1 April 2024

Landon Allison
10 Lea Avenue, Suite 400
Nashville, TN 37210

RE: HRP Columbia - James Campbell Property; Tax Map 089, parcels 041.13 & 041.00

Landon,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Relocation of on-site mains may be necessary to improve the maintenance accessibility of manholes by relocating to, or near, the proposed roads. Pressure sewer will not be allowed to be designed nor installed on this site. Gravity sewer access must be to the south or to the north via easement.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: James Campbell Site Dev Plan

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- [x] Name of development
- [x] Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- [x] Plan sealed by a design professional licensed in the State of Tennessee.
- [x] North Arrow, legend, and site vicinity map
- [x] Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- [x] Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- [x] Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- [x] All property boundaries, existing easements, and encumbrances
- [x] Parcel identification, owner, and deed and plat references of adjoining properties
- [x] Proposed phasing and timetable for all phases of development
- [x] Traffic Impact Study, as required.
- [x] The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- [x] The size of total property to be developed in square feet and acres
- [x] Lot numbers of all proposed lots, with dimensions, locations, and square footage
- [x] A tabulation of the land area to be devoted to various uses and activities and overall densities.
- [x] Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- [x] Location and approximate dimensions of all existing and proposed structures.
- [x] Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- [x] Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- [x] Location, type, and size of proposed signs
- [x] Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☑ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☑ General proposed contours at vertical intervals of not more than two (2) feet
- ☑ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☑ Location and dimension of aquatic buffer zones
- ☑ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☑ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☑ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☑ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☑ Proposed improvements as identified in the Traffic Impact Study, as required
- ☑ Existing and proposed sidewalks, trails, and other pedestrian elements
- ☑ Existing and proposed on-street and off-street parking and loading areas
- ☑ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☑ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☑ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☑ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☑ Any amenity features and structures for private or public benefit.
- ☑ Location, dimension, and materials of fences and walls
- ☑ Tree Canopy retention

Utilities

- ☑ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☑ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PUD Specific Items

- ❑ List of all deviations from PUD Standards requested
- ❑ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.

N/A

- ❑ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ❑ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ❑ Exterior lighting plan.

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Keli Frymire	K R Frymire	4/15/2024
Print Name	Signature	Date

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

Final Plat: * *1 hard copy of all materials for submittal + PDF copy on a USB flash drive (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"
All Others: * Please submit the Application online at City of Columbia | Permitting (onlama.com)

ADDRESS/LOCATION	089 04100 000 and 089 04113 000 - N James M Campbell Blvd		
	TAX MAP:	GROUP:	PARCEL:
SUMMARY OF NATURE OF REQUEST AND WORK	Site Development Plan and Preliminary Plat for a mixed use development on approximately 50 acres accessed from Professional Center Drive off N James Campbell Blvd. Project proposes 444 multi-family units, 15,000 sf of commercial, and a daycare center.		

DATE OF PRE-APPLICATION CONFERENCE	11/15/2023	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Comprehensive Plan Amendment ☐ Annexation ☐ Rezoning ☒ Preliminary Plat ☐ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☒ Site Development Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations:** ☐ Annexation Permission Form **Annexations/Rezoning/Plan Amendments:** ☐ Requested Zone Listed ☐ Statement of Compliance with Comprehensive Plan ☐ Concept Plan **Preliminary Plats/Site Development Plans:** ☒ Plans and/or Plats conforming to City standards with signed and completed check list **All Annexations/Rezoning/Preliminary Plats/Site Development Plans and PUDS:** ☒ Receipt of Payment for Pre-Application Meeting ☒ Written Legal Description copy ☒ Columbia Water System Availability Letter ☒ Columbia Waste Water Department Will Serve Letter

	Plats/PUDs: ☐ Project Name (include Sections & Phases) ☐ Total Number of Lots/Residential Units ☐ Square Footage of Non-Residential Floor Space ☐ Total acreage

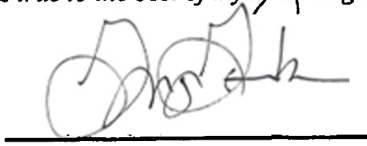
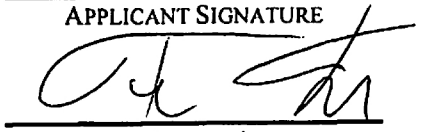
Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application. Any requests to defer or move the item to future meeting dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT
All communications go to the Applicant's email that is provided.

NAME	Greg Gamble, Gamble Design Collaborative	PHONE	615.975.5765
ADDRESS	3020 Stansberry Lane, STE 201, Franklin TN	EMAIL	info@GDC-TN.com

PROPERTY OWNER NAME	Tuvia Friedman	PHONE	347-622-3605
ADDRESS	180 Sylvan Ave Englewood Cliffs, NJ 07632	EMAIL	TFriedman@Bytelife recovery.com

If owner is not a natural person, documentation must be provided showing signing authority on behalf of the entity. If multiple persons are listed as owners in the records of the Maury County Assessor, all owners must sign or the signatory must provide documentation of authority to apply on behalf of record owner (i.e., Power of Attorney or notarized Letter of Authorization). In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Greg Gamble APPLICANT NAME	 APPLICANT SIGNATURE	4.15.2024 DATE
Tuvia Friedman PROPERTY OWNER NAME	 PROPERTY OWNER SIGNATURE	4/4/24 DATE

Rev. 2/7/2024



VICINITY MAP

NOT TO SCALE

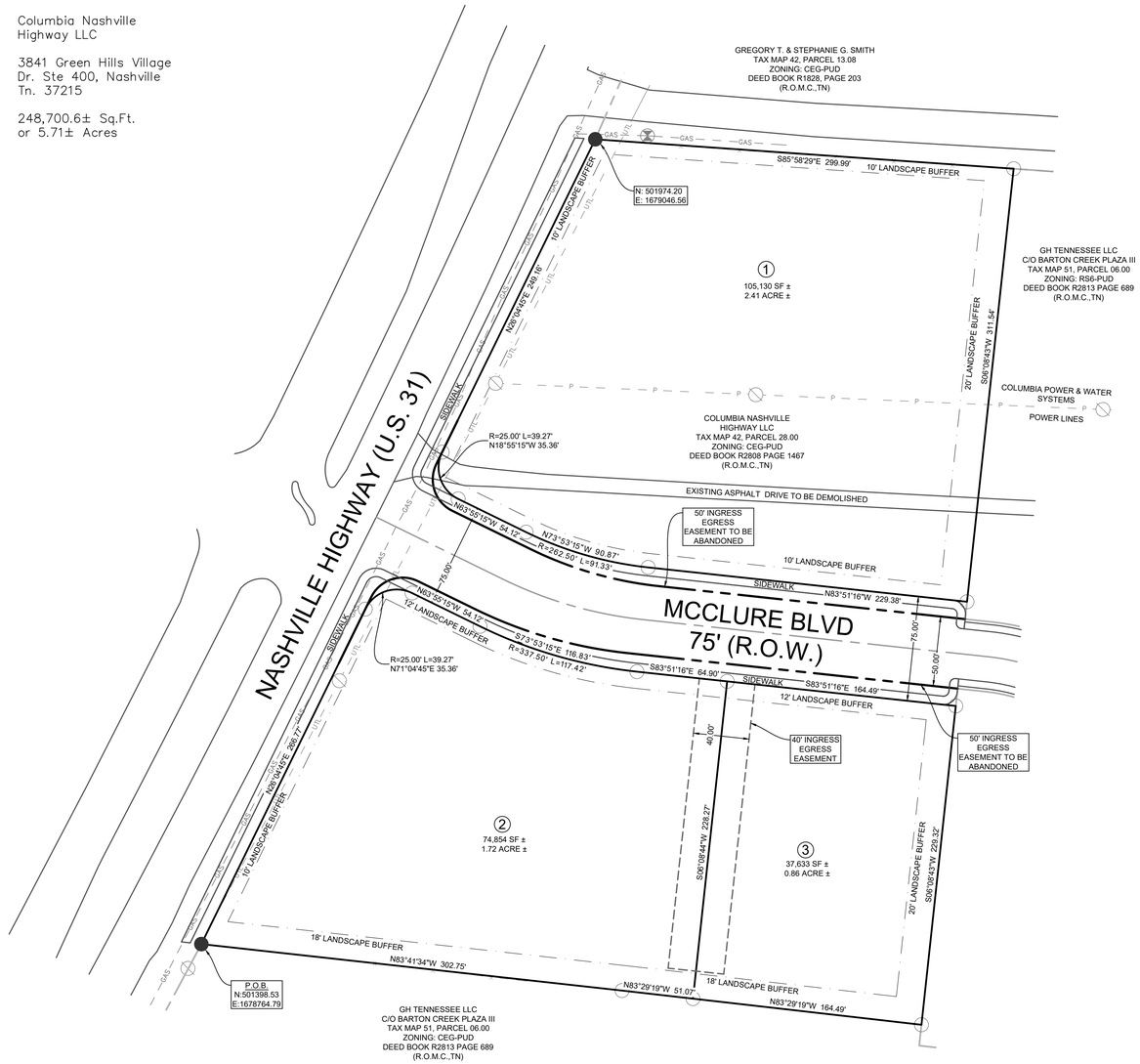
Property: Columbia Nashville
Owner Highway LLC

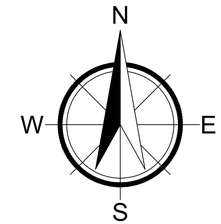
Address: 3841 Green Hills Village Dr. Ste 400, Nashville Tn. 37215

Total Acreage: 248,700.6± Sq.Ft. or 5.71± Acres

NOTES:

1. The purpose of this Plat is to create three new tracts.
2. Property is identified as a portion of parcel 28.00 on Maury County, Tennessee Property Map: 42 in the civil district. Property is located in the city of Columbia and accessed from Nashville Highway, U.S. 31.
3. This survey meets the requirements of an Urban Land Survey (Category 1), with a ratio of precision of the unadjusted survey greater than 1:10,000± as per standards of practice adopted by The Board of Examiners for Land Surveyors, State of Tennessee. Distances were corrected for temperature and barometric pressure.
4. The Horizontal Location data shown on this survey was gathered using Standard Radial Surveying Techniques with an Electronic Total Station and Data Collector and is based upon a Positional Solution derived from TDOT Global Positioning System (GPS) Observations and are represented in the Tennessee State Plane Coordinate System; NAD83 (Horizontal) and NAVD 88 (Vertical).
5. This survey was made using the latest recorded deeds/plats and based on physical evidence found. No Title Report was furnished to this surveyor; therefore, this survey is subject to the findings of a complete title search.
6. The surveyor's liability for this document shall be limited to those parties identified in the certification and does not extend to any unnamed party.
7. This is NOT an ALTA/NSPS Land Title Survey.
8. All distances shown are in feet and decimals thereof.
9. This property is NOT located in an area designated as a "Special Flood Hazard Area" as per the Federal Emergency Management Agency "National Flood Insurance Program" Rate Map No. 47119C0180E. (Zone X), (Map Revised APRIL 16, 2007).
10. This surveyor has not physically located the underground utilities. Above grade and underground utilities shown were taken from visible appurtenances at the site; public records and/or maps prepared by others. Special attention has been taken to indicate the approximate nature of the utilities, shown hereon. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities are in the exact location indicated. Therefore, reliance upon the type, size, and location of utilities shown must be done so with this circumstance considered. Detailed verification of existence, location, and depth should also be made prior to any decision relative thereto is made. Availability and cost of service should be confirmed with the appropriate utility company. In Tennessee, it is a requirement per "The Underground Utility Damage Prevention Act" that anyone who engages in excavation must notify all known underground utility owners no less than three (3), nor no more than ten (10) working days prior to the date of their intent to excavate and to avoid any possible hazard or conflict.(Tennessee One Call: 1-800-351-1111).
11. Subject property is currently zoned CD4-C, per the City of Columbia GIS Mapping
12. All property corners that were set are marked by a 1/2" Rebar with a yellow cap that reads "W&A Eng.",unless otherwise noted.





Tennessee State Plane
Coordinate System
Zone 5301, FIPS Zone 4100
Horizontal Datum: NAD83
Vertical Datum: NAVD88

0 25 50 100

SCALE 1" = 50'

SURVEY LEGEND
M.B.S.L. – MINIMUM BUILDING SETBACK LINE
C.M.P. – CORRUGATED METAL PIPE
D.B. – DEED BOOK
F.D.C. – FIRE DEPARTMENT CONNECTION
F.E.S. – FLARED END SECTION (STORM)
F.F.E. – FINISHED FLOOR ELEVATION
H.D.P.E. – HIGH DENSITY POLYETHYLENE
I.E. – INVERT ELEVATION
P.B. – PLAT BOOK
R.C.P. – REINFORCED CONCRETE PIPE
P.O.C. – POINT OF COMMENCEMENT
P.V.C. – POLYVINYL CHLORIDE PIPE
R.O.W. – RIGHT-OF-WAY
P.O.B. – POINT OF BEGINNING
TYP. – TYPICAL
PROPERTY CORNER FOUND– IR(F)
PROPERTY CORNER SET– IR(S)
CONCRETE MONUMENT FOUND C.M.(F)
ELEVATION BENCHMARK– BM
SURVEY CONTROL POINT
AIR CONDITIONING UNIT
CATCH BASIN
AREA DRAIN
CLEAN OUT
FIBER OPTIC MARKER
FIRE HYDRANT
GAS VALVE
GAS METER
GAS MARKER
GUY WIRE/ANCHOR
JUNCTION BOX
LIGHTPOLE
MANHOLE
SANITARY SEWER MANHOLE
TELPHONE PEDESTAL
WEIR INLET
WATER METER
WATER VALVE
UTILITY POLE
TRANSMISSION UTILITY POLE
POWER TRANSFORMER
FENCE LINE
OVERHEAD UTILITY
OVERHEAD POWER
UNDERGROUND POWER
OVERHEAD TELEPHONE
UNDERGROUND TELEPHONE
TRAFFIC UTILITY
FIBER-OPTIC
NATURAL GAS
FLOODPLAIN
SANITARY SEWER
SEWER FORCEMAIN
WATER LINE

SURVEYOR'S CERTIFICATE

I hereby certify that to the best of my knowledge and belief the hereon shown preliminary plat represents a Category "1" Survey having an unadjusted ratio of precision of 1:10,000 and is true and correct. Approved monuments have been placed as indicated. All side lot lines are at right angles or radial to a street unless otherwise noted.

02/16/2024
Date

Adam C. Bledsoe
Tennessee Registered Land Surveyor #3099

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the City of Columbia Subdivision Regulations, with the exception of such variances, if any, as are noted in the Minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register.

Date

Secretary
City of Columbia Planning Commission

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number 2808, Page 1461, of the Maury County Register's Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, public easements, utilities, and other facilities have been filed.

Date

By:

CERTIFICATE OF APPROVAL OF PUBLIC SEWER SYSTEM

I hereby certify that the sewer system(s) outlined or indicated on the final plat entitled McClure Farms Commercial has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date

Name, Title, & Agency or
Authorized Approving Agent

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled McClure Farms Subdivision has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

Date

Name, Title, & Agency or
Authorized Approving Agent

E-911 PROGRAM CERTIFICATION OF APPROVAL

This is to certify that this plat has been reviewed and is in compliance with the Maury County E-911 Program.

Date

E-911 Director

W&A Engineering
CIVIL ENGINEERING · LANDSCAPE ARCHITECTURE
SURVEYING · SOIL AND ENVIRONMENTAL CONSULTING
TRAFFIC ENGINEERING · ECONOMIC DEVELOPMENT
4101 Charlotte Ave., Suite E215
Nashville, TN 37209
P: (615) 610-1023
waengineering.com

ALL DRAWINGS SHALL REMAIN THE PROPERTY OF W&A ENGINEERING. THESE INSTRUMENTS OF SERVICE ARE TO BE USED SOLELY FOR THIS SPECIFIC PROJECT. W&A ENGINEERING SHALL RETAIN ALL LEGAL RIGHTS TO THE USE OF THE INSTRUMENTS OF SERVICE AND SHALL RETAIN FULL PROTECTION UNDER UNITED STATES COPYRIGHT LAW.

PRELIMINARY PLAT
MCCLURE FARMS COMMERCIAL

2524 NASHVILLE HIGHWAY
COLUMBIA, TENNESSEE 38401
MAURY COUNTY

DATE: 02/16/2024

REVISIONS

DATE	COMMENT
.	.
.	.
.	.
.	.
.	.
.	.
.	.
.	.
.	.

ADAM C. BLEDSOE
REGISTERED LAND SURVEYOR
STATE OF TENNESSEE
TENNESSEE NO. 3099

Tennessee 811
Know what's below. Call before you dig.

PRELIMINARY PLAT

DRAWN BY: DEW

W&A PROJECT #: 230497

SHEET 1 OF 1

CPWS

April 12, 2024
Mr. Clint Camp
Prosper Engineering
PO Box 2235
Goodlettsville, TN 37072
Sent via email: clint.camp@prosperengineering.com
RE: Water Availability Letter
Whataburger - McClure Farms
2524 Nashville Highway
Tax Map 42, Parcel 28
Columbia, Maury County, TN

Dear Mr. Camp:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development is a 3,400 square-foot restaurant. CPWS has evaluated the projected water demands for the proposed development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,500 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the proposed existing 10-inch water main installed as part of McClure Farms Phase 1.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (9.7 SFUs)		$5,089.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: TBD per Fire Meter (if required)	TBD
Meter Fee: $710 per 1" domestic meter (1 meter)	$710.00
Meter Fee: $710 per 1" irrigation meter (1 meter)	$710.00
Impact Fee: $7,500 per 1" domestic meter (1 meter)	$7,500.00
Impact Fee: $7,500 per 1" irrigation meter (1 meter)	$7,500.00
Total Meter and Impact Fees Due =	**$16,420.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 24-015

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

11 March 2024

Clint Camp
PO Box 2235
Goodlettsville, TN 37070

RE: 2524 Nashville Highway, Columbia, TN 38401

Clint,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: McClure Farms Commercial

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☒ Name of development
- ☒ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☒ Plan sealed by a design professional licensed in the State of Tennessee.
- ☒ North Arrow, legend, and site vicinity map
- ☒ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☒ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☒ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☒ All property boundaries, existing easements, and encumbrances
- ☒ Parcel identification, owner, and deed and plat references of adjoining properties
- ☒ Proposed phasing and timetable for all phases of development
- ☒ Traffic Impact Study, as required.
- ☒ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☒ The size of total property to be developed in square feet and acres
- ☒ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☒ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☒ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☒ Location and approximate dimensions of all existing and proposed structures.
- ☒ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☒ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☒ Location, type, and size of proposed signs
- ☒ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☒ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☒ General proposed contours at vertical intervals of not more than two (2) feet
- ☒ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☒ Location and dimension of aquatic buffer zones
- ☒ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☒ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☒ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☒ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☒ Proposed improvements as identified in the Traffic Impact Study, as required
- ☒ Existing and proposed sidewalks, trails, and other pedestrian elements
- ☒ Existing and proposed on-street and off-street parking and loading areas
- ☒ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☒ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☒ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☒ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☒ Any amenity features and structures for private or public benefit.
- ☒ Location, dimension, and materials of fences and walls
- ☒ Tree Canopy retention

Utilities

- ☒ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☒ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PUD Specific Items

- ☒ List of all deviations from PUD Standards requested
- ☒ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ☒ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ☒ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ☒ Exterior lighting plan.

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Clinton R. Camp	Clinton R Camp	2-19-24
Print Name	Signature	Date

I, Mark McDonald, am hereby authorized as an agent to sign on behalf of Columbia Nashville Hwy LLC.

Mark McDonald, Agent

2/19/24

Date

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

Final Plat: * *1 hard copy of all materials for submittal + PDF copy on a USB flash drive (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"
All Others: * Please submit the Application online at City of Columbia | Permitting (onlama.com)

ADDRESS/LOCATION	2524 Nashville Highway		
	TAX MAP: 042	GROUP:	PARCEL: 028.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request to create three (3) commercial parcels and dedicate the necessary right-of-way for development.		

DATE OF PRE-APPLICATION CONFERENCE	7-5-23*	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Comprehensive Plan Amendment ❑ Annexation ❑ Rezoning ☒ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Site Development Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations:** ❑ Annexation Permission Form **Annexations/Rezoning/Plan Amendments:** ❑ Requested Zone Listed ❑ Statement of Compliance with Comprehensive Plan ❑ Concept Plan **Preliminary Plats/Site Development Plans:** ☒ Plans and/or Plats conforming to City standards with signed and completed check list **All Annexations/Rezoning/Preliminary Plats/Site Development Plans and PUDS:** ☒ Receipt of Payment for Pre-Application Meeting ☒ Written Legal Description copy ☒ Columbia Water System Availability Letter ☒ Columbia Waste Water Department Will Serve Letter

	Plats/PUDs: ☒ Project Name (include Sections & Phases) ☐ Total Number of Lots/Residential Units ☒ Square Footage of Non-Residential Floor Space ☒ Total acreage

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application. Any requests to defer or move the item to future meeting dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Clinton R. Camp	PHONE	615-516-3574
ADDRESS	PO Box 2235	EMAIL	clint.camp@prosperengineering.com

Goodlettsville,e, TN 37070

PROPERTY OWNER NAME	Columbia Nashville Hwy LLC	PHONE	615-351-8277
ADDRESS	3841 Green Hills Village Dr, Suite 400	EMAIL	mmcdonald@oldacremcdonald.com

Nashville, TN 37215

If owner is not a natural person, documentation must be provided showing signing authority on behalf of the entity. If multiple persons are listed as owners in the records of the Maury County Assessor, all owners must sign or the signatory must provide documentation of authority to apply on behalf of record owner (i.e., Power of Attorney or notarized Letter of Authorization). In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Clinton R. Camp		2-19-24
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Mark McDonald	Mark McDonald (Feb 19, 2024 09:06 CST)	2-19-24
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

McClure Farms _ Application_PC_PrelimPlat

Final Audit Report 2024-02-19

Created:	2024-02-19
By:	Clint Camp (clint.camp@prosperengineering.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAO8pO4041eFziATS0AguMa804SrolYEZ4

"McClure Farms _ Application_PC_PrelimPlat" History

Document created by Clint Camp (clint.camp@prosperengineering.com)
2024-02-19 - 3:04:31 PM GMT

Document emailed to Mark (mmcdonald@oldacremcdonald.com) for signature
2024-02-19 - 3:04:41 PM GMT

Email viewed by Mark (mmcdonald@oldacremcdonald.com)
2024-02-19 - 3:06:09 PM GMT

Signer Mark (mmcdonald@oldacremcdonald.com) entered name at signing as Mark McDonald
2024-02-19 - 3:06:43 PM GMT

Document e-signed by Mark McDonald (mmcdonald@oldacremcdonald.com)
Signature Date: 2024-02-19 - 3:06:45 PM GMT - Time Source: server

Agreement completed.
2024-02-19 - 3:06:45 PM GMT

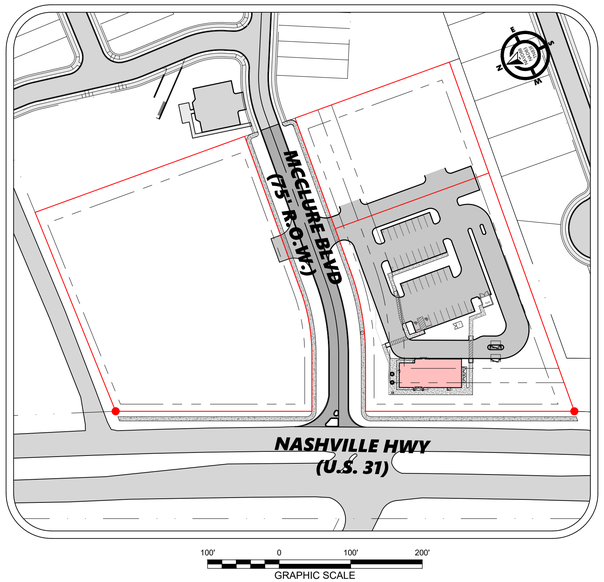
PRELIMINARY PLANNED UNIT DEVELOPMENT

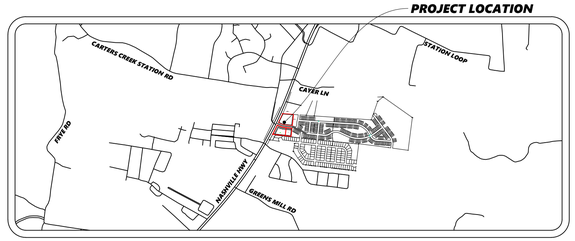
MCCLURE FARMS COMMERCIAL PUD

FEMA STATUS:
MAP NUMBER: 47119C0180E
REVISION DATE: 4/16/2007
DETERMINATION: ZONE X

SITE DATA:
PARCEL ID: 042 028.00
PARCEL ADDRESS: 2524 NASHVILLE HWY
COLUMBIA, TN 38401
OWNER: COLUMBIA NASHVILLE HIGHWAY LLC
SALE INSTRUMENT: BOOK R2808, PG 1461
MAILING ADDRESS: 3841 GREEN HILLS VILLAGE DR STE 400
NASHVILLE, TN 37215-2691
LEGAL DESCRIPTION: ----

ACREAGE: 4.99 AC
FRONTAGE DIMENSION: 516 FT
SIDE DIMENSION: -- FT
COUNCIL DISTRICT: 5





VICINITY MAP
NOT TO SCALE

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	LAYOUT PLAN
C2.0	UTILITY PLAN

GENERAL NOTES

1. ALL REFERENCES TO CONTRACTOR SHALL APPLY TO ALL CONTRACTORS AND SUBCONTRACTORS RESPONSIBLE FOR ANY CONSTRUCTION AND/OR IMPLEMENTATION OF CONSTRUCTION ACTIVITIES FOR THIS PROJECT.
2. ALL REFERENCE TO OWNER SHALL APPLY TO OWNER OR PERSON(S) DESIGNATED BY SIGNED AFFIDAVIT TO ACT ON THE OWNER'S BEHALF.
3. THIS SITE PACKAGE, NOTES, SPECIFICATIONS, DRAWINGS AND DETAILS SHALL APPLY TO CIVIL SITE WORK ONLY. THE CONTRACTOR SHALL RELAY ON THE APPROPRIATE DESIGN PROFESSIONALS FOR DESIGN RELATED TO STRUCTURES, GEOTECHNICAL, ARCHITECTURE, SURVEYING, WATER RESOURCES, LANDSCAPE, LIFE SAFETY, PHASING, GRAPHICS, INTERIOR DESIGN, EQUIPMENT, MECHANICAL, PLUMBING, FIRE, ELECTRICAL AND TELECOMMUNICATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE INTENT OF THE DESIGN PROFESSIONAL'S DESIGN. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REQUESTING CLARIFICATION ON ALL DISCREPANCIES, CONTRADICTIONS, AND/OR INTERPRETATIONS OF INTENT PRIOR TO COMMENCING WITH WORK.
5. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. WHERE CONFLICTING OR DUPLICATE REGULATIONS EXIST, THE STRICTER OF WHICH SHOULD BE FOLLOWED.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL APPLICABLE PERMITS, PAY ALL APPLICABLE FEES, AND GIVE ALL NECESSARY NOTIFICATIONS REQUIRED PRIOR TO COMMENCING WITH WORK.
8. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY EASEMENTS AND APPROVAL FOR WORK ON ADJACENT AND/OR AFFECTED OFF-SITE PROPERTY, INCLUDING PUBLIC INFRASTRUCTURE AND UTILITIES.
9. THE CONTRACTOR SHALL PERFORM ALL WORK WITHIN THE HOURS OF OPERATION AS REGULATED BY LAW AND/OR OWNER SPECIFICATIONS.
10. THE CONTRACTOR SHALL PROVIDE THE OWNER AND POINTS OF CONTACT WITH A CONSTRUCTION SCHEDULE FOR VARIOUS SITEWORK ELEMENTS. SITE VISITS SHALL BE COORDINATED WELL IN ADVANCE AS IN ORDER TO AVOID DELAYS IN CONSTRUCTION, APPROVALS, AND/OR CERTIFICATES.
11. CONTRACTOR SHALL PROVIDE AS-BUILT SURVEY AND PHOTOGRAPHY AS NECESSARY FOR APPROVAL OF AS-BUILT CONDITIONS.
12. BEARINGS, ELEVATIONS AND COORDINATES SHOWN ARE BASED ON TENNESSEE STATE PLANE NAD83 (NAVD88).

CIVIL ENGINEER
PROSPER ENGINEERING, PLLC
CLINTON R. CAMP, P.E.
P.O. BOX 2235
GOODLETTSVILLE, TN 37070
CLINT.CAMP@PROSPERENGINEERING.COM
615.594.5498

OWNER/DEVELOPER
COLUMBIA NASHVILLE HIGHWAY LLC
COLUMBIA NASHVILLE HIGHWAY LLC
3841 GREEN HILLS VILLAGE DR STE 400
NASHVILLE TN 37215
--
--

TDEC - DIVISION OF WATER RESOURCES
WILLIAM R. SNODGRASS TENNESSEE TOWER
312 ROSA L. PARKS AVENUE, 11TH FLOOR
NASHVILLE, TN 37243
615.532-0625

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
REGION IV MITIGATION DIVISION
KOGER CENTER-RUTGERS BUILDING
ATLANTA, GA 30341
877.336.2627;877-FEMA-MAP



ISSUE DATE: 02/19/2024

PROSPER Engineering
P.O. BOX 2235
GOODLETTSVILLE, TN 37070

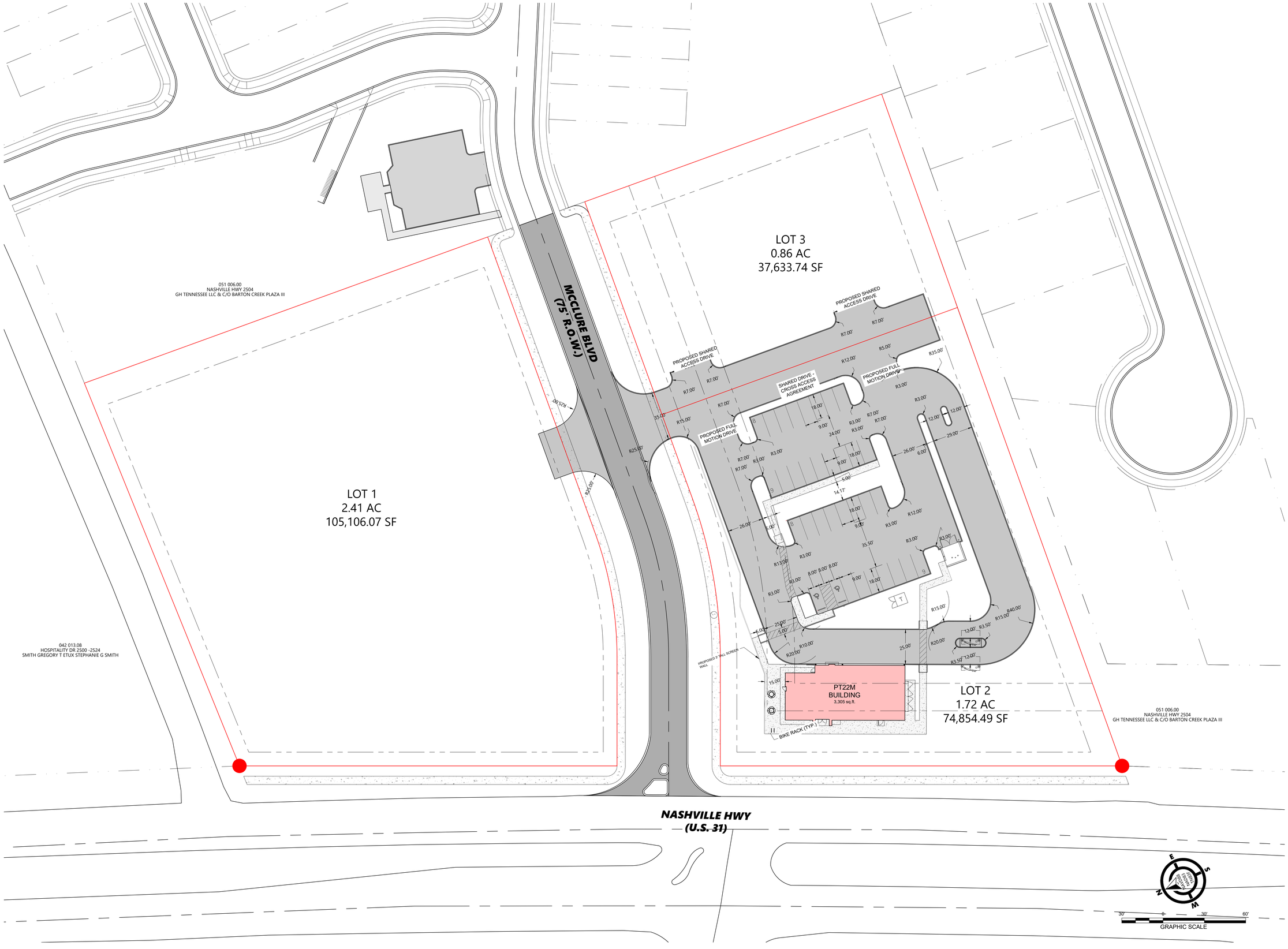
MCCLURE FARMS COMMERCIAL PUD
2524 NASHVILLE HWY
COLUMBIA, TN 38401

PROSPER PROJECT NO: P25F+3X

COVER SHEET

C0.0

02/19/2024



CLINTON R. CAMP
REGISTERED ENGINEER
AGRICULTURE
CERTIFICATE
No. 112040
STATE OF TENNESSEE
02/19/2024

ISSUE DATE: 02/19/2024

PROSPER Engineering
P.O. BOX 2235
GOODLETTSVILLE, TN 37070

MCCLURE FARMS COMMERCIAL PUD

2524 NASHVILLE HWY
COLUMBIA, TN 38401

PROSPER PROJECT NO: P25F+3X

LAYOUT PLAN

C1.0

02/19/2024

LOT 1
2.41 AC
105,106.07 SF

LOT 2
1.72 AC
74,854.49 SF

LOT 3
0.86 AC
37,633.74 SF

MCCLURE BLVD
(75 R.O.W.)

NASHVILLE HWY
(U.S. 31)

051 006.00
NASHVILLE HWY 2504
GH TENNESSEE LLC & C/O BARTON CREEK PLAZA III

042 013.08
HOSPITALITY DR 2500 -2524
SMITH GREGORY T ETUX STEPHANIE G SMITH

GRAPHIC SCALE

CLINTON R. CAMP
REGISTERED ENGINEER
AGRICULTURE
No. 112500
COMMERCE
STATE OF TENNESSEE
02/19/2024

ISSUE DATE: 02/19/2024

PROSPER
Engineering
P.O. BOX 2235
GOODLETTSVILLE, TN 37070

MCCLURE FARMS
COMMERCIAL PUD

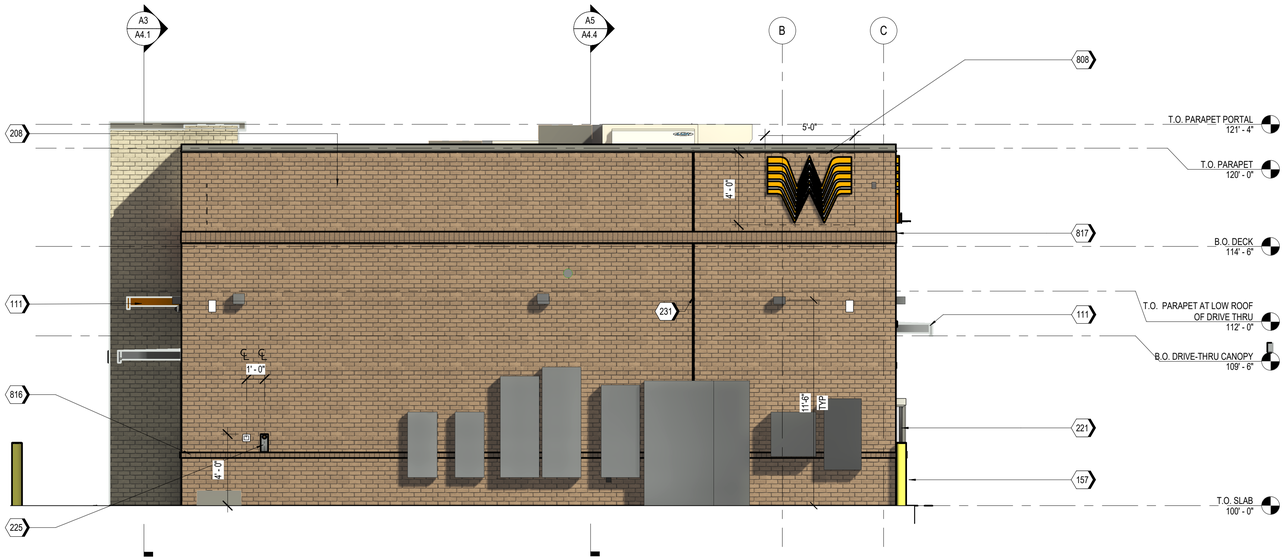
2524 NASHVILLE HWY
COLUMBIA, TN 38401

PROSPER PROJECT NO: P25F+3X

UTILITY PLAN

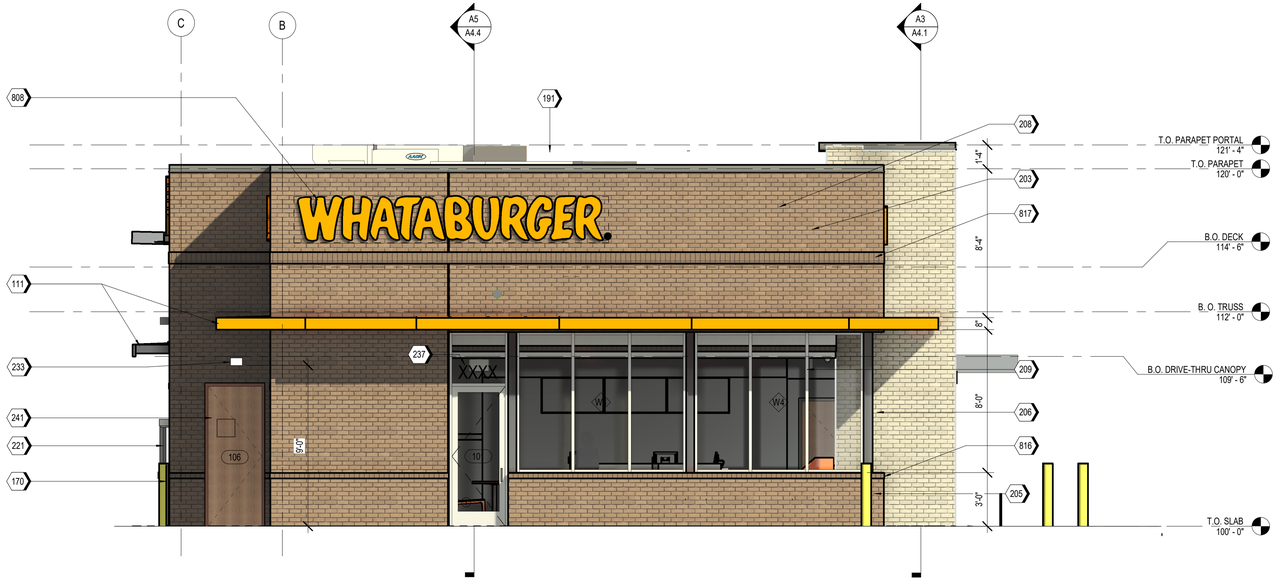
C2.0

02/19/2024



A2 EAST ELEVATION

1/4" = 1'-0"



A1 WEST ELEVATION (R.O.W)

1/4" = 1'-0"

EXTERIOR METAL

MP02 METAL PANEL (MP02)

SPECIFICATION SECTION: 07 42 13.13
ITEM: FLASHING
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: SHEET METAL FLASHING
MATERIAL: 0.040 ALUM.
COLOR: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE DETAILS
NOTES: MATCH MP01

MC01 METAL PANEL (MC01)

SPECIFICATION SECTION: 07 71 00
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: METAL COPING SYSTEM
MATERIAL: COPING
COLOR: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE ELEVATIONS

MS01 METAL SOFFIT (MS01)

SPECIFICATION SECTION: 07 42 93
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: ACM
FINISH: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE ELEVATIONS

EXTERIOR PAINT

PT-5 EXTERIOR PAINTING (PT-5)

SPECIFICATION SECTION: 09 91 13
MANUFACTURER: SHERWIN WILLIAMS
COLOR: WHATABURGER GRAY
LOCATION: RE: ELEVATIONS
NOTES: FLAT FINISH. INTERIOR SIDE OF DOORS/FRAMES EGGSHELL FINISH.

EXTERIOR BRICK

BR01 EXTERIOR BRICK (BR01)

SPECIFICATION SECTION: 04 26 13
MANUFACTURER: ACME
TYPE: MODULAR
COLOR: PARK AVENUE
SIZE: 3-5/8" X 2-1/4" X 7-5/8"

BR02 EXTERIOR BRICK (BR02)

SPECIFICATION SECTION: 04 26 13
MANUFACTURER: ACME
TYPE: MODULAR
COLOR: DOESKIN
SIZE: 3-5/8" X 2-1/4" X 7-5/8"

EM01 EXTERIOR MORTAR (EM01)

SPECIFICATION SECTION: 04 26 13
MANUFACTURER: AHI
COLOR: VANILLA-N

GLAZING

GL01 GLAZING (GL01)

SPECIFICATION SECTION: 08 80 00
ITEM: IGU VISION GLASS
MANUFACTURER: VITRO
PRODUCT NAME: SOLARBAN Z75/70 (2) OPTIBLUE + CLEAR IGU
SIZE: VARIES
LOCATION: EXTERIOR WALL
NOTES: VLT 46% U-VALUE .28 SHGC .23 LSG 2.00

GL03 GLAZING (GL03)

SPECIFICATION SECTION: 08 80 00
ITEM: IGU OPAQUE SPANDREL GLASS
MANUFACTURER: VITRO
PRODUCT NAME: OPACI-COAT-300
FINISH: #3-5323 OLD EAGLE
SIZE: VARIES
LOCATION: SEE ELEVATIONS

SS01 STOREFRONT SYSTEM (SS01)

SPECIFICATION SECTION: 08 41 13
MANUFACTURER: OLDCASTLE
PRODUCT NAME: FG-3000 THERMAL
FINISH: CLEAR ANODIZED
SIZE: VARIES
LOCATION: SEE ELEVATIONS

NOTES

1. EXTERIOR SIGNAGE TO BE PERMITED UNDER A SEPARATE SIGN PERMIT SET.

KEYNOTES

111	ENTERA PRE-MANUFACTURED CANOPY
157	PIPE BOLLARDS: IDEAL SHIELD. RE: SPECIFICATIONS. 402 GRAY, PANTONE 402C. RE D3/SS.1
170	ENTERA PRE-MANUFACTURED GUARDRAIL. RE: BA/A0.1
191	ENTERA PRE-MANUFACTURED ROOF SCREEN
203	MP-01; PRE-FINISHED CORRUGATED METAL PANEL
205	BR-01; BRICK VENEER
206	BR-02
208	MC-01; PRE-FINISHED METAL COPING
209	SS-01; ALUMINUM STOREFRONT SYSTEM
221	DRIVE-THRU WINDOW
225	STAINLESS STEEL GREASE SHIELD W/ 2 1/2" HOLE THROUGH WALL FOR GREASE TANK
231	MASONRY EXPANSION CONTROL JOINT
233	EXTERIOR LIGHT FIXTURE, RE: ELECTRICAL
237	BUILDING ADDRESS 6"HIGH WHITE VINYL NUMBERS WITH 1" STROKE, 10' A.F.G.
241	PAINT (PT-5) EXTERIOR DOORS.
808	PROVIDE BLOCKING FOR SIGNAGE AS REQUIRED
816	BR-01 BRICK ROWLOCK
817	BR-01 BRICK SOLDIER COURSE

MATERIAL PERCENTAGE TOTALS

MATERIAL	SQUARE FEET	PERCENTAGE
BRICK	4,450 SF	85%
GLAZING	710 SF	14%
METAL	58 SF	1%
TOTAL	5,218 SF	100%

PREPARED FOR:

WHATABURGER

BL Companies
Architecture
Engineering
Environmental
Land Surveying

365 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

© 2022 BL COMPANIES, INC. THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF BL COMPANIES.

△	Date	Description

Seal / Signature

WHATABURGER COLUMBIA, TN

Project Name
WHATABURGER

Date: 1.19.2024

Project Number
2302822

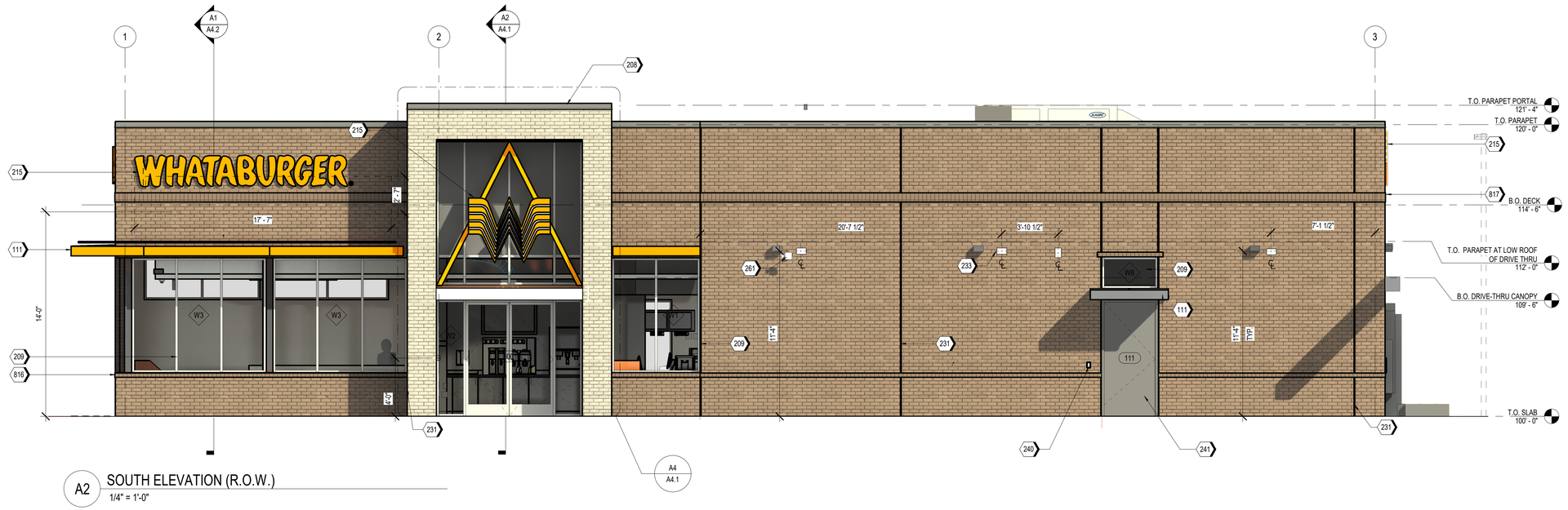
Description
EXTERIOR ELEVATIONS

Scale
As indicated

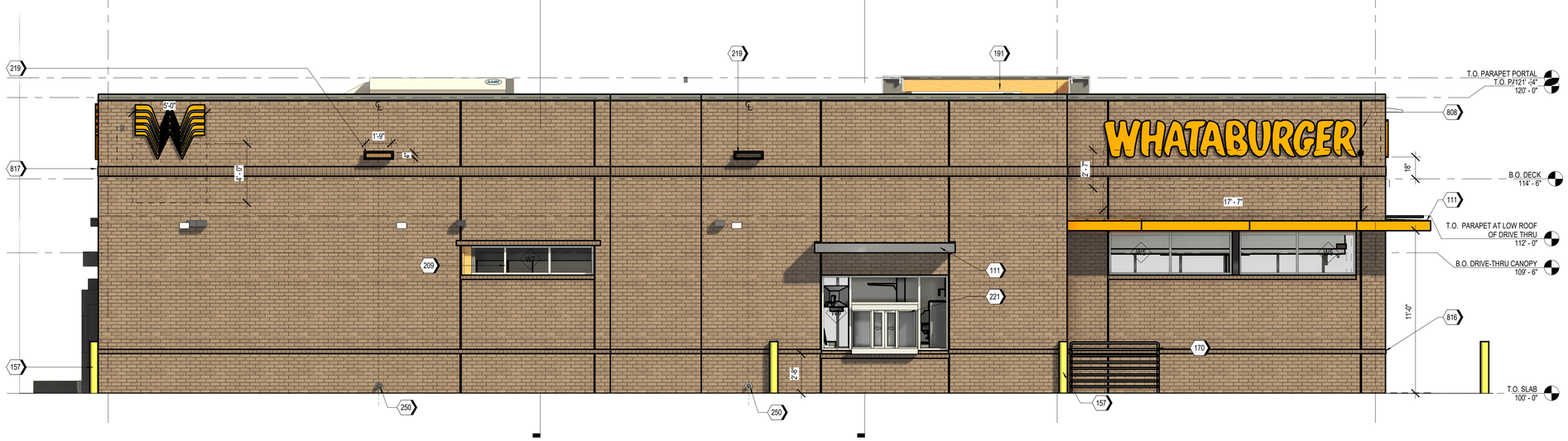
A2.1

© 2022 Gensler

4/10/2024 8:48:25 AM C:\Users\LRezek\Documents\Revit\2022\2302822_ARCH_Central_R22_lrezekHRBE7.rvt



A2 SOUTH ELEVATION (R.O.W.)
1/4" = 1'-0"



A1 NORTH ELEVATION
1/4" = 1'-0"

EXTERIOR METAL

MP02 METAL PANEL (MP02)
SPECIFICATION SECTION: 07 42 13.13
ITEM: FLASHING
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: SHEET METAL FLASHING
MATERIAL: 0.040 ALUM.
COLOR: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE DETAILS
NOTES: MATCH MP01

MC01 METAL PANEL (MC01)
SPECIFICATION SECTION: 07 71 00
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: METAL COPING SYSTEM
MATERIAL: COPING
COLOR: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE ELEVATIONS

MS01 METAL SOFFIT (MS01)
SPECIFICATION SECTION: 07 42 93
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: ACM
FINISH: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE ELEVATIONS

EXTERIOR PAINT

PT-5 EXTERIOR PAINTING (PT-5)
SPECIFICATION SECTION: 09 91 13
MANUFACTURER: SHERWIN WILLIAMS
COLOR: WHATABURGER GRAY
LOCATION: RE: ELEVATIONS
NOTES: FLAT FINISH. INTERIOR SIDE OF DOORS/FRAMES EGGSHELL FINISH.

EXTERIOR BRICK

BR01 EXTERIOR BRICK (BR01)
SPECIFICATION SECTION: 04 26 13
MANUFACTURER: ACME
TYPE: MODULAR
COLOR: PARK AVENUE
SIZE: 3-5/8" X 2-1/4" X 7-5/8"

BR02 EXTERIOR BRICK (BR02)
SPECIFICATION SECTION: 04 26 13
MANUFACTURER: ACME
TYPE: MODULAR
COLOR: DOESKIN
SIZE: 3-5/8" X 2-1/4" X 7-5/8"

EM01 EXTERIOR MORTAR (EM01)
SPECIFICATION SECTION: 04 26 13
MANUFACTURER: AHI
COLOR: VANILLA-N

GLAZING

GL01 GLAZING (GL01)
SPECIFICATION SECTION: 08 80 00
ITEM: IGU VISION GLASS
MANUFACTURER: VITRO
PRODUCT NAME: SOLARBAN Z75/70 (2) OPTIBLUE + CLEAR IGU
SIZE: VARIES
LOCATION: EXTERIOR WALL
NOTES: VLT 46% U-VALUE .28 SHGC .23 LSG 2.00

GL03 GLAZING (GL03)
SPECIFICATION SECTION: 08 80 00
ITEM: IGU OPAQUE SPANDREL GLASS
MANUFACTURER: VITRO
PRODUCT NAME: OPACI-COAT-300
FINISH: #3-5323 OLD EAGLE
SIZE: VARIES
LOCATION: SEE ELEVATIONS

SS01 STOREFRONT SYSTEM (SS01)
SPECIFICATION SECTION: 08 41 13
MANUFACTURER: OLDCASTLE
PRODUCT NAME: FG-3000 THERMAL
FINISH: CLEAR ANODIZED
SIZE: VARIES
LOCATION: SEE ELEVATIONS

NOTES

1. EXTERIOR SIGNAGE TO BE PERMITED UNDER A SEPARATE SIGN PERMIT SET.

KEYNOTES

111	ENTERA PRE-MANUFACTURED CANOPY
157	PIPE BOLLARDS: IDEAL SHIELD. RE: SPECIFICATIONS: 402 GRAY, PANTONE 402C. RE 03/SS.1
170	ENTERA PRE-MANUFACTURED GUARDRAIL, RE:B4/A0.1
191	ENTERA PRE-MANUFACTURED ROOF SCREEN
208	MC-01; PRE-FINISHED METAL COPING
209	SS-01; ALUMINUM STOREFRONT SYSTEM
215	ILLUMINATED SIGNAGE BY OTHERS. G.C. TO PROVIDE PLYWOOD BLOCKING AS NEEDED TO ATTACH SIGNAGE
219	OVERFLOW SCUPPER
221	DRIVE-THRU WINDOW
231	MASONRY EXPANSION CONTROL JOINT
233	EXTERIOR LIGHT FIXTURE, RE: ELECTRICAL
240	DOOR BUZZER
241	PAINT (PT-5) EXTERIOR DOORS.
250	DOWNSPOUT NOZZLE 6 INCHES ABOVE INTERIOR FINISH FLOOR
261	SECURITY CAMERA
808	PROVIDE BLOCKING FOR SIGNAGE AS REQUIRED
816	BR-01 BRICK ROWLOCK
817	BR-01 BRICK SOLDIER COURSE

MATERIAL PERCENTAGE TOTALS

MATERIAL	SQUARE FEET	PERCENTAGE
BRICK	4,450 SF	85%
GLAZING	710 SF	14%
METAL	58 SF	1%
TOTAL	5,218 SF	100%

PREPARED FOR:
WHATABURGER

BL Companies
Architecture
Engineering
Environmental
Land Surveying

365 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

© 2022 BL COMPANIES, INC. THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF BL COMPANIES.

△	Date	Description

Seal / Signature

WHATABURGER COLUMBIA, TN

Project Name
WHATABURGER

Date: 1.19.2024

Project Number
2302822

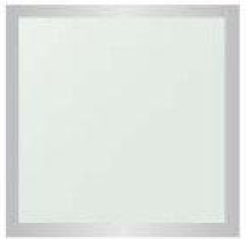
Description
EXTERIOR ELEVATIONS

Scale
As indicated

A2.2

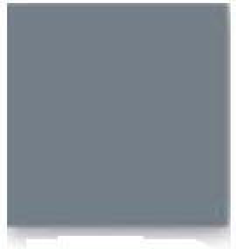
© 2022 Gensler

4/10/2024 8:46:14 AM C:\Users\LRezaie\Documents\Revit\2022\2302822_ARCH_Central_R22_lrezaie.rvt



GL01 GLAZING (GL01)

SPECIFICATION SECTION: 08 80 00
ITEM: IGU VISION GLASS
MANUFACTURER: VITRO
PRODUCT NAME: SOLARBAN Z75/70 (2) OPTIBLUE + CLEAR IGU
SIZE: VARIES
LOCATION: EXTERIOR WALL
NOTES: VLT 46% U-VALUE .28 SHGC .23 LSG 2.00



GL03 GLAZING (GL03)

SPECIFICATION SECTION: 08 80 00
ITEM: IGU OPAQUE SPANDREL GLASS
MANUFACTURER: VITRO
PRODUCT NAME: OPACI-COAT-300
FINISH: #3-5323 OLD EAGLE
SIZE: VARIES
LOCATION: SEE ELEVATIONS



SS01 STOREFRONT SYSTEM (SS01)

SPECIFICATION SECTION: 08 41 13
MANUFACTURER: OLDCASTLE
PRODUCT NAME: FG-3000 THERMAL
FINISH: CLEAR ANODIZED
SIZE: VARIES
LOCATION: SEE ELEVATIONS



BR01 EXTERIOR BRICK (BR01)

SPECIFICATION SECTION: 04 26 13
MANUFACTURER: ACME
TYPE: MODULAR
COLOR: PARK AVENUE
SIZE: 3-5/8" X 2-1/4" X 7-5/8"



BR02 EXTERIOR BRICK (BR02)

SPECIFICATION SECTION: 04 26 13
MANUFACTURER: ACME
TYPE: MODULAR
COLOR: DOESKIN
SIZE: 3-5/8" X 2-1/4" X 7-5/8"



PT-5 EXTERIOR PAINTING (PT-5)

SPECIFICATION SECTION: 09 91 13
MANUFACTURER: SHERWIN WILLIAMS
COLOR: WHATABURGER GRAY
LOCATION: RE: ELEVATIONS
NOTES: FLAT FINISH. INTERIOR SIDE OF DOORS/FRAMES EGGSHELL FINISH.



MC01 METAL PANEL (MC01)

SPECIFICATION SECTION: 07 71 00
MANUFACTURER: ENTERA BRANDING
PRODUCT NAME: METAL COPING SYSTEM
MATERIAL: COPING
COLOR: WHATABURGER GRAY
SIZE: VARIES
LOCATION: SEE ELEVATIONS



PT-4 EXTERIOR PAINT / SIGNAGE AND CANOPIES

SPECIFICATION SECTION: 09 91 23
MANUFACTURER: PPG
PRODUCT NUMBER: YBX18, RCX:4Y36, GPX:2, OOX:24, NYX:36
COLOR: ORANGE
LOCATION: RE: ELEVATIONS
NOTES: FLAT

PREPARED FOR:

WHATABURGER

BL Companies
Architecture
Engineering
Environmental
Land Surveying

365 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

© 2022 BL COMPANIES, INC. THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF BL COMPANIES.

△	Date	Description

Seal / Signature

WHATABURGER MOUNT JULIET, TN

Project Name
WHATABURGER

Date: 1.19.2024

Project Number
2302822

Description
SAMPLE BOARD

Scale

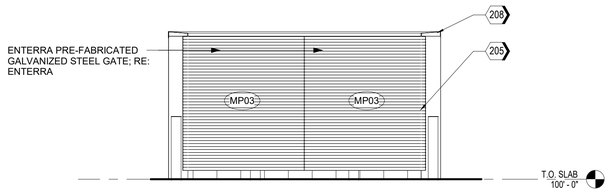
A2.6

© 2022 Gensler

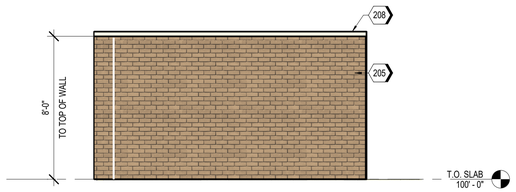
4/2/2024 3:54:27 PM C:\Users\TJohnson\Documents\2302822_ARCH_Central_R22_tjoldjohnson2886.rvt

KEYNOTES

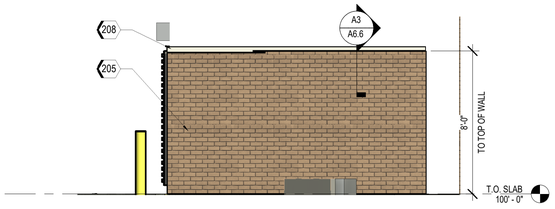
157	PIPE BOLLARDS: IDEAL SHIELD. RE: SPECIFICATIONS. 402 GRAY, PANTONE 402C. RE D3/S5.1
205	BR-01; BRICK VENEER
208	MC-01; PRE-FINISHED METAL COPING
339	RE-INFORCED CONCRETE APRON, RE: CIVIL
809	ANCHOR BOLTS AT DUMPSTER ENCLOSURE DOORS



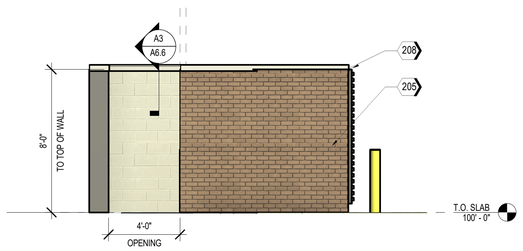
D2 DUMPSTER - ELEVATION @ GATE
1/4" = 1'-0"



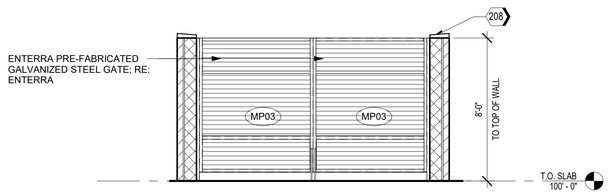
D1 DUMPSTER - ELEVATION @ REAR
SCALE 1/4" = 1'-0"



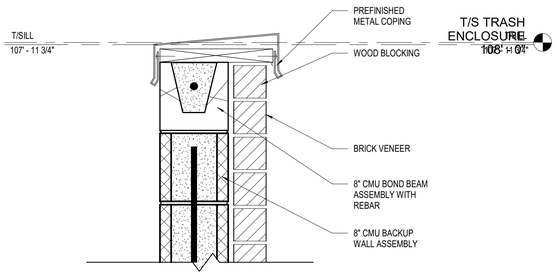
C1 DUMPSTER - ELEVATION @ EAST
SCALE 1/4" = 1'-0"



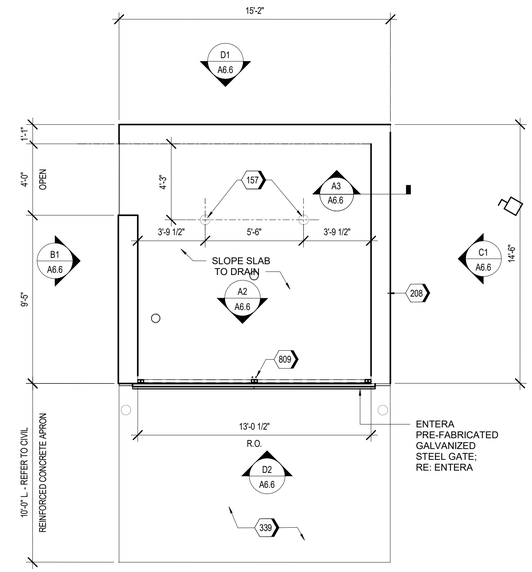
B1 DUMPSTER - ELEVATION @ SIDE ENTRY
SCALE 1/4" = 1'-0"



A2 DUMPSTER - GATE INSIDE FACE
1/4" = 1'-0"



A3 SECTION AT DUMPSTER ENCLOSURE AND COPING
1 1/2" = 1'-0"



A1 DUMPSTER - ENLARGED PLAN
SCALE 1/4" = 1'-0"

PREPARED FOR:

WHATABURGER

Architecture
Engineering
Environmental
Land Surveying
Companies

365 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

© 2022 BL COMPANIES, INC. THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF BL COMPANIES.

△	Date	Description

Seal / Signature

WHATABURGER COLUMBIA, TN

Project Name
WHATABURGER

Date: 1.19.2024

Project Number
2302822

Description
DUMPSTER

Scale
As indicated

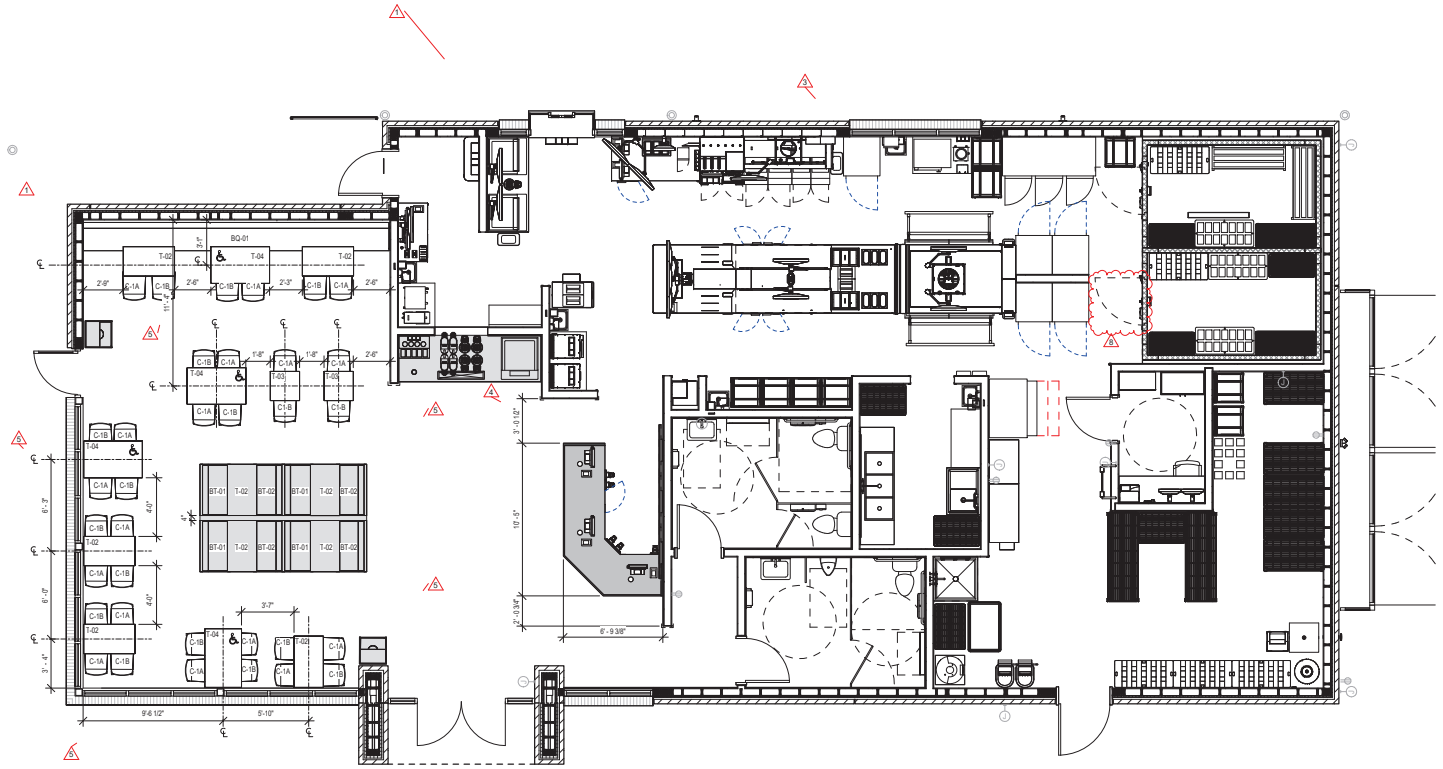
A6.6

© 2022 Gensler

4/9/2024 8:33:32 AM C:\Users\ESingleton\Documents\2302822_ARCH_Central_R22_esingletonXZRE7.rvt

FURNITURE LEGEND

KEY	DESCRIPTION	SIZE	NOTES
T-1	TABLE	24W X 24L X 30H	PL-2 TOP FINISH W. EB-1 EDGEBAND; WD-1 UNDERSIDE; PC-1 POST FINISH;
T-2	TABLE	24W X 42L X 30H	PL-2 TOP FINISH W. EB-1 EDGEBAND; WD-1 UNDERSIDE; PC-1 POST FINISH;
T-3	TABLE	24W X 24L X 30H	PL-3 TOP FINISH W. EB-1 EDGEBAND; WD-1 UNDERSIDE; PC-1 POST FINISH;
T-4	TABLE	30W X 48L X 30H	ADA COMPLIANT TABLES; PL-2 TOP FINISH W. EB-1 EDGEBAND; WD-1 UNDERSIDE; PC-1 POST FINISH;
BT-1	BOOTH	42"L	SINGLE BOOTH; UP-1 SEAT, UP-2 BACK,
BT-2	BOOTH	42"L	DOUBLE BOOTH; UP-1 SEAT, UP-2 BACK,
BQ-1	BANQUETTE SEATING	23'-0"	FIELD VERIFY LENGTH; UP-1 SEAT, UP-2 BACK,
BQ-2	BANQUETTE SEATING	23'-1"	FIELD VERIFY LENGTH IN FIELD; UP-1 SEAT, UP-2 BACK;
S-1A	TABLE STOOL SEATING	24" DIA. X 30"H	UP-3 SEAT, PC-1 POST FINISH
S-1B	TABLE STOOL SEATING	24" DIA. X 30"H	UP-3 SEAT, PC-1 POST FINISH
S-2A	TABLE STOOL SEATING	24" DIA. X 18"H	UP-3 SEAT, PC-1 POST FINISH
S-2B	TABLE STOOL SEATING	24" DIA. X 18"H	UP-3 SEAT, PC-1 POST FINISH
ST-1	STANDING/WAITING COUNTER	7' 4" L X 36" H	



2 FIRST FLOOR PLAN w/ FURNITURE AND EQUIPMENT
SCALE 1/4" = 1'-0"

WHATABURGER

Gensler
229 E. Houston St.
Suite 200
San Antonio, TX 78205
United States
Tel 210.222.8059

wallace design collective
wallace design collective, pc
structural · civil · landscape · survey
120 north martin luther king jr. boulevard
tulsa, oklahoma 74103
918.584.5858 · 800.364.5858

CLEARY ZIMMERMANN ENGINEERS
Firm No. F-9357 | Clearyzimmermann.com
1344 S. Flores, Ste. 101, San Antonio, TX 78204

ENTERA
Your total branding solution

△	Date	Description
	10.27.2022	2022 Q4 PT22 Prototype Release
1	12.22.2022	2022 Q4 PT22 Prototype Update
3	03.10.2023	2023 Q1 PT22 Issues Revisions
4	06.30.2023	2023 Q2 PT22 Prototype Release
5	09.29.2023	2023 Q3 PT22 Prototype Release
8	12.29.2023	2023 Q4 PT22 Prototype Release

These drawings and associate specifications are the exclusive and confidential property of Whataburger LLC and shall not be reproduced without written authorization of the Owner. The prototypical drawings were not prepared for use on a specific site and are not suitable for jurisdictional review or use. Use of these drawings for reference or as example on a specific project requires the services of properly licensed architects and engineers. Reproduction of prototype drawings for reuse as construction documents is not authorized.

Seal / Signature

NOT FOR CONSTRUCTION

Project Name PT22M
1234 MAIN ST.

Project Number
122.0088.000

Description
OVERALL/ FURNITURE FLOOR PLAN

Scale
As indicated

A1.0

© 2023 Gensler

12/16/2023 2:04:45 PM Autodesk Docs://122.0088.000 PT22 - Whataburger Prototype Maintenance PT22/PT22M_ARCH_R22.rvt



TRAFFIC IMPACT STUDY

McClure Farms
Development

2504 & 2524 Nashville Highway
Columbia, TN

T2-Eng.com

T-SQUARE
ENGINEERING

TRAFFIC IMPACT STUDY

McClure Farms Development
2504 & 2524 Nashville Highway
Columbia, TN

Prepared for:

PROSPER
Engineering

Prepared by:

T-SQUARE ENGINEERING
1329 West Main Street
Franklin, TN 37064
615.678.8212
www.T2-eng.com

1329 West Main Street
Franklin, TN 37064
615-678-8212

www.T2-Eng.com

Certification

I certify that this Traffic Impact Study has been prepared by me and under my immediate supervision and that I have the experience and training in the field of traffic and transportation engineering.



2/16/24

James O. Ensley, III, P.E., PTOE
T-Square Engineering, Inc.
Project Manager – Traffic Division

Revised: 2/16/2024
Original: 8/9/2021

TABLE OF CONTENTS

Introduction 1
Existing Study Area 5
Existing Roadway Network 5
Existing Intersections 8
Existing Traffic Volumes 12
Existing Capacity Analysis 14
Background Traffic Volumes 17
Background Capacity Analyses 20
Impacts 26
Traffic Generation 26
Projected Traffic Distribution and Assignments 28
Projected Capacity Analysis 33
Intersection Assessments (Projected Conditions) 38
Conclusions 41
Recommendations 48
Improvement Recommendations for the McClure Farms Development 48

List of Tables

Table 1. Level of Service (LOS) Details 14
Table 2. Existing Capacity Analyses..... 15
Table 3. Background Capacity Analyses..... 23
Table 4. McClure Farms Development Trip Generation Summary..... 27
Table 5. Projected Capacity Analyses 34
Table 6. Major-Road Approach Geometry, NBR Nashville Highway (US-31) at Old Highway 31/SA1..... 38
Table 7. Major-Road Approach Geometry, SBL Nashville Highway at Old Highway 31/SA1 39
Table 8. Minor-Road Approach Geometry, SBR Site Access 2 at Persimmon Street 39

List of Figures

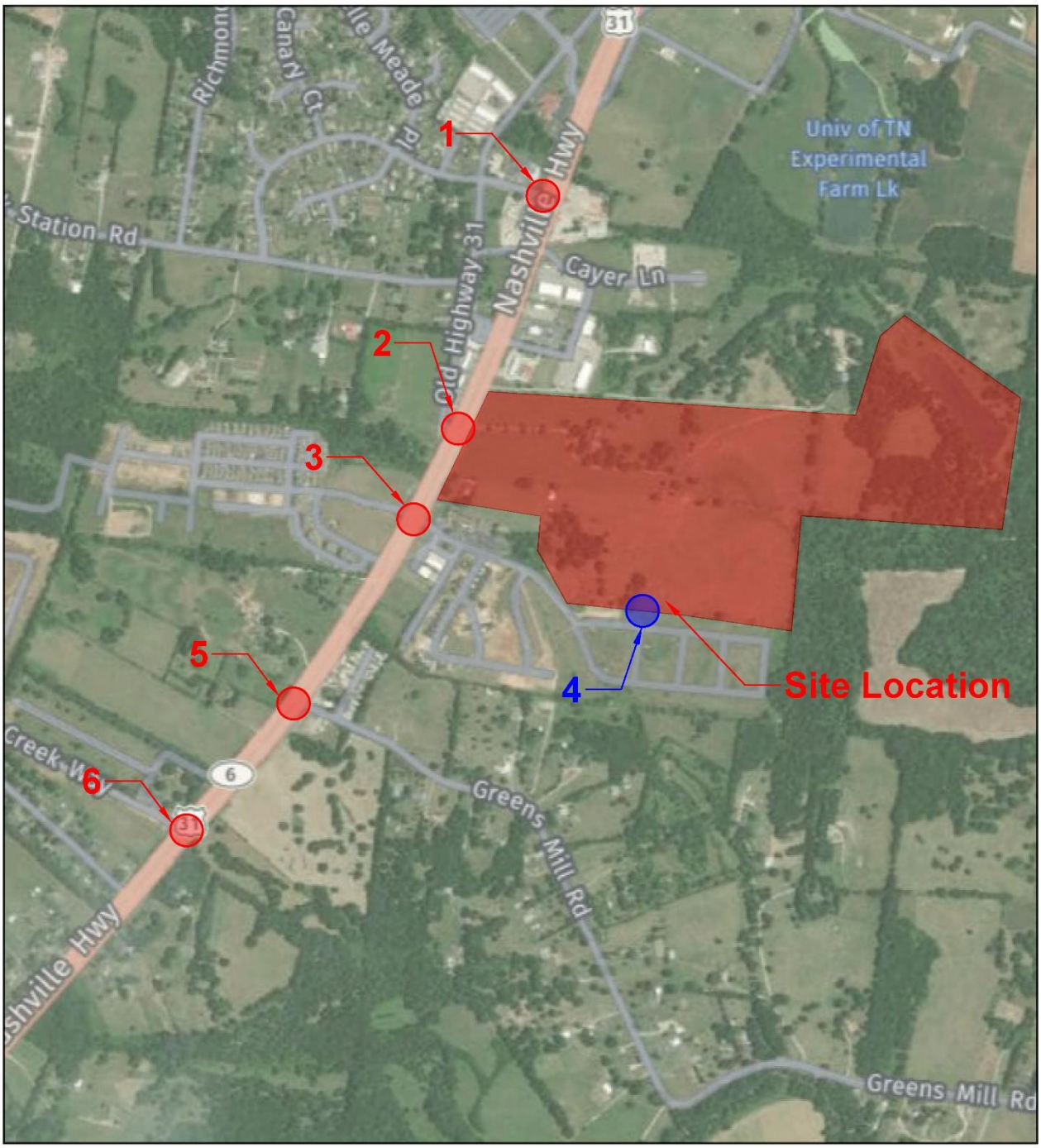
Figure 1. Location Map 2
Figure 2A. Preliminary Site Plan 3
Figure 2B. Commercial Concept Plan 4
Figure 3. Existing Lane Geometry 11
Figure 4. Existing Traffic Volumes (2021) 13
Figure 5. TDOT Count Locations & Background Traffic Growth Trends 18
Figure 6. Combined Background Traffic Volumes (2027) 19
Figure 7. Off-Site Improvements from Background Developments 21
Figure 8A. Distribution of Generated Peak Hour Traffic Volumes (Primary) 29
Figure 8B. Distribution of Generated Peak Hour Traffic Volumes (Pass-By) 30
Figure 9. Assignment of Generated Peak Hour Traffic Volumes (Primary & Pass-By) 31
Figure 10. Projected Peak Hour Traffic Volumes (2027) 32
Figure 11 – Recommended Improvements for the McClure Farms Development 50

Introduction

The purpose of this study is to analyze the traffic impacts on the surrounding roadway network associated with the proposed McClure Farms Development along Nashville Highway in Columbia, TN. The proposed mixed-use development will consist of approximately 116 single-family homes, approximately 314 multi-family (low-rise) housing units, a fast-food restaurant with drive thru of approximately 3,305 square feet and a convenience market/gas station with approximately sixteen (16) fueling positions.

As shown on the Location Map in Figure 1, the proposed development is located along the east side of Nashville Highway in Columbia, Figures 2A and 2B show the Preliminary Site Plan and Commercial Concept Plan, respectively. The development is proposing two (2) site access points: one (1) site access with a left-in/right-in/right-out configuration on the east side of Nashville Highway to be aligned with the intersection of Nashville Highway and Old Highway 31 and one (1) site access to be connected to the existing stub-out located along Persimmon Street, east of Grove Park Way within the Grove Park Subdivision. The surrounding area is predominantly residential.

This study analyzes the existing and projected traffic operations of the roadway networks and intersections surrounding the proposed development. To evaluate the projected traffic operations, existing traffic volumes were grown (background traffic volumes) to a 2027 design year based on average traffic growth rates and combined with the generated traffic volumes from nearby background developments and estimated trips generated from the proposed development. Lastly, improvement recommendations were presented to alleviate the anticipated traffic volumes' effect on the existing roadway network near the site.



LEGEND

- Existing Study Intersection
- Proposed Study Intersection

N.T.S.

Figure 1
Location Map

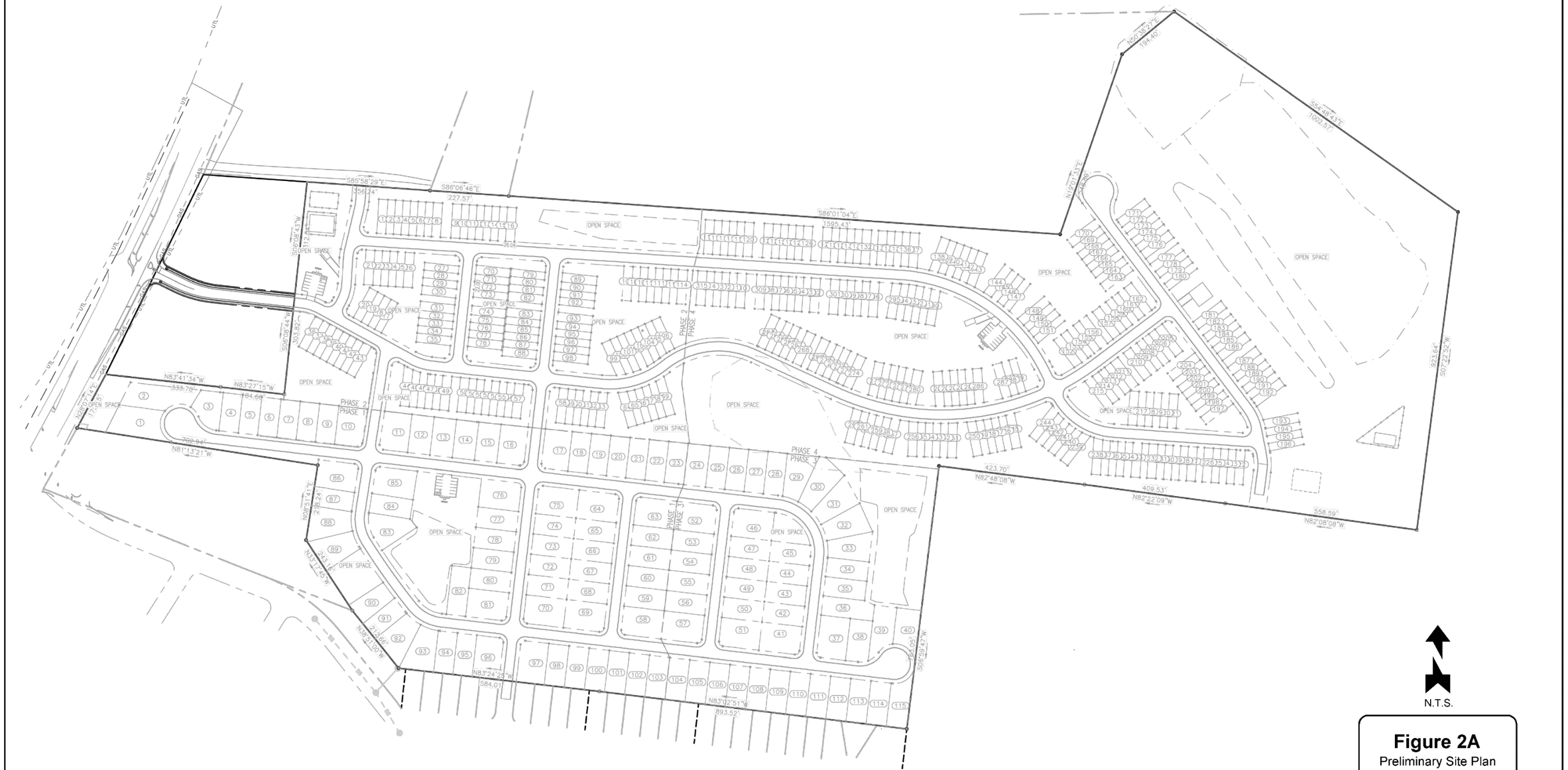


Figure 2A
Preliminary Site Plan

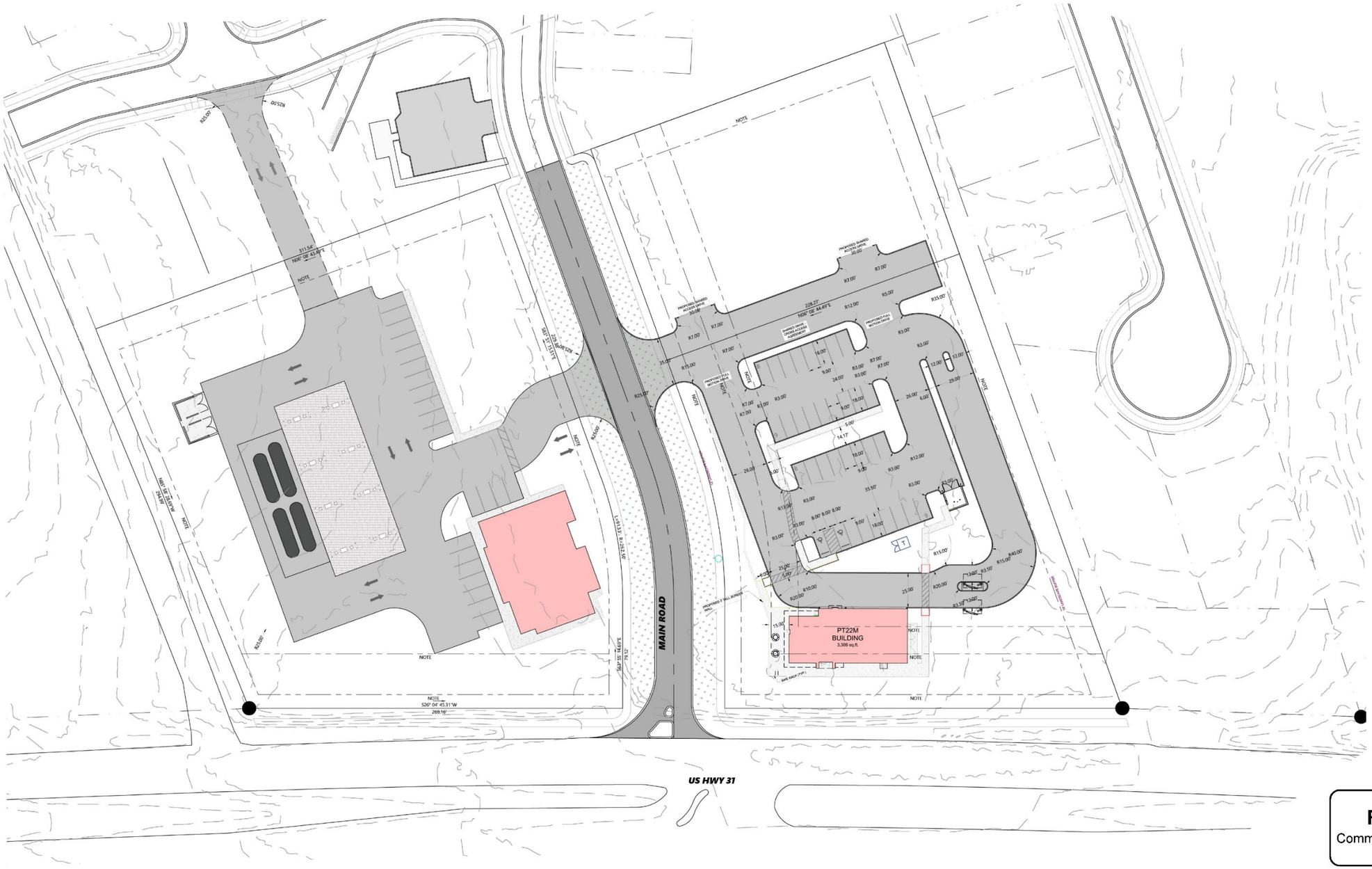


Figure 2B
Commercial Concept Plan

Existing Study Area

Existing Roadway Network

The existing roadway network surrounding the proposed McClure Farms Development includes Nashville Highway (US-31), Spring Meade Boulevard, Old Highway 31N, Arden Village Drive, Grove Park Way, Greens Mill Road, and Hidden Creek Way. Below is a description of each roadway serving the proposed development:

Nashville Highway (US-31)

Nashville Highway (US-31) is functionally classified by the City of Columbia as an arterial roadway. Nashville Highway (US-31) is oriented in a north-south direction and provides a connection from the City of Columbia to the south and the City of Spring Hill to the north. Near the project site, Nashville Highway (US-31) is a four (4) lane divided roadway with two (2) twelve (12) foot travel lanes in each direction (northbound and southbound) and eight (8) foot shoulders. The posted speed limit along Nashville Highway (US-31) is 55 MPH.



Looking south along Nashville Highway (US-31)

Spring Meade Boulevard

Spring Meade Boulevard is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Spring Meade Boulevard is oriented in an east-west direction and provides a connection between Carters Creek Station Road to the west and Nashville Highway (US-31) to the east. Near the project site, Spring Meade Boulevard is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound) in each direction. Curb and gutter exist on either side of Spring Meade Boulevard. There is no posted speed limit along Spring Meade Boulevard. The assumed speed limit is 25 MPH.



Looking west along Spring Meade Boulevard

Old Highway 31N

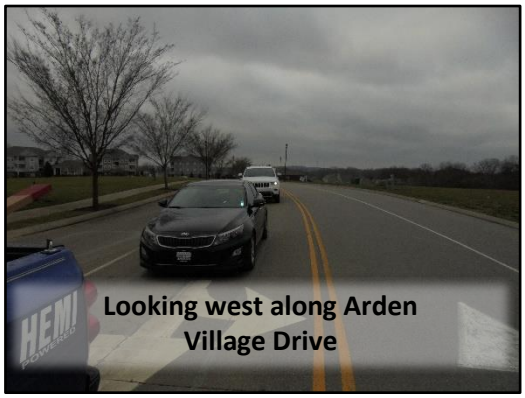
Old Highway 31N is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Old Highway 31N is oriented in a north-south direction and provides a connection to Spring Hill High School to the north and Nashville Highway (US-31) to the south. Near the project site, Old Highway 31N is a two (2) lane roadway with one (1) ten (10) foot travel lane in each direction (northbound and southbound) and two (2) foot shoulders. The posted speed limit along Old Highway 31 ranges from 25 to 35 MPH.



Looking east along Old Highway 31N

Arden Village Drive

Arden Village Drive is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Arden Village Drive is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the east and the proposed site to the west. Near the project site, Arden Village Drive is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound). Curb and gutter exist on either side of Arden Village Drive. There is no posted speed limit along Arden Village Drive. The assumed speed limit is 25 MPH.



Looking west along Arden Village Drive

Grove Park Way

Grove Park Way is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Grove Park Way is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the west and terminates to the east. Near the project site, Grove Park Way is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound). Curb and gutter exist on either side of Grove Park Way. There is no posted speed limit along Grove Park Way. The assumed speed limit is 25 MPH.



Looking east along Grove Park Way

Greens Mill Road

Greens Mill Road is functionally classified by the City of Columbia as a collector roadway. Near the project site, Greens Mill Road is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the west and Kedron Road to the east. Near the project site, Greens Mill Road is a two (2) lane roadway with one (1) ten (10) foot travel lane in each direction (eastbound and westbound) and two (2) foot shoulders. The posted speed limit along Greens Mill Road is 45 MPH.



Looking east along Greens Mill Road

Hidden Creek Way

Hidden Creek Way is not functionally classified by the City of Columbia, and therefore classified as a local roadway for this study. Near the project site, Hidden Creek Way is oriented in an east-west direction and provides a connection from Nashville Highway (US-31) to the east and the proposed site to the west. Near the project site, Hidden Creek Way is a two (2) lane roadway with one (1) twelve (12) foot travel lane in each direction (eastbound and westbound). Curb and gutter exist on either side of Hidden Creek Way. No shoulders exist along Hidden Creek Way. There is no posted speed limit along Hidden Creek Way. The assumed speed is 25 MPH.



Looking west along Hidden Creek Way

Existing Intersections

This study analyzed five (5) existing intersections within the vicinity of the project site. The intersections analyzed are listed below with a brief description of each, and Figure 3 shows the existing lane geometry at the intersections.

Nashville Highway (US-31) and Spring Meade Boulevard

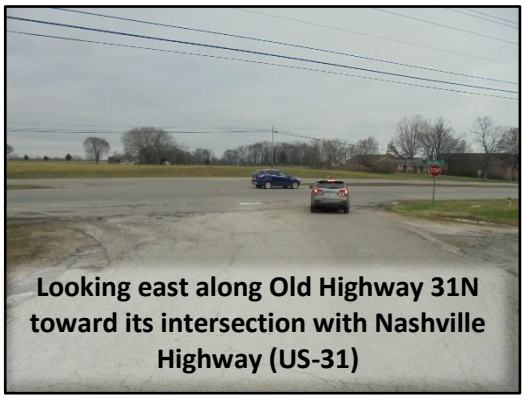
The existing intersection of Nashville Highway (US-31) and Spring Meade Boulevard is a signalized intersection with four (4) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 250 feet of storage, one (1) exclusive lane for through movements, and one (1) shared lane for through and right-turn movements. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 220 feet of storage, one (1) exclusive lane for through movements, and one (1) shared lane for through and right-turn movements. The eastbound approach of Spring Meade Boulevard has one (1) exclusive lane for left-turn movements with approximately 400 feet of storage and one (1) shared lane for through and right-turn movements. The westbound approach Driveway has one (1) shared lane for left-turn, through, and right-turn movements.



Looking north along Nashville Highway (US-31) toward its intersection with Spring Meade Boulevard

Nashville Highway (US-31) and Old Highway 31N

The existing intersection of Nashville Highway (US-31) and Old Highway 31N is an unsignalized intersection with three (3) approaches. The northbound approach of Nashville Highway (US-31) has one (1) shared lane for left-turn and through movements and one (1) exclusive lane for through movements operating under a free flow condition. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for through movements and one (1) shared lane for through and right-turn movements operating under a free flow condition. The eastbound approach of Old Highway 31N has one (1) shared lane for left-turn and right-turn movements operating under a stop condition.



Looking east along Old Highway 31N toward its intersection with Nashville Highway (US-31)

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way



Looking south along Nashville Highway (US-31) toward its intersection with Arden Village Drive/Grove Park Way Nashville Highway (US-31)

The existing intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way is a signalized intersection with four (4) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 330 feet of storage, two (2) exclusive lanes for through movements, and one (1) exclusive lane for right-turn movements with approximately 125 feet of storage. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 330 feet of storage, two (2) exclusive lanes for through movements, and one (1) exclusive lane for right-turn movements with approximately 125 feet of storage. The eastbound approach of Arden Village Drive has one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements with approximately 150 feet of storage. The westbound approach of Grove Park Way has one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements with approximately 100 feet of storage.

Nashville Highway (US-31) and Greens Mill Road



Looking west along Greens Mill Road toward its intersection with Nashville Highway (US-31)

The existing intersection of Greens Mill Road and Nashville Highway (US-31) is an unsignalized intersection with three (3) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for through movements and one (1) shared lane for through and right-turn movements operating under a free flow condition. The southbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 480 feet of storage and two (2) exclusive lanes for through movements operating under a free flow condition. The westbound approach of Greens Mill Road has one (1) shared lane for left-turn and right-turn movements operating under a stop condition.

Nashville Highway (US-31) and Hidden Creek Way

The existing intersection of Hidden Creek Way and Nashville Highway (US-31) is a signalized intersection with three (3) approaches. The northbound approach of Nashville Highway (US-31) has one (1) exclusive lane for left-turn movements with approximately 260 feet of storage and two (2) exclusive lanes for through movements. The southbound approach of Nashville Highway (US-31) has two (2) exclusive lanes for through movements and one (1) exclusive lane for right-turn movements with approximately 270 feet of storage. The eastbound approach of Hidden Creek Way has one (1) exclusive lane for left-turn movements and one (1) exclusive lane for right-turn movements.



Looking north along Nashville Highway (US-31) toward its intersection with Hidden Creek Way

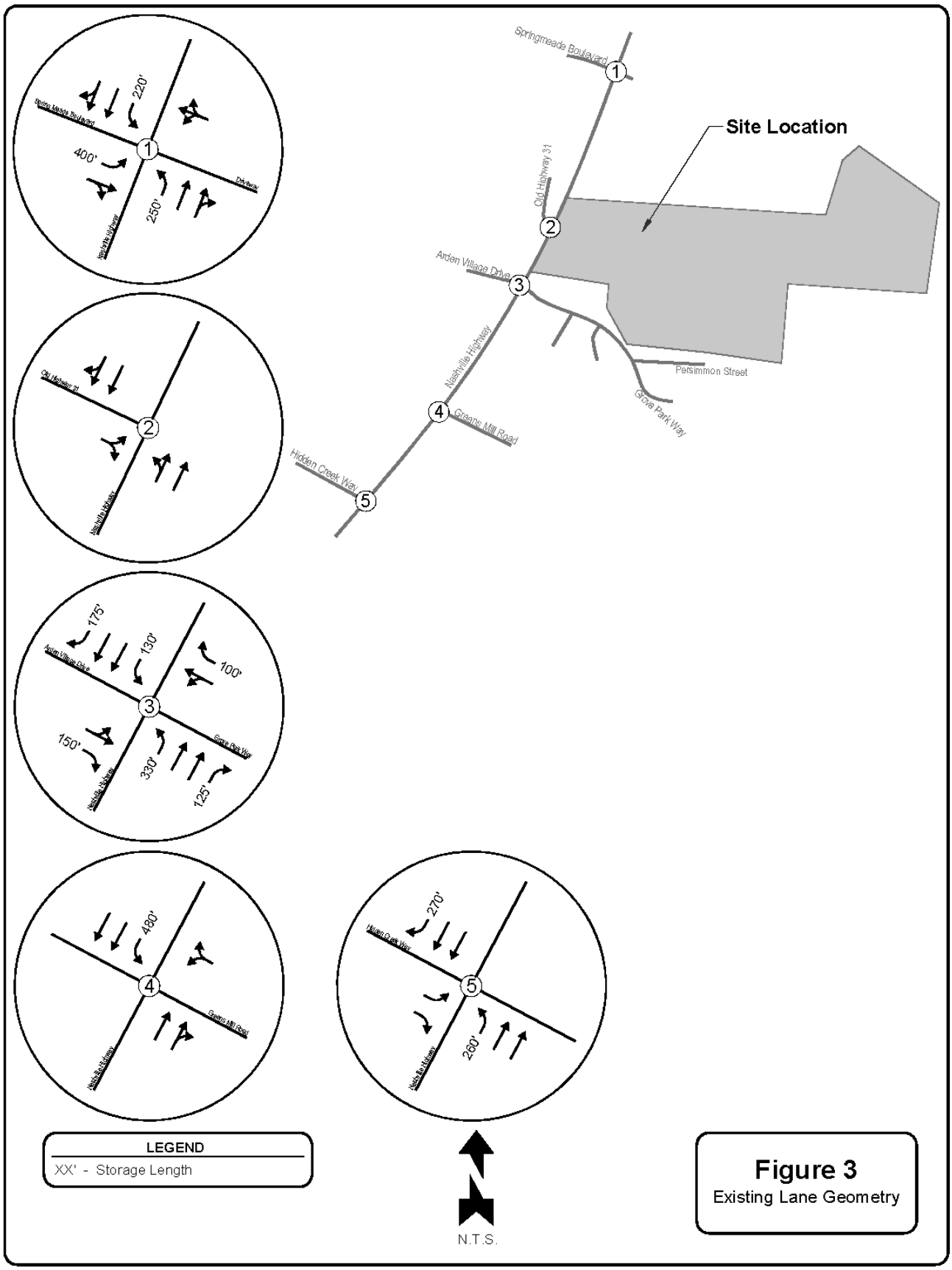


Figure 3
Existing Lane Geometry

Existing Traffic Volumes

To establish existing traffic volumes within the study area (as requested and provided by the City of Columbia), T-Square Engineering utilized the turning movement counts conducted by RG Phillips Consulting as part of the MSC Apartments Traffic Impact Study (TIS) in March 2020 for the following intersections:

- Nashville Highway (US-31) & Spring Meade Boulevard
- Nashville Highway (US-31) & Old Highway 31
- Nashville Highway (US-31) & Arden Village Drive/Grove Park Way

To establish existing (2021) traffic volumes, it should be noted that the traffic count volumes for the above intersections were grown for one (1) year by a factor 3.76% determined by the calculated average growth rate within the surrounding area, shown within Figure 5 below.

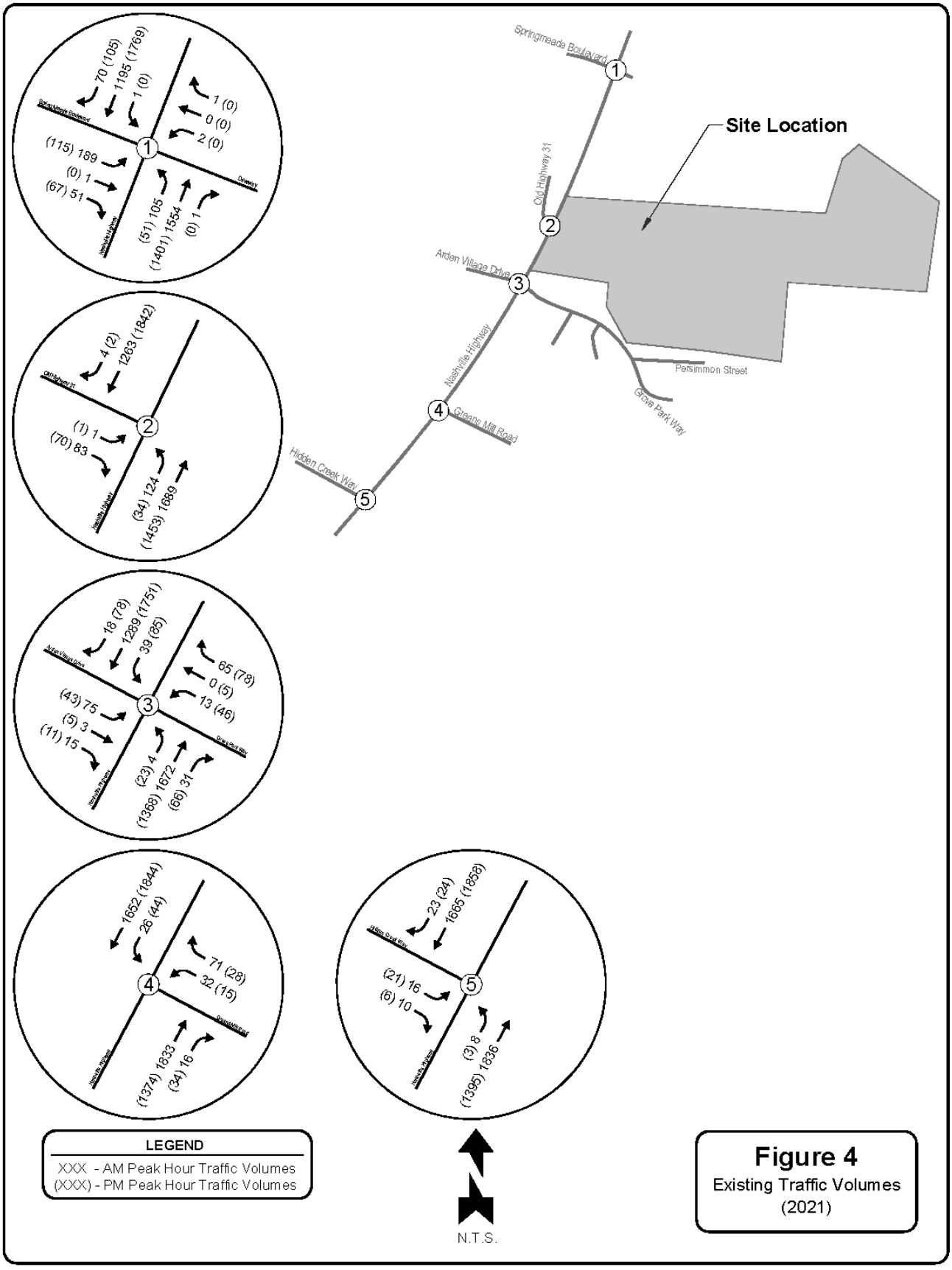
In addition, as requested by the City of Columbia, T-Square Engineering utilized the turning movement counts conducted by T-Square Engineering as part of the Carters Station Master Plan Traffic Impact Study (TIS) in May 2019 for the following intersections:

- Nashville Highway (US-31) & Greens Mill Road
- Nashville Highway (US-31) & Hidden Creek Way

To establish existing (2021) traffic volumes, it should be noted that the traffic count volumes at for the above intersections were grown for two (2) years by a factor 3.76% determined by the calculated average growth rate within the surrounding area, shown within Figure 5 below.

In addition, T-Square Engineering also conducted turning movement counts at the intersection of Grove Park Way and Persimmon Street on a typical weekday in January 2021 while schools were in session. The turning movement count was conducted over a total of twelve (12) hours from 6:00 AM – 6:00 PM.

For this analysis, the AM and PM peak hour traffic volumes were established and determined to occur between 7:15 AM – 8:15 AM and 4:45 PM – 5:45 PM, respectively. Figure 4 shows the existing peak hour totals at the study intersections for the AM and PM peak hour periods. Appendix A contains the original peak hour turning movement counts and the adjusted peak hour turning movement counts.


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
70 (105)
1195 (1769)
1 (0)
1 (0)
0 (0)
2 (0)
(115) 189
(0) 1
(67) 51
(51) 105
(1401) 1554
(0) 1
4 (2)
1263 (1842)
(1) 1
(70) 83
(34) 124
(1453) 1689
18 (78)
1289 (1751)
39 (85)
65 (78)
0 (5)
13 (46)
(43) 75
(5) 3
(11) 15
(23) 4
(1368) 1672
(66) 31
1652 (1844)
26 (44)
71 (28)
32 (15)
(1374) 1633
(34) 16
23 (24)
1665 (1858)
(21) 16
(6) 10
(3) 8
(1395) 1836
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure 4
Existing Traffic Volumes
(2021)

Existing Capacity Analysis

To evaluate the existing traffic operations at the study intersections within the vicinity of the project site, AM and PM peak hour capacity analyses were performed per the calculations outlined in the Highway Capacity Manual[1](HCM). Levels of service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement. An LOS is a qualitative measure or grade used to distinguish how traffic is serviced at an intersection or along a roadway. The range of LOS is A to F, with A being the highest and F the lowest. The 95th percentile queue is the queue length (in vehicles) that has only a five (5) percent probability of being exceeded during the analysis period. The 95th percentile queue is not typical of what an average driver would experience, and driver experiences would be better characterized by the mean queue length. The table below details each LOS for signalized and unsignalized intersections, as specified within the HCM.

Table 1. Level of Service (LOS) Details

Level of Service*	Average Control Delay (seconds per vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50
Source: HCM 2010, Exhibits 18-4 and 19-1		

To determine the effectiveness of traffic operations within the study area a minimum LOS or baseline needs to be established. Any LOS below the established baseline will be considered unsatisfactory. LOS C is generally acceptable for typical roadway function while LOS D is typically considered to be the minimum acceptable LOS. According to the City of Columbia's *Transportation Master Plan (2018)*, "In urban areas, LOS D is typically considered to be the minimum acceptable level of service." The following conditions shall be considered unsatisfactory for the purposes of this study:

1. Overall intersections with an LOS E or F.
2. Individual traffic movements with an LOS E or F.

The existing intersections within the study area were analyzed with existing traffic volumes under existing roadway conditions/geometries. It should be noted that existing traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Spring Meade Boulevard, Nashville Highway (US-31) and Arden Village Drive/Grove Park Way, and Nashville Highway (US-31) and Hidden Creek Way for this analysis. The existing capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

[1] Transportation Research Board (TRB). Highway Capacity Manual, 5th Edition (2010). Washington, DC: 2010

Table 2. Existing Capacity Analyses

Study Intersection	Control	Approach	2021 Existing Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Nashville Highway (US-31) and Spring Meade Boulevard**	Signal	NB Left	D	42.7	125	F	100.3	151
		NB Thru	B	18.2	195	A	4.2	109
		NB Thru/Right	B	18.0	201	A	0.0	130
		SB Left	F	122.6	0	A	0.0	0
		SB Thru	B	19.5	245	B	13.0	366
		SB Thru/Right	B	19.6	260	B	13.4	368
		EB Left	D	36.5	171	F	90.1	179
		EB Thru/Right	C	29.4	56	F	80.3	76
		WB Left	D	47.5	10	A	0.0	0
		WB Thru/Right	D	43.4	20	A	0.0	0
		Overall	**C**	**20.8**	--	**B**	**14.7**	--
2. **Nashville Highway (US-31) and Old Highway 31N**	TWSC	NB Left	B	15.0	50	C	19.7	25
		EB Left/Right	C	20.6	50	D	26.8	50
3. **Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**	Signal	NB Left	E	65.6	8	F	81.8	48
		NB Thru	C	20.2	365	B	17.1	373
		NB Right	A	8.7	111	A	9.7	89
		SB Left	E	75.6	63	F	93.7	153
		SB Thru	B	15.0	313	B	18.6	584
		SB Right	A	8.5	92	A	8.0	170
		EB Left/Thru	E	74.8	152	F	87.5	89
		EB Right	E	62.9	36	E	75.4	29
		WB Left/Thru	E	63.2	63	E	74.4	103
		WB Right	E	78.2	88	F	85.7	86
		Overall	**C**	**21.5**	--	**C**	**23.2**	--
4. **Nashville Highway (US-31) and Greens Mill Road**	TWSC	SB Left	C	19.2	25	B	14.4	25
		WB Left/Right	F	78.3	125	D	25.7	25
5. **Nashville Highway (US-31) and Hidden Creek Way**	Signal	NB Left	A	7.5	21	A	8.9	15
		NB Thru	A	4.2	122	A	2.9	107
		SB Thru	A	8.2	112	A	8.6	142
		SB Right	A	2.7	0	A	2.3	0
		EB Left	D	41.5	35	D	46.8	56
		EB Right	D	39.0	30	D	43.9	23
		Overall	**A**	**6.4**	--	**A**	**6.4**	--

The following assessments are based on the results of the Existing Capacity Analyses as shown in the table above:

Nashville Highway (US-31) and Springmeade Boulevard/Private Drive

- The exclusive northbound left-turn movement currently operates at LOS F during the PM peak hour period with existing traffic volumes.
- The exclusive southbound left-turn movement currently operates at LOS F during the AM peak hour period with existing traffic volumes.
- The exclusive eastbound left-turn movement currently operates at LOS F during the PM peak hour period with existing traffic volumes.
- The shared eastbound through and right-turn movement currently operates at LOS F during the PM peak hour period with existing traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with existing traffic volumes.

Nashville Highway (US-31) and Old Highway 31N

- All critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with existing traffic volumes.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- The exclusive northbound left-turn movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- The exclusive southbound left-turn movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- The shared eastbound left-turn and through movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- The exclusive eastbound right-turn movement currently operates at LOS E during both the AM and PM peak hour periods with existing traffic volumes.
- The shared westbound left-turn and through movement currently operates at LOS E during both the AM and PM peak hour periods with existing traffic volumes.
- The exclusive westbound right-turn movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS C during the peak hour periods with existing traffic volumes.

Nashville Highway (US-31) and Greens Mill Road

- The shared westbound left-turn and right-turn movement currently operates at LOS F during the AM peak hour period with existing traffic volumes.

Nashville Highway (US-31) and Hidden Creek Way

- All critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with existing traffic volumes.

Background Traffic Volumes

To account for traffic growth within the vicinity of the project site prior to the completion of the proposed McClure Farms Development, background traffic volumes were established. Average annual daily traffic (AADT) volumes were obtained from Tennessee Department of Transportation (TDOT) count stations, and an average growth trend per year was established. This growth trend was used as a multiplication factor to grow the existing traffic volumes to the 2022 design year (development completion). Figure 5 displays the locations of the TDOT Count Stations within the surrounding area.

As shown in Figure 5, the average yearly percent change in traffic over a six (6) year period from 2013 - 2018 was 3.76%. However, to conform to the recently conducted traffic impact studies within the area, the existing traffic volumes as shown in Figure 4 were grown by +2.00% per year for six (6) years. Figure D1 in Appendix D shows the background peak hour totals at the study intersections for the AM and PM peak hour periods.

To account for the additional traffic growth within the vicinity of the project site, the generated traffic volumes from previously conducted Traffic Studies near the project site were added to the grown background traffic volumes. These developments are listed below as outlined within the Greens Mill Master Plan Traffic Impact Study conducted by KCI Technologies.

- Grove Park (Single-Family Residential)
- Homestead (Single-Family Residential)
- Villages at Carters Station (Single-Family Residential)
- Drumright Property (Single-Family and Multifamily Residential)
- Arden Village (Retail Space)
- MSC Apartments (Multifamily Residential)
- The Ridge at Carters Village (Single Family Residential)
- Greens Mill Development (Single Family Residential)

The total generated background development volumes can be found on Figure D2 in Appendix D. The generated traffic volumes from each development above are shown on Figures D3-D11 in Appendix D. The background traffic volumes as shown in Figure D1 were added to the total generated background development volumes as shown in Figure D2, resulting in the total combined background peak hour traffic volumes for the study intersections, as shown on Figure 6.



TDOT Count Station:	Maury 000091		Maury 000019		Average % Growth
Year	AADT	% Change	AADT	% Change	
2018	36,823	--	1,251	--	--
2017	35,063	5.02%	1,202	4.08%	4.55%
2016	33,930	4.26%	1,131	5.31%	4.76%
2015	34,875	1.86%	1,195	1.56%	1.71%
2014	34,235	1.89%	1,072	4.17%	3.03%
2013	30,975	3.78%	973	5.71%	4.75%
Average % Change	**3.36%**		**4.17%**		**3.76%**
				Applied % Growth*	**2.00%***

*Applied Growth matches Background Growth utilized within the MSC Apartments Traffic Impact Study (May 2020)

N.T.S.

Figure 5
TDOT Count Locations & Background Traffic Growth Trends

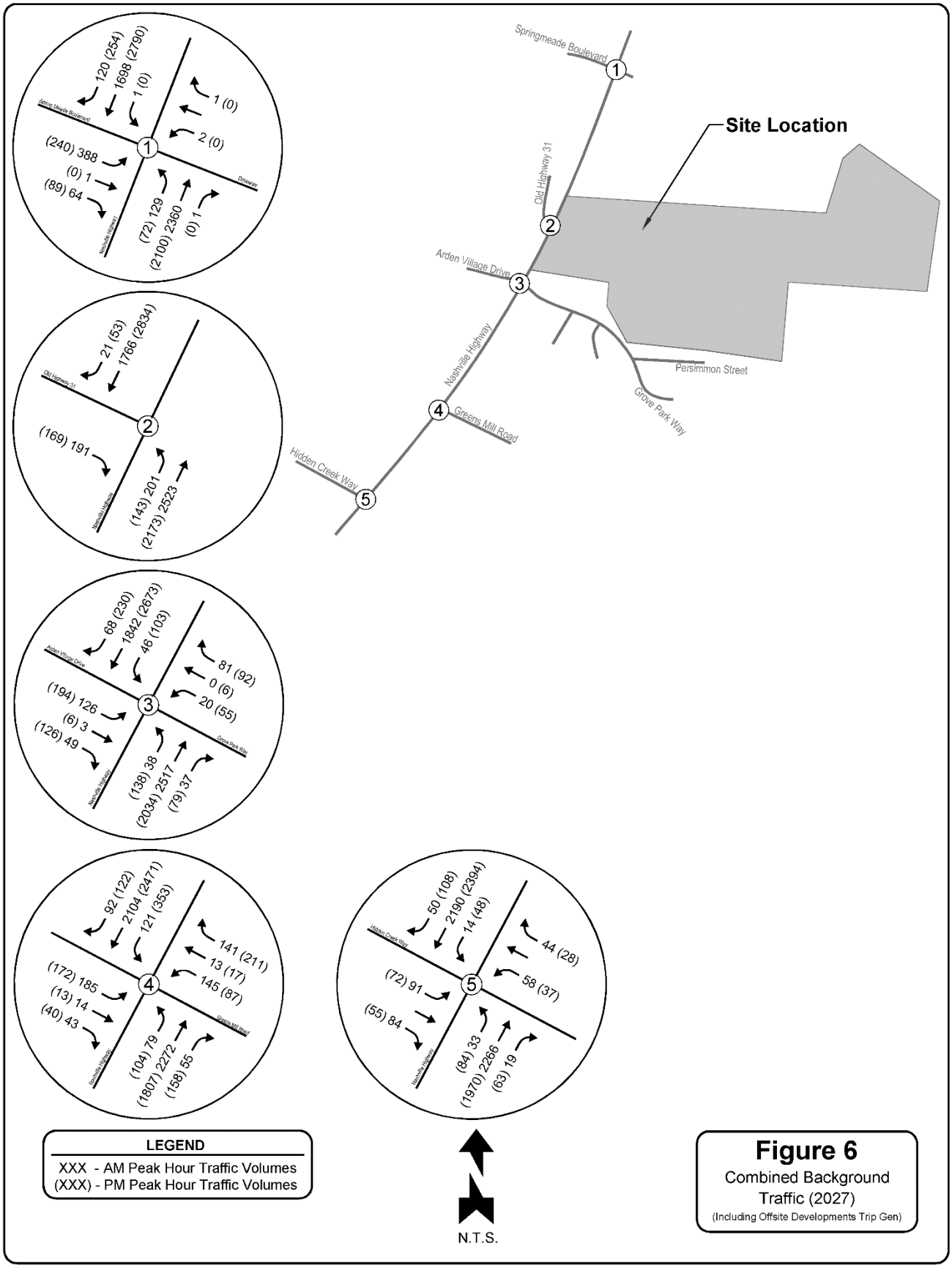


Figure 6
Combined Background Traffic (2027)
(Including Offsite Developments Trip Gen)

Background Capacity Analyses

To evaluate the background traffic operations at the study intersections within the vicinity of the project site, the AM and PM peak hour capacity analyses were performed based on calculations outlined in the Highway Capacity Manual (HCM). Levels of service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement.

The previously conducted Traffic Studies for the background developments resulted in multiple recommended roadway improvements to study intersections. These recommended improvements will be utilized as part of the background roadway conditions and have been included in the background capacity analyses. The improvements are listed below by intersection. Figure 7 shows a summary of the off-site improvements from previously conducted traffic studies for background developments.

Nashville Highway (US-31) and Spring Meade Boulevard

- Configure the eastbound approach to include one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) exclusive right-turn lane (Ridge at Carters Station)

Nashville Highway (US-31) and Old Highway 31N

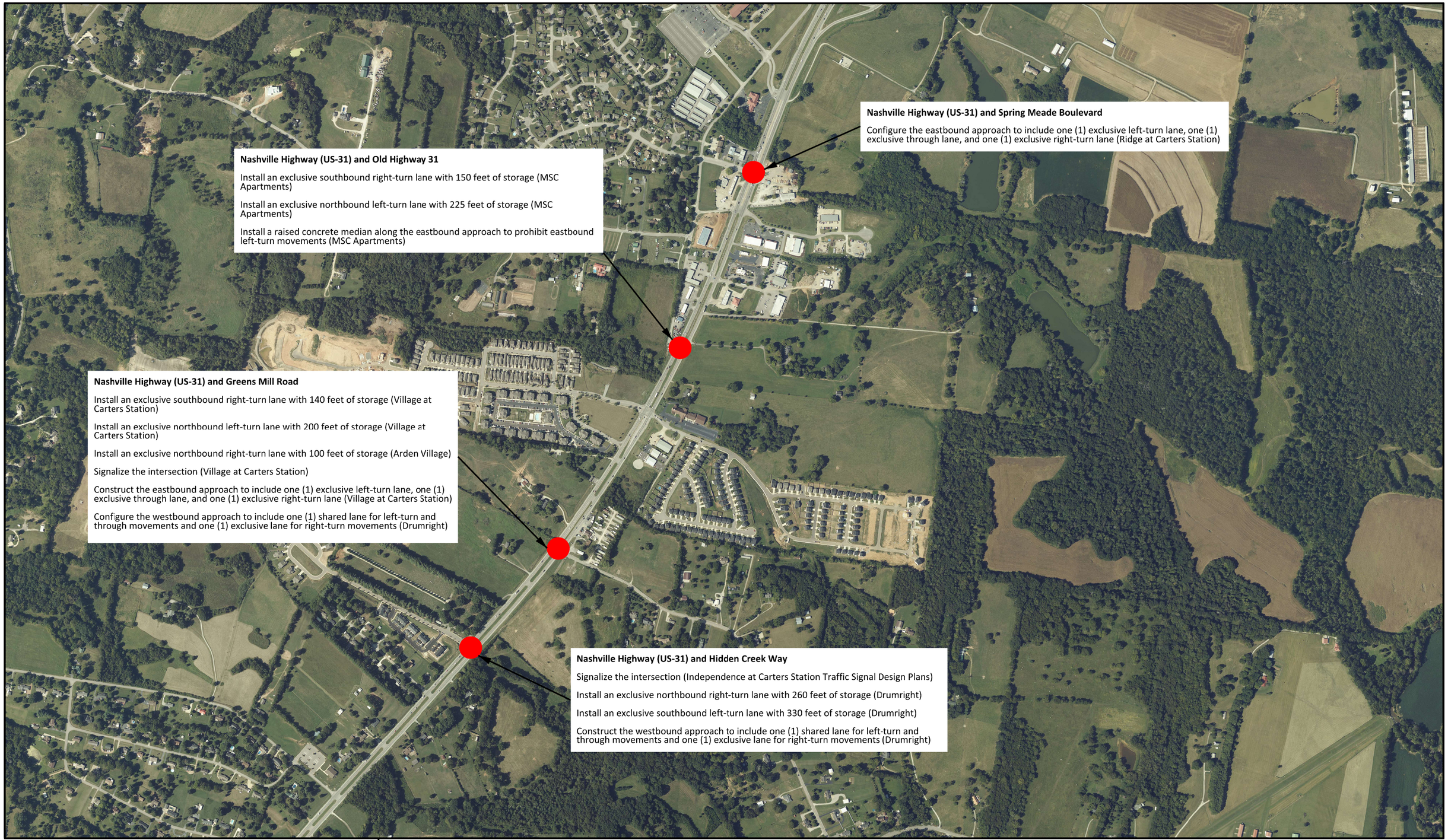
- Install an exclusive southbound right-turn lane with 150 feet of storage (MSC Apartments)
- Install an exclusive northbound left-turn lane with 225 feet of storage (MSC Apartments)
- Install a raised concrete median along the eastbound approach to prohibit eastbound left-turn movements (MSC Apartments)

Nashville Highway (US-31) and Greens Mill Road

- Install an exclusive southbound right-turn lane with 140 feet of storage (Village at Carters Station)
- Install an exclusive northbound left-turn lane with 200 feet of storage (Village at Carters Station)
- Install an exclusive northbound right-turn lane with 100 feet of storage (Arden Village)
- Signalize the intersection (Village at Carters Station)
- Construct the eastbound approach to include one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) exclusive right-turn lane (Village at Carters Station)
- Configure the westbound approach to include one (1) exclusive lane for left-turn movements, one (1) exclusive lane for through movements, and one (1) exclusive lane for right-turn movements (Drumright)

Nashville Highway (US-31) and Hidden Creek Way

- Install an exclusive northbound right-turn lane with 260 feet of storage (Drumright)
- Install an exclusive southbound left-turn lane with 330 feet of storage (Drumright)
- Construct the westbound approach to include one (1) shared lane for left-turn and through movements and one (1) exclusive lane for right-turn movements (Drumright)



T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

Figure 7 - Off-Site Improvements for Background Developments

2504 Nashville Highway Mixed-Use Development ● Columbia, TN ● Approximate Scale: 1" = 800'

Prepared by T-Square Engineering, Inc.

1329 West Main Street ● Franklin, TN 37064 ● www.T2-Eng.com

800' 400' 0' 800'

1 inch = 800 feet

The intersections were analyzed based on background roadway conditions and lane geometries as outlined in the Background Traffic Volumes section above. It should be noted that existing traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Spring Meade Boulevard and Nashville Highway (US-31) and Arden Village Drive/Grove Park Way for this analysis. However, optimized traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Greens Mill Road and Nashville Highway (US-31) and Hidden Creek Way for this analysis. The background capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

Table 3. Background Capacity Analyses

Study Intersection	Control	Approach	2027 Background Conditions					
			AM Peak Hour			PM Peak Hour		
			LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1. **Nashville Highway (US-31) and Spring Meade Boulevard**	Signal	NB Left	E	61.3	183	E	66.1	118
		NB Thru	F	160.8	1687#	B	16.2	1008
		NB Thru/Right	F	160.5	0	A	0.0	0
		SB Left	F	143.0	8	A	0.0	0
		SB Thru	F	129.3	1335#	F	228.7	2390#
		SB Thru/Right	F	140.2	0	F	247.0	0
		EB Left	E	70.4	599#	E	58.4	309
		EB Thru	C	32.4	6	A	0.0	0
		EB Right	C	34.1	20	D	43.6	0
		WB Left	E	67.2	11	A	0.0	0
		WB Thru/Right	E	63.0	0	A	0.0	0
		Overall	**F**	**139.0**	--	**F**	**140.9**	--
2. **Nashville Highway (US-31) and Old Highway 31N**	TWSC	NB Left	E	44.2	150	F	300.0+	300
		EB Right	F	59.2	175	F	300.0+	375
3. **Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**	Signal	NB Left	D	51.2	67	F	99.9	290#
		NB Thru	F	253.9	1788#	F	128.7	1602#
		NB Right	B	12.4	0	B	17.5	18
		SB Left	D	53.4	77	F	88.0	196#
		SB Thru	F	78.7	1165#	F	300.0+	2330#
		SB Right	B	12.7	5	C	21.5	143
		EB Left/Thru	D	51.0	166	F	84.5	337#
		EB Right	D	43.6	0	E	62.2	63
		WB Left/Thru	D	44.9	44	E	66.1	117
		WB Right	E	55.9	18	E	76.3	43
		Overall	**F**	**166.6**	--	**F**	**208.4**	--
4. **Nashville Highway (US-31) and Greens Mill Road**	Signal	NB Left	E	71.5	118#	F	148.1	182#
		NB Thru	F	70.8	1375#	F	79.5	1113#
		NB Right	A	9.7	3	B	19.9	45
		SB Left	F	164.2	216#	F	158.9	549#
		SB Thru	D	41.1	1029	F	112.6	1580#
		SB Right	A	9.6	17	B	10.6	29
		EB Left	F	82.1	336#	E	73.9	302#
		EB Thru	E	59.0	38	E	58.0	37
		EB Right	E	56.3	24	E	55.0	0
		WB Left	E	66.4	276#	E	58.5	137
		WB Thru	E	60.3	37	E	59.5	43
		WB Right	E	65.7	151	D	47.4	212
		Overall	**E**	**59.4**	--	**F**	**95.3**	--
5. **Nashville Highway (US-31) and Hidden Creek Way**	Signal	NB Left	D	37.0	14	F	96.4	148#
		NB Thru	D	37.2	1289#	B	17.0	837
		NB Right	A	6.0	0	A	6.0	17
		SB Left	D	37.0	7	C	24.8	36
		SB Thru	C	33.7	1213#	F	44.0	1528#
		SB Right	A	6.6	10	A	6.4	26
		EB Left/Thru	F	300.0+	142	F	300.0+	130
		EB Right	D	47.7	86	E	56.2	65
		WB Left/Thru	F	230.5	100	F	147.4	77
		WB Right	D	47.3	41	E	55.3	28
		Overall	**D**	**46.3**	--	**D**	**39.2**	--

– 95th percentile volume exceeds capacity; queue may be longer. Queue shown is maximum after two cycles.

The following assessments are based on the results of the Background Capacity Analyses as shown in the table above:

Nashville Highway (US-31) and Springmeade Boulevard/Private Drive

- The exclusive northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive northbound through movement will operate at LOS F during the AM peak hour period with background traffic volumes.
- The shared northbound through and right-turn movement will operate at LOS F during the AM peak hour period with background traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during the AM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The shared southbound through and right-turn movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during the AM peak hour period with background traffic volumes.
- The shared westbound through and right-turn movement will operate at LOS E during the AM peak hour period with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Old Highway 31N/Site Access 1

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- The exclusive northbound left-turn movement will operate at LOS F during the PM peak hour periods with background traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with background traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS F during the PM peak hour period with background traffic volumes.

- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Greens Mill Road

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods with background traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with background traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during both the AM and PM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS F and LOS E during the AM and PM peak hour periods, respectively, with background traffic volumes.
- The exclusive eastbound through movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound through movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the AM peak hour period with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Hidden Creek Way

- The exclusive northbound left-turn movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with background traffic volumes.

- The shared westbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Impacts

Traffic Generation

Trips were generated to establish projected traffic volumes for the proposed McClure Farms Development. Daily and peak hour trips were generated by formulas presented in the Trip Generation Manual[2] based on the land uses proposed by the development. As previously stated, the proposed development will consist of approximately 116 single-family homes, approximately 314 multi-family (low-rise) housing units, a fast-food restaurant with drive thru of approximately 3,305 square feet and a convenience market/gas station with approximately sixteen (16) fueling positions.

Internal Trips

As described in the *Trip Generation Handbook*, developments containing multiple land uses will commonly have internal trips, or trips from land use to land use without leaving the development site. Based on the NCHRP Report 684, "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments," and assumptions made by T-Square Engineering for this study, an estimated 9% internal capture rate was calculated for daily and PM peak hour trips.

Pass-By Trips

Studies have shown that new retail and restaurant developments generate relatively low "new" traffic. Traffic entering or exiting the new development are considered pass-by or captured trips. Pass-by or captured trips are vehicles that would have already been on the roadway regardless of the new development being constructed. The *Trip Generation Handbook* provides typical weekday pass-by percentages for various land uses based on the size of each land use. Based on the *Trip Generation Handbook* and assumptions made by T-Square Engineering for this study, 50% and 60% pass-by reductions were used for the fast-food restaurant and convenience store/gas station land uses, respectively. The Table below provides a summary of the internal, pass-by and new trips generated for the proposed development.

[2] Institute of Transportation Engineers (ITE). Trip Generation Manual, 11th Edition. Washington, DC: ITE, 2024

Table 4. McClure Farms Development Trip Generation Summary

Land Use (ITE Code)	Size	Generated Traffic Volumes[3]				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single-Family Housing (210)	116 DU	1,157	21	64	72	42
Internal Trips		104	0	0	6	4
External Trips (Raw – Internal)		1,053	21	64	66	38
Pass-By Trips		0	0	0	0	0
New Trips (External – Pass-By)		**1,053**	**21**	**64**	**66**	**38**
Multi-Family (Low-Rise) Housing (220)	314 DU	2,088	29	91	98	58
Internal Trips		188	0	0	9	5
External Trips		1,900	29	91	89	53
Pass-By Trips		0	0	0	0	0
New Trips		**1,900**	**29**	**91**	**89**	**53**
Fast Food Restaurant with Drive Thru (934)	3,305 SF	1,547	75	73	57	52
Internal Trips		139	0	0	5	5
External Trips		1,408	75	73	52	47
Pass-By Trips (50%)		704	38	37	26	24
New Trips		**704**	**37**	**36**	**26**	**23**
Convenience Market/Gas Station (945)	16 VFP	3,383	128	129	147	148
Internal Trips		304	0	0	13	13
External Trips		3,079	128	129	134	135
Pass-By Trips (60%)		1,847	77	77	80	81
New Trips		**1,232**	**51**	**52**	**54**	**54**
TOTAL GENERATED TRIPS		8,175	253	357	374	300
TOTAL GENERATED INTERNAL TRIPS		735	0	0	33	27
TOTAL GENERATED EXTERNAL TRIPS		7,440	253	357	341	273
TOTAL GENERATED PASS-BY TRIPS		**2,551**	**115**	**114**	**106**	**105**
TOTAL GENERATED NEW TRIPS		**4,889**	**138**	**243**	**235**	**168**

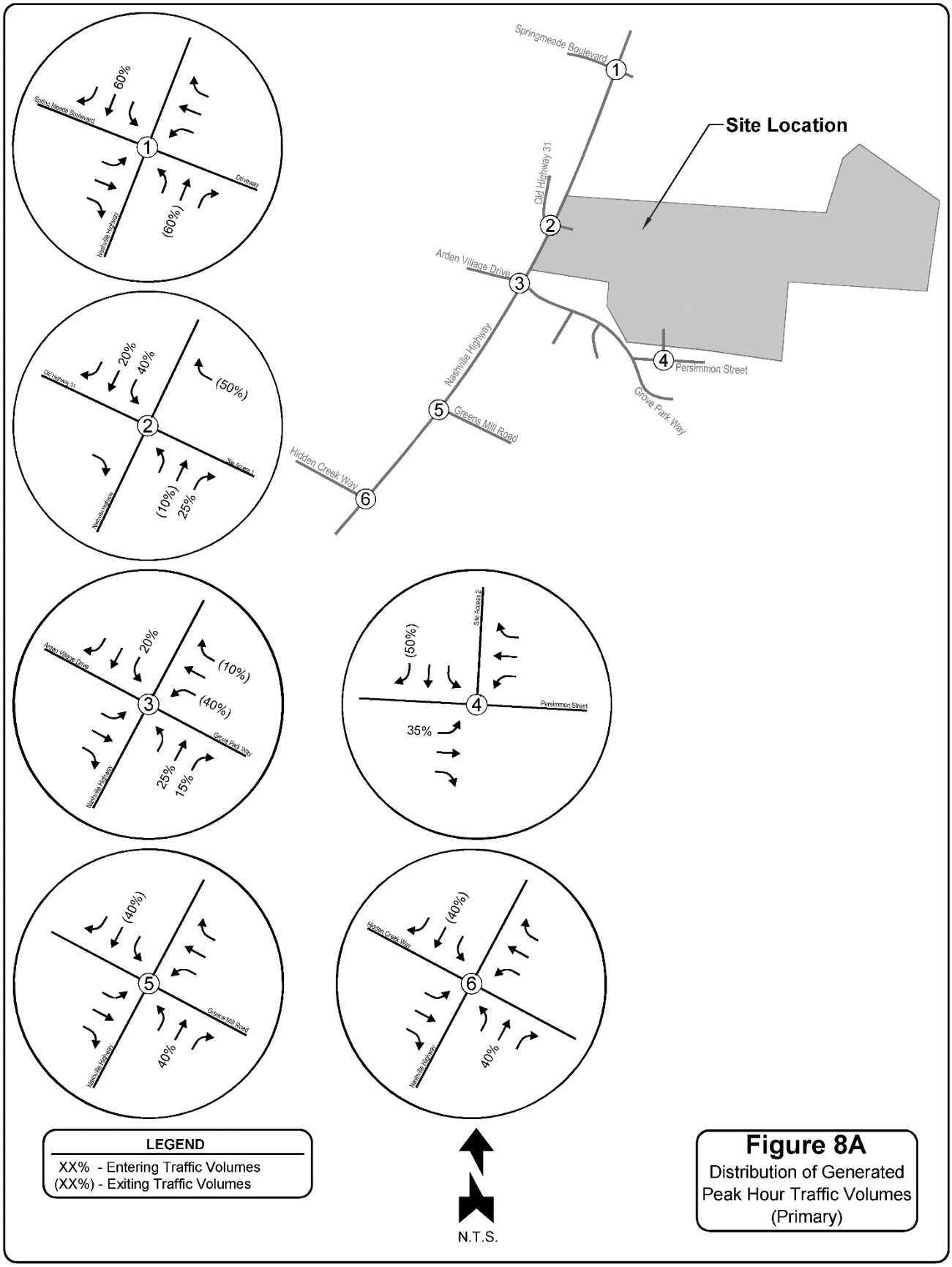
[3] Institute of Transportation Engineers (ITE). Trip Generation Manual, 11th Edition. Washington, DC: ITE, 2024

Projected Traffic Distribution and Assignments

For the purposes of this study, the estimated directional distributions shown on Figures 8A and 8B were made for the proposed development's primary and pass-by generated trips, respectively. These directional distributions were established based on the following:

- Conducted hourly turning movement counts.
- Existing land use characteristics.
- Existing roadway network.
- Existing lane geometry of surrounding intersections.
- The developments proposed access location.
- Locations of populations centers within the surrounding area.
- Comments provided by the City of Columbia's Traffic Engineer.

Figure D12 in Appendix D shows the primary generated trips which were assigned to the existing roadway network per the distributions shown on Figure 8A. Figure D13 in Appendix D shows the pass-by generated trips which were assigned to the existing roadway network per the distributions shown on Figure 8B. Figure 9 shows the total (primary and pass-by) generated trips which were assigned to the roadway network. The generated peak hour traffic volumes (primary and pass-by) as shown on Figure 9 were added to the combined background volumes as shown on Figure 6, resulting in the total projected peak hour traffic volumes as shown on Figure 10.


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Greens Mill Road
Hidden Creek Way
1
2
3
4
5
6
60%
(60%)
20%
40%
(50%)
(10%)
25%
(40%)
15%
35%
LEGEND
XX% - Entering Traffic Volumes
(XX%) - Exiting Traffic Volumes
N.T.S.
Figure 8A
Distribution of Generated Peak Hour Traffic Volumes (Primary)

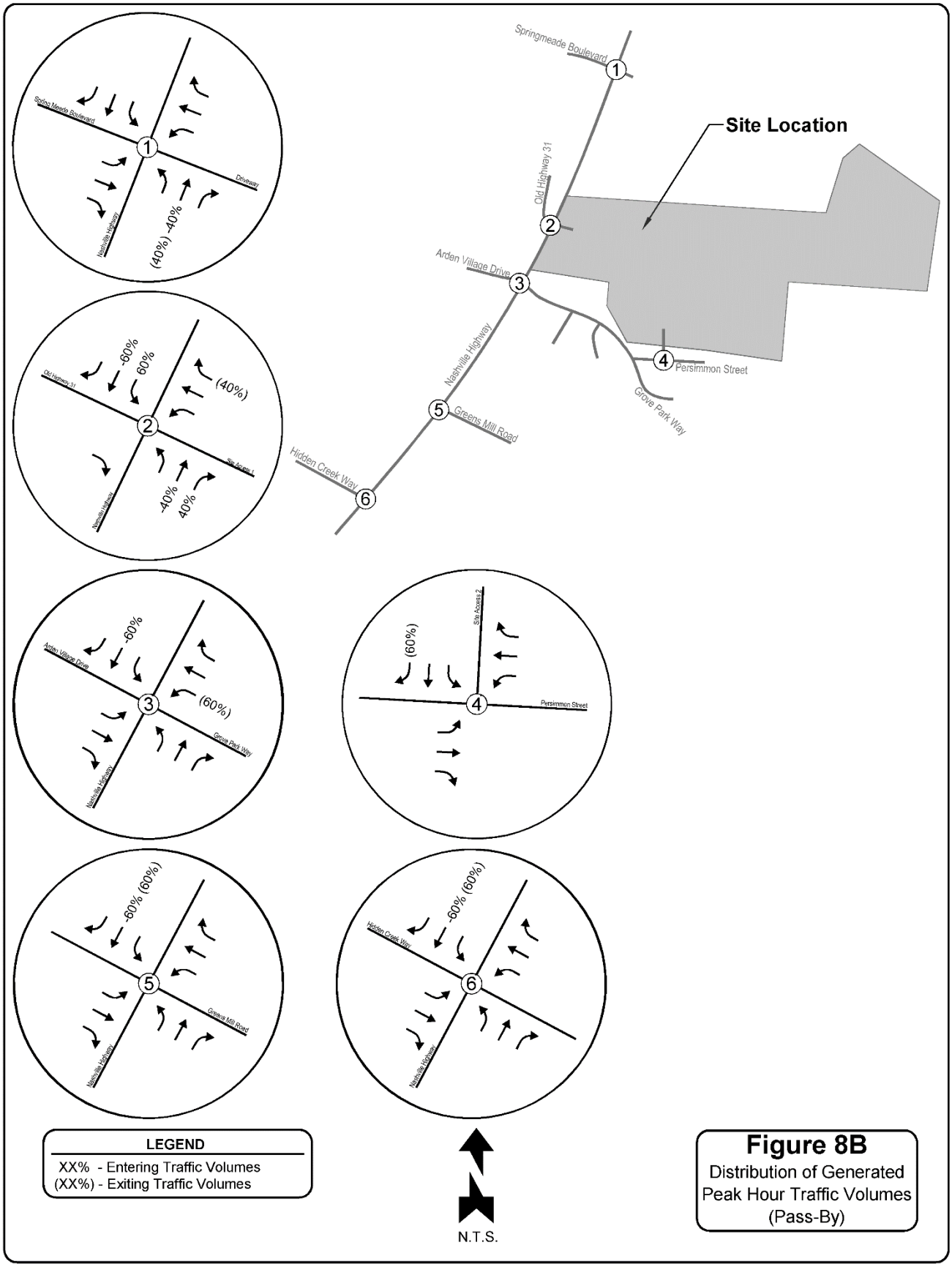


Figure 8B
Distribution of Generated Peak Hour Traffic Volumes (Pass-By)

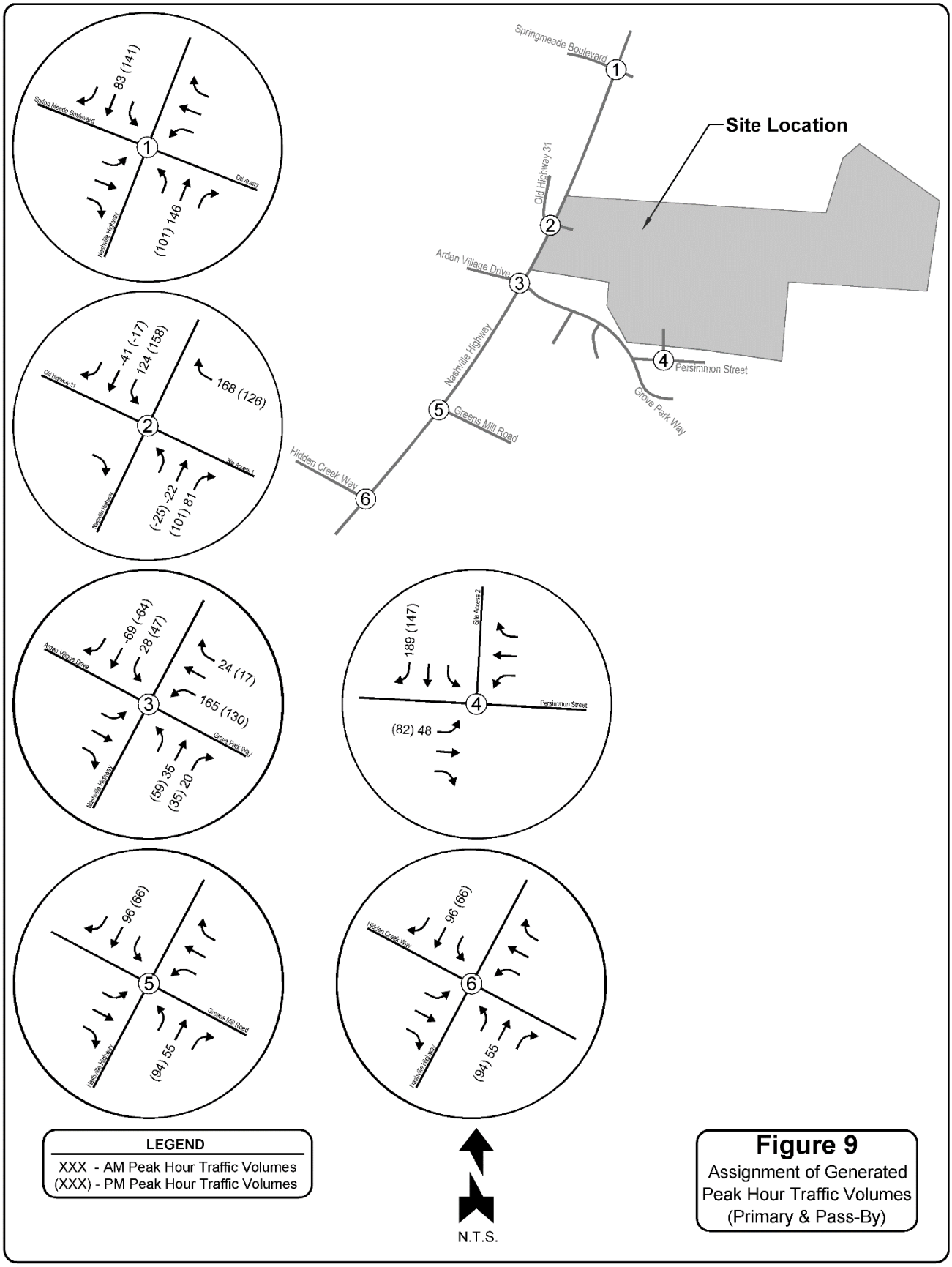


Figure 9
Assignment of Generated Peak Hour Traffic Volumes (Primary & Pass-By)

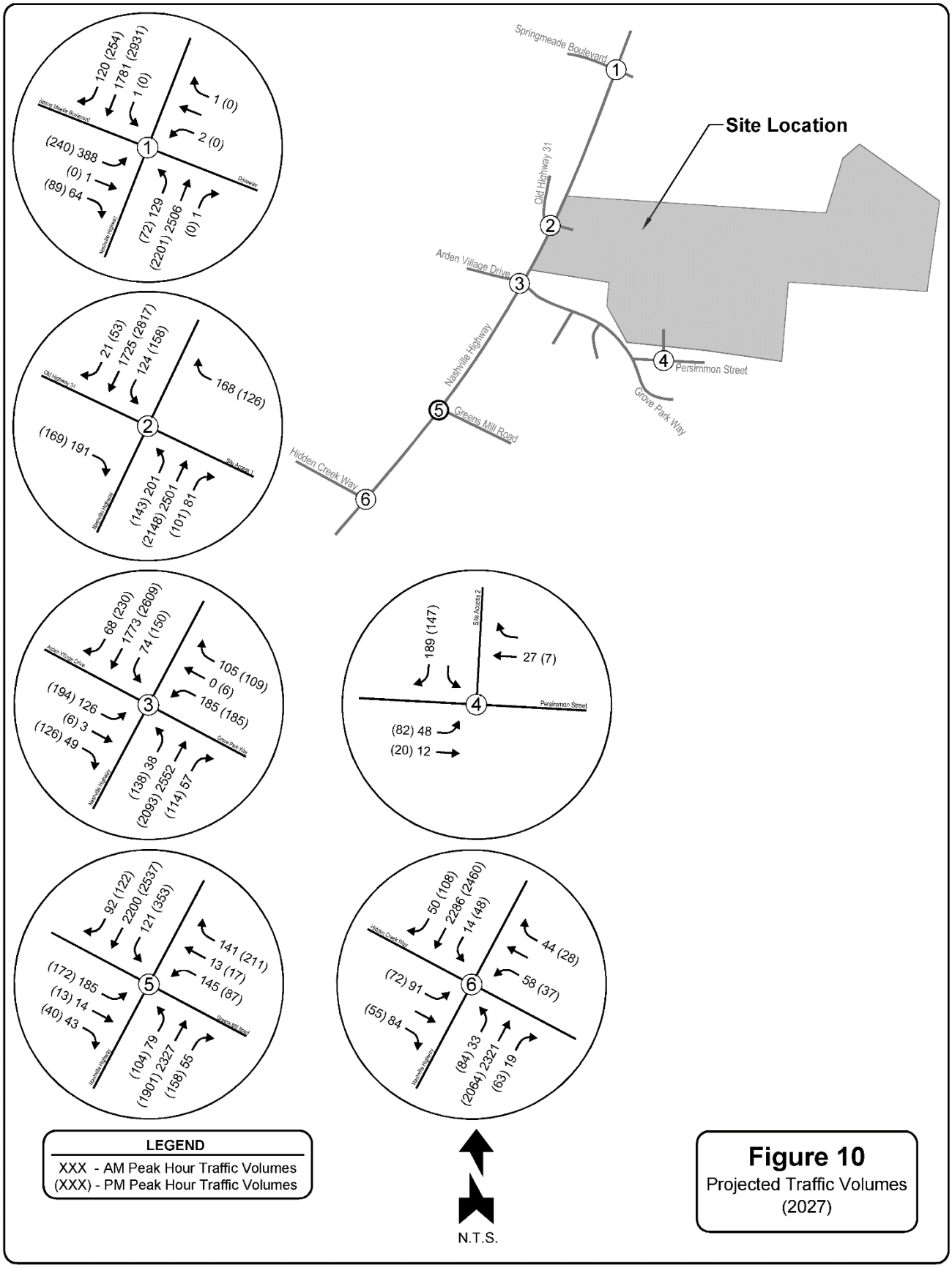


Figure 10
Projected Traffic Volumes
(2027)

Projected Capacity Analysis

To evaluate the projected traffic operations at the study intersections within the vicinity of the project site, AM and PM peak hour capacity analyses were performed. The capacity analyses include the total projected traffic volumes generated from the proposed development in addition to background traffic volumes. Levels-of-service (LOS), corresponding average delays, and 95th percentile queues were calculated for each turning movement. The intersections were analyzed based on background roadway conditions and lane geometries as outlined previously with projected traffic volumes.

The intersections were analyzed based on background roadway conditions and lane geometries as outlined in the Background Traffic Volumes section above. It should be noted that existing traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Spring Meade Boulevard and Nashville Highway (US-31) and Arden Village Drive/Grove Park Way for this analysis. However, optimized traffic signal timings were utilized at the intersections of Nashville Highway (US-31) and Greens Mill Road and Nashville Highway (US-31) and Hidden Creek Way for this analysis. The projected capacity analyses were conducted using *Synchro/SimTraffic* software by Trafficware for both signalized and unsignalized intersections. Appendix C contains the detailed capacity analyses results.

Table 5. Projected Capacity Analyses

	Study Intersection	Control	Approach	2027 Projected Conditions					
				AM Peak Hour			PM Peak Hour		
				LOS	Delay (s)	Queue (ft)	LOS	Delay (s)	Queue (ft)
1.	**Nashville Highway (US-31) and Spring Meade Boulevard**	Signal	NB Left	E	61.3	183	E	66.1	118
			NB Thru	F	195.3	1832#	B	19.8	1252#
			NB Thru/Right	F	195.1	0	A	0.0	0
			SB Left	F	143.0	8	A	0.0	0
			SB Thru	F	151.9	1418#	F	258.4	2534#
			SB Thru/Right	F	163.1	0	F	276.8	0
			EB Left	E	70.4	599#	E	58.4	309
			EB Thru	C	32.4	6	A	0.0	0
			EB Right	C	34.1	20	D	43.6	0
			WB Left	E	67.2	11	A	0.0	0
			WB Right	E	63.0	0	A	0.0	0
			Overall	**F**	**165.6**	--	**F**	**158.9**	--
2.	**Nashville Highway (US-31) and Old Highway 31N/Site Access 1**	TWSC	NB Left	E	40.2	125	F	300.0+	300
			SB Left	F	140.8	200	F	94.1	175
			EB Right	F	54.0	150	F	300.0+	375
			WB Right	F	289.3	325	F	79.2	150
3.	**Nashville Highway (US-31) and Arden Village Drive/Grove Park Way**	Signal	NB Left	E	58.1	76	F	121.4	311#
			NB Thru	F	300.0+	2186#	F	211.4	1802#
			NB Right	B	16.9	0	C	23.7	48
			SB Left	E	60.4	125	F	145.1	346#
			SB Thru	F	94.6	1344#	F	300.0+	2424#
			SB Right	B	15.9	3	C	26.1	157
			EB Left/Thru	E	56.8	188	F	93.5	367#
			EB Right	D	48.5	0	E	67.5	64
			WB Left/Thru	E	56.4	260	F	91.8	344#
			WB Right	D	47.3	41	E	65.3	63
			Overall	**F**	**213.6**	--	**F**	**249.3**	--
4.	**Persimmon Street and Site Access 2**	TWSC	SB L/T/R	A	9.3	25	A	8.9	25
			EB Left	A	7.3	25	A	7.4	25
5.	**Nashville Highway (US-31) and Greens Mill Road**	Signal	NB Left	E	61.1	101#	F	167.4	192#
			NB Thru	F	83.0	1368#	F	94.0	1216#
			NB Right	A	9.3	3	B	20.0	48
			SB Left	F	169.3	207#	F	183.2	574#
			SB Thru	F	58.8	1243#	F	124.0	1674#
			SB Right	A	9.5	17	B	10.8	30
			EB Left	F	81.0	328#	E	78.1	339#
			EB Thru	E	55.4	36	E	59.8	38
			EB Right	D	52.6	22	E	56.8	0
			WB Left	E	61.4	247#	E	59.3	144
			WB Thru	E	55.4	34	E	60.0	44
			WB Right	E	59.2	141	D	48.0	220
			Overall	**E**	**71.1**	--	**F**	**107.2**	--
6.	**Nashville Highway (US-31) and Hidden Creek Way**	Signal	NB Left	D	37.6	14	F	96.4	147#
			NB Thru	F	43.5	1342#	B	19.3	923
			NB Right	A	6.0	0	A	6.0	16
			SB Left	D	37.1	7	C	31.6	47
			SB Thru	F	45.1	1308#	F	53.0	1603#
			SB Right	A	6.6	10	A	6.4	26
			EB Left/Thru	F	300.0+	140	F	300.0+	130
			EB Right	D	51.4	53	E	61.1	30
			WB Left/Thru	F	226.1	98	F	147.4	77
			WB Right	D	49.3	7	E	59.4	0
			Overall	**D**	**53.9**	--	**D**	**44.3**	--

– 95th percentile volume exceeds capacity; queue may be longer. Queue shown is maximum after two cycles.

The following assessments are based on the results of the Projected Capacity Analyses as shown in the table above:

Nashville Highway (US-31) and Springmeade Boulevard/Private Drive

- The exclusive northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The shared northbound through and right-turn movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The shared southbound through and right-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during the AM peak hour period with projected traffic volumes.
- The shared westbound through and right-turn movement will operate at LOS E during the AM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Old Highway 31N/Site Access 1

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with projected traffic volumes.

- The exclusive southbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Persimmon Street and Site Access 2

- All critical movements for this intersection currently operate at an acceptable minimum LOS A during the peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Greens Mill Road

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during both the AM and PM peak hour period with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS F and LOS E during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive eastbound through movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound through movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the AM peak hour period with projected traffic volumes.

- The overall intersection will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Hidden Creek Way

- The exclusive northbound left-turn movement will operate at LOS F during the PM peak hour period with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS D during both the AM and PM peak hour periods with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

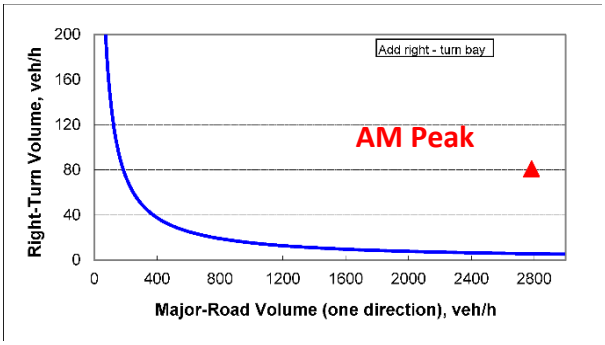
Intersection Assessments (Projected Conditions)

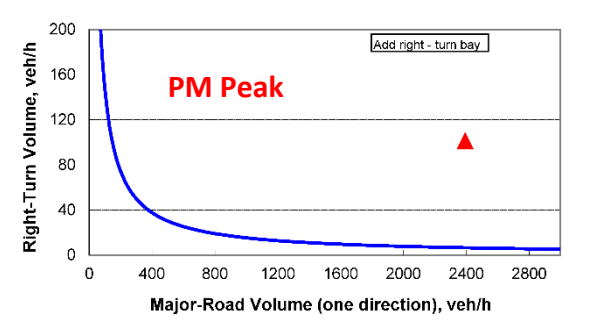
Engineering assessments were performed on the intersections within the study area to identify underlying inefficiencies and solutions to alleviate any concerns associated with intersection geometries and traffic volumes along the roadway network. Minor-road approach right-turn lane, Major-road approach left-turn lane, and Major-road approach right-turn warrants were performed based on Figures 2-4, 2-5, and 2-6, respectively in the *NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide*[4] and projected traffic volumes. The results of the warrants are shown below.

Nashville Highway (US-31) and Old Highway 31/Site Access 1

Table 6. Major-Road Approach Geometry, NBR Nashville Highway (US-31) at Old Highway 31/SA1

Variable	AM Peak	PM Peak
Major-road speed, mph:	55	55
Major-road volume (one direction), veh/h:	2783	2392
Major-road right-turn volume, veh/h:	81	101
Limiting right-turn volume, veh/h:	6	6
Right-turn bay warranted:	**YES**	**YES**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		



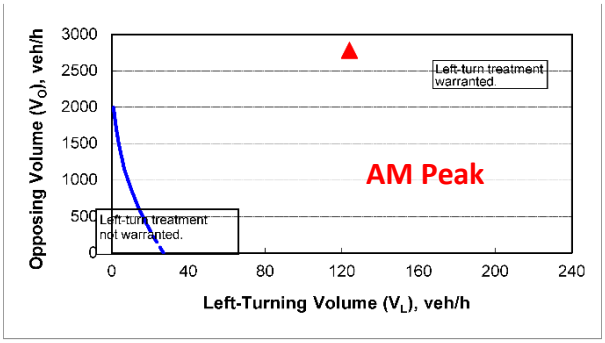


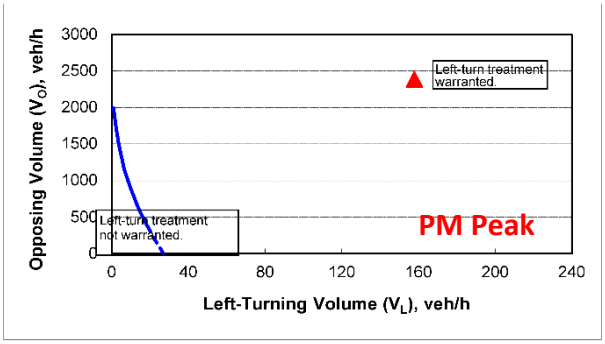
As shown in the table above and the corresponding graphs, it was determined that a northbound right-turn lane is warranted along Nashville Highway at its intersection with Old Highway 31/Site Access 1 during both peak hour periods with the updated projected traffic volumes.

[4] Transportation Research Board (TRB). Evaluating Intersection Improvements: An Engineering Study Guide. Washington, DC: 2001

Table 7. Major-Road Approach Geometry, SBL Nashville Highway at Old Highway 31/SA1

Variable	AM Peak	PM Peak
Left-turning volume (V_L), veh/h:	124	158
Advancing volume (V_A), veh/h:	1870	3028
Opposing volume (V_O), veh/h:	2783	2392
Left-turn bay warranted:	**YES**	**YES**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		



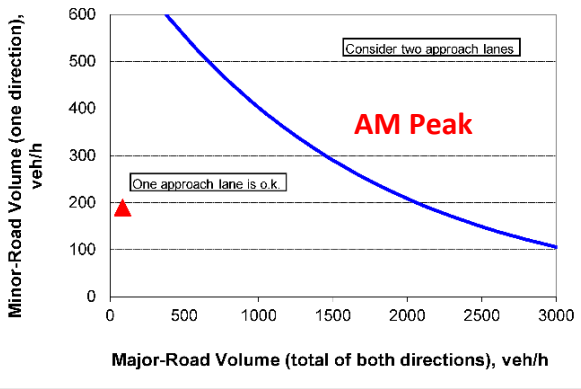


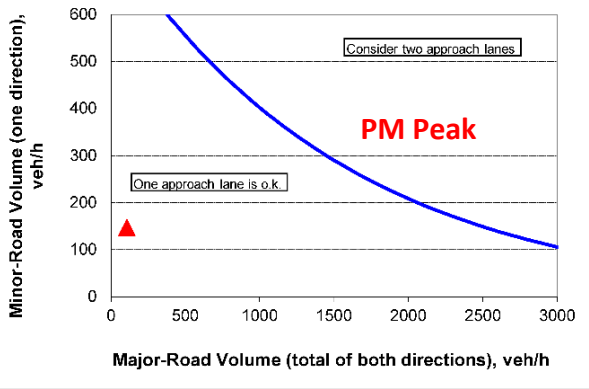
As shown in the table above and the corresponding graphs, it was determined that a southbound left-turn lane is warranted along Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1 during both peak hour periods with updated projected traffic volumes.

Persimmon Street and Site Access 2

Table 8. Minor-Road Approach Geometry, SBR Site Access 2 at Persimmon Street

Variable	AM Peak	PM Peak
Major-road volume (total both directions), veh/h:	87	109
Percentage of right-turns on minor road, %:	100%	100%
Minor-road volume (one direction), veh/h:	189	147
Limiting minor-road volume (one direction), veh/h:	723	713
Right-turn Bay warranted:	**One (1) approach lane is sufficient**	**One (1) approach lane is sufficient**
Source: *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*		





As shown in the table below and the corresponding graphs, it was determined that one (1) shared lane for left-turn, through, and right-turn movements on the southbound approach Site Access 2 at its intersection with Persimmon Street is sufficient with projected traffic volumes.

Conclusions

Existing Conditions

Intersection Capacity Analyses

Nashville Highway (US-31) and Springmeade Boulevard/Private Drive

- The exclusive northbound left-turn movement currently operates at LOS F during the PM peak hour period with existing traffic volumes.
- The exclusive southbound left-turn movement currently operates at LOS F during the AM peak hour period with existing traffic volumes.
- The exclusive eastbound left-turn movement currently operates at LOS F during the PM peak hour period with existing traffic volumes.
- The shared eastbound through and right-turn movement currently operates at LOS F during the PM peak hour period with existing traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with existing traffic volumes.

Nashville Highway (US-31) and Old Highway 31N

- All critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with existing traffic volumes.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- The exclusive northbound left-turn movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- The exclusive southbound left-turn movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- The shared eastbound left-turn and through movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- The exclusive eastbound right-turn movement currently operates at LOS E during both the AM and PM peak hour periods with existing traffic volumes.
- The shared westbound left-turn and through movement currently operates at LOS E during both the AM and PM peak hour periods with existing traffic volumes.
- The exclusive westbound right-turn movement currently operates at LOS E and LOS F during the AM and PM peak hour periods, respectively, with existing traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS C during the peak hour periods with existing traffic volumes.

Nashville Highway (US-31) and Greens Mill Road

- The shared westbound left-turn and right-turn movement currently operates at LOS F during the AM peak hour period with existing traffic volumes.

Nashville Highway (US-31) and Hidden Creek Way

All critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with existing traffic volumes.

Background Conditions

Intersection Capacity Analyses

Nashville Highway (US-31) and Springmeade Boulevard/Private Drive

- The exclusive northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive northbound through movement will operate at LOS F during the AM peak hour period with background traffic volumes.
- The shared northbound through and right-turn movement will operate at LOS F during the AM peak hour period with background traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during the AM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The shared southbound through and right-turn movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during the AM peak hour period with background traffic volumes.
- The shared westbound through and right-turn movement will operate at LOS E during the AM peak hour period with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Old Highway 31N/Site Access 1

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- The exclusive northbound left-turn movement will operate at LOS F during the PM peak hour periods with background traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with background traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during the PM peak hour period with background traffic volumes.

- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Greens Mill Road

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods with background traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with background traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during both the AM and PM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS F and LOS E during the AM and PM peak hour periods, respectively, with background traffic volumes.
- The exclusive eastbound through movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound through movement will operate at LOS E during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the AM peak hour period with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Nashville Highway (US-31) and Hidden Creek Way

- The exclusive northbound left-turn movement will operate at LOS F during the PM peak hour period with background traffic volumes.
- The exclusive southbound through movement will operate at LOS F during the PM peak hour period with background traffic volumes.

- The shared eastbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with background traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the PM peak hour period with background traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with background traffic volumes.

Projected Conditions

Intersection Capacity Analyses

Nashville Highway (US-31) and Springmeade Boulevard/Private Drive

- The exclusive northbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The shared northbound through and right-turn movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The shared southbound through and right-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during the AM peak hour period with projected traffic volumes.
- The shared westbound through and right-turn movement will operate at LOS E during the AM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Old Highway 31N/Site Access 1

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.

- The exclusive eastbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Persimmon Street and Site Access 2

- All critical movements for this intersection currently operate at an acceptable minimum LOS A during the peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Greens Mill Road

- The exclusive northbound left-turn movement will operate at LOS E and LOS F during the AM and PM peak hour periods with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during both the AM peak hour periods with projected traffic volumes.
- The exclusive southbound left-turn movement will operate at LOS F during both the AM and PM peak hour period with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound left-turn movement will operate at LOS F and LOS E during the AM and PM peak hour periods, respectively, with projected traffic volumes.

- The exclusive eastbound through movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The exclusive westbound left-turn movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound through movement will operate at LOS E during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the AM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS E and LOS F during the AM and PM peak hour periods, respectively, with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Nashville Highway (US-31) and Hidden Creek Way

- The exclusive northbound left-turn movement will operate at LOS F during the PM peak hour period with projected traffic volumes.
- The exclusive northbound through movement will operate at LOS F during the AM peak hour period with projected traffic volumes.
- The exclusive southbound through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The shared eastbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive eastbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The shared westbound left-turn and through movement will operate at LOS F during both the AM and PM peak hour periods with projected traffic volumes.
- The exclusive westbound right-turn movement will operate at LOS E during the PM peak hour period with projected traffic volumes.
- The overall intersection will operate at LOS D during both the AM and PM peak hour periods with projected traffic volumes.
- All other critical movements for this intersection currently operate at an acceptable minimum LOS D during the peak hour periods with projected traffic volumes.

Queue Length Analyses

- Based on the capacity analyses and existing/proposed turn lane lengths at the study intersections, the following turn lanes should be extended to manage the queue lengths for these movements based on projected traffic volumes. The proposed lane extensions are solely related to the turn lane movements directly impacted by construction of the development.

- Extend the storage length of the southbound left-turn lane at the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way from 130 feet to approximately 250 feet.
- Extend the storage length of the northbound right-turn lane at the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way from 125 feet to approximately 250 feet.
- Extend the storage length of the westbound right-turn lane at the intersection of Nashville Highway (US-31) and Arden Village Drive/Grove Park Way from 100 feet to approximately 250 feet.

Turn Lane Analyses

Nashville Highway (US-31) and Old Highway 31N/Site Access 1

- It was determined that the northbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1 will warrant one (1) exclusive lane for right-turning movements with projected traffic volumes.
- It was determined that the southbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1 will warrant one (1) exclusive lane for left-turning movements with projected traffic volumes.

Persimmon Street and Site Access 2

- It was determined that the southbound approach of Site Access 2 at its intersection with Persimmon Street will be sufficient with one (1) shared lane for left-turn/through/right-turn movements with projected traffic volumes.

Recommendations

Based on the analyses within this study, and a review of the proposed development's access plan, the recommendations below have been presented to be implemented as part of the proposed McClure Farms Development in Columbia, TN. These recommendations will be constructed in addition to the various improvements at the study intersections outlined in previously conducted traffic studies within the area. Figure 11 shows a summary of the recommended improvements for this development.

Improvement Recommendations for the McClure Farms Development

Nashville Highway (US-31) and Spring Meade Boulevard

- Coordinate with the City of Columbia to determine the necessary traffic signal technology for establishing connections between traffic signals along Nashville Highway (US-31) within the study area.

Nashville Highway (US-31) and Old Highway 31/Site Access 1

- Construct Site Access 1 along Nashville Highway with a left-in/right-in/right-out configuration to be aligned with Old Highway 31 with one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Construct one (1) exclusive right-turn lane on the northbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1. The right-turn lane shall provide a minimum of 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Construct one (1) exclusive left-turn lane on the southbound approach of Nashville Highway (US-31) at its intersection with Old Highway 31/Site Access 1. The left-turn lane shall provide a minimum of 300 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.

Nashville Highway (US-31) and Arden Village Drive/Grove Park Way

- Coordinate with the City of Columbia to determine the necessary traffic signal technology for establishing connections between traffic signals along Nashville Highway (US-31) within the study area.
- Extend the existing right-turn lane on the northbound approach of Nashville Highway (US-31) at its intersection with Arden Village Drive/Grove Park Way. The right-turn lane shall be extended to a minimum of 250 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Extend the existing left-turn lane on the southbound approach of Nashville Highway (US-31) at its intersection with Arden Village Drive/Grove Park Way. The left-turn lane shall be extended to a minimum of 250 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.
- Extend the existing right-turn lane on the westbound approach of Grove Park Way at its intersection with Nashville Highway (US-31). The right-turn lane shall be extended to a

minimum of 250 feet of storage and taper lengths according to MUTCD, AASHTO, TDOT, and City of Columbia standards.

Persimmon Street and Site Access 2

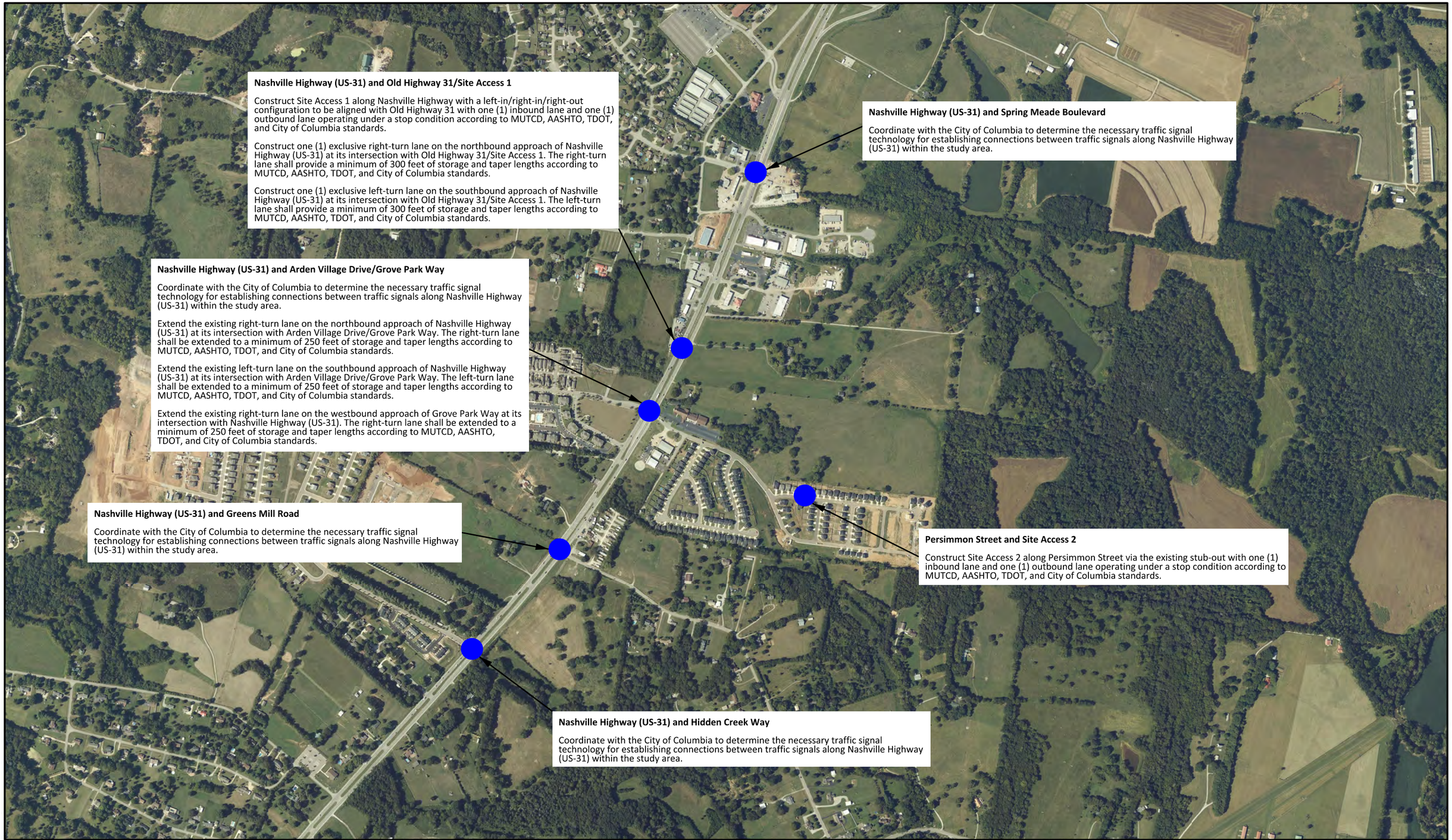
- Construct Site Access 2 along Persimmon Street via the existing stub-out with one (1) inbound lane and one (1) outbound lane operating under a stop condition according to MUTCD, AASHTO, TDOT, and City of Columbia standards.

Nashville Highway (US-31) and Greens Mill Road

- Coordinate with the City of Columbia to determine the necessary traffic signal technology for establishing connections between traffic signals along Nashville Highway (US-31) within the study area.

Nashville Highway (US-31) and Hidden Creek Way

- Coordinate with the City of Columbia to determine the necessary traffic signal technology for establishing connections between traffic signals along Nashville Highway (US-31) within the study area.



T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

Figure 11 - Recommended Improvements for McClure Farms Development

McClure Farms Development ● Columbia, TN ● Approximate Scale: 1" = 800'

Prepared by T-Square Engineering, Inc.

1329 West Main Street ● Franklin, TN 37064 ● www.T2-Eng.com

800' 400' 0' 800'

1 inch = 800 feet

APPENDIX

APPENDIX A – DETAILED TURNING MOVEMENT COUNTS AND SIGNAL TIMINGS

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEV

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

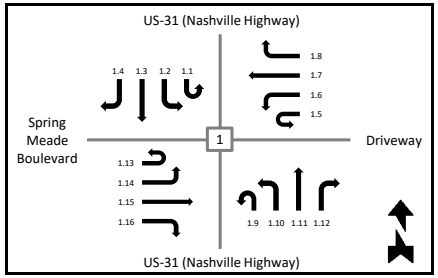
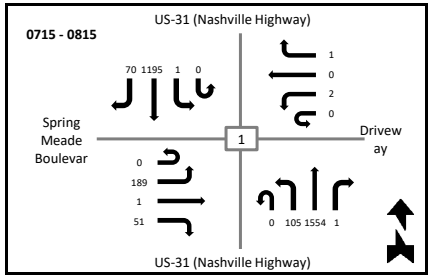


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
0630 - 0645	0	0	296	11	0	307	0	0	0	0	0	0	0	12	310	0	0	322	0	22	0	23	0	45
0645 - 0700	0	0	222	16	0	238	0	0	0	0	0	0	0	13	374	1	0	388	0	21	0	10	0	31
0700 - 0715	0	0	239	10	0	249	0	1	0	0	0	1	0	19	325	0	0	344	0	45	0	12	0	57
0715 - 0730	0	0	286	22	0	308	0	0	0	0	0	0	0	40	414	0	0	454	0	51	0	12	0	63
0730 - 0745	0	0	337	15	0	352	0	1	0	0	0	1	0	32	377	1	0	410	0	66	0	21	0	87
0745 - 0800	0	0	286	16	0	302	0	0	0	0	0	0	0	22	435	0	0	457	0	42	0	13	0	55
0800 - 0815	0	1	286	17	0	304	0	1	0	1	0	2	0	11	328	0	0	339	0	30	1	5	0	36
0815 - 0830	0	0	265	16	0	281	0	0	0	0	0	0	0	4	369	0	0	373	0	30	0	5	0	35
Grand Total	**0**	**1**	**2217**	**123**	**0**	**2341**	**0**	**3**	**0**	**1**	**0**	**4**	**0**	**153**	**2932**	**2**	**0**	**3087**	**0**	**307**	**1**	**101**	**0**	**409**
Peak Hour Total																								
0715 - 0815	**0**	**1**	**1195**	**70**	**0**	**1266**	**0**	**2**	**0**	**1**	**0**	**3**	**0**	**105**	**1554**	**1**	**0**	**1660**	**0**	**189**	**1**	**51**	**0**	**241**
App %	0.00%	0.04%	94.70%	5.25%			0.00%	75.00%	0.00%	25.00%			0.00%	4.96%	94.98%	0.06%			0.00%	75.06%	0.24%	24.69%		
Int %	0.00%	0.02%	37.96%	2.11%		40.08%	0.00%	0.05%	0.00%	0.02%		0.07%	0.00%	2.62%	50.20%	0.03%		52.85%	0.00%	5.26%	0.02%	1.73%		7.00%
Cars Total	0	1	2137	117			0	3	0	1			0	149	2825	2			0	295	1	99		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**96.39%**	**95.12%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**			**0.00%**	**97.39%**	**96.35%**	**100.00%**			**0.00%**	**96.09%**	**100.00%**	**98.02%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEVAR

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

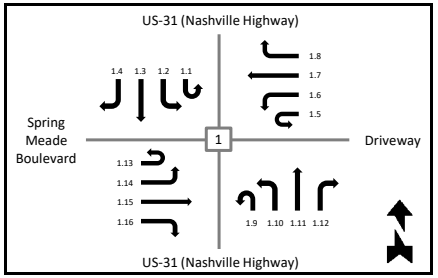
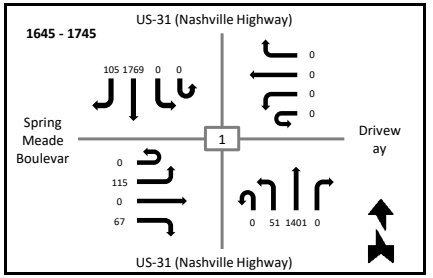


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	1.1	1.2	1.3	1.4	X-Walk	Total	1.5	1.6	1.7	1.8	X-Walk	Total	1.9	1.10	1.11	1.12	X-Walk	Total	1.13	1.14	1.15	1.16	X-Walk	Total
1600 - 1615	0	0	398	25	0	423	0	2	0	0	0	2	0	7	308	0	0	315	0	25	0	18	0	43
1615 - 1630	0	0	439	25	0	464	0	0	0	0	0	0	0	13	337	0	0	350	0	31	0	10	0	41
1630 - 1645	0	0	463	24	0	487	0	0	0	0	0	0	0	6	301	0	0	307	0	28	0	19	0	47
1645 - 1700	0	0	407	27	0	434	0	0	0	0	0	0	0	9	347	0	0	356	0	40	0	20	0	60
1700 - 1715	0	0	472	27	0	499	0	0	0	0	0	0	0	13	331	0	0	344	0	27	0	20	0	47
1715 - 1730	0	0	433	24	0	457	0	0	0	0	0	0	0	21	353	0	0	374	0	24	0	15	0	39
1730 - 1745	0	0	457	27	0	484	0	0	0	0	0	0	0	8	370	0	0	378	0	24	0	12	0	36
1745 - 1800	0	0	403	32	0	435	0	0	0	0	0	0	0	6	274	0	0	280	0	28	0	16	0	44
Grand Total	**0**	**0**	**3472**	**211**	**0**	**3683**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**83**	**2621**	**0**	**0**	**2704**	**0**	**227**	**0**	**130**	**0**	**357**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1769**	**105**	**0**	**1874**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**51**	**1401**	**0**	**0**	**1452**	**0**	**115**	**0**	**67**	**0**	**182**
App %	0.00%	0.00%	94.27%	5.73%			0.00%	100.00%	0.00%	0.00%			0.00%	3.07%	96.93%	0.00%			0.00%	63.59%	0.00%	36.41%		
Int %	0.00%	0.00%	51.47%	3.13%		54.60%	0.00%	0.03%	0.00%	0.00%		0.03%	0.00%	1.23%	38.85%	0.00%		40.08%	0.00%	3.36%	0.00%	1.93%		5.29%
Cars Total	0	0	3345	203			0	2	0	0			0	82	2526	0			0	219	0	124		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**96.34%**	**96.21%**			**0.00%**	**100.00%**	**0.00%**	**0.00%**			**0.00%**	**98.80%**	**96.38%**	**0.00%**			**0.00%**	**96.48%**	**0.00%**	**95.38%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 2
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

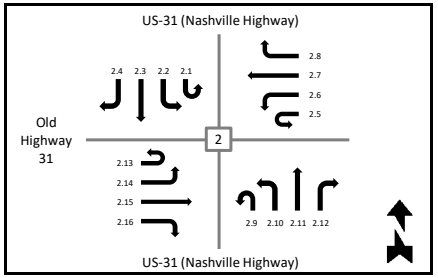
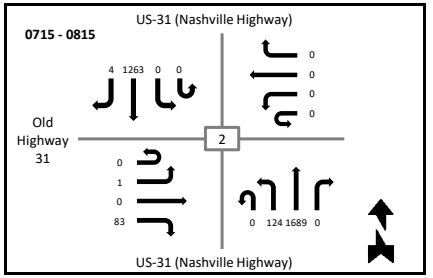


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
0630 - 0645	0	0	328	0	0	328	0	0	0	0	0	0	0	17	327	0	0	344	0	0	0	22	0	22
0645 - 0700	0	0	251	0	0	251	0	0	0	0	0	0	0	27	371	0	0	398	0	0	0	11	0	11
0700 - 0715	0	0	255	0	0	255	0	0	0	0	0	0	0	43	399	0	0	442	0	0	0	8	0	8
0715 - 0730	0	0	314	0	0	314	0	0	0	0	0	0	0	38	470	0	0	508	0	0	0	21	0	21
0730 - 0745	0	0	364	2	0	366	0	0	0	0	0	0	0	52	456	0	0	508	0	1	0	27	0	28
0745 - 0800	0	0	297	1	0	298	0	0	0	0	0	0	0	18	413	0	0	431	0	0	0	29	0	29
0800 - 0815	0	0	288	1	0	289	0	0	0	0	0	0	0	16	350	0	0	366	0	0	0	6	0	6
0815 - 0830	0	0	268	0	0	268	0	0	0	0	0	0	0	16	395	0	0	411	0	1	0	11	0	12
Grand Total	**0**	**0**	**2365**	**4**	**0**	**2369**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**227**	**3181**	**0**	**0**	**3408**	**0**	**2**	**0**	**135**	**0**	**137**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1263**	**4**	**0**	**1267**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**124**	**1689**	**0**	**0**	**1813**	**0**	**1**	**0**	**83**	**0**	**84**
App %	0.00%	0.00%	99.83%	0.17%			0.00%	0.00%	0.00%	0.00%			0.00%	6.66%	93.34%	0.00%			0.00%	1.46%	0.00%	98.54%		
Int %	0.00%	0.00%	39.99%	0.07%		40.06%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	3.84%	53.79%	0.00%		57.63%	0.00%	0.03%	0.00%	2.28%		2.32%
Cars Total	0	0	2280	4			0	0	0	0			0	217	3066	0			0	2	0	131		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**96.41%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**95.59%**	**96.38%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**97.04%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 2
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

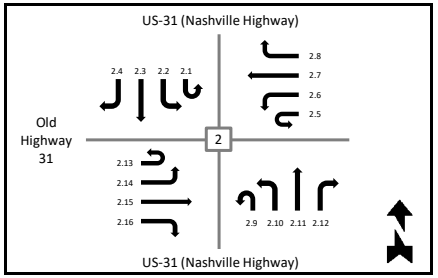
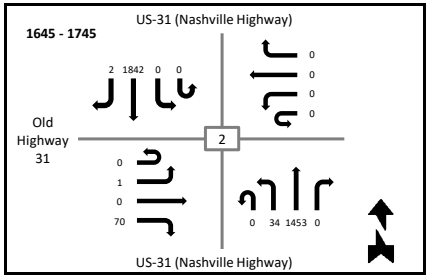


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
1600 - 1615	0	0	451	1	0	452	0	0	0	0	0	0	0	4	315	0	0	319	0	1	0	19	0	20
1615 - 1630	0	0	447	2	0	449	0	0	0	0	0	0	0	8	364	0	0	372	0	0	0	21	0	21
1630 - 1645	0	0	461	0	0	461	0	0	0	0	0	0	0	12	303	0	0	315	0	0	0	22	0	22
1645 - 1700	0	0	459	0	0	459	0	0	0	0	0	0	0	10	369	0	0	379	0	0	0	25	0	25
1700 - 1715	0	0	452	0	0	452	0	0	0	0	0	0	0	13	313	0	0	326	0	0	0	21	0	21
1715 - 1730	0	0	468	1	0	469	0	0	0	0	0	0	0	6	392	0	0	398	0	0	0	13	0	13
1730 - 1745	0	0	463	1	0	464	0	0	0	0	0	0	0	5	379	0	0	384	0	1	0	11	0	12
1745 - 1800	0	0	421	0	0	421	0	0	0	0	0	0	0	7	297	0	0	304	0	0	0	13	0	13
Grand Total	**0**	**0**	**3622**	**5**	**0**	**3627**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**65**	**2732**	**0**	**0**	**2797**	**0**	**2**	**0**	**145**	**0**	**147**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1842**	**2**	**0**	**1844**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	**1453**	**0**	**0**	**1487**	**0**	**1**	**0**	**70**	**0**	**71**
App %	0.00%	0.00%	99.86%	0.14%			0.00%	0.00%	0.00%	0.00%			0.00%	2.32%	97.68%	0.00%			0.00%	1.36%	0.00%	98.64%		
Int %	0.00%	0.00%	55.12%	0.08%		55.20%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.99%	41.58%	0.00%		42.57%	0.00%	0.03%	0.00%	2.21%		2.24%
Cars Total	0	0	3491	5			0	0	0	0			0	65	2634	0			0	2	0	140		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**0.00%**	**96.38%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**100.00%**	**96.41%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**96.55%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

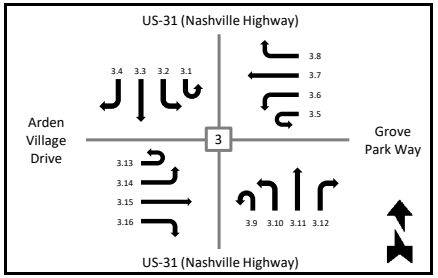
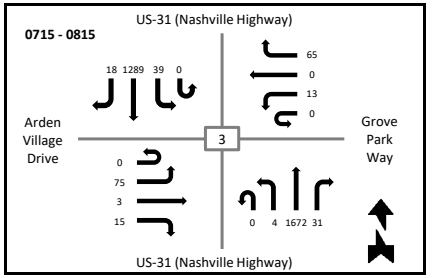


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
0630 - 0645	0	2	347	1	0	350	0	2	0	9	0	11	0	1	321	1	0	323	0	13	0	4	0	17
0645 - 0700	0	1	259	2	0	262	0	3	0	11	0	14	0	0	372	4	0	376	0	15	0	0	0	15
0700 - 0715	0	3	256	4	0	263	0	5	0	10	0	15	0	1	413	2	0	416	0	19	0	3	0	22
0715 - 0730	0	6	326	3	0	335	0	1	0	13	0	14	0	0	473	10	0	483	0	22	1	4	0	27
0730 - 0745	0	5	382	4	0	391	0	4	0	17	0	21	0	2	477	8	0	487	0	13	1	4	0	18
0745 - 0800	0	12	309	4	0	325	0	1	0	17	0	18	0	1	392	3	0	396	0	22	1	5	0	28
0800 - 0815	0	16	272	7	0	295	0	7	0	18	0	25	0	1	330	10	0	341	0	18	0	2	0	20
0815 - 0830	0	11	265	3	0	279	0	5	1	20	0	26	0	6	370	18	0	394	0	21	0	2	0	23
Grand Total	**0**	**56**	**2416**	**28**	**0**	**2500**	**0**	**28**	**1**	**115**	**0**	**144**	**0**	**12**	**3148**	**56**	**0**	**3216**	**0**	**143**	**3**	**24**	**0**	**170**
Peak Hour Total																								
0715 - 0815	**0**	**39**	**1289**	**18**	**0**	**1346**	**0**	**13**	**0**	**65**	**0**	**78**	**0**	**4**	**1672**	**31**	**0**	**1707**	**0**	**75**	**3**	**15**	**0**	**93**
App %	0.00%	2.24%	96.64%	1.12%			0.00%	19.44%	0.69%	79.86%			0.00%	0.37%	97.89%	1.74%			0.00%	84.12%	1.76%	14.12%		
Int %	0.00%	0.93%	40.07%	0.46%		41.46%	0.00%	0.46%	0.02%	1.91%		2.39%	0.00%	0.20%	52.21%	0.93%		53.33%	0.00%	2.37%	0.05%	0.40%		2.82%
Cars Total	0	55	2328	28			0	28	1	111			0	12	3035	55			0	137	3	24		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**98.21%**	**96.36%**	**100.00%**			**0.00%**	**100.00%**	**100.00%**	**96.52%**			**0.00%**	**100.00%**	**96.41%**	**98.21%**			**0.00%**	**95.80%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 3/10/2020 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

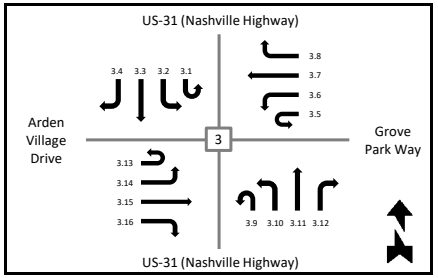
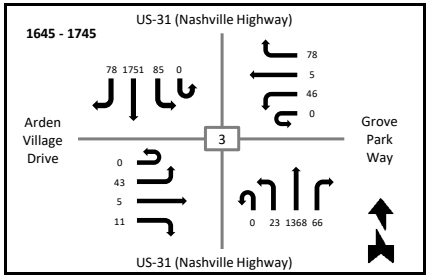


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
Time	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds X-Walk	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds X-Walk	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds X-Walk	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds X-Walk	App Total
1600 - 1615	0	17	442	11	0	470	0	3	2	16	0	21	0	1	293	11	0	305	0	11	1	3	0	15
1615 - 1630	0	10	435	23	0	468	0	4	2	11	0	17	0	4	354	11	0	369	0	7	0	5	0	12
1630 - 1645	0	17	445	21	0	483	0	9	3	11	0	23	0	7	293	7	0	307	0	11	0	2	0	13
1645 - 1700	0	19	448	17	0	484	0	9	1	12	0	22	0	6	360	11	0	377	0	7	1	2	0	10
1700 - 1715	0	26	431	17	0	474	0	11	1	25	0	37	0	8	286	21	0	315	0	16	1	5	0	22
1715 - 1730	0	18	446	18	0	482	0	18	2	21	0	41	0	4	372	18	0	394	0	5	1	1	0	7
1730 - 1745	0	22	426	26	0	474	0	8	1	20	0	29	0	5	350	16	0	371	0	15	2	3	0	20
1745 - 1800	0	18	402	16	0	436	0	9	1	19	0	29	0	5	281	9	0	295	0	4	2	1	0	7
Grand Total	**0**	**147**	**3475**	**149**	**0**	**3771**	**0**	**71**	**13**	**135**	**0**	**219**	**0**	**40**	**2589**	**104**	**0**	**2733**	**0**	**76**	**8**	**22**	**0**	**106**
Peak Hour Total																								
1645 - 1745	**0**	**85**	**1751**	**78**	**0**	**1914**	**0**	**46**	**5**	**78**	**0**	**129**	**0**	**23**	**1368**	**66**	**0**	**1457**	**0**	**43**	**5**	**11**	**0**	**59**
App %	0.00%	3.90%	92.15%	3.95%			0.00%	32.42%	5.94%	61.64%			0.00%	1.46%	94.73%	3.81%			0.00%	71.70%	7.55%	20.75%		
Int %	0.00%	2.15%	50.89%	2.18%		55.22%	0.00%	1.04%	0.19%	1.98%		3.21%	0.00%	0.59%	37.91%	1.52%		40.02%	0.00%	1.11%	0.12%	0.32%		1.55%
Cars Total	0	140	3349	142			0	70	13	130			0	40	2495	101			0	74	8	22		
Heavy Total	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
% Cars	**0.00%**	**95.24%**	**96.37%**	**95.30%**			**0.00%**	**98.59%**	**100.00%**	**96.30%**			**0.00%**	**100.00%**	**96.37%**	**97.12%**			**0.00%**	**97.37%**	**100.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 4
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

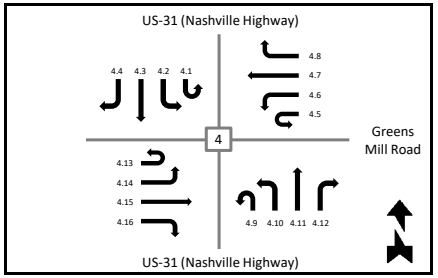
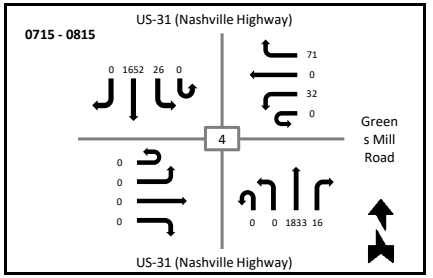


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
0600 - 0615	0	3	197	0	0	200	0	3	0	3	0	6	0	0	352	3	0	355	0	0	0	0	0	0
0615 - 0630	0	3	482	0	0	485	0	2	0	9	0	11	0	0	329	1	0	330	0	0	0	0	0	0
0630 - 0645	0	4	353	0	0	357	0	3	0	2	0	5	0	0	396	4	0	400	0	0	0	0	0	0
0645 - 0700	0	2	286	0	0	288	0	8	0	17	0	25	0	0	411	1	0	412	0	0	0	0	0	0
0700 - 0715	0	4	305	0	0	309	0	6	0	27	0	33	0	0	407	1	0	408	0	0	0	0	0	0
0715 - 0730	0	4	390	0	0	394	0	11	0	27	0	38	0	0	497	6	0	503	0	0	0	0	0	0
0730 - 0745	0	12	484	0	0	496	0	10	0	23	0	33	0	0	494	3	0	497	0	0	0	0	0	0
0745 - 0800	0	6	473	0	0	479	0	6	0	13	0	19	0	0	428	4	0	432	0	0	0	0	0	0
0800 - 0815	0	4	305	0	0	309	0	5	0	8	0	13	0	0	414	3	0	417	0	0	0	0	0	0
0815 - 0830	0	6	241	0	0	247	0	6	0	6	0	12	0	0	391	5	0	396	0	0	0	0	0	0
0830 - 0845	0	3	267	0	0	270	0	6	0	12	0	18	0	0	318	6	0	324	0	0	0	0	0	0
0845 - 0900	0	6	265	0	0	271	0	3	0	8	0	11	0	0	295	2	0	297	0	0	0	0	0	0
Grand Total	**0**	**57**	**4048**	**0**	**0**	**4105**	**0**	**69**	**0**	**155**	**0**	**224**	**0**	**0**	**4732**	**39**	**0**	**4771**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
0715 - 0815	**0**	**26**	**1652**	**0**	**0**	**1678**	**0**	**32**	**0**	**71**	**0**	**103**	**0**	**0**	**1833**	**16**	**0**	**1849**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	1.39%	98.61%	0.00%			0.00%	30.80%	0.00%	69.20%			0.00%	0.00%	99.18%	0.82%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	0.63%	44.48%	0.00%		45.11%	0.00%	0.76%	0.00%	1.70%		2.46%	0.00%	0.00%	52.00%	0.43%		52.43%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	56	3570	0			0	66	0	140			0	0	4223	37			0	0	0	0		
Heavy Total	0	0	190	0			0	0	0	3			0	0	174	2			0	0	0	0		
% Cars	**0.00%**	**98.25%**	**88.19%**	**0.00%**			**0.00%**	**95.65%**	**0.00%**	**90.32%**			**0.00%**	**0.00%**	**89.24%**	**94.87%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**4.69%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**1.94%**			**0.00%**	**0.00%**	**3.68%**	**5.13%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 4
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

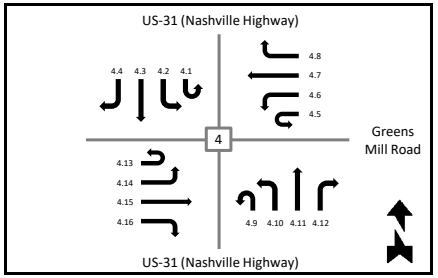
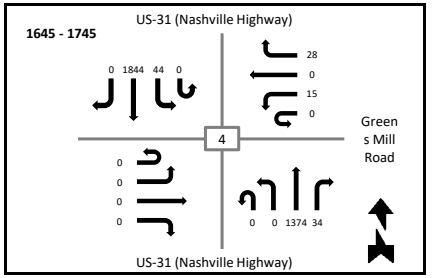


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
1500 - 1515	0	29	456	0	0	485	0	5	0	4	0	9	0	0	276	6	0	282	0	0	0	0	0	0
1515 - 1530	0	13	439	0	0	452	0	2	0	6	0	8	0	0	374	9	0	383	0	0	0	0	0	0
1530 - 1545	0	13	517	0	0	530	0	2	0	11	0	13	0	0	351	4	0	355	0	0	0	0	0	0
1545 - 1600	0	14	456	0	0	470	0	8	0	10	0	18	0	0	373	6	0	379	0	0	0	0	0	0
1600 - 1615	0	8	398	0	0	406	0	5	0	9	0	14	0	0	292	11	0	303	0	0	0	0	0	0
1615 - 1630	0	16	473	0	0	489	0	9	0	6	0	15	0	0	338	9	0	347	0	0	0	0	0	0
1630 - 1645	0	15	490	0	0	505	0	6	0	11	0	17	0	0	380	10	0	390	0	0	0	0	0	0
1645 - 1700	0	14	488	0	0	502	0	2	0	10	0	12	0	0	345	6	0	351	0	0	0	0	0	0
1700 - 1715	0	11	460	0	0	471	0	6	0	9	0	15	0	0	350	11	0	361	0	0	0	0	0	0
1715 - 1730	0	11	448	0	0	459	0	5	0	6	0	11	0	0	343	6	0	349	0	0	0	0	0	0
1730 - 1745	0	8	448	0	0	456	0	2	0	3	0	5	0	0	336	11	0	347	0	0	0	0	0	0
1745 - 1800	0	1	399	0	0	400	0	3	0	5	0	8	0	0	306	2	0	308	0	0	0	0	0	0
Grand Total	**0**	**153**	**5472**	**0**	**0**	**5625**	**0**	**55**	**0**	**90**	**0**	**145**	**0**	**0**	**4064**	**91**	**0**	**4155**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
1645 - 1745	**0**	**44**	**1844**	**0**	**0**	**1888**	**0**	**15**	**0**	**28**	**0**	**43**	**0**	**0**	**1374**	**34**	**0**	**1408**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	2.72%	97.28%	0.00%			0.00%	37.93%	0.00%	62.07%			0.00%	0.00%	97.81%	2.19%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	1.54%	55.13%	0.00%		56.68%	0.00%	0.55%	0.00%	0.91%		1.46%	0.00%	0.00%	40.95%	0.92%		41.86%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	140	4953	0			0	51	0	83			0	0	3648	82			0	0	0	0		
Heavy Total	0	1	130	0			0	2	0	1			0	0	125	3			0	0	0	0		
% Cars	**0.00%**	**91.50%**	**90.52%**	**0.00%**			**0.00%**	**92.73%**	**0.00%**	**92.22%**			**0.00%**	**0.00%**	**89.76%**	**90.11%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.65%**	**2.38%**	**0.00%**			**0.00%**	**3.64%**	**0.00%**	**1.11%**			**0.00%**	**0.00%**	**3.08%**	**3.30%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 5
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

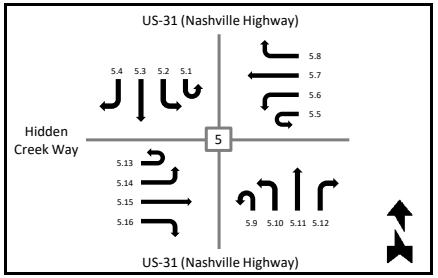
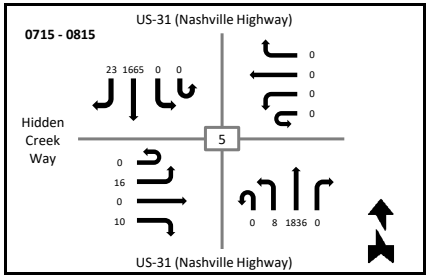


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	5.1	5.2	5.3	5.4	X-Walk	Total	5.5	5.6	5.7	5.8	X-Walk	Total	5.9	5.10	5.11	5.12	X-Walk	Total	5.13	5.14	5.15	5.16	X-Walk	Total
0600 - 0615	0	0	211	2	0	213	0	0	0	0	0	0	0	0	373	0	0	373	0	5	0	0	0	5
0615 - 0630	0	0	474	1	0	475	0	0	0	0	0	0	0	2	317	0	0	319	0	4	0	1	0	5
0630 - 0645	0	0	370	5	0	375	0	0	0	0	0	0	1	1	406	0	0	408	0	8	0	1	0	9
0645 - 0700	0	0	268	4	0	272	0	0	0	0	0	0	0	4	418	0	0	422	0	1	0	3	0	4
0700 - 0715	0	0	318	4	0	322	0	0	0	0	0	0	0	2	394	0	0	396	0	6	0	3	0	9
0715 - 0730	0	0	407	6	0	413	0	0	0	0	0	0	0	3	531	0	0	534	0	3	0	3	0	6
0730 - 0745	0	0	495	5	0	500	0	0	0	0	0	0	0	1	470	0	0	471	0	5	0	2	0	7
0745 - 0800	0	0	451	9	0	460	0	0	0	0	0	0	0	2	431	0	0	433	0	5	0	3	0	8
0800 - 0815	0	0	312	3	0	315	0	0	0	0	0	0	0	2	404	0	0	406	0	3	0	2	0	5
0815 - 0830	0	0	244	6	0	250	0	0	0	0	0	0	0	1	391	0	0	392	0	4	0	0	0	4
0830 - 0845	0	0	268	5	0	273	0	0	0	0	0	0	0	3	321	0	0	324	0	5	0	2	0	7
0845 - 0900	0	0	265	4	0	269	0	0	0	0	0	0	0	0	282	0	0	282	0	9	0	1	0	10
Grand Total	**0**	**0**	**4083**	**54**	**0**	**4137**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**21**	**4738**	**0**	**0**	**4760**	**0**	**58**	**0**	**21**	**0**	**79**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1665**	**23**	**0**	**1688**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1836**	**0**	**0**	**1844**	**0**	**16**	**0**	**10**	**0**	**26**
App %	0.00%	0.00%	98.69%	1.31%			0.00%	0.00%	0.00%	0.00%			0.02%	0.44%	99.54%	0.00%			0.00%	73.42%	0.00%	26.58%		
Int %	0.00%	0.00%	45.49%	0.60%		46.09%	0.00%	0.00%	0.00%	0.00%		0.00%	0.01%	0.23%	52.79%	0.00%		53.03%	0.00%	0.65%	0.00%	0.23%		0.88%
Cars Total	0	0	3610	49			0	0	0	0			1	20	4208	0			0	55	0	19		
Heavy Total	0	0	183	4			0	0	0	0			0	1	191	0			0	1	0	2		
% Cars	**0.00%**	**0.00%**	**88.42%**	**90.74%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**95.24%**	**88.81%**	**0.00%**			**0.00%**	**94.83%**	**0.00%**	**90.48%**		
% Heavy	**0.00%**	**0.00%**	**4.48%**	**7.41%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**4.76%**	**4.03%**	**0.00%**			**0.00%**	**1.72%**	**0.00%**	**9.52%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 5
Intersection #: 5
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019 --> Grown to 2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

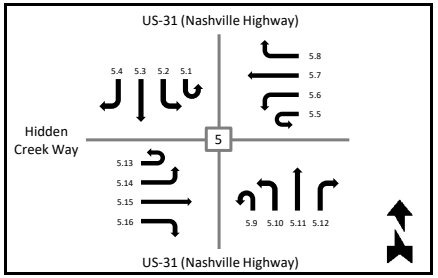
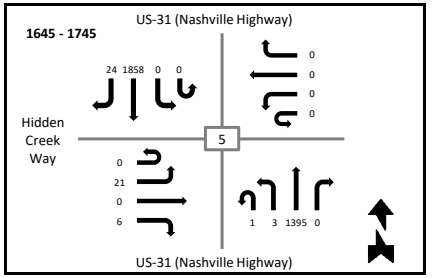


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
Time	U-Turn 5.1	Left 5.2	Thru 5.3	Right 5.4	Peds X-Walk	App Total	U-Turn 5.5	Left 5.6	Thru 5.7	Right 5.8	Peds X-Walk	App Total	U-Turn 5.9	Left 5.10	Thru 5.11	Right 5.12	Peds X-Walk	App Total	U-Turn 5.13	Left 5.14	Thru 5.15	Right 5.16	Peds X-Walk	App Total
1500 - 1515	0	0	446	12	0	458	0	0	0	0	0	0	0	2	298	0	0	300	0	3	0	5	0	8
1515 - 1530	0	0	421	4	0	425	0	0	0	0	0	0	0	0	356	0	0	356	0	5	0	2	0	7
1530 - 1545	0	0	498	6	0	504	0	0	0	0	0	0	0	0	354	0	0	354	0	2	0	0	0	2
1545 - 1600	0	0	472	1	0	473	0	0	0	0	0	0	1	3	375	0	0	379	0	5	0	1	0	6
1600 - 1615	0	0	414	5	0	419	0	0	0	0	0	0	0	1	294	0	0	295	0	5	0	3	0	8
1615 - 1630	0	0	478	4	0	482	0	0	0	0	0	0	0	0	348	0	0	348	0	5	0	1	0	6
1630 - 1645	0	0	483	6	0	489	0	0	0	0	0	0	0	3	389	0	0	392	0	3	0	0	0	3
1645 - 1700	0	0	501	6	0	507	0	0	0	0	0	0	0	1	348	0	0	349	0	8	0	0	0	8
1700 - 1715	0	0	458	8	0	466	0	0	0	0	0	0	1	1	350	0	0	352	0	6	0	0	0	6
1715 - 1730	0	0	458	5	0	463	0	0	0	0	0	0	0	0	352	0	0	352	0	3	0	4	0	7
1730 - 1745	0	0	441	5	0	446	0	0	0	0	0	0	0	1	345	0	0	346	0	4	0	2	0	6
1745 - 1800	0	0	390	6	0	396	0	0	0	0	0	0	1	2	287	0	0	290	0	5	0	1	0	6
Grand Total	**0**	**0**	**5460**	**68**	**0**	**5528**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**14**	**4096**	**0**	**0**	**4113**	**0**	**54**	**0**	**19**	**0**	**73**
Peak Hour Total																								
1645 - 1745	**0**	**0**	**1858**	**24**	**0**	**1882**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**1395**	**0**	**0**	**1399**	**0**	**21**	**0**	**6**	**0**	**27**
App %	0.00%	0.00%	98.77%	1.23%			0.00%	0.00%	0.00%	0.00%			0.07%	0.34%	99.59%	0.00%			0.00%	73.97%	0.00%	26.03%		
Int %	0.00%	0.00%	56.21%	0.70%		56.91%	0.00%	0.00%	0.00%	0.00%		0.00%	0.03%	0.14%	42.17%	0.00%		42.34%	0.00%	0.56%	0.00%	0.20%		0.75%
Cars Total	0	0	4935	61			0	0	0	0			3	14	3680	0			0	48	0	17		
Heavy Total	0	0	136	5			0	0	0	0			0	0	124	0			0	5	0	2		
% Cars	**0.00%**	**0.00%**	**90.38%**	**89.71%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**100.00%**	**89.84%**	**0.00%**			**0.00%**	**88.89%**	**0.00%**	**89.47%**		
% Heavy	**0.00%**	**0.00%**	**2.49%**	**7.35%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**3.03%**	**0.00%**			**0.00%**	**9.26%**	**0.00%**	**10.53%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 7
Intersection: GROVE PARK WAY & PERSIMMON STREET

Southbound: Grove Park Way
Westbound: Persimmon Street
Northbound: Grove Park Way
Eastbound:

Lat/Long: 35.70401755633158, -86.97303814253952

Count Date: 1/20/2021

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

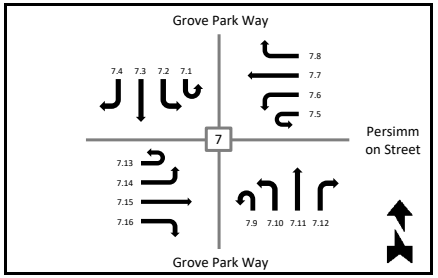
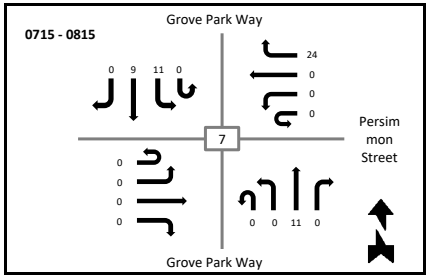


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Grove Park Way						Persimmon Street						Grove Park Way											
Time	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds X-Walk	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds X-Walk	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds X-Walk	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds X-Walk	App Total
0600 - 0615	0	0	1	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	8	0	8	0	0	3	0	0	3	0	0	0	0	0	0
0645 - 0700	0	2	0	0	0	2	0	0	0	4	0	4	0	0	4	0	0	4	0	0	0	0	0	0
0700 - 0715	0	3	0	0	0	3	0	0	0	4	0	4	0	0	5	0	0	5	0	0	0	0	0	0
0715 - 0730	0	1	1	0	0	2	0	0	0	3	0	3	0	0	6	0	0	6	0	0	0	0	0	0
0730 - 0745	0	3	3	0	0	6	0	0	0	5	0	5	0	0	2	0	0	2	0	0	0	0	0	0
0745 - 0800	0	2	1	0	0	3	0	0	0	9	0	9	0	0	2	0	0	2	0	0	0	0	0	0
0800 - 0815	0	5	4	0	0	9	0	0	0	7	0	7	0	0	1	0	0	1	0	0	0	0	0	0
0815 - 0830	0	2	2	0	0	4	0	0	0	2	0	2	0	0	6	0	0	6	0	0	0	0	0	0
0830 - 0845	0	2	1	0	0	3	0	0	0	4	0	4	0	0	2	0	0	2	0	0	0	0	0	0
0845 - 0900	0	1	0	0	0	1	0	0	0	3	0	3	0	0	1	0	0	1	0	0	0	0	0	0
Grand Total	**0**	**21**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**0**	**56**	**0**	**0**	**33**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
0715 - 0815	**0**	**11**	**9**	**0**	**0**	**20**	**0**	**0**	**0**	**24**	**0**	**24**	**0**	**0**	**11**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	0.00%	0.00%	0.00%			0.00%	0.00%	0.00%	100.00%			0.00%	0.00%	100.00%	0.00%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	1.90%	54.29%	0.00%		56.19%	0.00%	1.90%	0.00%	0.00%		1.90%	0.00%	0.00%	40.00%	1.90%		41.90%
Cars Total	0	20	12	0			0	0	0	54			0	0	32	0			0	0	0	0		
Heavy Total	0	1	1	0			0	0	0	2			0	0	1	0			0	0	0	0		
% Cars	**0.00%**	**95.24%**	**92.31%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**96.43%**			**0.00%**	**0.00%**	**96.97%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**4.76%**	**7.69%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**3.57%**			**0.00%**	**0.00%**	**3.03%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 7
Intersection: GROVE PARK WAY & PERSIMMON STREET

Southbound: Grove Park Way
Westbound: Persimmon Street
Northbound: Grove Park Way
Eastbound:

Lat/Long: 35.70401755633158, -86.97303814253952

Count Date: 1/20/2021

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

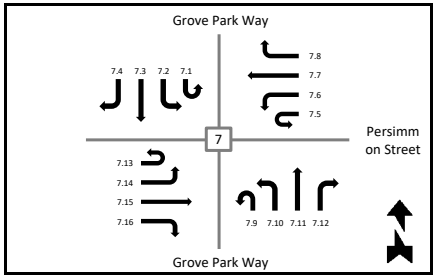
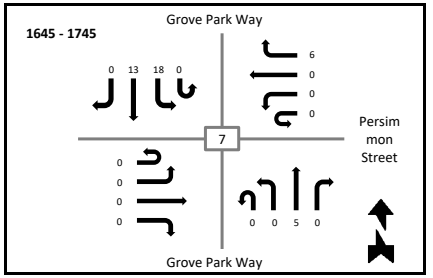


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	Grove Park Way						Persimmon Street						Grove Park Way											
Time	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds X-Walk	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds X-Walk	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds X-Walk	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds X-Walk	App Total
1500 - 1515	2	9	4	0	0	15	0	0	0	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0
1515 - 1530	0	5	2	0	0	7	0	0	0	3	0	3	0	0	3	0	0	3	0	0	0	0	0	0
1530 - 1545	0	2	3	0	0	5	0	0	0	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0
1545 - 1600	0	4	8	0	0	12	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1615	0	7	5	0	0	12	0	0	0	1	0	1	0	0	4	0	0	4	0	0	0	0	0	0
1615 - 1630	0	0	2	0	0	2	0	0	0	4	0	4	0	0	1	0	1	1	0	0	0	0	0	0
1630 - 1645	0	4	2	0	0	6	0	0	0	4	0	4	0	0	2	0	0	2	0	0	0	0	0	0
1645 - 1700	0	6	4	0	0	10	0	0	0	2	0	2	0	0	2	0	0	2	0	0	0	0	0	0
1700 - 1715	0	3	3	0	0	6	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
1715 - 1730	0	6	3	0	0	9	0	0	0	2	0	2	0	0	2	0	0	2	0	0	0	0	0	0
1730 - 1745	0	3	3	0	0	6	0	0	0	2	0	2	0	0	0	0	1	0	0	0	0	0	0	0
1745 - 1800	0	9	1	0	0	10	0	0	0	1	0	1	0	0	2	0	0	2	0	0	0	0	0	0
Grand Total	**2**	**58**	**40**	**0**	**0**	**100**	**0**	**0**	**0**	**27**	**0**	**27**	**0**	**0**	**19**	**0**	**2**	**19**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
1645 - 1745	**0**	**18**	**13**	**0**	**0**	**31**	**0**	**0**	**0**	**6**	**0**	**6**	**0**	**0**	**5**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**
App %	2.00%	58.00%	40.00%	0.00%			0.00%	0.00%	0.00%	100.00%			0.00%	0.00%	100.00%	0.00%			0.00%	0.00%	0.00%	0.00%		
Int %	1.37%	39.73%	27.40%	0.00%		68.49%	0.00%	0.00%	0.00%	18.49%		18.49%	0.00%	0.00%	13.01%	0.00%		13.01%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	2	58	37	0			0	0	0	25			0	0	19	0			0	0	0	0		
Heavy Total	0	0	3	0			0	0	0	2			0	0	0	0			0	0	0	0		
% Cars	**100.00%**	**100.00%**	**92.50%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**92.59%**			**0.00%**	**0.00%**	**100.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**7.50%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**7.41%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

TR

Sepac 3.34g Timings Data

Location:	Nashville Hwy
and	Arden Village

TS #	28
Date:	9-2-20

key 3-1 Vehicle times

Phase	1	2	3	4	5	6	7	8
min green	5	25	7	7	5	25	10	15
pass/10	20	50	30	30	20	50	40	50
max # 1	20	60	30	30	20	60	25	35
max # 2	30	80	30	50	30	80	30	50
yellow/10	45	45	45	45	45	45	40	40
red/10	15	30	20	20	15	30	10	10

key 3-2 Density Times

Phase	1	2	3	4	5	6	7	8
aini/10								
max int								
Tb4								
carsb4								
Time to								
Min gap								

key 3-3 Pedestrian Times

Phase	1	2	3	4	5	6	7	8
Walk		7		7		7		7
Ped clear		8		8		8		8
fl wk								
ext pcl								
act riw								
		1 = yes 0 = no						

key 3-7 Sequence control

phase	1	2	3	4	5	6	7	8
ph. Omit								
ph. Yell								
Codes	0		01-08 # - phase					
	none		phase is omitted by # on					
	none phase yellow is omitted by # yellow							

key 3-5 V.& P. recalls

Phases	1	2	3	4	5	6	7	8
veh.recall		2				2		
ped recall								
delay								

Codes		0		1		2		3		4
		none		Inactive		red		yellow		gree
		none		to na 1		to na II		to both		
		none		1 call		minimum		maximum		soft
		none		1 call		ped		na		na+

key 3-6 N. lock & misc

Phase	1	2	3	4	5	6	7	8
non lock	1	0	1	1	1	0	0	0
2 entry								
lc pass								
con. Ser.								
no sgap								
		1 = yes 0 = no						

key 3-4 Init. Na response

phase	1	2	3	4	5	6	7	8
initial	1	4	1	1	1	4	0	0
na resp		1		2		1		2

Codes	0		1		2		3		4
Init	none		inact		red		yel		grn
na resp	none		to 1		to 2		both		

key 4-4

OVL TRAILING GREENS, YELLOWS AND REDS

	GREEN	YELLOW	RED
OLA	0	40	20
OLB	0	40	20
OLC	0	40	20
OLD	0	40	20

key 3-8-1	Det. Controls											
detector	1	2	3	4	5	6	7	8				
assign phase	1	0	2	2	2	2	2	0				
oper mode												
switch												

key 3-8-2								
9	10	11	12	13	14	15	16	
3	0	4	4	4	4	4	0	

key 3-8-1	Det. Timings "Change From Controls to Timings"											
extend time												
delay time					0							

key 3-8-2								
			0					

key 3-8-3	Det. Controls											
detector	17	18	19	20	21	22	23	24				
assign phase	1	3	5	0	6	6	6	6				
oper mode												
switch												

key 3-8-4								
25	26	27	28	29	30	31	32	
6	0	0	0	7	0	8	8	

key 3-8- 3	Det. Timings "Change From Controls to Timings"											
extend time												
delay time					0							

key 3-8-4								
		0						

codes	0			1			2		3		4	
	norm veh			norm ped			one call		st bar a		st bar b	
	none											
	none											

key3-8-9	Ped. Dets.							
Ped Det Control	1	2	3	4	5	6	7	8
Assigned phase	1	2	3	4	0	6	0	8
Operation Mode	1	1	1	1	0	1	0	1
Switch Phase								

Mode	0-veh	1-ped	2-0ne	3-sba
	4-sbb	5-ppl	6-ppt	7-and

Startup & misc.		key 4-1
Startup time	0	time in sec.
Startup state	0	0-fl 1-red
red rev/10	40	time in tenths
auto ped clear	0	o-no 1- yes
Stop t reset	0	0-no 1-yes
Alt. sequence	0	0-18
I'NAT'L SEQ	0	0-no 1-yes

Coordination data and set up		key 5-1						
Coord. Setup		0	1	2	3	4	5	
Oper	0	fre	aut	man				
mode	0	prm	yld	pyl	pom	som	fac	
max	2	inh	mx1	mx2				
corr	0	dwl	ndw	swy	sw+	sw2		
ofst	0	beg	end of green					
frce	0	pln cycle time						
mx dwell	0							
yield period	0							

key 4-3	Overlap Standard use up/down to swtich between overlaps
	0-no 1-yes

Overlap A

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap B

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap C

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap D

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

key 5-3	Input Dial1 split1 Phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
mode:	0-actuated 1-coord ph 2-min rec							
	3-max rec 4-ped rec 5-mx+p							
	6-ph omit 7-dual coord phase							

key 5-3	Input Dial 2 split 1 phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
Mode:	0-actuatec 1-coord ph 2-min rec							
	3-max rec 4-ped rec 5-mx+p rec							
	6-ph omit 7-dual coord phase							

key 5-3						
Input Dial1 Split 1 Param. Level 1						
offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						
mode	0-6 nrm/prm/yld/pyl/pom/som/fac					

key 5-3	Input Dial 2 split 1 Param. Level 1					
Offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						

Max -2

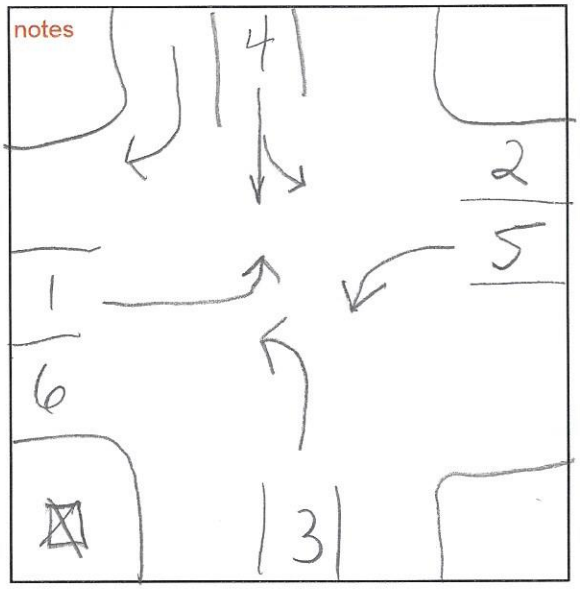
key 6-2	Time And Date Settings

	BEG-DST-END
	3 2 & 11 1
CYC ZERO	24

Traffic Events

key 6-3-E	DD	HH	MM	DL	SP	OF	
	2	15					2 6
	2	18	30				
	3	15					2 6
	3	18	30				
	4	15					2 6
	4	18	30				
	5	15					2 6
	5	18	30				
	6	15					2 6
	6	18	30				

notes



14 EPAC300 PROGRAM LOG

Prepared By:	NSI	Neel-Schaffer, Inc		Date:	3/31/2021
Approved By				Date:	
Intersection ID:		Hidden Creek Way	AT	Nashville Highway	

UTILITIES ACCESS

Access Code..... : _____ Codes: Four Digits (0000-9999)

PHASE DATA VEHICLE TIMINGS

Basic Times — Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	7	10		7		10										
Passage Time	3.0	4.5		3.0		4.5										
Maximum No 1	15	45		20		45										
Maximum No 2	20	55		30		55										
Yellow Change	4.5	5.0		3.5		5.0										
Red Clearance	2.5	1.5		3.0		1.5										

Density Times — Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation																
Maximum Initial																
Time B4 Reduction																
Cars B4 Reduction																
Time To Reduce																
Minimum Gap																

PHASE DATA PEDESTRIAN TIMINGS & CONTROL

Pedestrian Times — Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk																
Pedestrian Clearance																

Pedestrian Control — Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk																
Extended Pedestrian Clear																
Act Rest In Walk																

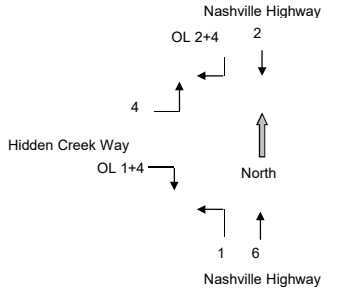
Pedestrian Control Entry : "1" = Yes & "0" = No

PHASE DATA VEHICLE CONTROL

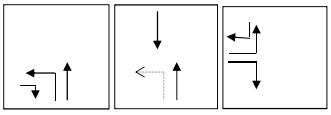
Veh Control — Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory	X			X												
Dual Entry																
Last Car Passage																
Conditional Service																
No Simultaneous Gap																
Minimum Recall		X				X										

Vehicle Control Entry : "1" = Yes & "0" = No

PHASING SCHEMATIC



PHASING SEQUENCE



CITY OF COLUMBIA
TENNESSEE
Something good around every corner.

COORDINATION AND OPERATION

Intersection ID: **0** **Hidden Creek Way** AT **Nashville Highway**

COORD DATA MODE

Control		Codes: 0	1	2	3	4	5
Operation	1	FRE	AUT	MAN	-	-	-
Mode	0	PRM	YLD	PYL	POM	SOM	FAC
Maximum	0	INH	MX1	MX2	-	-	-
Correction	2	DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	1	BEGIN	END OF GREEN				
Force	1	PLAN	CYCLE TIME				
Max Dwell Time	0	Time in Seconds					
Yield Period	0	Time in Seconds					
Manual Pattern (Dial/Split/Offset)	1 / 1 / 1						

COORD DATA TIMING PLANS

Control Timing Plan :	D1/S1	D1/S2	D1/S3	D1/S4	D2/S1	D2/S2	D2/S3	D2/S4
Cycle Length	105				120			
Phase 01 Time/Mode	15 /	/	/	/	15 /	/	/	/
Phase 02 Time/Mode	68 / 1	/	/	/	77 / 1	/	/	/
Phase 03 Time/Mode	/	/	/	/	/	/	/	/
Phase 04 Time/Mode	22 /	/	/	/	28 /	/	/	/
Phase 05 Time/Mode	/	/	/	/	/	/	/	/
Phase 06 Time/Mode	83 / 1	/	/	/	92 / 1	/	/	/
Phase 07 Time/Mode	/	/	/	/	/	/	/	/
Phase 08 Time/Mode	/	/	/	/	/	/	/	/
Offset 1	27				33			
Offset 2								
Offset 3								
Offset Pattern Mode								

Control Timing Plan :	D3/S1	D3/S2	D3/S3	D3/S4	D4/S1	D4/S2	D4/S3	D4/S4
Cycle Length	130	130			140			
Phase 01 Time/Mode	15 /	15 /	/	/	15 /	/	/	/
Phase 02 Time/Mode	80 / 1	87 / 1	/	/	95 / 1	/	/	/
Phase 03 Time/Mode	/	/	/	/	/	/	/	/
Phase 04 Time/Mode	35 /	28 /	/	/	30 /	/	/	/
Phase 05 Time/Mode	/	/	/	/	/	/	/	/
Phase 06 Time/Mode	95 / 1	102 / 1	/	/	110 / 1	/	/	/
Phase 07 Time/Mode	/	/	/	/	/	/	/	/
Phase 08 Time/Mode	/	/	/	/	/	/	/	/
Offset 1	48				49			
Offset 2		49						
Offset 3								
Offset Pattern Mode								

Codes

Phase Mode: 0 - Actuated; 1 - Coord Phase; 2 - Min Rec; 3 - Max Rec; 4 - Ped Rec; 5 - Max+Ped Recall; 6 - Phase Omitted; 7 - Dual Coord Phase

Pattern Mode: 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

Note: Dial, Split, and Offset are all shown in seconds
Offsets are referenced from the end of the coordinated phase green

CITY OF COLUMBIA TENNESSEE

TIME OF DAY PROGRAMMING

Intersection: Hidden Creek Way AT Nashville Highway

TIME BASE DATA MESCELLANEOUS

DST: BEGIN	MONTH	3	WEEK	2
DST: END	MONTH	11	WEEK	1

COORD CYCLE ZERO 24 : 00 AM

DST: Daylight Savings Timg
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

2	=	3	4	5	6			
	=							
	=							
	=							
	=							
	=							
	=							
	=							
	=							
	=							

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

PDAY	DAY HH : MM	PATTERN	TRAFFIC EVENT FUNCTIONS MAX II PHASE(S)	OMIT PHASE(S)
1	00 : 00	0 / 0 / 4	Free	
1	08 : 00	1 / 1 / 1	Off Peak - 105s	
1	10 : 30	2 / 1 / 1	MD Peak - 120s	
1	17 : 00	1 / 1 / 1	Off Peak - 105s	
1	19 : 30	0 / 0 / 0	MAX 2	
1	21 : 00	0 / 0 / 4	Free	
2	00 : 00	0 / 0 / 4	Free	
2	06 : 30	3 / 1 / 1	AM Peak - 130s	
2	08 : 30	2 / 1 / 1	MD Peak - 120s	
2	14 : 00	4 / 1 / 1	PM-1 Peak (School) - 140s	
2	16 : 15	3 / 2 / 2	PM-2 Peak - 130s	
2	18 : 15	2 / 1 / 1	MD Peak - 120s	
2	19 : 45	1 1 1	Off Peak - 105s	
2	21 : 00	0 0 4	Free	
7	00 : 00	0 / 0 / 4	Free	
7	09 : 30	1 / 1 / 1	Off Peak - 105s	
7	11 : 00	2 / 1 / 1	MD Peak - 120s	
7	17 : 00	1 / 1 / 1	Off Peak - 105s	
7	19 : 00	0 / 0 / 0	MAX 2	
7	21 : 00	0 / 0 / 4	Free	

REFERENCE DATA:
PDAY - 01-99 Program Day
HH:MM - 24 Hour Clock
PATTERN : (D/S/O)
Flash - 5 / 5 / 0
Free - 0 / 0 / 4
MAX 2 & OMITS: Call Free, Set Patterm To 0 / 0 / 0

CITY OF COLUMBIA
TENNESSEE
Something good around every corner.

TR

Sepac 3.34g Timings Data

Location:	Nashville HWY
and	Springmeade

TS #	27
Date:	9-2-20

key 3-1 Vehicle times

Phase	1	2	3	4	5	6	7	8
min green	5	25	7	5	5	25	10	15
pass/10	15	40	30	20	15	40	40	50
max # 1	25	60	20	35	20	60	25	35
max # 2	30	80	30	50	30	80	30	50
yellow/10	40	40	40	40	40	40	40	40
red/10	10	30	10	10	10	30	10	10

key 3-2 Density Times

Phase	1	2	3	4	5	6	7	8
aini/10								
max int								
Tb4								
carsb4								
Time to								
Min gap								

key 3-3 Pedestrian Times

Phase	1	2	3	4	5	6	7	8
Walk		7		7		7		7
Ped clear		8		8		8		8
fl wk								
ext pcl								
act riw								
		1 = yes 0 = no						

key 3-7 Sequence control

phase	1	2	3	4	5	6	7	8
ph. Omit								
ph. Yell								
Codes	0		01-08 # - phase					
	none		phase is omitted by # on					
	none phase yellow is omitted by # yellow							

key 3-5 V.& P. recalls

Phases	1	2	3	4	5	6	7	8
veh.recall		2				2		
ped recall								
delay								

Codes	0	1	2	3	4
	none	Inactive	red	yellow	gree
	none	to na 1	to na II	to both	
	none	1 call	minimum	maximum	soft
	none	1 call	ped	na	na+

key 3-6 N. lock & misc

Phase	1	2	3	4	5	6	7	8
non lock	1	0	1	1	1	0	0	0
2 entry								
lc pass								
con. Ser.								
no sgap								
		1 = yes 0 = no						

key 3-4 Init. Na response

phase	1	2	3	4	5	6	7	8
initial	1	4	1	1	1	4	0	0
na resp		1		1		1		

Codes	0	1	2	3	4
Init	none	inact	red	yel	grn
na resp	none	to 1	to 2	both	

key 4-4 OVL TRAILING GREENS, YELLOWS AND REDS

	GREEN	YELLOW	RED
OLA	0	40	20
OLB	0	40	20
OLC	0	40	20
OLD	0	40	20

key 3-8-1	Det. Controls											key 3-8-2							
detector	1	2	3	4	5	6	7	8				9	10	11	12	13	14	15	16
assign phase	1	0	2	2	2	2	2	0				3	0	4	4	4	4	4	0
oper mode																			
switch																			
key 3-8-1	Det. Timings "Change From Controls to Timings"											key 3-8-2							
extend time																			
delay time				0										0					
key 3-8-3	Det. Controls											key 3-8-4							
detector	17	18	19	20	21	22	23	24				25	26	27	28	29	30	31	32
assign phase	1	3	5	0	6	6	6	6				6	0	0	0	7	0	8	8
oper mode																			
switch																			
key 3-8- 3	Det. Timings "Change From Controls to Timings"											key 3-8-4							
extend time																			
delay time						0								0					
codes	0			1			2		3		4								
	norm veh			norm ped			one call		st bar a		st bar b								
	none																		
	none																		

key3-8-9	Ped. Dets.							
Ped Det Control	1	2	3	4	5	6	7	8
Assigned phase	1	2	3	4	0	6	0	8
Operation Mode	1	1	1	1	0	1	0	1
Switch Phase								
Mode	0-veh		1-ped		2-0ne		3-sba	
	4-sbb		5-ppl		6-ppt		7-and	

Startup & misc.		key 4-1
Startup time	0	time in sec.
Startup state	0	0-fl 1-red
red rev/10	40	time in tenths
auto ped clear	0	o-no 1- yes
Stop t reset	0	0-no 1-yes
Alt. sequence	0	0-18
I'NAT'L SEQ	0	0-no 1-yes

Coordination data and set up		key 5-1					
Coord. Setup		0	1	2	3	4	5
Oper	0	fre	aut	man			
mode	0	prm	yld	pyl	pom	som	fac
max	2	inh	mx1	mx2			
corr	0	dwl	ndw	swy	sw+	sw2	
ofst	0	beg	end of green				
frce	0	pln cycle time					
mx dwell	0						
yield period	0						

key 4-3	Overlap Standard use up/down to swtich between overlaps
	0-no 1-yes

Overlap A

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN													1						

Overlap B

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN														1	1				

Overlap C

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN															1				

Overlap D

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																1			

key 5-3	Input Dial1 split1 Phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time				0				
Mode								
mode:	0-actuated 1-coord ph 2-min rec							
	3-max rec 4-ped rec 5-mx+p							
	6-ph omit 7-dual coord phase							

key 5-3	Input Dial 2 split 1 phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time				0				
Mode								
Mode:	0-actuatec 1-coord ph 2-min rec							
	3-max rec 4-ped rec 5-mx+p rec							
	6-ph omit 7-dual coord phase							

key 5-3						
Input Dial1 Split 1 Param. Level 1						
offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2	0					
3						
mode 0-6 nrm/prm/yld/pyl/pom/som/fac						

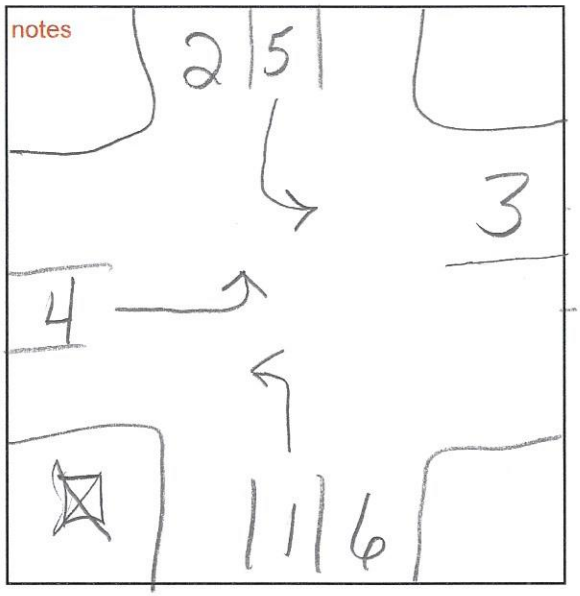
key 5-3						
Input Dial 2 split 1 Param. Level 1						
Offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2	0					
3						

key 6-2	Time And Date Settings
	BEG-DST-END
	3 2 & 11 1
CYC ZERO	24

Max - 2

key 6-3-E	Traffic Events						
	DD	HH	MM	DL	SP	OF	
	2	15					2 6
	2	18	30				
	3	15					2 6
	3	18	30				
	4	15					2 6
	4	18	30				
	5	15					2 6
	5	18	30				
	6	15					2 6
	6	18	30				

notes



APPENDIX B – DETAILED TRIP GENERATION CALCULATIONS

1329 West Main Street
Franklin, TN 37064
615-678-8212

www.T2-Eng.com

TRIP GENERATION

Project:	McClure Farms Development – Columbia, TN
ITE Land Use:	Single-Family Housing, Multi-Family Housing (Low-Rise), Fast Food Restaurant with Drive Thru (934), and Convenience Store/Gas Station (945)
ITE Code:	210, 220, 934 & 945
Trip Ends vs:	**ITE 210** – 116 DU; **ITE 220** – 314 DU; **ITE 934** – 3,305 SF; and **ITE 945** – 16 Vehicle Fueling Positions
Daily Equation:	Weekday – Varies by Land Use
AM Equation:	Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 AM – Varies by Land Use
PM Equation:	Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 PM – Varies by Land Use

Total Site Generated Traffic (Includes Internal and Pass-By Trips)

Land Use	**Size**	**Generated Traffic Volumes**				
		Daily	**AM Peak**		**PM Peak**	
			Enter	**Exit**	**Enter**	**Exit**
Single-Family Housing (210)	116 DU	1,157	21	64	72	42
Multi-Family Housing (Low-Rise) (220)	314 DU	2,088	29	91	98	58
Fast Food Restaurant with Drive Thru (934)	3,305 SF	1,547	75	73	57	52
Convenience Market/Gas Station (945)	16 VFP	3,383	128	129	147	148
TOTAL		**8,175**	**253**	**357**	**374**	**300**

New Site Generated Traffic (Excludes Internal and Pass-By Trips)

Land Use	**Size**	**Generated Traffic Volumes**				
		Daily	**AM Peak**		**PM Peak**	
			Enter	**Exit**	**Enter**	**Exit**
Single-Family Housing (210)	116 DU	1,053	21	64	66	38
Multi-Family Housing (Low-Rise) (220)	314 DU	1,900	29	91	89	53
Fast Food Restaurant with Drive Thru (934)	3,305 SF	704	37	36	26	23
Convenience Market/Gas Station (945)	16 VFP	1,232	51	52	54	54
TOTAL		**4,889**	**138**	**243**	**235**	**168**

Internal and Pass-By Trip Calculations

Internal Trips

As described in the *Trip Generation Handbook*, developments containing multiple land uses will commonly have internal trips, or trips from land use to land use without leaving the development site. Based on the NCHRP Report 684, "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments," and assumptions made by T-Square Engineering for this study, an estimated **9% internal capture rate** was calculated for daily and PM peak hour trips.

Pass-By Trips

Studies have shown that new retail and restaurant developments generate relatively low "new" traffic. Traffic entering or exiting the new development are considered pass-by or captured trips. Pass-by or captured trips are vehicles that would have already been on the roadway regardless of the new development being constructed. The *Trip Generation Handbook* provides typical weekday pass-by percentages for various land uses based on the size of each land use. Based on the *Trip Generation Handbook* and assumptions made by T-Square Engineering for this study, **50% and 60% pass-by** were used for the fast-food restaurant and convenience store/gas station land uses, respectively. The Table below provides a summary of the internal, pass-by and new trips generated for the proposed development.

Internal and Pass-By Trips

Land Use (ITE Code)	Size	Generated Traffic Volumes[1]				
		Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
Single-Family Housing (210)	116 DU	1,157	21	64	72	42
Internal Trips		104	0	0	6	4
External Trips (Raw – Internal)		1,053	21	64	66	38
Pass-By Trips		0	0	0	0	0
New Trips (External – Pass-By)		**1,053**	**21**	**64**	**66**	**38**
Multi-Family (Low-Rise) Housing (220)	314 DU	2,088	29	91	98	58
Internal Trips		188	0	0	9	5
External Trips		1,900	29	91	89	53
Pass-By Trips		0	0	0	0	0
New Trips		**1,900**	**29**	**91**	**89**	**53**
Fast Food Restaurant with Drive Thru (934)	3,305 SF	1,547	75	73	57	52
Internal Trips		139	0	0	5	5
External Trips		1,408	75	73	52	47
Pass-By Trips (50%)		704	38	37	26	24
New Trips		**704**	**37**	**36**	**26**	**23**
Convenience Market/Gas Station (945)	16 VFP	3,383	128	129	147	148
Internal Trips		304	0	0	13	13
External Trips		3,079	128	129	134	135
Pass-By Trips (20%)		1,847	77	77	80	81
New Trips		**1,232**	**51**	**52**	**54**	**54**
TOTAL GENERATED TRIPS		**8,175**	**253**	**357**	**374**	**300**
TOTAL GENERATED INTERNAL TRIPS		**735**	**0**	**0**	**33**	**27**
TOTAL GENERATED EXTERNAL TRIPS		**7,440**	**253**	**357**	**341**	**273**
TOTAL GENERATED PASS-BY TRIPS		**2,551**	**115**	**114**	**106**	**105**
TOTAL GENERATED NEW TRIPS		**4,889**	**138**	**243**	**235**	**168**

[1] Institute of Transportation Engineers (ITE). Trip Generation Manual, 11th Edition. Washington, DC: ITE, 2024

TRIP GENERATION CALCULATIONS

Single-Family Homes (210) – 116 Dwelling Units

Time Period	Formula	Calculation	Trips
Daily	$Ln(T) = 0.92\,Ln(X) + 2.68$	$Ln(T) = 0.92\,Ln(116) + 2.68$	1,157
AM Peak (Total)	$Ln(T) = 0.91\,Ln(X) + 0.12$	$Ln(T) = 0.91\,Ln(116) + 0.12$	85
AM Peak (Entering)	$T = 0.25(Total\ AM\ Trips)$	$T = 0.25(85)$	21
AM Peak (Exiting)	$T = 0.75(Total\ AM\ Trips)$	$T = 0.75(85)$	64
PM Peak (Total)	$Ln(T) = 0.94\,Ln(X) + 0.27$	$Ln(T) = 0.94\,Ln(116) + 0.27$	114
PM Peak (Entering)	$T = 0.63(Total\ PM\ Trips)$	$T = 0.63(114)$	72
PM Peak (Exiting)	$T = 0.37(Total\ PM\ Trips)$	$T = 0.37(114)$	42

Multi-Family (Low-Rise) Homes (220) – 314 Dwelling Units

Time Period	Formula	Calculation	Trips
Daily	$T = 6.41(X) + 75.31$	$T = 6.41(314) + 75.31$	2,088
AM Peak (Total)	$T = 0.31(X) + 22.85$	$T = 0.31(314) + 22.85$	120
AM Peak (Entering)	$T = 0.24(Total\ AM\ Trips)$	$T = 0.24(120)$	29
AM Peak (Exiting)	$T = 0.76(Total\ AM\ Trips)$	$T = 0.76(120)$	91
PM Peak (Total)	$T = 0.43(X) + 20.55$	$T = 0.43(314) + 20.55$	156
PM Peak (Entering)	$T = 0.63(Total\ PM\ Trips)$	$T = 0.63(156)$	98
PM Peak (Exiting)	$T = 0.37(Total\ PM\ Trips)$	$T = 0.37(156)$	58

Fast-Food Restaurant with Drive-Thru (934) – 3,305 SF

Time Period	Formula	Calculation	Trips
Daily	$T = 467.48(X)$	$T = 467.48(3.31)$	1,547
AM Peak (Total)	$T = 44.61(X)$	$T = 44.61(3.31)$	148
AM Peak (Entering)	$T = 0.51(Total\ AM\ Trips)$	$T = 0.51(148)$	75
AM Peak (Exiting)	$T = 0.49(Total\ AM\ Trips)$	$T = 0.49(148)$	73
PM Peak (Total)	$T = 33.03(X)$	$T = 33.03(3.31)$	109
PM Peak (Entering)	$T = 0.52(Total\ PM\ Trips)$	$T = 0.52(109)$	57
PM Peak (Exiting)	$T = 0.48(Total\ PM\ Trips)$	$T = 0.48(109)$	52

Convenience Store/Gas Station (945) – 16 VFP

Time Period	Formula	Calculation	Trips
Daily	$T = 158.28(X) + 850.23$	$T = 158.28(16) + 850.23$	3,383
AM Peak (Total)	$T = 16.06(X)$	$T = 16.06(16)$	257
AM Peak (Entering)	$T = 0.50(Total\ AM\ Trips)$	$T = 0.50(257)$	128
AM Peak (Exiting)	$T = 0.50(Total\ AM\ Trips)$	$T = 0.50(257)$	129
PM Peak (Total)	$T = 18.42(X)$	$T = 18.42(16)$	295
PM Peak (Entering)	$T = 0.50(Total\ PM\ Trips)$	$T = 0.50(295)$	147
PM Peak (Exiting)	$T = 0.50(Total\ PM\ Trips)$	$T = 0.50(295)$	148

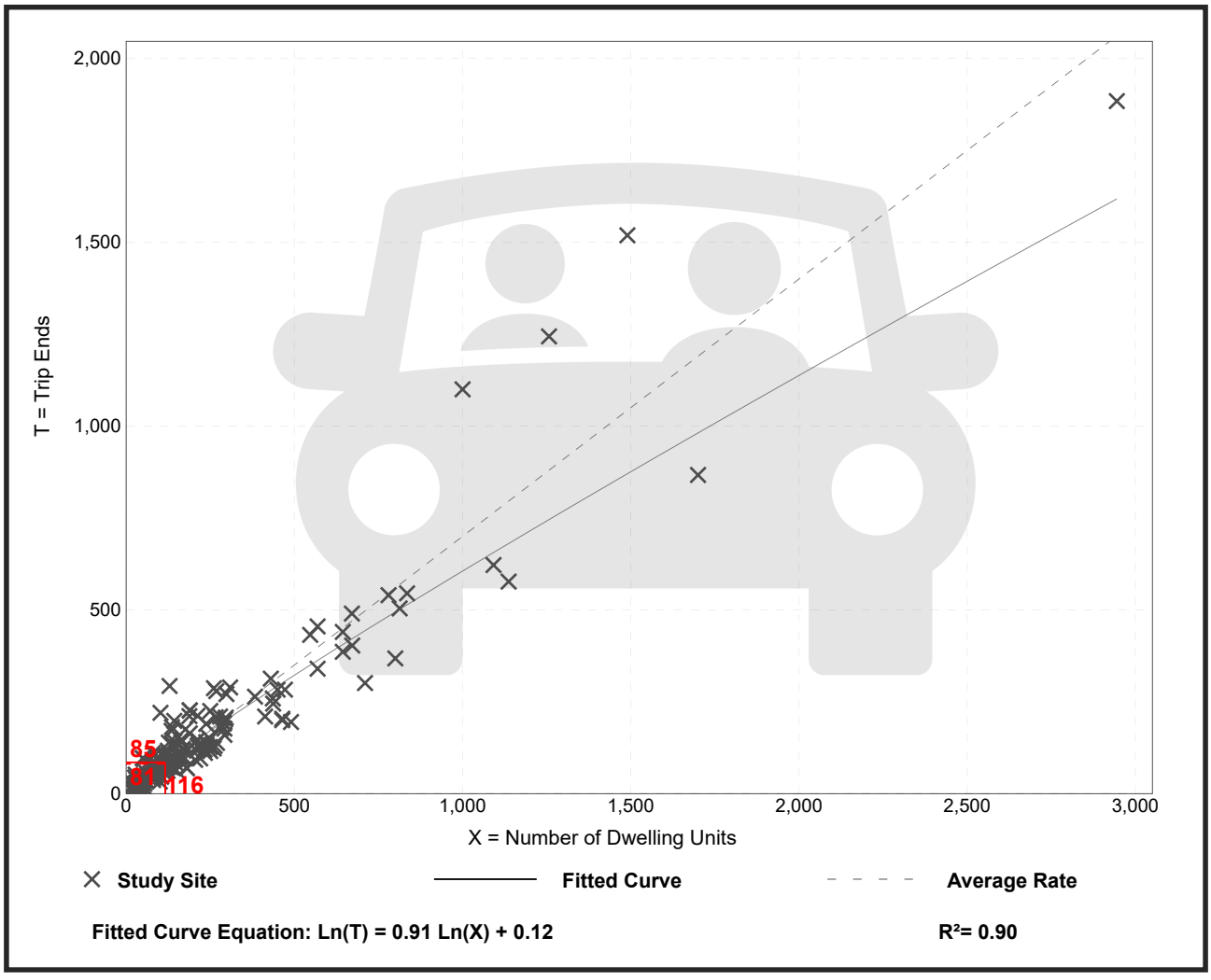
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

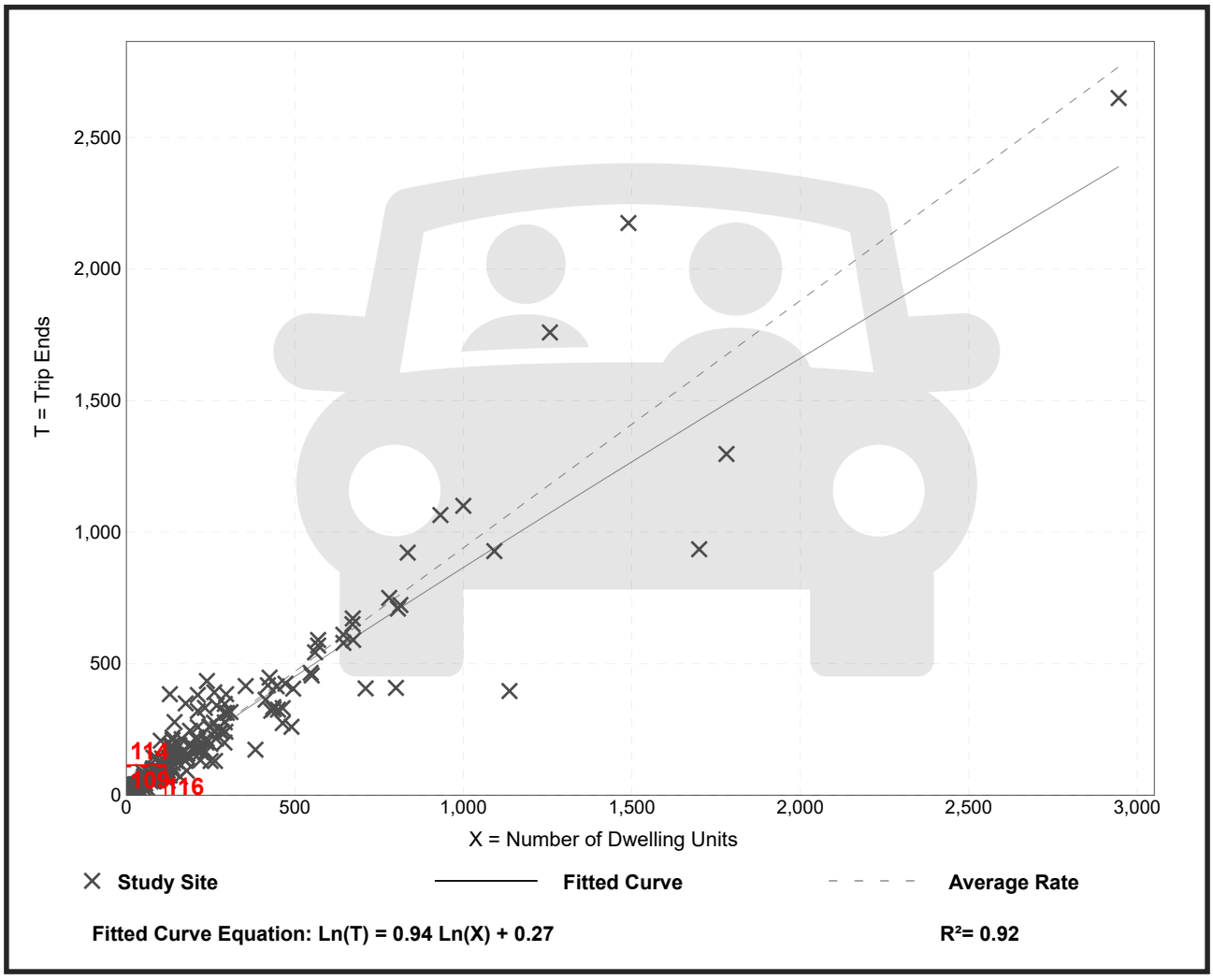
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Single-Family Detached Housing
(210)

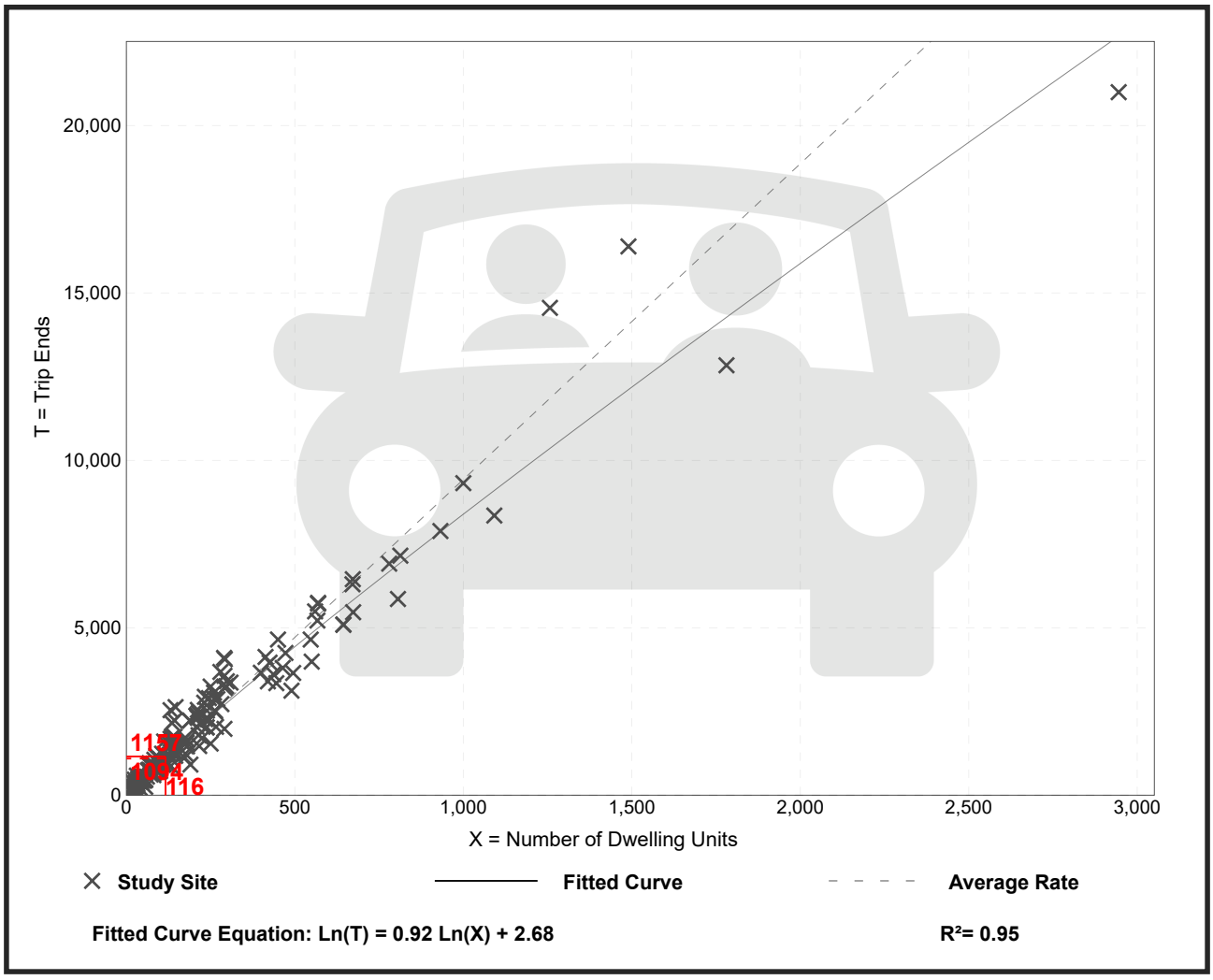
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

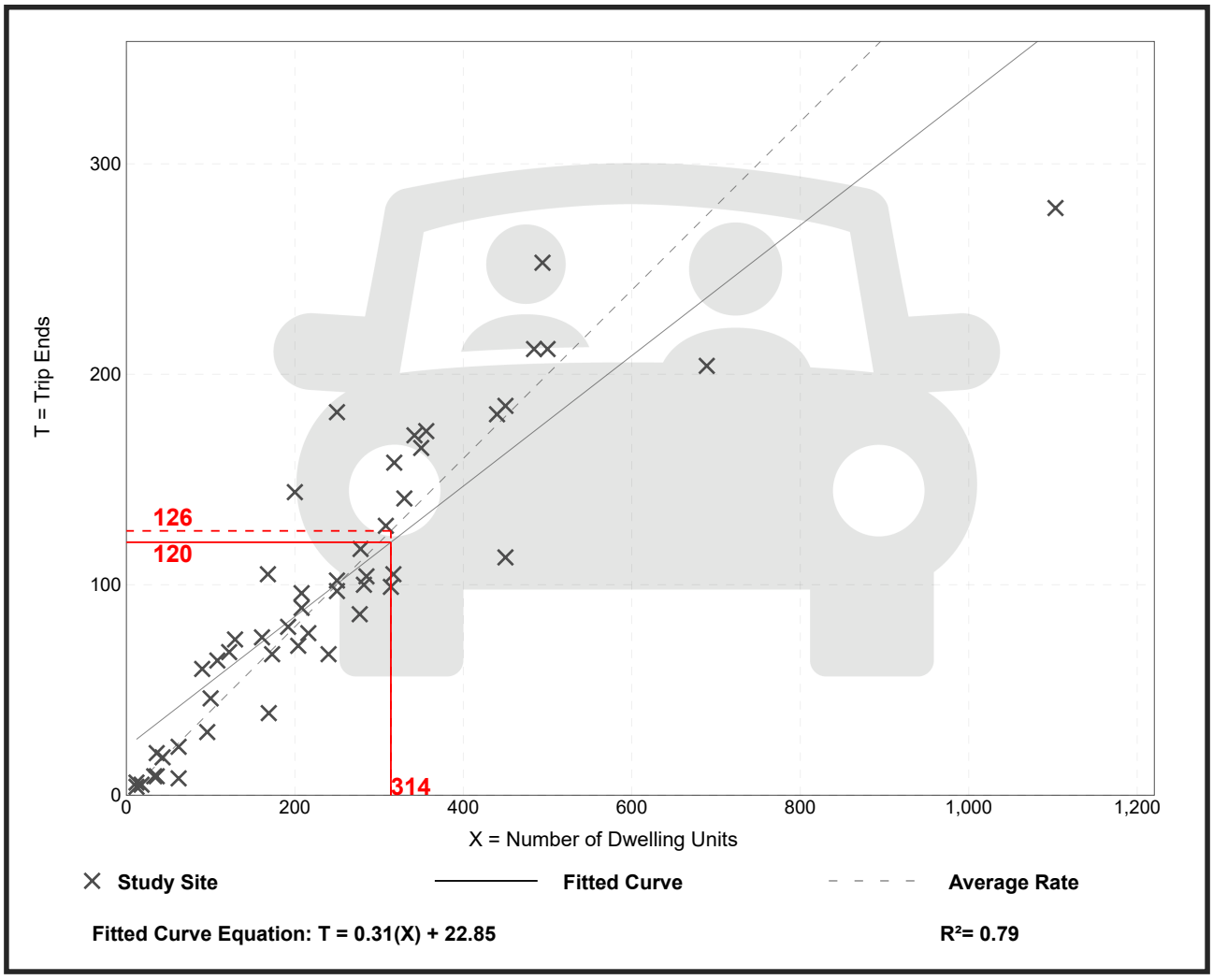
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 49
Avg. Num. of Dwelling Units: 249
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

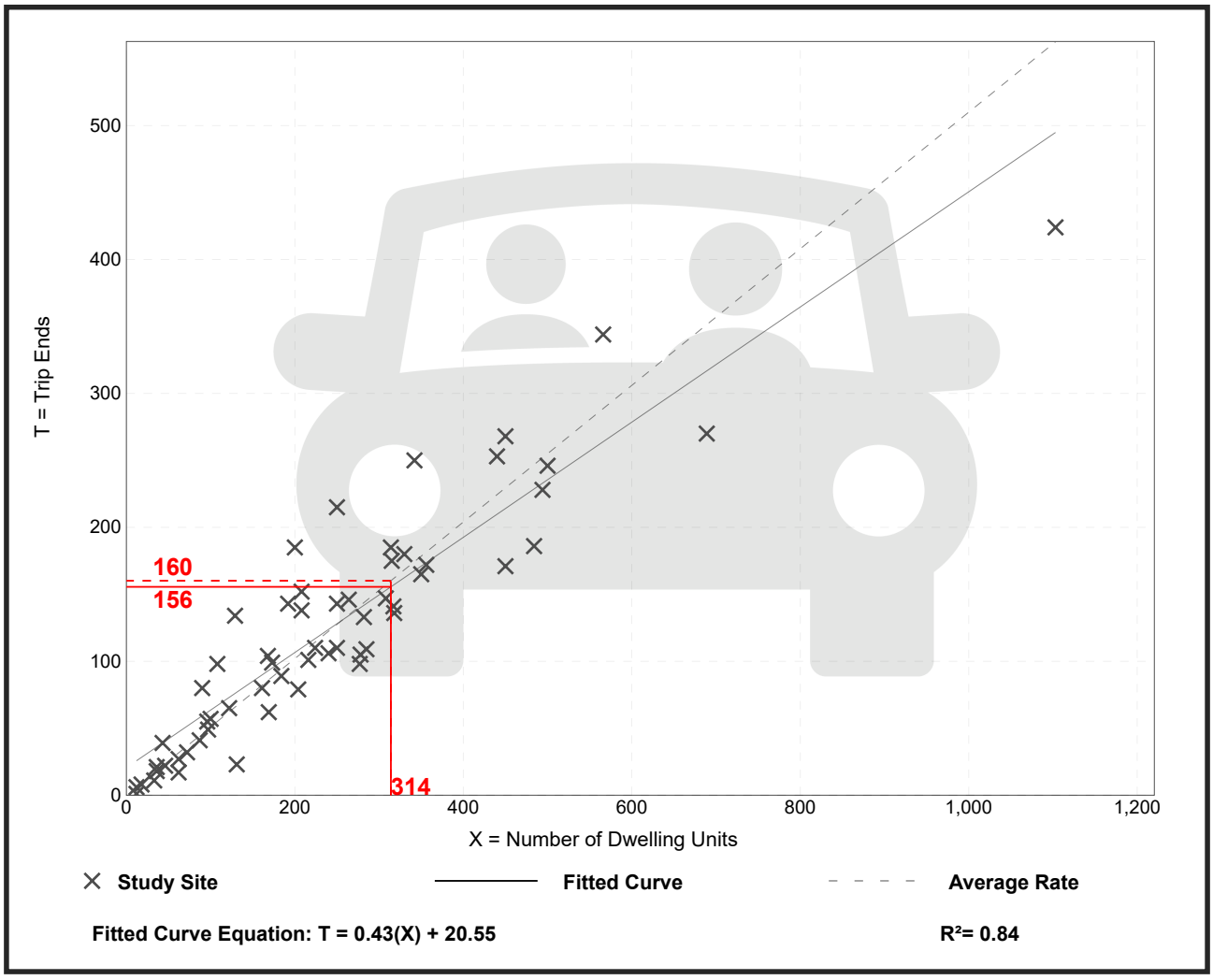
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 59
Avg. Num. of Dwelling Units: 241
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

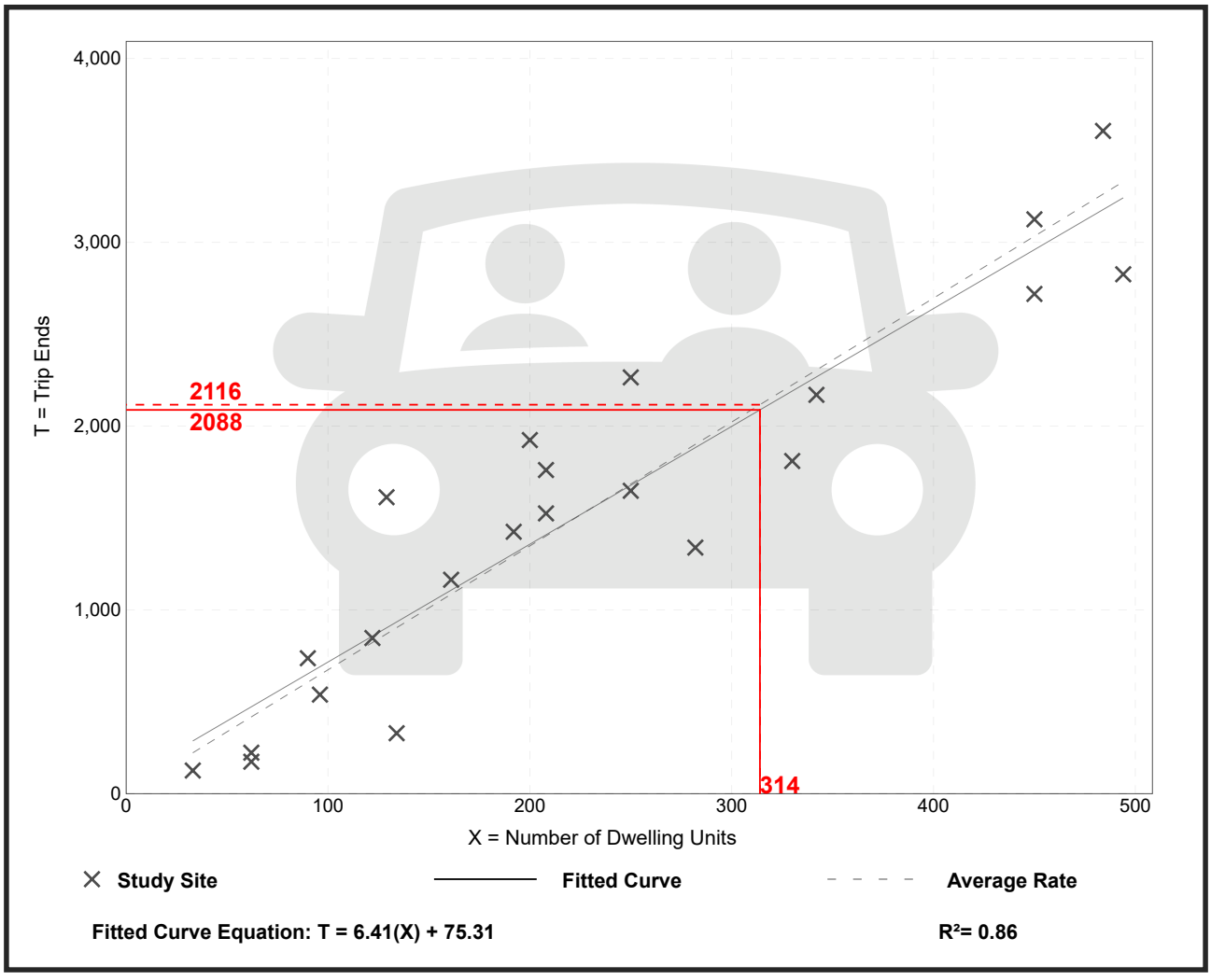
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 229
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

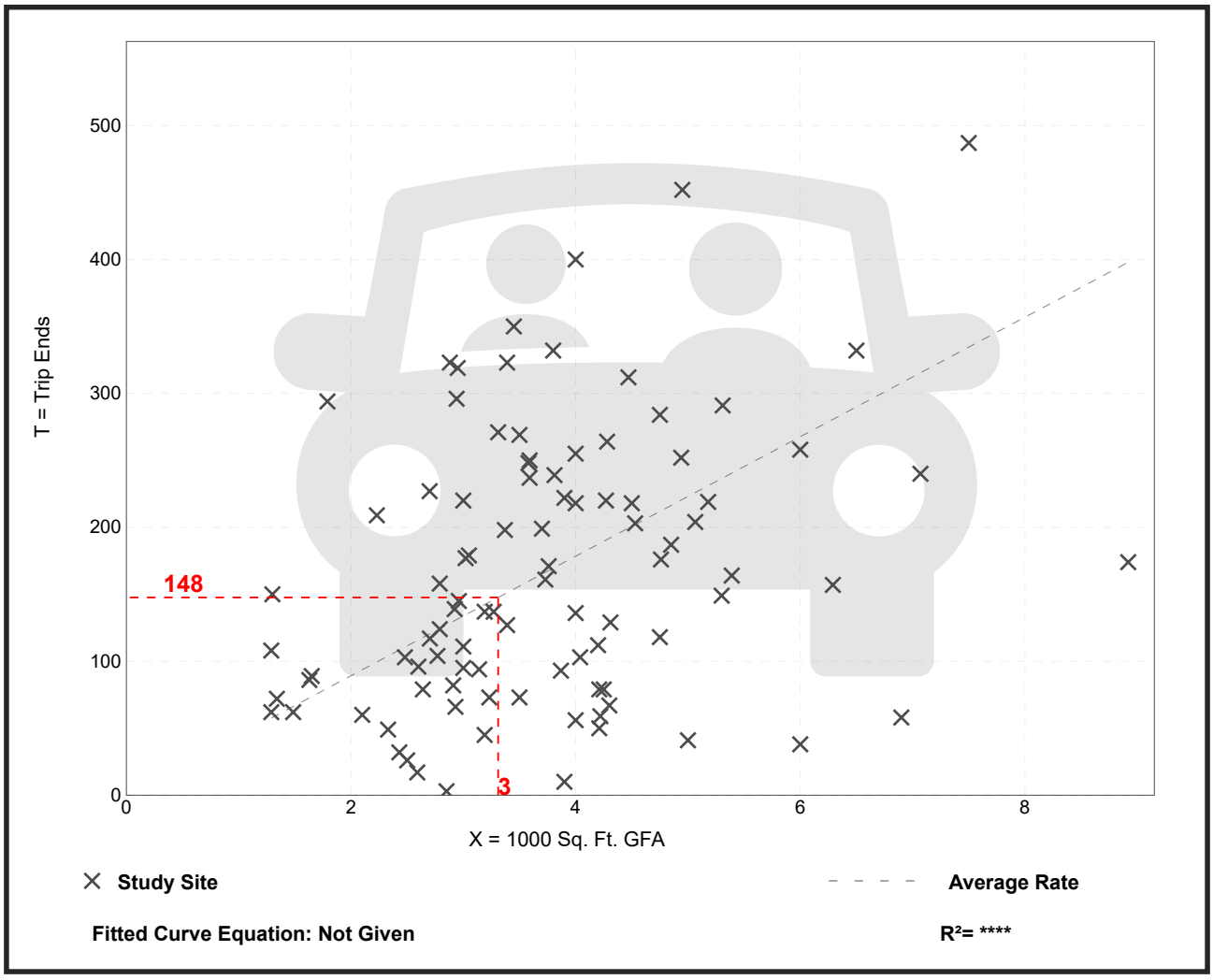
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	96
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

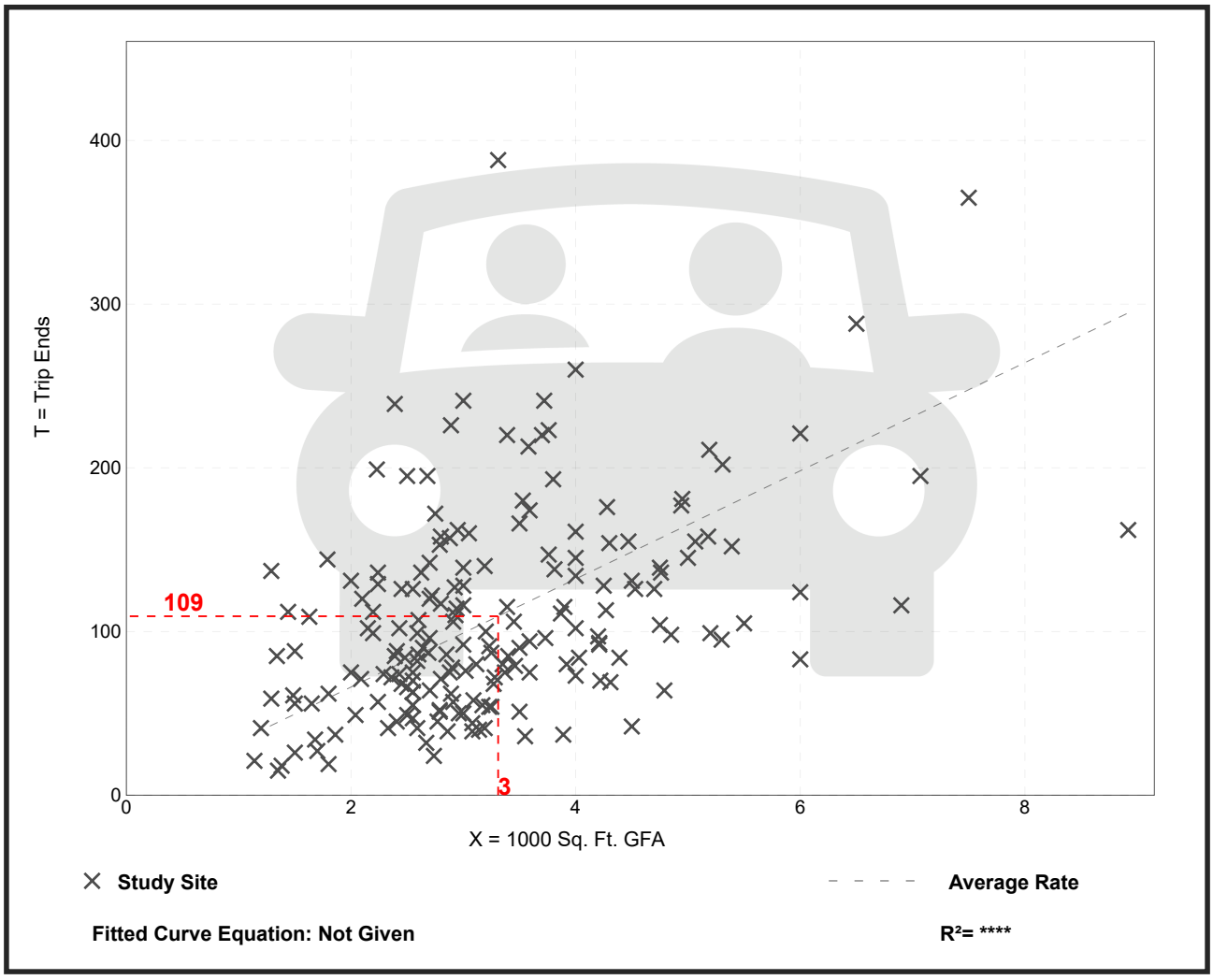
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Fast-Food Restaurant with Drive-Through Window
(934)

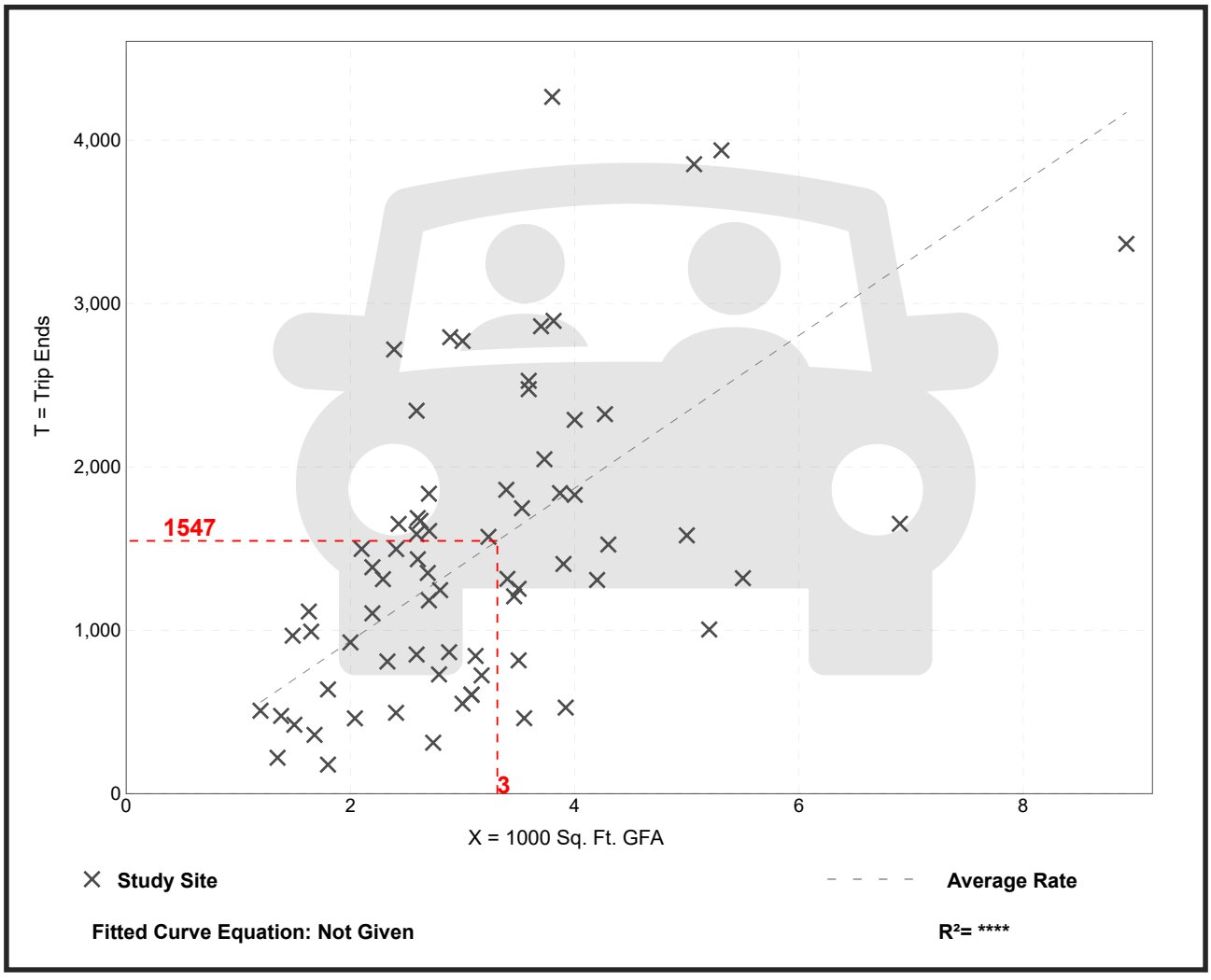
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 71
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

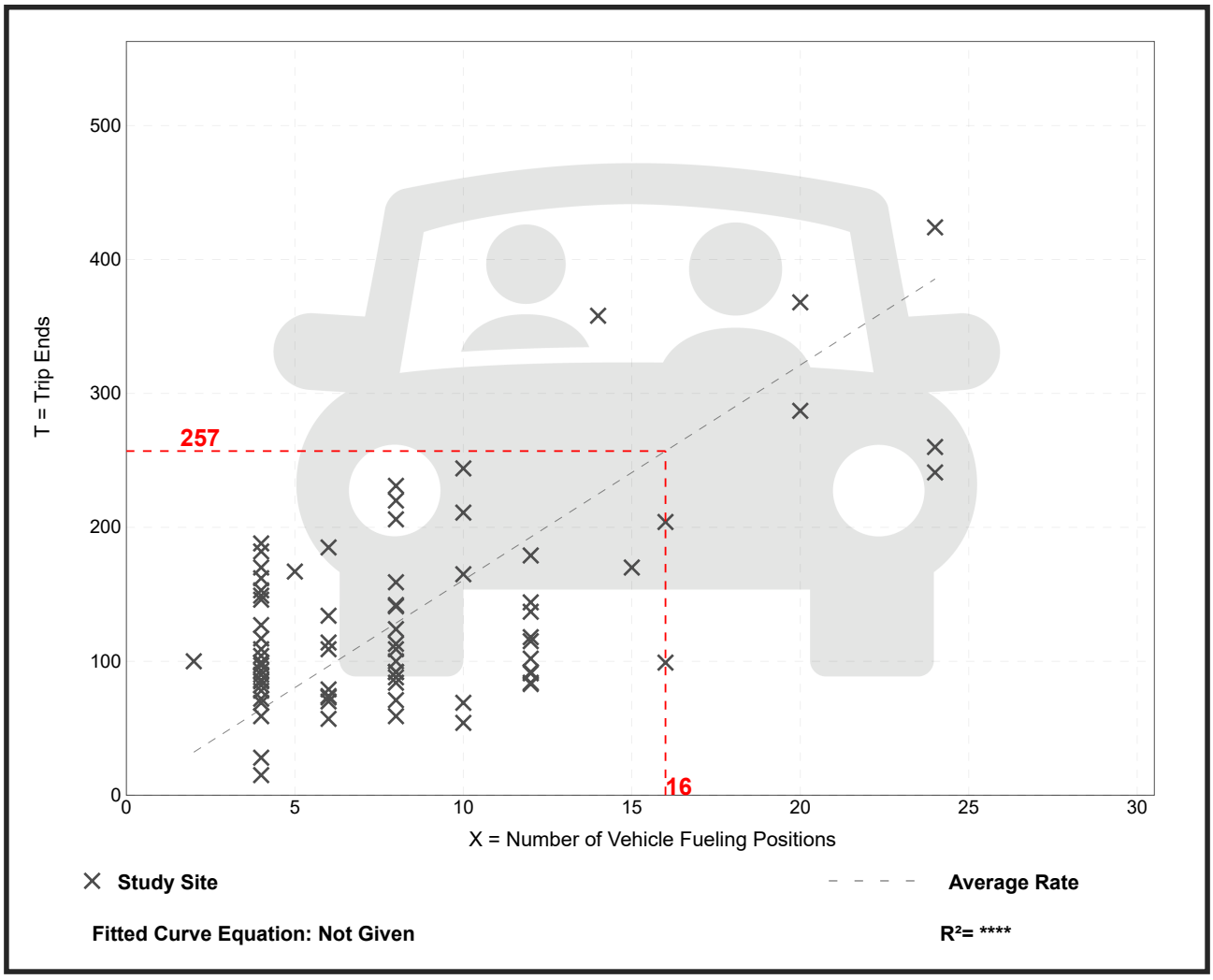
Convenience Store/Gas Station - GFA (2-4k)
(945)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	76
Avg. Num. of Vehicle Fueling Positions:	8
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
16.06	3.75 - 50.00	8.79

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

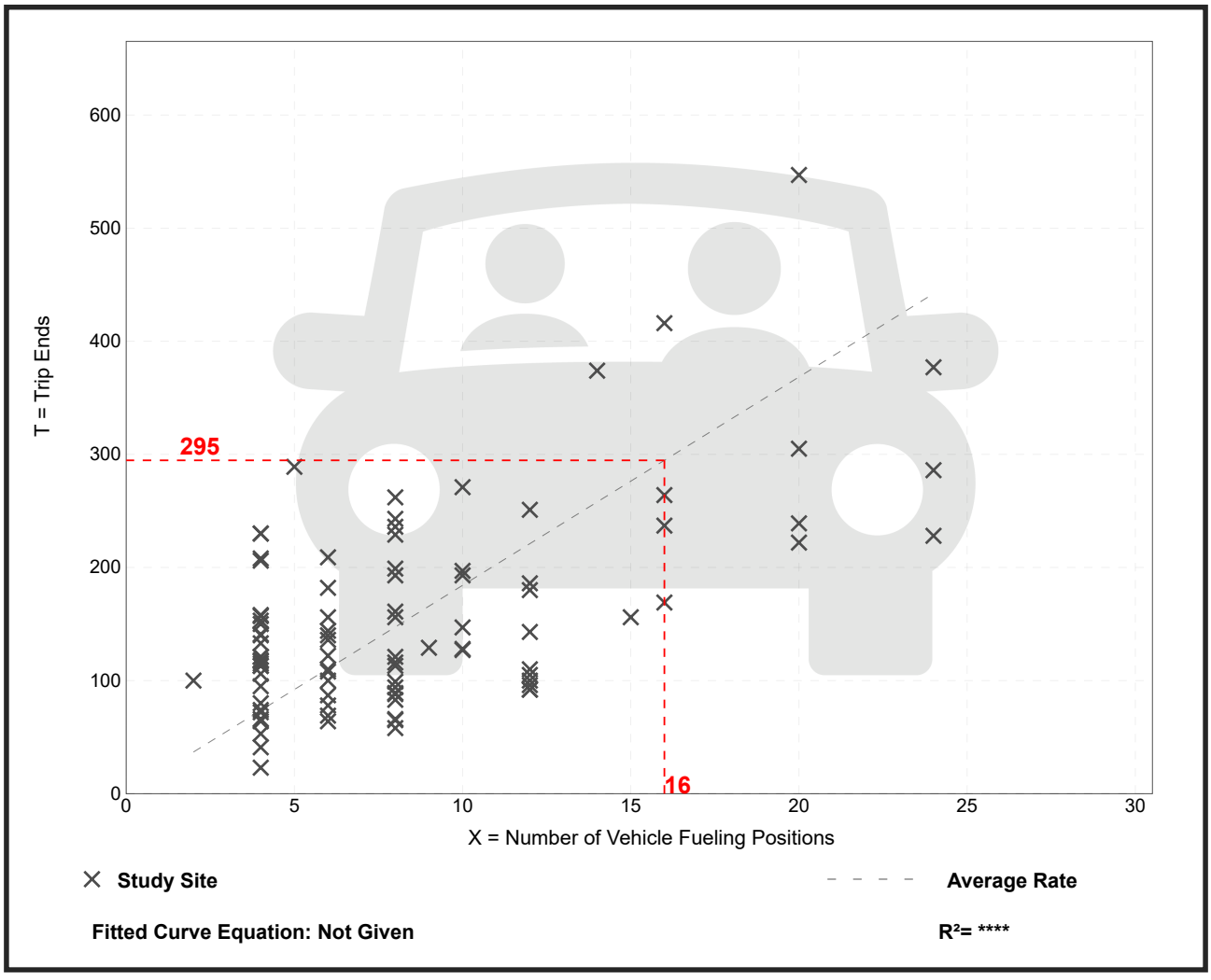
Convenience Store/Gas Station - GFA (2-4k)
(945)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	93
Avg. Num. of Vehicle Fueling Positions:	8
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
18.42	5.75 - 57.80	10.16

Data Plot and Equation



Convenience Store/Gas Station - GFA (2-4k)
(945)

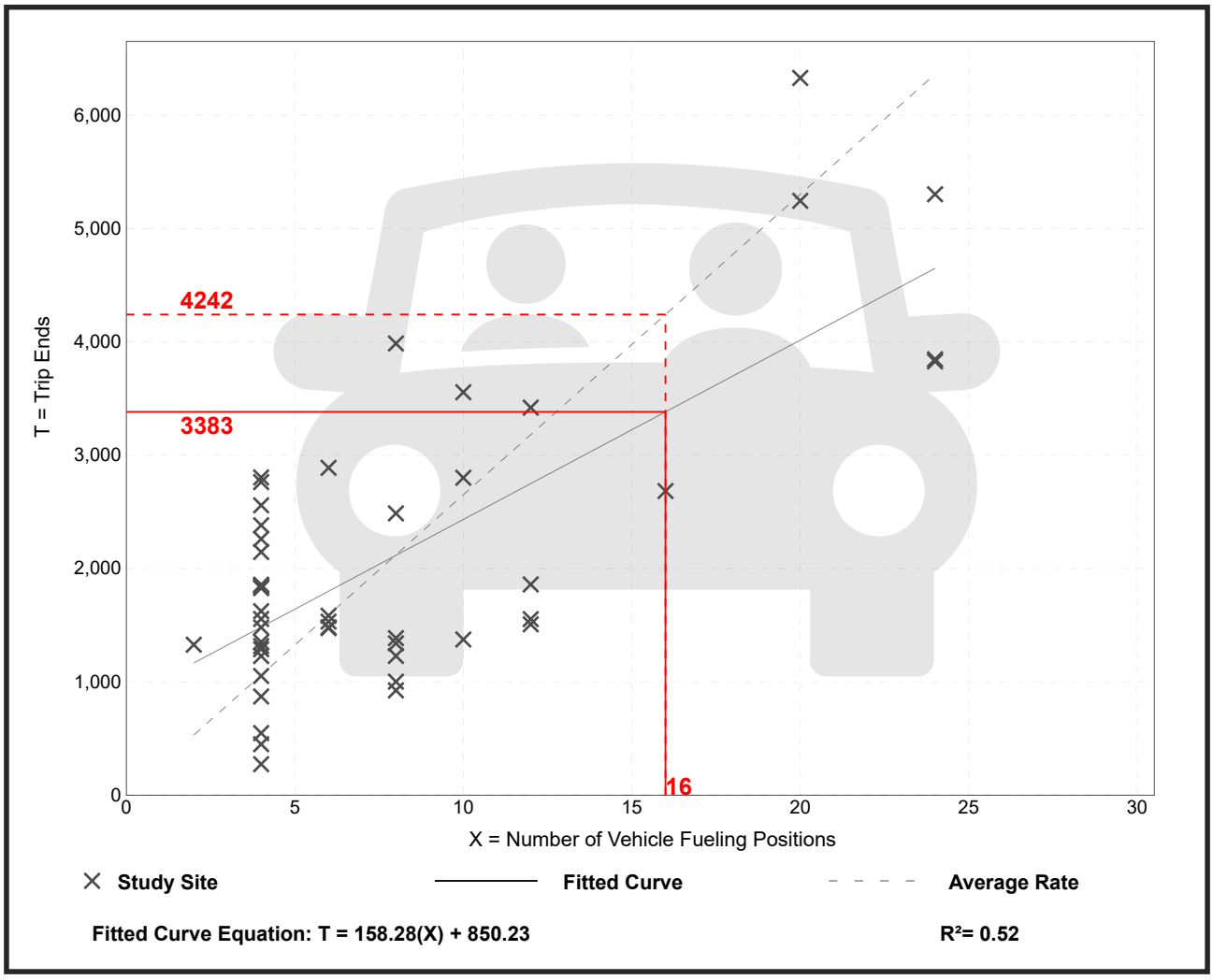
Vehicle Trip Ends vs: **Vehicle Fueling Positions**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 48
Avg. Num. of Vehicle Fueling Positions: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
265.12	68.50 - 701.00	142.37

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

APPENDIX C – CAPACITY ANALYSES

EXISTING CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	1	51	2	0	1	105	1554	1	1	1195	70
Future Volume (veh/h)	189	1	51	2	0	1	105	1554	1	1	1195	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	205	1	55	2	0	1	114	1689	1	1	1299	76
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	4	231	10	0	9	148	2027	1	2	1619	95
Arrive On Green	0.15	0.15	0.15	0.01	0.00	0.01	0.08	0.56	0.56	0.00	0.48	0.48
Sat Flow, veh/h	1774	28	1559	1774	0	1583	1774	3630	2	1774	3399	199
Grp Volume(v), veh/h	205	0	56	2	0	1	114	823	867	1	675	700
Grp Sat Flow(s),veh/h/ln	1774	0	1588	1774	0	1583	1774	1770	1862	1774	1770	1828
Q Serve(g_s), s	8.6	0.0	2.4	0.1	0.0	0.0	4.8	29.5	29.5	0.0	24.8	25.0
Cycle Q Clear(g_c), s	8.6	0.0	2.4	0.1	0.0	0.0	4.8	29.5	29.5	0.0	24.8	25.0
Prop In Lane	1.00		0.98	1.00		1.00	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	263	0	235	10	0	9	148	988	1040	2	843	871
V/C Ratio(X)	0.78	0.00	0.24	0.20	0.00	0.11	0.77	0.83	0.83	0.41	0.80	0.80
Avail Cap(c_a), veh/h	692	0	620	692	0	618	462	1220	1284	462	1220	1260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	28.9	38.0	0.0	38.0	34.5	14.0	14.0	38.3	17.0	17.1
Incr Delay (d2), s/veh	5.0	0.0	0.5	9.4	0.0	5.4	8.2	4.2	4.0	84.2	2.5	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	1.1	0.1	0.0	0.0	2.7	15.3	16.1	0.1	12.6	13.0
LnGrp Delay(d),s/veh	36.5	0.0	29.4	47.5	0.0	43.4	42.7	18.2	18.0	122.6	19.5	19.6
LnGrp LOS	D		C	D		D	D	B	B	F	B	B
Approach Vol, veh/h		261			3			1804			1376	
Approach Delay, s/veh		35.0			46.1			19.7			19.6	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	49.9		16.4	11.4	43.6		5.4
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	53.0		30.0	20.0	53.0		30.0
Max Q Clear Time (g_c+I1), s	2.0	31.5		10.6	6.8	27.0		2.1
Green Ext Time (p_c), s	0.0	11.4		0.9	0.2	9.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

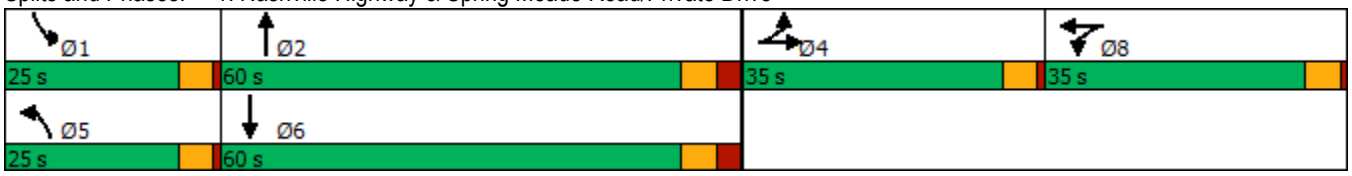
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	TR
Maximum Queue (ft)	183	69	30	31	148	245	283	314	311
Average Queue (ft)	104	28	1	4	70	106	113	148	155
95th Queue (ft)	171	56	10	20	125	195	201	245	260
Link Distance (ft)	417	417	233	233		1664	1664	1260	1260
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)					255				
Storage Blk Time (%)						0		1	
Queuing Penalty (veh)						0		0	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	189	1	2	0	105	1554	1	1195
Future Volume (vph)	189	1	2	0	105	1554	1	1195
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	8	8	5	2	1	6
Permitted Phases								
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	7.0	7.0	5.0	25.0	5.0	25.0
Minimum Split (s)	23.0	23.0	12.0	12.0	10.0	32.0	10.0	32.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	60.0	25.0	60.0
Total Split (%)	22.6%	22.6%	22.6%	22.6%	16.1%	38.7%	16.1%	38.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	7.0	5.0	7.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	17.3	17.3	7.1	7.1	12.2	69.3	5.7	53.7
Actuated g/C Ratio	0.17	0.17	0.07	0.07	0.12	0.68	0.06	0.52
v/c Ratio	0.69	0.18	0.02	0.00	0.54	0.71	0.01	0.75
Control Delay	53.3	12.2	52.0	0.0	54.1	15.3	53.0	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	12.2	52.0	0.0	54.1	15.3	53.0	24.5
LOS	D	B	D	A	D	B	D	C
Approach Delay		44.5		34.7		17.7		24.5
Approach LOS		D		C		B		C

Intersection Summary	
Cycle Length: 155	
Actuated Cycle Length: 102.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	83	124	1689	1263	4
Future Vol, veh/h	1	83	124	1689	1263	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	90	135	1836	1373	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2563	689	1377	0	-	0
Stage 1	1375	-	-	-	-	-
Stage 2	1188	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	21	388	494	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	21	388	494	-	-	-
Mov Cap-2 Maneuver	21	-	-	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	252	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	494	-	321	-	-
HCM Lane V/C Ratio	0.273	-	0.284	-	-
HCM Control Delay (s)	15	0	20.6	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	1.1	-	1.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	3	15	13	0	65	4	1672	31	39	1289	18
Future Volume (veh/h)	75	3	15	13	0	65	4	1672	31	39	1289	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	82	3	16	14	0	71	4	1817	34	42	1401	20
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	4	99	102	0	91	63	2309	1033	67	2317	1036
Arrive On Green	0.06	0.06	0.06	0.06	0.00	0.06	0.04	0.65	0.65	0.04	0.65	0.65
Sat Flow, veh/h	1714	63	1583	1774	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	85	0	16	14	0	71	4	1817	34	42	1401	20
Grp Sat Flow(s),veh/h/ln	1777	0	1583	1774	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.6	0.0	1.3	1.0	0.0	6.2	0.3	51.3	1.1	3.3	31.7	0.6
Cycle Q Clear(g_c), s	6.6	0.0	1.3	1.0	0.0	6.2	0.3	51.3	1.1	3.3	31.7	0.6
Prop In Lane	0.96		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	99	102	0	91	63	2309	1033	67	2317	1036
V/C Ratio(X)	0.76	0.00	0.16	0.14	0.00	0.78	0.06	0.79	0.03	0.63	0.60	0.02
Avail Cap(c_a), veh/h	298	0	266	298	0	266	177	2309	1033	177	2317	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.6	0.0	62.1	62.6	0.0	65.1	65.2	17.4	8.6	66.4	13.8	8.5
Incr Delay (d2), s/veh	10.2	0.0	0.8	0.6	0.0	13.1	0.4	2.8	0.1	9.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.6	0.5	0.0	3.1	0.2	25.9	0.5	1.8	15.8	0.3
LnGrp Delay(d),s/veh	74.8	0.0	62.9	63.2	0.0	78.2	65.6	20.2	8.7	75.6	15.0	8.5
LnGrp LOS	E		E	E		E	E	C	A	E	B	A
Approach Vol, veh/h		101			85			1855			1463	
Approach Delay, s/veh		72.9			75.7			20.1			16.7	
Approach LOS		E			E			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	98.8		15.3	11.0	99.1		14.6
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	52.5		23.5	14.0	52.5		23.5
Max Q Clear Time (g_c+I1), s	5.3	53.3		8.6	2.3	33.7		8.2
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	9.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.5
HCM 2010 LOS	C

Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	216	47	153	143	21	424	446	229	79	367	404	275
Average Queue (ft)	72	12	14	43	1	203	207	17	32	78	147	11
95th Queue (ft)	152	36	63	88	8	354	365	111	63	229	313	92
Link Distance (ft)	574	574	457			1402	1402			532	532	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)				2		1	14			1	4	
Queuing Penalty (veh)				0		0	4			1	1	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	3	15	0	65	4	1672	31	39	1289	18
Future Volume (vph)	3	15	0	65	4	1672	31	39	1289	18
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	14.3%	42.9%	42.9%	14.3%	42.9%	42.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	12.0	12.0	7.3	7.3	5.9	90.4	90.4	8.7	100.3	100.3
Actuated g/C Ratio	0.09	0.09	0.05	0.05	0.04	0.65	0.65	0.06	0.72	0.72
v/c Ratio	0.56	0.06	0.15	0.34	0.05	0.80	0.03	0.38	0.55	0.02
Control Delay	74.6	0.5	66.8	4.4	65.5	24.5	0.1	72.1	12.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.5	66.8	4.4	65.5	24.5	0.1	72.1	12.3	0.0
LOS	E	A	E	A	E	C	A	E	B	A
Approach Delay	62.9		14.7			24.2			13.8	
Approach LOS	E		B			C			B	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 3.5 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	71	1833	16	26	1652
Future Vol, veh/h	32	71	1833	16	26	1652
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	77	1992	17	28	1796

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2955	1005	0	0	2009	0
Stage 1	2001	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 11	240	-	-	281	-
Stage 1	91	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 10	240	-	-	281	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	91	-	-	-	-	-
Stage 2	302	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	78.3	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	281	-
HCM Lane V/C Ratio	-	-	0.746	0.101	-
HCM Control Delay (s)	-	-	78.3	19.2	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	4.5	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	10	8	1836	1665	23
Future Volume (veh/h)	16	10	8	1836	1665	23
Number	7	14	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	17	11	9	1996	1810	25
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	71	88	215	2859	2513	1187
Arrive On Green	0.04	0.04	0.02	0.81	0.71	0.71
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583
Grp Volume(v), veh/h	17	11	9	1996	1810	25
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583
Q Serve(g_s), s	0.8	0.6	0.1	21.2	25.9	0.3
Cycle Q Clear(g_c), s	0.8	0.6	0.1	21.2	25.9	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	71	88	215	2859	2513	1187
V/C Ratio(X)	0.24	0.13	0.04	0.70	0.72	0.02
Avail Cap(c_a), veh/h	592	554	353	3670	3048	1426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	38.3	7.4	3.6	7.3	2.7
Incr Delay (d2), s/veh	1.7	0.6	0.1	0.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	0.1	10.2	12.6	0.2
LnGrp Delay(d),s/veh	41.5	39.0	7.5	4.2	8.2	2.7
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	28			2005	1835	
Approach Delay, s/veh	40.5			4.2	8.2	
Approach LOS	D			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	8.3	67.1		9.9		75.5		
Change Period (Y+Rc), s	7.0	6.5		6.5		6.5		
Max Green Setting (Gmax), s	8.0	73.5		28.5		88.5		
Max Q Clear Time (g_c+I1), s	2.1	27.9		2.8		23.2		
Green Ext Time (p_c), s	0.0	31.7		0.0		45.8		

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

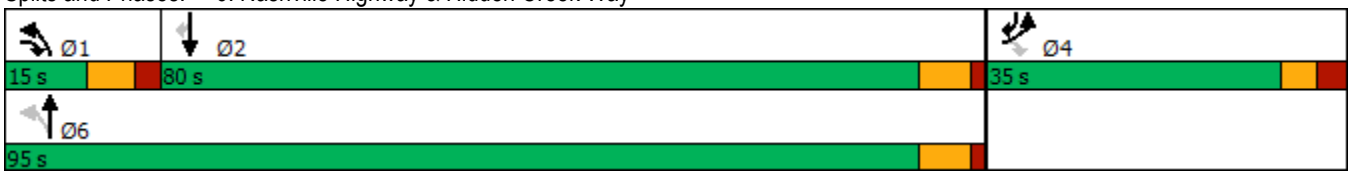
Intersection: 6: Nashville Highway & Hidden Creek Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	T
Maximum Queue (ft)	50	28	31	117	200	118	115
Average Queue (ft)	11	9	5	25	38	36	44
95th Queue (ft)	35	30	21	80	122	96	112
Link Distance (ft)	1283	1283		4912	4912	1106	1106
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			260				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	10	8	1836	1665	23
Future Volume (vph)	16	10	8	1836	1665	23
Turn Type	Prot	pm+ov	pm+pt	NA	NA	pm+ov
Protected Phases	4	1	1	6	2	4
Permitted Phases		4	6			2
Detector Phase	4	1	1	6	2	4
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0
Minimum Split (s)	24.5	14.0	14.0	24.5	24.5	24.5
Total Split (s)	35.0	15.0	15.0	95.0	80.0	35.0
Total Split (%)	26.9%	11.5%	11.5%	73.1%	61.5%	26.9%
Yellow Time (s)	3.5	4.5	4.5	5.0	5.0	3.5
All-Red Time (s)	3.0	2.5	2.5	1.5	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	7.0	7.0	6.5	6.5	6.5
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	Min	Min	None
Act Effct Green (s)	7.7	14.5	75.4	79.7	75.0	83.1
Actuated g/C Ratio	0.09	0.16	0.84	0.89	0.83	0.92
v/c Ratio	0.11	0.04	0.04	0.64	0.61	0.02
Control Delay	49.1	18.4	2.4	4.3	7.7	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	18.4	2.4	4.3	7.7	0.8
LOS	D	B	A	A	A	A
Approach Delay	37.0			4.3	7.6	
Approach LOS	D			A	A	

Intersection Summary			
Cycle Length: 130			
Actuated Cycle Length: 89.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 67.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Nashville Highway & Hidden Creek Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	0	67	0	0	0	51	1401	0	0	1769	105
Future Volume (veh/h)	115	0	67	0	0	0	51	1401	0	0	1769	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	0	73	0	0	0	55	1523	0	0	1923	114
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	0	134	1	1	0	70	2997	0	1	2646	155
Arrive On Green	0.08	0.00	0.08	0.00	0.00	0.00	0.04	0.85	0.00	0.00	0.78	0.78
Sat Flow, veh/h	1774	0	1583	1774	1863	0	1774	3632	0	1774	3398	199
Grp Volume(v), veh/h	125	0	73	0	0	0	55	1523	0	0	992	1045
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	1863	0	1774	1770	0	1774	1770	1828
Q Serve(g_s), s	12.1	0.0	7.7	0.0	0.0	0.0	5.4	20.3	0.0	0.0	49.5	51.7
Cycle Q Clear(g_c), s	12.1	0.0	7.7	0.0	0.0	0.0	5.4	20.3	0.0	0.0	49.5	51.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.11
Lane Grp Cap(c), veh/h	150	0	134	1	1	0	70	2997	0	1	1378	1423
V/C Ratio(X)	0.83	0.00	0.54	0.00	0.00	0.00	0.78	0.51	0.00	0.00	0.72	0.73
Avail Cap(c_a), veh/h	304	0	271	304	319	0	203	2997	0	203	1378	1423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	78.9	0.0	76.9	0.0	0.0	0.0	83.3	3.6	0.0	0.0	9.8	10.0
Incr Delay (d2), s/veh	11.2	0.0	3.4	0.0	0.0	0.0	17.0	0.6	0.0	0.0	3.3	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	3.5	0.0	0.0	0.0	3.0	10.0	0.0	0.0	25.2	27.2
LnGrp Delay(d),s/veh	90.1	0.0	80.3	0.0	0.0	0.0	100.3	4.2	0.0	0.0	13.0	13.4
LnGrp LOS	F		F				F	A			B	B
Approach Vol, veh/h		198			0			1578			2037	
Approach Delay, s/veh		86.5			0.0			7.6			13.2	
Approach LOS		F						A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	155.2		19.8	11.9	143.3		0.0
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	73.0		30.0	20.0	73.0		30.0
Max Q Clear Time (g_c+I1), s	0.0	22.3		14.1	7.4	53.7		0.0
Green Ext Time (p_c), s	0.0	14.7		0.7	0.1	13.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

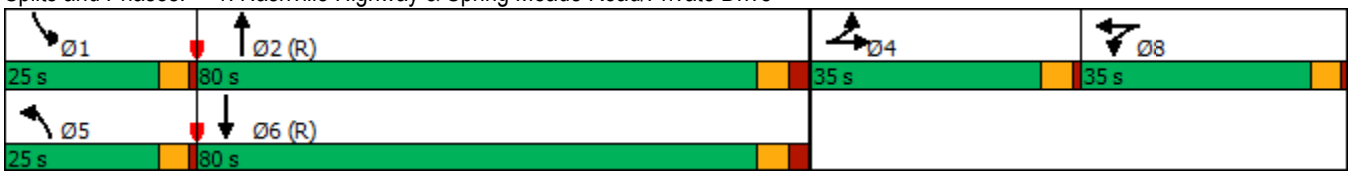
Intersection: 1: Nashville Highway & Spring Meade Road/Private Drive

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	T	TR
Maximum Queue (ft)	201	94	199	116	161	440	410
Average Queue (ft)	103	43	64	39	48	181	201
95th Queue (ft)	179	76	151	109	130	366	368
Link Distance (ft)	417	417		1664	1664	1260	1260
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			255				
Storage Blk Time (%)						5	
Queuing Penalty (veh)						0	

Lane Group	EBL	EBT	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	115	0	51	1401	1769		
Future Volume (vph)	115	0	51	1401	1769		
Turn Type	Split	NA	Prot	NA	NA		
Protected Phases	4	4	5	2	6	1	8
Permitted Phases							
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	25.0	25.0	5.0	7.0
Minimum Split (s)	23.0	23.0	10.0	32.0	32.0	10.0	12.0
Total Split (s)	35.0	35.0	25.0	80.0	80.0	25.0	35.0
Total Split (%)	20.0%	20.0%	14.3%	45.7%	45.7%	14%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	3.0	3.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.0	5.0	5.0	7.0	7.0		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	None
Act Effct Green (s)	17.7	17.7	10.8	145.3	131.8		
Actuated g/C Ratio	0.10	0.10	0.06	0.83	0.75		
v/c Ratio	0.70	0.13	0.50	0.52	0.77		
Control Delay	95.9	0.5	94.4	5.5	17.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	95.9	0.5	94.4	5.5	17.3		
LOS	F	A	F	A	B		
Approach Delay		60.7		8.6	17.3		
Approach LOS		E		A	B		

Intersection Summary	
Cycle Length: 175	
Actuated Cycle Length: 175	
Offset: 129.5 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 68.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	70	34	1453	1842	2
Future Vol, veh/h	1	70	34	1453	1842	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	76	37	1579	2002	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2867	1002	2004	0	-	0
Stage 1	2003	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	13	241	282	-	-	-
Stage 1	90	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	241	282	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	373	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.8	9.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	282	-	241	-	-
HCM Lane V/C Ratio	0.131	-	0.32	-	-
HCM Control Delay (s)	19.7	9.4	26.8	-	-
HCM Lane LOS	C	A	D	-	-
HCM 95th %tile Q(veh)	0.4	-	1.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	5	11	46	5	78	23	1368	66	85	1751	78
Future Volume (veh/h)	43	5	11	46	5	78	23	1368	66	85	1751	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	47	5	12	50	5	85	25	1487	72	92	1903	85
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	7	65	110	11	107	55	2341	1047	114	2457	1099
Arrive On Green	0.04	0.04	0.04	0.07	0.07	0.07	0.03	0.66	0.66	0.06	0.69	0.69
Sat Flow, veh/h	1611	171	1583	1620	162	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	52	0	12	55	0	85	25	1487	72	92	1903	85
Grp Sat Flow(s),veh/h/ln	1782	0	1583	1782	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.6	0.0	1.2	4.8	0.0	8.5	2.2	39.3	2.6	8.2	56.9	2.8
Cycle Q Clear(g_c), s	4.6	0.0	1.2	4.8	0.0	8.5	2.2	39.3	2.6	8.2	56.9	2.8
Prop In Lane	0.90		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	0	65	121	0	107	55	2341	1047	114	2457	1099
V/C Ratio(X)	0.71	0.00	0.18	0.46	0.00	0.79	0.45	0.64	0.07	0.81	0.77	0.08
Avail Cap(c_a), veh/h	262	0	233	262	0	233	155	2341	1047	155	2457	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.8	0.0	74.1	71.7	0.0	73.5	76.2	15.8	9.6	73.9	16.2	7.9
Incr Delay (d2), s/veh	11.8	0.0	1.3	2.7	0.0	12.2	5.6	1.3	0.1	19.8	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.5	2.4	0.0	4.1	1.2	19.4	1.2	4.6	28.3	1.2
LnGrp Delay(d),s/veh	87.5	0.0	75.4	74.4	0.0	85.7	81.8	17.1	9.7	93.7	18.6	8.0
LnGrp LOS	F		E	E		F	F	B	A	F	B	A
Approach Vol, veh/h		64			140			1584			2080	
Approach Delay, s/veh		85.3			81.3			17.8			21.5	
Approach LOS		F			F			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.2	113.3		13.1	11.0	118.6		17.3
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	72.5		23.5	14.0	72.5		23.5
Max Q Clear Time (g_c+I1), s	10.2	41.3		6.6	4.2	58.9		10.5
Green Ext Time (p_c), s	0.1	12.6		0.2	0.0	10.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

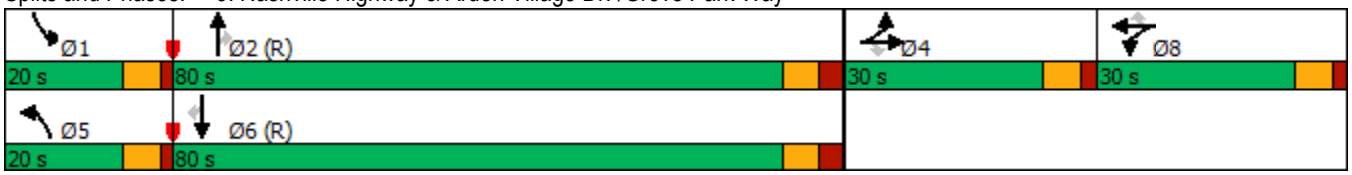
Intersection: 3: Nashville Highway & Arden Village Dr. /Grove Park Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	97	28	152	114	68	408	407	229	224	536	536	275
Average Queue (ft)	43	8	43	43	18	212	217	18	87	258	317	37
95th Queue (ft)	89	29	103	86	48	359	373	89	153	526	584	170
Link Distance (ft)	574	574	457			1402	1402			532	532	
Upstream Blk Time (%)										0	0	
Queuing Penalty (veh)										1	3	
Storage Bay Dist (ft)				100	330			130	125			175
Storage Blk Time (%)			3	0		1	17		7	9	15	
Queuing Penalty (veh)			2	0		0	11		62	7	12	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	5	11	5	78	23	1368	66	85	1751	78
Future Volume (vph)	5	11	5	78	23	1368	66	85	1751	78
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	12.5%	50.0%	50.0%	12.5%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	10.2	10.2	10.4	10.4	7.8	102.0	102.0	13.6	112.6	112.6
Actuated g/C Ratio	0.06	0.06	0.06	0.06	0.05	0.64	0.64	0.08	0.70	0.70
v/c Ratio	0.46	0.06	0.47	0.40	0.29	0.66	0.07	0.61	0.76	0.07
Control Delay	84.5	0.5	84.8	9.6	81.4	22.2	0.8	87.2	21.3	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.5	0.5	84.8	9.6	81.4	22.2	0.8	87.2	21.3	1.1
LOS	F	A	F	A	F	C	A	F	C	A
Approach Delay	68.8		39.1			22.1			23.4	
Approach LOS	E		D			C			C	

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 3.5 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 24.2	Intersection LOS: C
Intersection Capacity Utilization 78.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	28	1374	34	44	1844
Future Vol, veh/h	15	28	1374	34	44	1844
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	30	1493	37	48	2004

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2610	765	0	0	1530	0
Stage 1	1512	-	-	-	-	-
Stage 2	1098	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	20	346	-	-	431	-
Stage 1	169	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	18	346	-	-	431	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	169	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.7	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	220	431	-
HCM Lane V/C Ratio	-	-	0.212	0.111	-
HCM Control Delay (s)	-	-	25.7	14.4	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.4	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	21	6	3	1395	1858	24
Future Volume (veh/h)	21	6	3	1395	1858	24
Number	7	14	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	7	3	1516	2020	26
Adj No. of Lanes	1	1	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	72	73	168	2911	2630	1240
Arrive On Green	0.04	0.04	0.01	0.82	0.74	0.74
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583
Grp Volume(v), veh/h	23	7	3	1516	2020	26
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583
Q Serve(g_s), s	1.2	0.4	0.0	12.6	32.4	0.3
Cycle Q Clear(g_c), s	1.2	0.4	0.0	12.6	32.4	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	72	73	168	2911	2630	1240
V/C Ratio(X)	0.32	0.10	0.02	0.52	0.77	0.02
Avail Cap(c_a), veh/h	402	368	308	3565	3005	1408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	43.3	8.8	2.6	7.3	2.3
Incr Delay (d2), s/veh	2.6	0.6	0.0	0.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.0	6.0	15.9	0.2
LnGrp Delay(d),s/veh	46.8	43.9	8.9	2.9	8.6	2.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	30			1519	2046	
Approach Delay, s/veh	46.1			2.9	8.5	
Approach LOS	D			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	7.5	76.9		10.3		84.5		
Change Period (Y+Rc), s	7.0	6.5		6.5		6.5		
Max Green Setting (Gmax), s	8.0	80.5		21.5		95.5		
Max Q Clear Time (g_c+I1), s	2.0	34.4		3.2		14.6		
Green Ext Time (p_c), s	0.0	36.1		0.0		31.8		

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

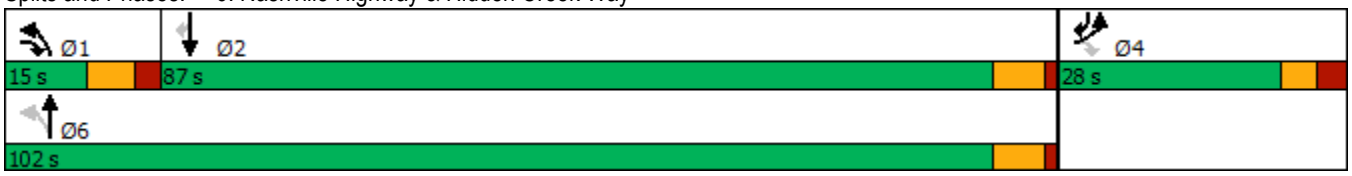
Intersection: 6: Nashville Highway & Hidden Creek Way

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	T
Maximum Queue (ft)	73	29	25	74	129	119	144
Average Queue (ft)	22	5	2	27	44	52	65
95th Queue (ft)	56	23	15	65	107	119	142
Link Distance (ft)	1283	1283		4912	4912	1106	1106
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			260				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	6	3	1395	1858	24
Future Volume (vph)	21	6	3	1395	1858	24
Turn Type	Prot	pm+ov	pm+pt	NA	NA	pm+ov
Protected Phases	4	1	1	6	2	4
Permitted Phases		4	6			2
Detector Phase	4	1	1	6	2	4
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0
Minimum Split (s)	24.5	14.0	14.0	24.5	24.5	24.5
Total Split (s)	28.0	15.0	15.0	102.0	87.0	28.0
Total Split (%)	21.5%	11.5%	11.5%	78.5%	66.9%	21.5%
Yellow Time (s)	3.5	4.5	4.5	5.0	5.0	3.5
All-Red Time (s)	3.0	2.5	2.5	1.5	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	7.0	7.0	6.5	6.5	6.5
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	Min	Min	None
Act Effct Green (s)	7.9	14.7	80.1	84.3	82.0	91.5
Actuated g/C Ratio	0.08	0.16	0.84	0.89	0.86	0.97
v/c Ratio	0.16	0.03	0.01	0.48	0.66	0.02
Control Delay	51.7	21.5	2.3	3.0	6.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	21.5	2.3	3.0	6.9	0.5
LOS	D	C	A	A	A	A
Approach Delay	44.6			3.0	6.8	
Approach LOS	D			A	A	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 94.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 5.5	Intersection LOS: A
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Hidden Creek Way

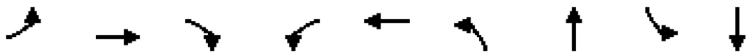


BACKGROUND CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	1	64	2	0	1	129	2360	1	1	1698	120
Future Volume (veh/h)	388	1	64	2	0	1	129	2360	1	1	1698	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	422	1	70	2	0	1	140	2565	1	1	1846	130
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	470	400	10	0	9	169	2001	1	2	1534	107
Arrive On Green	0.25	0.25	0.25	0.01	0.00	0.01	0.10	0.55	0.55	0.00	0.46	0.46
Sat Flow, veh/h	1774	1863	1583	1774	0	1583	1774	3631	1	1774	3357	234
Grp Volume(v), veh/h	422	1	70	2	0	1	140	1250	1316	1	963	1013
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1583	1774	1770	1862	1774	1770	1822
Q Serve(g_s), s	27.1	0.0	4.0	0.1	0.0	0.1	9.0	63.9	63.9	0.1	53.0	53.0
Cycle Q Clear(g_c), s	27.1	0.0	4.0	0.1	0.0	0.1	9.0	63.9	63.9	0.1	53.0	53.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.13
Lane Grp Cap(c), veh/h	448	470	400	10	0	9	169	975	1026	2	809	832
V/C Ratio(X)	0.94	0.00	0.18	0.20	0.00	0.11	0.83	1.28	1.28	0.41	1.19	1.22
Avail Cap(c_a), veh/h	459	482	410	459	0	410	306	975	1026	306	809	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	32.4	33.9	57.4	0.0	57.4	51.5	26.0	26.0	57.9	31.5	31.5
Incr Delay (d2), s/veh	27.8	0.0	0.2	9.8	0.0	5.6	9.8	134.8	134.5	85.2	97.8	108.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	0.0	1.8	0.1	0.0	0.0	4.9	67.4	70.8	0.1	47.8	51.7
LnGrp Delay(d),s/veh	70.4	32.4	34.1	67.2	0.0	63.0	61.3	160.8	160.5	143.0	129.3	140.2
LnGrp LOS	E	C	C	E		E	E	F	F	F	F	F
Approach Vol, veh/h		493			3			2706			1977	
Approach Delay, s/veh		65.1			65.8			155.5			134.9	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	70.9		34.3	16.1	60.0		5.6
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	53.0		30.0	20.0	53.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	65.9		29.1	11.0	55.0		2.1
Green Ext Time (p_c), s	0.0	0.0		0.2	0.2	0.0		0.0

Intersection Summary			
HCM 2010 Ctrl Delay		139.0	
HCM 2010 LOS		F	



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	422	1	70	2	1	140	2566	1	1976
v/c Ratio	0.93	0.00	0.15	0.02	0.00	0.65	1.20	0.01	1.24
Control Delay	70.7	37.0	3.8	56.5	0.0	63.6	119.1	58.0	141.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	37.0	3.8	56.5	0.0	63.6	119.1	58.0	141.9
Queue Length 50th (ft)	301	1	0	1	0	99	~1166	1	~941
Queue Length 95th (ft)	#599	6	20	11	0	183	#1687	8	#1335
Internal Link Dist (ft)		390			206		1657		2610
Turn Bay Length (ft)						255		220	
Base Capacity (vph)	456	480	481	456	578	304	2138	304	1598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.00	0.15	0.00	0.00	0.46	1.20	0.00	1.24

Intersection Summary

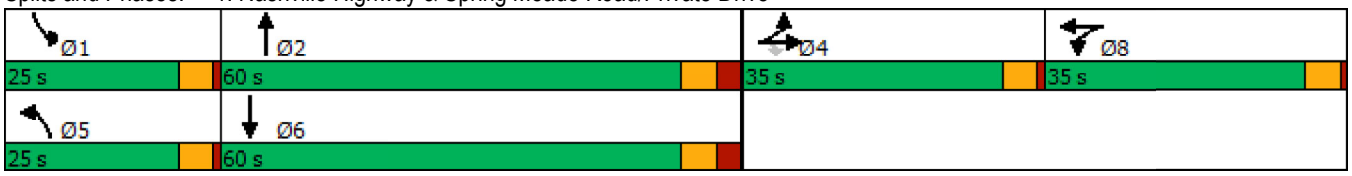
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	388	1	64	2	0	129	2360	1	1698
Future Volume (vph)	388	1	64	2	0	129	2360	1	1698
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	5.0	25.0	5.0	25.0
Minimum Split (s)	23.0	23.0	23.0	12.0	12.0	10.0	32.0	10.0	32.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0	25.0	60.0	25.0	60.0
Total Split (%)	22.6%	22.6%	22.6%	22.6%	22.6%	16.1%	38.7%	16.1%	38.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	5.0	7.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	30.1	30.1	30.1	7.0	7.0	14.3	70.6	5.7	53.2
Actuated g/C Ratio	0.26	0.26	0.26	0.06	0.06	0.12	0.60	0.05	0.46
v/c Ratio	0.93	0.00	0.15	0.02	0.00	0.65	1.20	0.01	1.24
Control Delay	70.7	37.0	3.8	56.5	0.0	63.6	119.1	58.0	141.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	37.0	3.8	56.5	0.0	63.6	119.1	58.0	141.9
LOS	E	D	A	E	A	E	F	E	F
Approach Delay		61.2			37.7		116.2		141.9
Approach LOS		E			D		F		F

Intersection Summary	
Cycle Length: 155	
Actuated Cycle Length: 116.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 120.7	Intersection LOS: F
Intersection Capacity Utilization 111.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	191	201	2523	1766	21
Future Vol, veh/h	0	191	201	2523	1766	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	208	218	2742	1920	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	960	1943	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	257	298	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	257	298	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	59.2	3.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	298	-	257	-	-
HCM Lane V/C Ratio	0.733	-	0.808	-	-
HCM Control Delay (s)	44.2	-	59.2	-	-
HCM Lane LOS	E	-	F	-	-
HCM 95th %tile Q(veh)	5.4	-	6.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	3	49	20	0	81	38	2517	37	46	1842	68
Future Volume (veh/h)	126	3	49	20	0	81	38	2517	37	46	1842	68
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	137	3	53	22	0	88	41	2736	40	50	2002	74
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	4	164	131	0	116	87	1821	815	87	1821	815
Arrive On Green	0.10	0.10	0.10	0.07	0.00	0.07	0.05	0.51	0.51	0.05	0.51	0.51
Sat Flow, veh/h	1738	38	1583	1774	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	140	0	53	22	0	88	41	2736	40	50	2002	74
Grp Sat Flow(s),veh/h/ln	1776	0	1583	1774	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.8	0.0	3.2	1.2	0.0	5.6	2.3	52.5	1.3	2.8	52.5	2.4
Cycle Q Clear(g_c), s	7.8	0.0	3.2	1.2	0.0	5.6	2.3	52.5	1.3	2.8	52.5	2.4
Prop In Lane	0.98		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	0	164	131	0	116	87	1821	815	87	1821	815
V/C Ratio(X)	0.76	0.00	0.32	0.17	0.00	0.76	0.47	1.50	0.05	0.58	1.10	0.09
Avail Cap(c_a), veh/h	409	0	365	409	0	365	243	1821	815	243	1821	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	42.4	44.3	0.0	46.4	47.2	24.8	12.3	47.5	24.8	12.6
Incr Delay (d2), s/veh	6.4	0.0	1.1	0.6	0.0	9.5	3.9	229.1	0.0	5.9	53.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	1.4	0.6	0.0	2.8	1.2	83.5	0.6	1.5	39.2	1.1
LnGrp Delay(d),s/veh	51.0	0.0	43.6	44.9	0.0	55.9	51.2	253.9	12.4	53.4	78.7	12.7
LnGrp LOS	D		D	D		E	D	F	B	D	F	B
Approach Vol, veh/h		193			110			2817			2126	
Approach Delay, s/veh		48.9			53.7			247.5			75.8	
Approach LOS		D			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	60.0		17.0	11.0	60.0		14.0
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	52.5		23.5	14.0	52.5		23.5
Max Q Clear Time (g_c+I1), s	4.8	54.5		9.8	4.3	54.5		7.6
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		0.3

Intersection Summary		
HCM 2010 Ctrl Delay		166.6
HCM 2010 LOS		F



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	140	53	22	88	41	2736	40	50	2002	74
v/c Ratio	0.60	0.16	0.17	0.37	0.30	1.49	0.05	0.35	1.03	0.08
Control Delay	55.8	1.1	53.5	7.1	55.3	249.2	0.1	55.7	56.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	1.1	53.5	7.1	55.3	249.2	0.1	55.7	56.8	0.6
Queue Length 50th (ft)	93	0	15	0	28	~1432	0	34	~865	0
Queue Length 95th (ft)	166	0	44	18	67	#1788	0	77	#1165	5
Internal Link Dist (ft)	1438		781			1392			519	
Turn Bay Length (ft)				100	330		130	125		175
Base Capacity (vph)	411	468	410	468	244	1832	880	244	1936	922
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.11	0.05	0.19	0.17	1.49	0.05	0.20	1.03	0.08

Intersection Summary

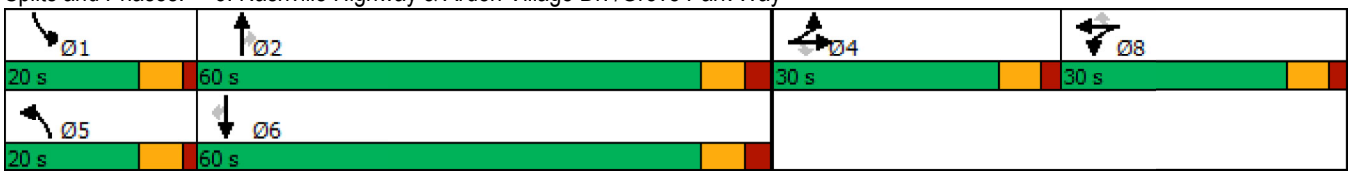
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	3	49	0	81	38	2517	37	46	1842	68
Future Volume (vph)	3	49	0	81	38	2517	37	46	1842	68
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	14.3%	42.9%	42.9%	14.3%	42.9%	42.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.8	13.8	7.6	7.6	8.0	53.9	53.9	8.5	57.0	57.0
Actuated g/C Ratio	0.13	0.13	0.07	0.07	0.08	0.52	0.52	0.08	0.55	0.55
v/c Ratio	0.60	0.16	0.17	0.37	0.30	1.49	0.05	0.35	1.03	0.08
Control Delay	55.8	1.1	53.5	7.1	55.3	249.2	0.1	55.7	56.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	1.1	53.5	7.1	55.3	249.2	0.1	55.7	56.8	0.6
LOS	E	A	D	A	E	F	A	E	E	A
Approach Delay	40.8		16.3			242.9			54.8	
Approach LOS	D		B			F			D	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 104.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.49	
Intersection Signal Delay: 154.5	Intersection LOS: F
Intersection Capacity Utilization 99.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	145	13	141	79	2272	55	121	2104	92
Future Volume (veh/h)	185	14	43	145	13	141	79	2272	55	121	2104	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	201	15	47	158	14	153	86	2470	60	132	2287	100
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	214	234	250	197	231	109	2288	1023	120	2315	1036
Arrive On Green	0.04	0.11	0.11	0.03	0.11	0.11	0.03	0.65	0.65	0.04	0.65	0.65
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	201	15	47	158	14	153	86	2470	60	132	2287	100
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.5	1.1	3.9	5.1	1.0	13.6	2.8	96.4	2.1	6.0	94.2	3.5
Cycle Q Clear(g_c), s	6.5	1.1	3.9	5.1	1.0	13.6	2.8	96.4	2.1	6.0	94.2	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	245	214	234	250	197	231	109	2288	1023	120	2315	1036
V/C Ratio(X)	0.82	0.07	0.20	0.63	0.07	0.66	0.79	1.08	0.06	1.10	0.99	0.10
Avail Cap(c_a), veh/h	245	225	243	250	226	256	111	2288	1023	120	2315	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.9	58.9	55.9	61.3	60.1	60.2	41.6	26.4	9.7	51.5	25.2	9.5
Incr Delay (d2), s/veh	19.2	0.1	0.4	5.1	0.2	5.5	29.9	44.5	0.0	112.7	15.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.6	1.7	4.1	0.5	6.3	4.4	60.8	0.9	8.7	50.9	1.5
LnGrp Delay(d),s/veh	82.1	59.0	56.3	66.4	60.3	65.7	71.5	70.8	9.7	164.2	41.1	9.6
LnGrp LOS	F	E	E	E	E	E	E	F	A	F	D	A
Approach Vol, veh/h		263			325			2616			2519	
Approach Delay, s/veh		76.2			65.8			69.5			46.3	
Approach LOS		E			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	103.9	9.6	23.6	10.9	105.0	11.0	22.2
Change Period (Y+Rc), s	6.0	7.5	4.5	6.5	6.0	7.5	4.5	* 6.5
Max Green Setting (Gmax), s	6.0	96.4	5.1	18.0	5.0	97.4	6.5	* 18
Max Q Clear Time (g_c+I1), s	8.0	98.4	7.1	5.9	4.8	96.2	8.5	15.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	1.1	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	59.4
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	15	47	158	14	153	86	2470	60	132	2287	100
v/c Ratio	1.45	0.15	0.26	1.27	0.14	0.81	0.70	0.95	0.05	0.96	0.87	0.08
Control Delay	278.9	64.9	9.4	217.7	64.6	63.2	50.9	26.9	0.3	99.6	18.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Total Delay	278.9	64.9	9.4	217.7	64.6	63.2	50.9	29.3	0.3	99.6	18.9	1.3
Queue Length 50th (ft)	~266	12	0	~192	11	~90	19	733	0	57	556	0
Queue Length 95th (ft)	#336	38	24	#276	37	151	#118	#1375	3	#216	1029	17
Internal Link Dist (ft)		1713			3835			1079			1392	
Turn Bay Length (ft)	250					220	200		100	480		140
Base Capacity (vph)	139	254	184	124	255	189	123	2589	1185	137	2616	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	65	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.06	0.26	1.27	0.05	0.81	0.70	0.98	0.05	0.96	0.87	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	145	13	141	79	2272	55	121	2104	92
Future Volume (vph)	185	14	43	145	13	141	79	2272	55	121	2104	92
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0	5.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	9.5	24.5	11.0	9.5	23.0	11.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	11.0	24.5	11.0	9.6	23.1	12.0	11.0	103.9	103.9	12.0	104.9	104.9
Total Split (%)	7.3%	16.3%	7.3%	6.4%	15.4%	8.0%	7.3%	69.3%	69.3%	8.0%	69.9%	69.9%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.0	1.5	1.0	1.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.5	6.0	4.5	5.0	6.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.2	7.3	10.4	9.2	7.4	10.9	103.2	96.6	96.6	105.2	97.6	97.6
Actuated g/C Ratio	0.08	0.06	0.08	0.07	0.06	0.08	0.78	0.73	0.73	0.80	0.74	0.74
v/c Ratio	1.45	0.15	0.26	1.27	0.14	0.81	0.70	0.95	0.05	0.96	0.87	0.08
Control Delay	278.9	64.9	9.4	217.7	64.6	63.2	50.9	26.9	0.3	99.6	18.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Total Delay	278.9	64.9	9.4	217.7	64.6	63.2	50.9	29.3	0.3	99.6	18.9	1.3
LOS	F	E	A	F	E	E	D	C	A	F	B	A
Approach Delay		218.6			138.4			29.3			22.4	
Approach LOS		F			F			C			C	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 132.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.45	
Intersection Signal Delay: 41.2	Intersection LOS: D
Intersection Capacity Utilization 103.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 5: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	1	84	58	1	44	33	2266	19	14	2190	50
Future Volume (veh/h)	91	1	84	58	1	44	33	2266	19	14	2190	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	99	1	91	63	1	48	36	2463	21	15	2380	54
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	0	272	55	0	253	111	2467	1103	85	2424	1085
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.03	0.70	0.70	0.02	0.68	0.68
Sat Flow, veh/h	0	2	1583	0	3	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	100	0	91	64	0	48	36	2463	21	15	2380	54
Grp Sat Flow(s),veh/h/ln	2	0	1583	3	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	6.5	0.0	0.0	3.4	0.8	89.4	0.5	0.3	83.4	1.4
Cycle Q Clear(g_c), s	18.5	0.0	6.5	18.5	0.0	3.4	0.8	89.4	0.5	0.3	83.4	1.4
Prop In Lane	0.99		1.00	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	0	272	56	0	253	111	2467	1103	85	2424	1085
V/C Ratio(X)	1.79	0.00	0.33	1.15	0.00	0.19	0.32	1.00	0.02	0.18	0.98	0.05
Avail Cap(c_a), veh/h	56	0	272	56	0	253	130	2467	1103	125	2429	1087
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	0.0	46.9	64.3	0.0	47.0	35.3	19.5	6.0	36.1	19.5	6.6
Incr Delay (d2), s/veh	417.8	0.0	0.7	165.8	0.0	0.4	1.7	17.8	0.0	1.0	14.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	2.9	4.6	0.0	1.5	0.9	49.2	0.2	0.4	45.1	0.6
LnGrp Delay(d),s/veh	482.2	0.0	47.7	230.5	0.0	47.3	37.0	37.2	6.0	37.0	33.7	6.6
LnGrp LOS	F		D	F		D	D	D	A	D	C	A
Approach Vol, veh/h		191			112			2520			2449	
Approach Delay, s/veh		275.2			152.0			37.0			33.1	
Approach LOS		F			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	97.4		23.5	9.6	95.8		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	88.5		* 19	5.0	88.5		18.0
Max Q Clear Time (g_c+I1), s	2.3	91.4		20.5	2.8	85.4		20.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	2.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.3
HCM 2010 LOS	D

Notes



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	91	64	48	36	2463	21	15	2380	54
v/c Ratio	0.61	0.26	0.48	0.14	0.28	0.98	0.02	0.12	0.97	0.05
Control Delay	69.2	27.7	64.9	17.3	9.6	33.7	0.1	5.2	32.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Total Delay	69.2	27.7	64.9	17.3	9.6	33.7	0.1	5.2	32.7	1.2
Queue Length 50th (ft)	80	37	50	7	5	963	0	2	865	0
Queue Length 95th (ft)	142	86	100	41	14	#1289	0	7	#1213	10
Internal Link Dist (ft)	2034		2193			4876			1079	
Turn Bay Length (ft)					260		260	330		265
Base Capacity (vph)	183	353	149	353	127	2505	1140	128	2444	1114
Starvation Cap Reductn	0	0	0	0	0	0	0	0	8	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.26	0.43	0.14	0.28	0.98	0.02	0.12	0.98	0.05

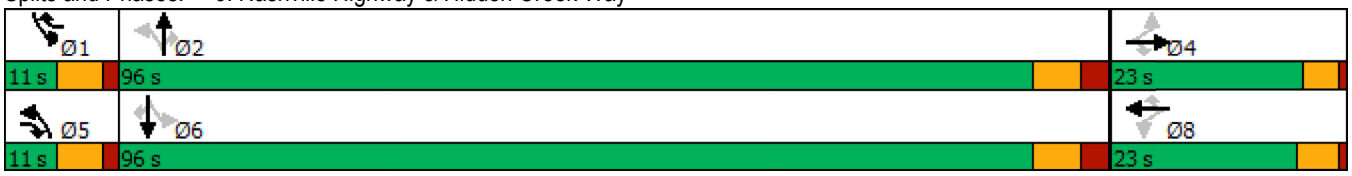
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	1	84	58	1	44	33	2266	19	14	2190	50
Future Volume (vph)	91	1	84	58	1	44	33	2266	19	14	2190	50
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	5.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	11.0	23.0	23.0	11.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	11.0	23.0	23.0	11.0	11.0	96.0	96.0	11.0	96.0	96.0
Total Split (%)	17.7%	17.7%	8.5%	17.7%	17.7%	8.5%	8.5%	73.8%	73.8%	8.5%	73.8%	73.8%
Yellow Time (s)	3.5	3.5	4.5	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.5	1.0	1.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	6.0		5.0	6.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag			Lead			Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.6	26.1		16.1	26.1	96.2	90.7	90.7	95.0	88.5	88.5
Actuated g/C Ratio		0.13	0.20		0.13	0.20	0.75	0.71	0.71	0.74	0.69	0.69
v/c Ratio		0.61	0.26		0.48	0.14	0.28	0.98	0.02	0.12	0.97	0.05
Control Delay		69.2	27.7		64.9	17.3	9.6	33.7	0.1	5.2	32.4	1.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Total Delay		69.2	27.7		64.9	17.3	9.6	33.7	0.1	5.2	32.7	1.2
LOS		E	C		E	B	A	C	A	A	C	A
Approach Delay		49.4			44.5			33.0			31.9	
Approach LOS		D			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 128.1	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 33.3	Intersection LOS: C
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Hidden Creek Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	0	89	0	0	0	72	2100	0	0	2790	254
Future Volume (veh/h)	240	0	89	0	0	0	72	2100	0	0	2790	254
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	261	0	97	0	0	0	78	2283	0	0	3033	276
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	314	266	2	2	0	100	2578	0	2	2066	185
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.00	0.06	0.73	0.00	0.00	0.63	0.63
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	3632	0	1774	3286	295
Grp Volume(v), veh/h	261	0	97	0	0	0	78	2283	0	0	1612	1697
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1770	0	1774	1770	1811
Q Serve(g_s), s	16.7	0.0	6.3	0.0	0.0	0.0	5.0	57.3	0.0	0.0	73.0	73.0
Cycle Q Clear(g_c), s	16.7	0.0	6.3	0.0	0.0	0.0	5.0	57.3	0.0	0.0	73.0	73.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	299	314	266	2	2	0	100	2578	0	2	1113	1138
V/C Ratio(X)	0.87	0.00	0.36	0.00	0.00	0.00	0.78	0.89	0.00	0.00	1.45	1.49
Avail Cap(c_a), veh/h	458	481	409	458	481	0	306	2578	0	306	1113	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	0.0	42.8	0.0	0.0	0.0	54.0	12.1	0.0	0.0	21.6	21.6
Incr Delay (d2), s/veh	11.3	0.0	0.8	0.0	0.0	0.0	12.1	4.1	0.0	0.0	207.1	225.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	2.8	0.0	0.0	0.0	2.8	29.1	0.0	0.0	99.2	107.4
LnGrp Delay(d),s/veh	58.4	0.0	43.6	0.0	0.0	0.0	66.1	16.2	0.0	0.0	228.7	247.0
LnGrp LOS	E		D				E	B			F	F
Approach Vol, veh/h		358			0			2361			3309	
Approach Delay, s/veh		54.4			0.0			17.8			238.1	
Approach LOS		D						B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	91.6		24.5	11.6	80.0		0.0
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	73.0		30.0	20.0	73.0		30.0
Max Q Clear Time (g_c+I1), s	0.0	59.3		18.7	7.0	75.0		0.0
Green Ext Time (p_c), s	0.0	11.5		0.9	0.1	0.0		0.0

Intersection Summary			
HCM 2010 Ctrl Delay		140.9	
HCM 2010 LOS		F	



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	261	97	78	2283	3309
v/c Ratio	0.75	0.15	0.51	0.91	1.63
Control Delay	62.5	0.5	67.5	22.7	308.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	0.5	67.5	22.7	308.5
Queue Length 50th (ft)	202	0	62	741	~2080
Queue Length 95th (ft)	309	0	118	1008	#2390
Internal Link Dist (ft)				1657	2610
Turn Bay Length (ft)			255		
Base Capacity (vph)	423	715	282	2508	2034
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.14	0.28	0.91	1.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	240	89	72	2100	2790		
Future Volume (vph)	240	89	72	2100	2790		
Turn Type	Split	Perm	Prot	NA	NA		
Protected Phases	4		5	2	6	1	8
Permitted Phases		4					
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	25.0	25.0	5.0	7.0
Minimum Split (s)	23.0	23.0	10.0	32.0	32.0	10.0	12.0
Total Split (s)	35.0	35.0	25.0	80.0	80.0	25.0	35.0
Total Split (%)	20.0%	20.0%	14.3%	45.7%	45.7%	14%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	3.0	3.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.0	5.0	5.0	7.0	7.0		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None
Act Effct Green (s)	24.6	24.6	11.0	89.2	73.2		
Actuated g/C Ratio	0.20	0.20	0.09	0.71	0.58		
v/c Ratio	0.75	0.15	0.51	0.91	1.63		
Control Delay	62.5	0.5	67.5	22.7	308.5		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	62.5	0.5	67.5	22.7	308.5		
LOS	E	A	E	C	F		
Approach Delay				24.2	308.5		
Approach LOS				C	F		

Intersection Summary			
Cycle Length: 175			
Actuated Cycle Length: 125.9			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.63			
Intersection Signal Delay: 181.5		Intersection LOS: F	
Intersection Capacity Utilization 108.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	24.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	169	143	2173	2834	53
Future Vol, veh/h	0	169	143	2173	2834	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	184	155	2362	3080	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1540	3138	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	~ 104	~ 99	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	~ 104	~ 99	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 451.3	23.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 99	-	104	-	-
HCM Lane V/C Ratio	1.57	-	1.766	-	-
HCM Control Delay (s)	$ 374.9	-	-$ 451.3	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	11.9	-	14.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	6	126	55	6	92	138	2034	79	103	2673	230
Future Volume (veh/h)	194	6	126	55	6	92	138	2034	79	103	2673	230
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	211	7	137	60	7	100	150	2211	86	112	2905	250
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	8	220	127	15	125	172	1847	826	136	1775	794
Arrive On Green	0.14	0.14	0.14	0.08	0.08	0.08	0.10	0.52	0.52	0.08	0.50	0.50
Sat Flow, veh/h	1720	57	1583	1597	186	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	218	0	137	67	0	100	150	2211	86	112	2905	250
Grp Sat Flow(s),veh/h/ln	1777	0	1583	1783	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	17.4	0.0	11.8	5.2	0.0	9.0	12.1	75.4	4.0	9.0	72.5	13.5
Cycle Q Clear(g_c), s	17.4	0.0	11.8	5.2	0.0	9.0	12.1	75.4	4.0	9.0	72.5	13.5
Prop In Lane	0.97		1.00	0.90		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	0	220	141	0	125	172	1847	826	136	1775	794
V/C Ratio(X)	0.88	0.00	0.62	0.47	0.00	0.80	0.87	1.20	0.10	0.83	1.64	0.31
Avail Cap(c_a), veh/h	289	0	257	290	0	257	172	1847	826	172	1775	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.1	0.0	58.7	63.7	0.0	65.4	64.4	34.5	17.5	65.8	36.0	21.3
Incr Delay (d2), s/veh	23.4	0.0	3.5	2.5	0.0	10.9	35.5	94.2	0.1	22.2	289.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	0.0	5.4	2.7	0.0	4.3	7.6	60.9	1.8	5.3	106.5	6.0
LnGrp Delay(d),s/veh	84.5	0.0	62.2	66.1	0.0	76.3	99.9	128.7	17.5	88.0	325.0	21.5
LnGrp LOS	F		E	E		E	F	F	B	F	F	C
Approach Vol, veh/h		355			167			2447			3267	
Approach Delay, s/veh		75.9			72.2			123.0			293.7	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.1	82.9		26.6	20.0	80.0		18.0
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	72.5		23.5	14.0	72.5		23.5
Max Q Clear Time (g_c+I1), s	11.0	77.4		19.4	14.1	74.5		11.0
Green Ext Time (p_c), s	0.1	0.0		0.7	0.0	0.0		0.5

Intersection Summary		
HCM 2010 Ctrl Delay		208.4
HCM 2010 LOS		F



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	218	137	67	100	150	2211	86	112	2905	250
v/c Ratio	0.83	0.39	0.50	0.44	0.88	1.23	0.10	0.72	1.65	0.30
Control Delay	86.1	11.8	78.4	13.4	108.3	142.4	2.0	90.2	321.0	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.1	11.8	78.4	13.4	108.3	142.4	2.0	90.2	321.0	13.3
Queue Length 50th (ft)	204	0	63	0	145	~1405	0	106	~2133	75
Queue Length 95th (ft)	#337	63	117	43	#290	#1602	18	#196	#2330	143
Internal Link Dist (ft)	1438		781			1392			519	
Turn Bay Length (ft)				100	330		130	125		175
Base Capacity (vph)	287	370	288	353	170	1794	856	170	1765	844
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.37	0.23	0.28	0.88	1.23	0.10	0.66	1.65	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	6	126	6	92	138	2034	79	103	2673	230
Future Volume (vph)	6	126	6	92	138	2034	79	103	2673	230
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	12.5%	50.0%	50.0%	12.5%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.5	21.5	10.9	10.9	14.0	73.8	73.8	12.8	72.6	72.6
Actuated g/C Ratio	0.15	0.15	0.07	0.07	0.10	0.51	0.51	0.09	0.50	0.50
v/c Ratio	0.83	0.39	0.50	0.44	0.88	1.23	0.10	0.72	1.65	0.30
Control Delay	86.1	11.8	78.4	13.4	108.3	142.4	2.0	90.2	321.0	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.1	11.8	78.4	13.4	108.3	142.4	2.0	90.2	321.0	13.3
LOS	F	B	E	B	F	F	A	F	F	B
Approach Delay	57.4		39.5			135.4			289.6	
Approach LOS	E		D			F			F	

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 145.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.65	
Intersection Signal Delay: 209.2	Intersection LOS: F
Intersection Capacity Utilization 115.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	13	40	87	17	211	104	1807	158	353	2471	122
Future Volume (veh/h)	172	13	40	87	17	211	104	1807	158	353	2471	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	14	43	95	18	229	113	1964	172	384	2686	133
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	240	256	265	221	439	106	1834	820	329	2278	1019
Arrive On Green	0.04	0.13	0.13	0.03	0.12	0.12	0.03	0.52	0.52	0.16	0.64	0.64
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	187	14	43	95	18	229	113	1964	172	384	2686	133
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.5	1.0	3.5	5.0	1.3	18.0	5.0	78.5	8.9	24.0	97.5	5.0
Cycle Q Clear(g_c), s	6.5	1.0	3.5	5.0	1.3	18.0	5.0	78.5	8.9	24.0	97.5	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	240	256	265	221	439	106	1834	820	329	2278	1019
V/C Ratio(X)	0.75	0.06	0.17	0.36	0.08	0.52	1.07	1.07	0.21	1.17	1.18	0.13
Avail Cap(c_a), veh/h	248	240	256	265	221	439	106	1834	820	329	2278	1019
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	57.9	54.7	57.7	59.4	46.3	41.7	36.5	19.7	55.2	27.0	10.5
Incr Delay (d2), s/veh	12.3	0.1	0.3	0.8	0.2	1.1	106.1	43.0	0.1	103.7	85.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.5	1.6	1.2	0.7	8.2	7.5	49.1	3.9	23.2	74.2	2.2
LnGrp Delay(d),s/veh	73.9	58.0	55.0	58.5	59.5	47.4	148.1	79.5	19.9	158.9	112.6	10.6
LnGrp LOS	E	E	E	E	E	D	F	F	B	F	F	B
Approach Vol, veh/h		244			342			2249			3203	
Approach Delay, s/veh		69.7			51.1			78.3			113.9	
Approach LOS		E			D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	86.0	9.5	26.0	11.0	105.0	11.0	24.5
Change Period (Y+Rc), s	6.0	7.5	4.5	6.5	6.0	7.5	4.5	* 6.5
Max Green Setting (Gmax), s	24.0	78.5	5.0	18.0	5.0	97.5	6.5	* 18
Max Q Clear Time (g_c+I1), s	26.0	80.5	7.0	5.5	7.0	99.5	8.5	20.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	95.3
HCM 2010 LOS	F

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	14	43	95	18	229	113	1964	172	384	2686	133
v/c Ratio	1.33	0.13	0.19	0.76	0.17	0.58	0.91	0.93	0.17	1.01	1.03	0.11
Control Delay	233.7	64.5	1.9	93.7	65.4	38.3	92.4	34.6	3.7	91.6	43.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	233.7	64.5	1.9	93.7	65.4	38.3	92.4	34.6	3.7	91.6	43.5	2.1
Queue Length 50th (ft)	~242	11	0	~85	14	126	41	685	8	263	959	5
Queue Length 95th (ft)	#302	37	0	137	43	212	#182	#1113	45	#549	#1580	29
Internal Link Dist (ft)		1713			3835			1079			1392	
Turn Bay Length (ft)	250					220	200		100	480		140
Base Capacity (vph)	141	254	226	125	254	397	124	2105	1000	379	2614	1195
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.06	0.19	0.76	0.07	0.58	0.91	0.93	0.17	1.01	1.03	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	87	17	211	104	1807	158	353	2471	122
Future Volume (vph)	172	13	40	87	17	211	104	1807	158	353	2471	122
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0	5.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	9.5	24.5	11.0	9.5	23.0	11.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	11.0	24.5	11.0	9.5	23.0	30.0	11.0	86.0	86.0	30.0	105.0	105.0
Total Split (%)	7.3%	16.3%	7.3%	6.3%	15.3%	20.0%	7.3%	57.3%	57.3%	20.0%	70.0%	70.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.0	1.5	1.0	1.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.5	6.0	4.5	5.0	6.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.4	7.5	10.6	9.2	7.5	29.0	85.2	78.7	78.7	110.3	97.7	97.7
Actuated g/C Ratio	0.08	0.06	0.08	0.07	0.06	0.22	0.64	0.59	0.59	0.83	0.74	0.74
v/c Ratio	1.33	0.13	0.19	0.76	0.17	0.58	0.91	0.93	0.17	1.01	1.03	0.11
Control Delay	233.7	64.5	1.9	93.7	65.4	38.3	92.4	34.6	3.7	91.6	43.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	233.7	64.5	1.9	93.7	65.4	38.3	92.4	34.6	3.7	91.6	43.5	2.1
LOS	F	E	A	F	E	D	F	C	A	F	D	A
Approach Delay		183.1			55.1			35.2			47.5	
Approach LOS		F			E			D			D	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 132.3	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.33	
Intersection Signal Delay: 48.8	Intersection LOS: D
Intersection Capacity Utilization 106.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 5: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	0	55	37	0	28	84	1970	63	48	2394	108
Future Volume (veh/h)	72	0	55	37	0	28	84	1970	63	48	2394	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	0	60	40	0	30	91	2141	68	52	2602	117
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	0	247	48	0	241	107	2565	1147	153	2552	1141
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12	0.03	0.72	0.72	0.03	0.72	0.72
Sat Flow, veh/h	0	0	1583	0	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	78	0	60	40	0	30	91	2141	68	52	2602	117
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	5.0	0.0	0.0	2.5	3.6	63.4	1.9	1.1	108.5	3.4
Cycle Q Clear(g_c), s	18.5	0.0	5.0	18.5	0.0	2.5	3.6	63.4	1.9	1.1	108.5	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	0	247	48	0	241	107	2565	1147	153	2552	1141
V/C Ratio(X)	1.63	0.00	0.24	0.84	0.00	0.12	0.85	0.83	0.06	0.34	1.02	0.10
Avail Cap(c_a), veh/h	48	0	247	48	0	241	107	2565	1147	171	2552	1141
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.3	0.0	55.7	75.3	0.0	55.1	51.7	14.4	6.0	23.5	21.0	6.3
Incr Delay (d2), s/veh	360.3	0.0	0.5	72.1	0.0	0.2	44.7	2.5	0.0	1.3	23.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	2.2	2.6	0.0	1.1	5.1	31.5	0.8	1.3	60.2	1.5
LnGrp Delay(d),s/veh	435.6	0.0	56.2	147.4	0.0	55.3	96.4	17.0	6.0	24.8	44.0	6.4
LnGrp LOS	F		E	F		E	F	B	A	C	F	A
Approach Vol, veh/h		138			70			2300			2771	
Approach Delay, s/veh		270.6			107.9			19.8			42.0	
Approach LOS		F			F			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	116.6		23.5	11.0	116.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	6.0	107.5		* 19	5.0	108.5		18.0
Max Q Clear Time (g_c+I1), s	3.1	65.4		20.5	5.6	110.5		20.5
Green Ext Time (p_c), s	0.0	25.4		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.2
HCM 2010 LOS	D

Notes



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	60	40	30	91	2141	68	52	2602	117
v/c Ratio	0.52	0.20	0.32	0.10	0.83	0.81	0.06	0.40	1.00	0.10
Control Delay	75.3	28.6	68.2	14.2	78.3	16.4	1.9	17.8	37.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0
Total Delay	75.3	28.6	68.2	14.2	78.3	16.4	1.9	17.8	53.6	2.1
Queue Length 50th (ft)	72	22	36	0	37	664	2	7	1170	7
Queue Length 95th (ft)	130	65	77	28	#148	837	17	36	#1528	26
Internal Link Dist (ft)	2034		2193			4876			1079	
Turn Bay Length (ft)					260		260	330		265
Base Capacity (vph)	170	302	144	313	109	2633	1192	131	2599	1185
Starvation Cap Reductn	0	0	0	0	0	0	0	0	118	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.20	0.28	0.10	0.83	0.81	0.06	0.40	1.05	0.10

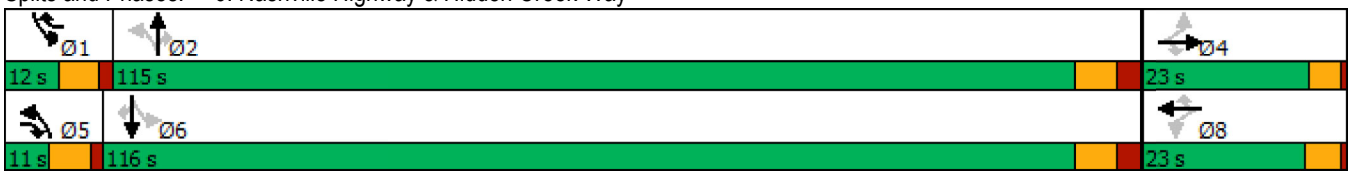
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	0	55	37	0	28	84	1970	63	48	2394	108
Future Volume (vph)	72	0	55	37	0	28	84	1970	63	48	2394	108
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	5.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	11.0	23.0	23.0	11.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	11.0	23.0	23.0	12.0	11.0	115.0	115.0	12.0	116.0	116.0
Total Split (%)	15.3%	15.3%	7.3%	15.3%	15.3%	8.0%	7.3%	76.7%	76.7%	8.0%	77.3%	77.3%
Yellow Time (s)	3.5	3.5	4.5	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.5	1.0	1.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	6.0		5.0	6.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag			Lead			Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.2	25.7		15.7	26.6	115.4	109.9	109.9	115.9	108.5	108.5
Actuated g/C Ratio		0.11	0.17		0.11	0.18	0.78	0.74	0.74	0.78	0.73	0.73
v/c Ratio		0.52	0.20		0.32	0.10	0.83	0.81	0.06	0.40	1.00	0.10
Control Delay		75.3	28.6		68.2	14.2	78.3	16.4	1.9	17.8	37.7	2.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0
Total Delay		75.3	28.6		68.2	14.2	78.3	16.4	1.9	17.8	53.6	2.1
LOS		E	C		E	B	E	B	A	B	D	A
Approach Delay		55.0			45.1			18.4			50.8	
Approach LOS		E			D			B			D	

Intersection Summary			
Cycle Length: 150			
Actuated Cycle Length: 147.7			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 36.7		Intersection LOS: D	
Intersection Capacity Utilization 98.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Nashville Highway & Hidden Creek Way

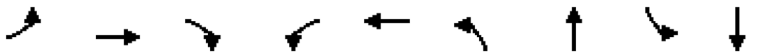


PROJECTED CAPACITY ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	1	64	2	0	1	129	2506	1	1	1781	120
Future Volume (veh/h)	388	1	64	2	0	1	129	2506	1	1	1781	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	422	1	70	2	0	1	140	2724	1	1	1936	130
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	470	400	10	0	9	169	2001	1	2	1540	102
Arrive On Green	0.25	0.25	0.25	0.01	0.00	0.01	0.10	0.55	0.55	0.00	0.46	0.46
Sat Flow, veh/h	1774	1863	1583	1774	0	1583	1774	3631	1	1774	3369	224
Grp Volume(v), veh/h	422	1	70	2	0	1	140	1328	1397	1	1007	1059
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1583	1774	1770	1863	1774	1770	1823
Q Serve(g_s), s	27.1	0.0	4.0	0.1	0.0	0.1	9.0	63.9	63.9	0.1	53.0	53.0
Cycle Q Clear(g_c), s	27.1	0.0	4.0	0.1	0.0	0.1	9.0	63.9	63.9	0.1	53.0	53.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h	448	470	400	10	0	9	169	975	1026	2	809	833
V/C Ratio(X)	0.94	0.00	0.18	0.20	0.00	0.11	0.83	1.36	1.36	0.41	1.24	1.27
Avail Cap(c_a), veh/h	459	482	410	459	0	410	306	975	1026	306	809	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	32.4	33.9	57.4	0.0	57.4	51.5	26.0	26.0	57.9	31.5	31.5
Incr Delay (d2), s/veh	27.8	0.0	0.2	9.8	0.0	5.6	9.8	169.3	169.1	85.2	120.4	131.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	0.0	1.8	0.1	0.0	0.0	4.9	76.7	80.7	0.1	52.9	57.1
LnGrp Delay(d),s/veh	70.4	32.4	34.1	67.2	0.0	63.0	61.3	195.3	195.1	143.0	151.9	163.1
LnGrp LOS	E	C	C	E		E	E	F	F	F	F	F
Approach Vol, veh/h		493			3			2865			2067	
Approach Delay, s/veh		65.1			65.8			188.7			157.6	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	70.9		34.3	16.1	60.0		5.6
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	53.0		30.0	20.0	53.0		30.0
Max Q Clear Time (g_c+I1), s	2.1	65.9		29.1	11.0	55.0		2.1
Green Ext Time (p_c), s	0.0	0.0		0.2	0.2	0.0		0.0

Intersection Summary			
HCM 2010 Ctrl Delay		165.6	
HCM 2010 LOS		F	



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	422	1	70	2	1	140	2725	1	2066
v/c Ratio	0.93	0.00	0.15	0.02	0.00	0.65	1.27	0.01	1.29
Control Delay	70.7	37.0	3.8	56.5	0.0	63.6	151.6	58.0	165.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	37.0	3.8	56.5	0.0	63.6	151.6	58.0	165.4
Queue Length 50th (ft)	301	1	0	1	0	99	~1295	1	~1014
Queue Length 95th (ft)	#599	6	20	11	0	183	#1832	8	#1418
Internal Link Dist (ft)		390			206		1657		2610
Turn Bay Length (ft)						255		220	
Base Capacity (vph)	456	480	481	456	578	304	2138	304	1600
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.00	0.15	0.00	0.00	0.46	1.27	0.00	1.29

Intersection Summary

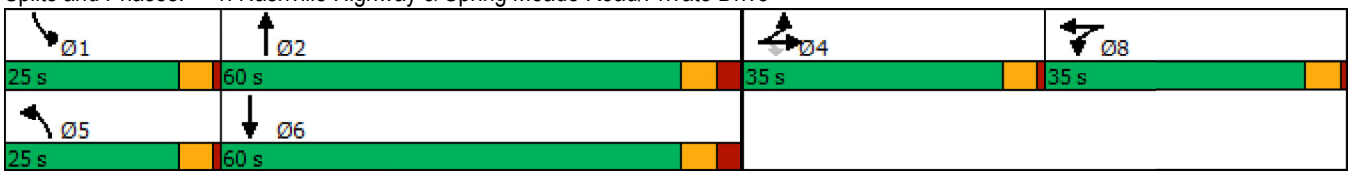
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	388	1	64	2	0	129	2506	1	1781
Future Volume (vph)	388	1	64	2	0	129	2506	1	1781
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	5.0	25.0	5.0	25.0
Minimum Split (s)	23.0	23.0	23.0	12.0	12.0	10.0	32.0	10.0	32.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0	25.0	60.0	25.0	60.0
Total Split (%)	22.6%	22.6%	22.6%	22.6%	22.6%	16.1%	38.7%	16.1%	38.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	5.0	7.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	30.1	30.1	30.1	7.0	7.0	14.3	70.6	5.7	53.2
Actuated g/C Ratio	0.26	0.26	0.26	0.06	0.06	0.12	0.60	0.05	0.46
v/c Ratio	0.93	0.00	0.15	0.02	0.00	0.65	1.27	0.01	1.29
Control Delay	70.7	37.0	3.8	56.5	0.0	63.6	151.6	58.0	165.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	37.0	3.8	56.5	0.0	63.6	151.6	58.0	165.4
LOS	E	D	A	E	A	E	F	E	F
Approach Delay		61.2			37.7		147.3		165.3
Approach LOS		E			D		F		F

Intersection Summary	
Cycle Length: 155	
Actuated Cycle Length: 116.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 146.3	Intersection LOS: F
Intersection Capacity Utilization 115.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	16.8

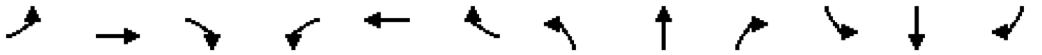
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	191	0	0	168	201	2501	81	124	1725	21
Future Vol, veh/h	0	0	191	0	0	168	201	2501	81	124	1725	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	208	0	0	183	218	2718	88	135	1875	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	938	-	-	1403	1898	0	0	2806	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	266	0	0	~ 129	310	-	-	135	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	266	-	-	~ 129	310	-	-	135	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	54	289.3	2.9	9.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	310	-	-	266	129	135	-	-
HCM Lane V/C Ratio	0.705	-	-	0.78	1.416	0.998	-	-
HCM Control Delay (s)	40.2	-	-	54	289.3	140.8	0	-
HCM Lane LOS	E	-	-	F	F	F	A	-
HCM 95th %tile Q(veh)	5	-	-	5.9	12.3	7.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	3	49	185	0	105	38	2552	57	74	1773	68
Future Volume (veh/h)	126	3	49	185	0	105	38	2552	57	74	1773	68
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	137	3	53	201	0	114	41	2774	62	80	1927	74
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	4	160	243	0	217	79	1645	736	111	1710	765
Arrive On Green	0.10	0.10	0.10	0.14	0.00	0.14	0.04	0.46	0.46	0.06	0.48	0.48
Sat Flow, veh/h	1738	38	1583	1774	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	140	0	53	201	0	114	41	2774	62	80	1927	74
Grp Sat Flow(s),veh/h/ln	1776	0	1583	1774	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	8.7	0.0	3.5	12.5	0.0	7.6	2.6	52.5	2.5	5.0	54.6	2.9
Cycle Q Clear(g_c), s	8.7	0.0	3.5	12.5	0.0	7.6	2.6	52.5	2.5	5.0	54.6	2.9
Prop In Lane	0.98		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	0	160	243	0	217	79	1645	736	111	1710	765
V/C Ratio(X)	0.78	0.00	0.33	0.83	0.00	0.52	0.52	1.69	0.08	0.72	1.13	0.10
Avail Cap(c_a), veh/h	369	0	329	369	0	329	220	1645	736	220	1710	765
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	0.0	47.2	47.4	0.0	45.3	52.8	30.2	16.8	52.0	29.2	15.8
Incr Delay (d2), s/veh	7.2	0.0	1.2	9.0	0.0	2.0	5.3	311.7	0.0	8.4	65.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	1.6	6.7	0.0	3.4	1.4	96.8	1.1	2.7	42.1	1.3
LnGrp Delay(d),s/veh	56.8	0.0	48.5	56.4	0.0	47.3	58.1	341.9	16.9	60.4	94.6	15.9
LnGrp LOS	E		D	E		D	E	F	B	E	F	B
Approach Vol, veh/h		193			315			2877			2081	
Approach Delay, s/veh		54.5			53.1			330.9			90.5	
Approach LOS		D			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.1	60.0		17.9	11.0	62.1		22.0
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	52.5		23.5	14.0	52.5		23.5
Max Q Clear Time (g_c+I1), s	7.0	54.5		10.7	4.6	56.6		14.5
Green Ext Time (p_c), s	0.1	0.0		0.7	0.0	0.0		1.1

Intersection Summary		
HCM 2010 Ctrl Delay		213.6
HCM 2010 LOS		F



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	140	53	201	114	41	2774	62	80	1927	74
v/c Ratio	0.64	0.17	0.75	0.32	0.34	1.78	0.08	0.52	1.19	0.09
Control Delay	65.9	1.2	68.5	8.0	65.8	379.0	0.2	68.6	124.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	1.2	68.5	8.0	65.8	379.0	0.2	68.6	124.8	0.6
Queue Length 50th (ft)	109	0	156	0	32	~1788	0	63	~1007	0
Queue Length 95th (ft)	188	0	260	41	76	#2186	0	125	#1344	3
Internal Link Dist (ft)	1438		782			1392			519	
Turn Bay Length (ft)				100	330		130	125		175
Base Capacity (vph)	349	418	349	418	207	1558	767	207	1615	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.13	0.58	0.27	0.20	1.78	0.08	0.39	1.19	0.09

Intersection Summary

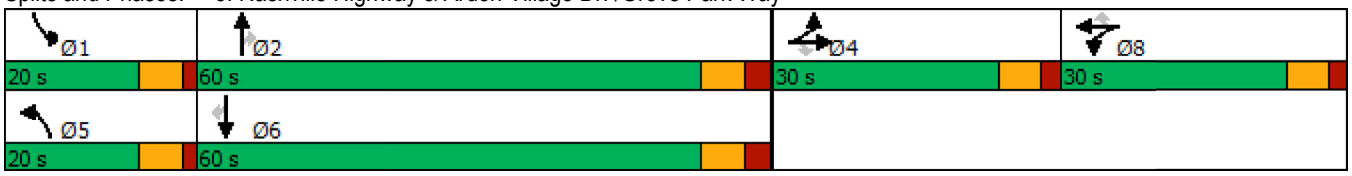
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	3	49	0	105	38	2552	57	74	1773	68
Future Volume (vph)	3	49	0	105	38	2552	57	74	1773	68
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	60.0	60.0	20.0	60.0	60.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	14.3%	42.9%	42.9%	14.3%	42.9%	42.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.1	15.1	18.5	18.5	8.3	53.5	53.5	10.6	55.4	55.4
Actuated g/C Ratio	0.12	0.12	0.15	0.15	0.07	0.44	0.44	0.09	0.46	0.46
v/c Ratio	0.64	0.17	0.75	0.32	0.34	1.78	0.08	0.52	1.19	0.09
Control Delay	65.9	1.2	68.5	8.0	65.8	379.0	0.2	68.6	124.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	1.2	68.5	8.0	65.8	379.0	0.2	68.6	124.8	0.6
LOS	E	A	E	A	E	F	A	E	F	A
Approach Delay	48.1		46.6			366.3			118.3	
Approach LOS	D		D			F			F	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 121.4	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.78	
Intersection Signal Delay: 242.2	Intersection LOS: F
Intersection Capacity Utilization 101.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	12	27	0	0	189
Future Vol, veh/h	48	12	27	0	0	189
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	13	29	0	0	205

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	146	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	117	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	846	1046
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	818	1046
Mov Cap-2 Maneuver	-	-	-	-	818	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	1046
HCM Lane V/C Ratio	0.033	-	-	-	0.196
HCM Control Delay (s)	7.3	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	145	13	141	79	2327	55	121	2200	92
Future Volume (veh/h)	185	14	43	145	13	141	79	2327	55	121	2200	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	201	15	47	158	14	153	86	2529	60	132	2391	100
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	203	227	252	203	230	114	2269	1015	116	2274	1017
Arrive On Green	0.04	0.11	0.11	0.04	0.11	0.11	0.03	0.64	0.64	0.04	0.64	0.64
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	201	15	47	158	14	153	86	2529	60	132	2391	100
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.0	1.0	3.6	5.0	0.9	12.6	2.5	88.5	2.0	5.0	88.7	3.3
Cycle Q Clear(g_c), s	5.0	1.0	3.6	5.0	0.9	12.6	2.5	88.5	2.0	5.0	88.7	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	203	227	252	203	230	114	2269	1015	116	2274	1017
V/C Ratio(X)	0.84	0.07	0.21	0.63	0.07	0.67	0.75	1.11	0.06	1.13	1.05	0.10
Avail Cap(c_a), veh/h	240	358	359	252	378	379	116	2269	1015	116	2274	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	55.3	52.2	56.5	55.2	55.8	37.6	24.8	9.2	45.4	24.7	9.4
Incr Delay (d2), s/veh	22.0	0.2	0.4	4.8	0.1	3.3	23.5	58.3	0.0	123.8	34.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.5	1.6	3.7	0.5	5.7	4.0	61.2	0.8	8.4	53.7	1.5
LnGrp Delay(d),s/veh	81.0	55.4	52.6	61.4	55.4	59.2	61.1	83.0	9.3	169.3	58.8	9.5
LnGrp LOS	F	E	D	E	E	E	E	F	A	F	F	A
Approach Vol, veh/h		263			325			2675			2623	
Approach Delay, s/veh		74.5			60.1			80.7			62.4	
Approach LOS		E			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	96.0	9.5	21.5	10.8	96.2	9.5	21.5
Change Period (Y+Rc), s	6.0	7.5	4.5	6.5	6.0	7.5	4.5	* 6.5
Max Green Setting (Gmax), s	5.0	88.5	5.0	26.5	5.0	88.5	5.0	* 28
Max Q Clear Time (g_c+I1), s	7.0	90.5	7.0	5.6	4.5	90.7	7.0	14.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	71.1
HCM 2010 LOS	E

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	15	47	158	14	153	86	2529	60	132	2391	100
v/c Ratio	1.58	0.14	0.24	1.30	0.12	0.79	0.64	0.98	0.05	0.99	0.93	0.08
Control Delay	332.7	59.9	8.6	225.2	58.2	57.7	40.2	31.6	0.3	102.2	23.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	332.7	59.9	8.6	225.2	58.2	57.7	40.2	32.0	0.3	102.2	23.4	1.4
Queue Length 50th (ft)	~255	11	0	~188	10	~86	11	714	0	48	593	0
Queue Length 95th (ft)	#328	36	22	#247	34	141	#101	#1368	3	#207	#1243	17
Internal Link Dist (ft)		1713			3835			1079			1392	
Turn Bay Length (ft)	250					220	200		100	480		140
Base Capacity (vph)	127	405	194	122	428	194	134	2572	1178	134	2572	1178
Starvation Cap Reductn	0	0	0	0	0	0	0	7	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.58	0.04	0.24	1.30	0.03	0.79	0.64	0.99	0.05	0.99	0.93	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	145	13	141	79	2327	55	121	2200	92
Future Volume (vph)	185	14	43	145	13	141	79	2327	55	121	2200	92
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0	5.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	9.5	24.5	11.0	9.5	23.0	11.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	9.5	33.0	11.0	9.5	33.0	11.0	11.0	96.0	96.0	11.0	96.0	96.0
Total Split (%)	6.4%	22.1%	7.4%	6.4%	22.1%	7.4%	7.4%	64.2%	64.2%	7.4%	64.2%	64.2%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.0	1.5	1.0	1.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.5	6.0	4.5	5.0	6.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.6	7.3	10.3	8.6	7.8	10.3	95.3	88.8	88.8	95.3	88.8	88.8
Actuated g/C Ratio	0.07	0.06	0.08	0.07	0.06	0.08	0.78	0.73	0.73	0.78	0.73	0.73
v/c Ratio	1.58	0.14	0.24	1.30	0.12	0.79	0.64	0.98	0.05	0.99	0.93	0.08
Control Delay	332.7	59.9	8.6	225.2	58.2	57.7	40.2	31.6	0.3	102.2	23.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	332.7	59.9	8.6	225.2	58.2	57.7	40.2	32.0	0.3	102.2	23.4	1.4
LOS	F	E	A	F	E	E	D	C	A	F	C	A
Approach Delay		259.2			139.2			31.6			26.5	
Approach LOS		F			F			C			C	

Intersection Summary	
Cycle Length: 149.5	
Actuated Cycle Length: 122.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.58	
Intersection Signal Delay: 45.4	Intersection LOS: D
Intersection Capacity Utilization 104.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	0	84	58	0	44	33	2321	19	14	2286	50
Future Volume (veh/h)	91	0	84	58	0	44	33	2321	19	14	2286	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	99	0	91	63	0	48	36	2523	21	15	2485	54
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	0	227	56	0	227	106	2468	1104	84	2426	1085
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.03	0.70	0.70	0.02	0.69	0.69
Sat Flow, veh/h	0	0	1583	0	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	99	0	91	63	0	48	36	2523	21	15	2485	54
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	6.7	0.0	0.0	3.5	0.8	90.0	0.5	0.3	88.5	1.4
Cycle Q Clear(g_c), s	18.5	0.0	6.7	18.5	0.0	3.5	0.8	90.0	0.5	0.3	88.5	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	0	227	56	0	227	106	2468	1104	84	2426	1085
V/C Ratio(X)	1.78	0.00	0.40	1.13	0.00	0.21	0.34	1.02	0.02	0.18	1.02	0.05
Avail Cap(c_a), veh/h	56	0	227	56	0	227	124	2468	1104	124	2426	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.6	0.0	50.3	64.6	0.0	48.9	35.7	19.5	6.0	36.1	20.3	6.6
Incr Delay (d2), s/veh	411.6	0.0	1.1	160.6	0.0	0.5	1.9	24.0	0.0	1.0	24.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	3.0	4.5	0.0	1.5	0.9	51.4	0.2	0.4	51.1	0.6
LnGrp Delay(d),s/veh	476.2	0.0	51.4	226.1	0.0	49.3	37.6	43.5	6.0	37.1	45.1	6.6
LnGrp LOS	F		D	F		D	D	F	A	D	F	A
Approach Vol, veh/h		190			111			2580			2554	
Approach Delay, s/veh		272.7			149.7			43.2			44.2	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	97.5		23.5	9.6	96.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	88.5		* 19	5.0	88.5		18.0
Max Q Clear Time (g_c+I1), s	2.3	92.0		20.5	2.8	90.5		20.5
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.9
HCM 2010 LOS	D

Notes



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	99	91	63	48	36	2523	21	15	2485	54
v/c Ratio	0.56	0.32	0.43	0.17	0.28	0.97	0.02	0.12	0.98	0.05
Control Delay	64.6	13.9	61.2	2.8	9.2	28.0	0.1	5.1	31.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	64.6	13.9	61.2	2.8	9.2	28.0	0.1	5.1	31.3	1.2
Queue Length 50th (ft)	78	2	49	0	5	692	0	2	~1018	0
Queue Length 95th (ft)	140	53	98	7	14	#1342	0	7	#1308	10
Internal Link Dist (ft)	2034		2193			4876			1079	
Turn Bay Length (ft)					260		260	330		265
Base Capacity (vph)	198	310	164	304	130	2608	1184	129	2547	1158
Starvation Cap Reductn	0	0	0	0	0	0	0	0	7	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.29	0.38	0.16	0.28	0.97	0.02	0.12	0.98	0.05

Intersection Summary

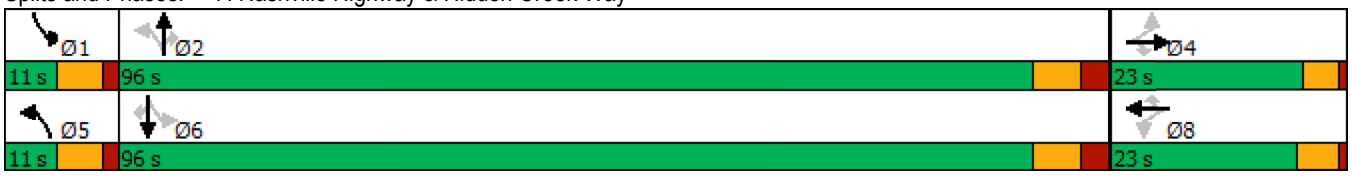
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	0	84	58	0	44	33	2321	19	14	2286	50
Future Volume (vph)	91	0	84	58	0	44	33	2321	19	14	2286	50
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	22.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	11.0	96.0	96.0	11.0	96.0	96.0
Total Split (%)	17.7%	17.7%	17.7%	17.7%	17.7%	17.7%	8.5%	73.8%	73.8%	8.5%	73.8%	73.8%
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.5	16.5		16.0	16.0	95.1	91.7	91.7	93.9	89.5	89.5
Actuated g/C Ratio		0.13	0.13		0.13	0.13	0.76	0.74	0.74	0.75	0.72	0.72
v/c Ratio		0.56	0.32		0.43	0.17	0.28	0.97	0.02	0.12	0.98	0.05
Control Delay		64.6	13.9		61.2	2.8	9.2	28.0	0.1	5.1	31.0	1.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay		64.6	13.9		61.2	2.8	9.2	28.0	0.1	5.1	31.3	1.2
LOS		E	B		E	A	A	C	A	A	C	A
Approach Delay		40.3			35.9			27.5			30.5	
Approach LOS		D			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 124.4	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 29.5	Intersection LOS: C
Intersection Capacity Utilization 95.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: Nashville Highway & Hidden Creek Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	0	89	0	0	0	72	2201	0	0	2931	254
Future Volume (veh/h)	240	0	89	0	0	0	72	2201	0	0	2931	254
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	261	0	97	0	0	0	78	2392	0	0	3186	276
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	314	266	2	2	0	100	2578	0	2	2075	177
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.00	0.06	0.73	0.00	0.00	0.63	0.63
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	3632	0	1774	3301	282
Grp Volume(v), veh/h	261	0	97	0	0	0	78	2392	0	0	1687	1775
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1770	0	1774	1770	1813
Q Serve(g_s), s	16.7	0.0	6.3	0.0	0.0	0.0	5.0	65.8	0.0	0.0	73.0	73.0
Cycle Q Clear(g_c), s	16.7	0.0	6.3	0.0	0.0	0.0	5.0	65.8	0.0	0.0	73.0	73.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	299	314	266	2	2	0	100	2578	0	2	1113	1140
V/C Ratio(X)	0.87	0.00	0.36	0.00	0.00	0.00	0.78	0.93	0.00	0.00	1.52	1.56
Avail Cap(c_a), veh/h	458	481	409	458	481	0	306	2578	0	306	1113	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	0.0	42.8	0.0	0.0	0.0	54.0	13.2	0.0	0.0	21.6	21.6
Incr Delay (d2), s/veh	11.3	0.0	0.8	0.0	0.0	0.0	12.1	6.6	0.0	0.0	236.9	255.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	2.8	0.0	0.0	0.0	2.8	33.9	0.0	0.0	108.4	116.9
LnGrp Delay(d),s/veh	58.4	0.0	43.6	0.0	0.0	0.0	66.1	19.8	0.0	0.0	258.4	276.8
LnGrp LOS	E		D				E	B			F	F
Approach Vol, veh/h		358			0			2470			3462	
Approach Delay, s/veh		54.4			0.0			21.3			267.8	
Approach LOS		D						C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	91.6		24.5	11.6	80.0		0.0
Change Period (Y+Rc), s	5.0	7.0		5.0	5.0	7.0		5.0
Max Green Setting (Gmax), s	20.0	73.0		30.0	20.0	73.0		30.0
Max Q Clear Time (g_c+I1), s	0.0	67.8		18.7	7.0	75.0		0.0
Green Ext Time (p_c), s	0.0	4.8		0.9	0.1	0.0		0.0

Intersection Summary			
HCM 2010 Ctrl Delay		158.9	
HCM 2010 LOS		F	



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	261	97	78	2392	3462
v/c Ratio	0.75	0.15	0.51	0.95	1.70
Control Delay	62.5	0.5	67.5	27.8	341.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	0.5	67.5	27.8	341.1
Queue Length 50th (ft)	202	0	62	851	~2218
Queue Length 95th (ft)	309	0	118	#1252	#2534
Internal Link Dist (ft)				1657	2610
Turn Bay Length (ft)			255		
Base Capacity (vph)	423	715	282	2508	2035
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.14	0.28	0.95	1.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	Ø1	Ø8
Lane Configurations							
Traffic Volume (vph)	240	89	72	2201	2931		
Future Volume (vph)	240	89	72	2201	2931		
Turn Type	Split	Perm	Prot	NA	NA		
Protected Phases	4		5	2	6	1	8
Permitted Phases		4					
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	25.0	25.0	5.0	7.0
Minimum Split (s)	23.0	23.0	10.0	32.0	32.0	10.0	12.0
Total Split (s)	35.0	35.0	25.0	80.0	80.0	25.0	35.0
Total Split (%)	20.0%	20.0%	14.3%	45.7%	45.7%	14%	20%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	3.0	3.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.0	5.0	5.0	7.0	7.0		
Lead/Lag			Lead	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	Min	Min	None	None
Act Effct Green (s)	24.6	24.6	11.0	89.2	73.2		
Actuated g/C Ratio	0.20	0.20	0.09	0.71	0.58		
v/c Ratio	0.75	0.15	0.51	0.95	1.70		
Control Delay	62.5	0.5	67.5	27.8	341.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	62.5	0.5	67.5	27.8	341.1		
LOS	E	A	E	C	F		
Approach Delay				29.0	341.1		
Approach LOS				C	F		

Intersection Summary			
Cycle Length: 175			
Actuated Cycle Length: 125.9			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.70			
Intersection Signal Delay: 201.7		Intersection LOS: F	
Intersection Capacity Utilization 112.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Spring Meade Road/Private Drive



Intersection	
Int Delay, s/veh	26.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	169	0	0	126	143	2148	101	158	2817	53
Future Vol, veh/h	0	0	169	0	0	126	143	2148	101	158	2817	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	225	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	184	0	0	137	155	2335	110	172	3062	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1531	-	-	1223	3120	0	0	2445	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	~ 106	0	0	171	~ 101	-	-	189	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	~ 106	-	-	171	~ 101	-	-	189	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 435.6	79.2	21.5	4.9
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	~ 101	-	-	106	171	189	-	-
HCM Lane V/C Ratio	1.539	-	-	1.733	0.801	0.909	-	-
HCM Control Delay (s)	$ 360.4	-	-	-$ 435.6	79.2	94.1	0	-
HCM Lane LOS	F	-	-	F	F	F	A	-
HCM 95th %tile Q(veh)	11.8	-	-	14.5	5.3	7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	6	126	185	6	109	138	2093	114	150	2609	230
Future Volume (veh/h)	194	6	126	185	6	109	138	2093	114	150	2609	230
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	211	7	137	201	7	118	150	2275	124	163	2836	250
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	8	217	226	8	209	161	1661	743	161	1661	743
Arrive On Green	0.14	0.14	0.14	0.13	0.13	0.13	0.09	0.47	0.47	0.09	0.47	0.47
Sat Flow, veh/h	1720	57	1583	1717	60	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	218	0	137	208	0	118	150	2275	124	163	2836	250
Grp Sat Flow(s),veh/h/ln	1777	0	1583	1777	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	18.7	0.0	12.6	17.8	0.0	10.8	13.0	72.5	7.0	14.0	72.5	15.4
Cycle Q Clear(g_c), s	18.7	0.0	12.6	17.8	0.0	10.8	13.0	72.5	7.0	14.0	72.5	15.4
Prop In Lane	0.97		1.00	0.97		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	217	234	0	209	161	1661	743	161	1661	743
V/C Ratio(X)	0.90	0.00	0.63	0.89	0.00	0.57	0.93	1.37	0.17	1.01	1.71	0.34
Avail Cap(c_a), veh/h	270	0	241	270	0	241	161	1661	743	161	1661	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.6	0.0	63.0	66.0	0.0	62.9	69.8	41.0	23.6	70.3	41.0	25.8
Incr Delay (d2), s/veh	27.9	0.0	4.5	25.8	0.0	2.4	51.6	170.4	0.1	74.7	321.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	0.0	5.8	10.4	0.0	4.9	8.7	74.6	3.1	10.2	109.3	6.8
LnGrp Delay(d),s/veh	93.5	0.0	67.5	91.8	0.0	65.3	121.4	211.4	23.7	145.1	362.1	26.1
LnGrp LOS	F		E	F		E	F	F	C	F	F	C
Approach Vol, veh/h		355			326			2549			3249	
Approach Delay, s/veh		83.5			82.2			197.0			325.3	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.0	80.0		27.7	20.0	80.0		26.9
Change Period (Y+Rc), s	6.0	7.5		6.5	6.0	7.5		6.5
Max Green Setting (Gmax), s	14.0	72.5		23.5	14.0	72.5		23.5
Max Q Clear Time (g_c+I1), s	16.0	74.5		20.7	15.0	74.5		19.8
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.6

Intersection Summary			
HCM 2010 Ctrl Delay		249.3	
HCM 2010 LOS		F	



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	218	137	208	118	150	2275	124	163	2836	250
v/c Ratio	0.88	0.40	0.86	0.37	0.95	1.39	0.16	1.03	1.73	0.32
Control Delay	98.7	12.4	96.2	13.5	129.3	211.7	6.1	147.7	359.1	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.7	12.4	96.2	13.5	129.3	211.7	6.1	147.7	359.1	16.0
Queue Length 50th (ft)	225	0	213	2	159	~1680	9	~185	~2320	89
Queue Length 95th (ft)	#367	64	#344	63	#311	#1802	48	#346	#2424	157
Internal Link Dist (ft)	1438		782			1392			519	
Turn Bay Length (ft)				100	330		130	125		175
Base Capacity (vph)	266	354	266	336	158	1641	792	158	1641	792
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.39	0.78	0.35	0.95	1.39	0.16	1.03	1.73	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	6	126	6	109	138	2093	114	150	2609	230
Future Volume (vph)	6	126	6	109	138	2093	114	150	2609	230
Turn Type	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		8		5	2		1	6	
Permitted Phases		4		8			2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	24.5	24.5	21.5	21.5	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	30.0	30.0	30.0	30.0	20.0	80.0	80.0	20.0	80.0	80.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	12.5%	50.0%	50.0%	12.5%	50.0%	50.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.9	21.9	21.5	21.5	14.0	72.6	72.6	14.0	72.6	72.6
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.09	0.46	0.46	0.09	0.46	0.46
v/c Ratio	0.88	0.40	0.86	0.37	0.95	1.39	0.16	1.03	1.73	0.32
Control Delay	98.7	12.4	96.2	13.5	129.3	211.7	6.1	147.7	359.1	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.7	12.4	96.2	13.5	129.3	211.7	6.1	147.7	359.1	16.0
LOS	F	B	F	B	F	F	A	F	F	B
Approach Delay	65.4		66.3			196.8			322.1	
Approach LOS	E		E			F			F	

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 156.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.73	
Intersection Signal Delay: 245.9	Intersection LOS: F
Intersection Capacity Utilization 114.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Nashville Highway & Arden Village Dr. /Grove Park Way



Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	82	20	7	0	0	147
Future Vol, veh/h	82	20	7	0	0	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	22	8	0	0	160

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	8	0	-	0	208	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1612	-	-	-	780	1074
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1612	-	-	-	736	1074
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	834	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1612	-	-	-	1074
HCM Lane V/C Ratio	0.055	-	-	-	0.149
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	13	40	87	17	211	104	1901	158	353	2537	122
Future Volume (veh/h)	172	13	40	87	17	211	104	1901	158	353	2537	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	187	14	43	95	18	229	113	2066	172	384	2758	133
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	251	263	273	251	453	101	1867	835	314	2291	1025
Arrive On Green	0.03	0.13	0.13	0.03	0.13	0.13	0.03	0.53	0.53	0.15	0.65	0.65
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	187	14	43	95	18	229	113	2066	172	384	2758	133
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.0	1.0	3.7	5.0	1.3	19.1	5.0	83.5	9.1	24.0	102.5	5.1
Cycle Q Clear(g_c), s	5.0	1.0	3.7	5.0	1.3	19.1	5.0	83.5	9.1	24.0	102.5	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	251	263	273	251	453	101	1867	835	314	2291	1025
V/C Ratio(X)	0.77	0.06	0.16	0.35	0.07	0.51	1.11	1.11	0.21	1.22	1.20	0.13
Avail Cap(c_a), veh/h	244	265	275	273	282	480	101	1867	835	314	2291	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	59.7	56.6	58.6	59.8	47.1	44.3	37.4	19.8	58.4	27.9	10.7
Incr Delay (d2), s/veh	13.6	0.1	0.3	0.8	0.1	0.9	123.1	56.6	0.1	124.8	96.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.5	1.6	1.3	0.7	8.4	7.9	55.4	4.0	24.6	80.2	2.3
LnGrp Delay(d),s/veh	78.1	59.8	56.8	59.3	60.0	48.0	167.4	94.0	20.0	183.2	124.0	10.8
LnGrp LOS	E	E	E	E	E	D	F	F	B	F	F	B
Approach Vol, veh/h		244			342			2351			3275	
Approach Delay, s/veh		73.3			51.8			92.1			126.4	
Approach LOS		E			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	91.0	9.5	27.8	11.0	110.0	9.5	27.8
Change Period (Y+Rc), s	6.0	7.5	4.5	6.5	6.0	7.5	4.5	* 6.5
Max Green Setting (Gmax), s	24.0	83.5	5.0	22.5	5.0	102.5	5.0	* 24
Max Q Clear Time (g_c+I1), s	26.0	85.5	7.0	5.7	7.0	104.5	7.0	21.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	107.2
HCM 2010 LOS	F

Notes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	14	43	95	18	229	113	2066	172	384	2758	133
v/c Ratio	1.63	0.14	0.20	0.86	0.17	0.59	0.94	0.95	0.17	1.04	1.03	0.11
Control Delay	358.3	67.2	2.1	116.5	66.6	40.5	102.0	35.9	3.8	100.8	44.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	358.3	67.2	2.1	116.5	66.6	40.5	102.0	35.9	3.8	100.8	44.6	2.2
Queue Length 50th (ft)	~269	12	0	~107	15	133	44	744	10	275	1008	6
Queue Length 95th (ft)	#339	38	0	144	44	220	#192	#1216	48	#574	#1674	30
Internal Link Dist (ft)		1713			3835			1079			1392	
Turn Bay Length (ft)	250					220	200		100	480		140
Base Capacity (vph)	115	308	215	110	329	390	120	2175	1025	369	2670	1217
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.63	0.05	0.20	0.86	0.05	0.59	0.94	0.95	0.17	1.04	1.03	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	87	17	211	104	1901	158	353	2537	122
Future Volume (vph)	172	13	40	87	17	211	104	1901	158	353	2537	122
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	5.0	7.0	5.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	9.5	24.5	11.0	9.5	23.0	11.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	9.5	29.0	11.0	9.5	29.0	30.0	11.0	91.0	91.0	30.0	110.0	110.0
Total Split (%)	6.0%	18.2%	6.9%	6.0%	18.2%	18.8%	6.9%	57.1%	57.1%	18.8%	69.0%	69.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	2.0	1.5	1.0	1.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.5	6.0	4.5	5.0	6.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.7	7.3	10.4	8.7	7.9	29.4	90.2	83.7	83.7	115.3	102.8	102.8
Actuated g/C Ratio	0.06	0.05	0.08	0.06	0.06	0.22	0.66	0.61	0.61	0.85	0.75	0.75
v/c Ratio	1.63	0.14	0.20	0.86	0.17	0.59	0.94	0.95	0.17	1.04	1.03	0.11
Control Delay	358.3	67.2	2.1	116.5	66.6	40.5	102.0	35.9	3.8	100.8	44.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	358.3	67.2	2.1	116.5	66.6	40.5	102.0	35.9	3.8	100.8	44.6	2.2
LOS	F	E	A	F	E	D	F	D	A	F	D	A
Approach Delay		278.8			63.0			36.8			49.4	
Approach LOS		F			E			D			D	

Intersection Summary	
Cycle Length: 159.5	
Actuated Cycle Length: 136.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.63	
Intersection Signal Delay: 54.4	Intersection LOS: D
Intersection Capacity Utilization 108.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: Nashville Highway & Green Mills



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	0	55	37	0	28	84	2064	63	48	2460	108
Future Volume (veh/h)	72	0	55	37	0	28	84	2064	63	48	2460	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	0	60	40	0	30	91	2243	68	52	2674	117
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	0	195	48	0	195	107	2565	1147	139	2552	1141
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12	0.03	0.72	0.72	0.03	0.72	0.72
Sat Flow, veh/h	0	0	1583	0	0	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	78	0	60	40	0	30	91	2243	68	52	2674	117
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	5.2	0.0	0.0	2.5	3.6	71.7	1.9	1.1	108.5	3.4
Cycle Q Clear(g_c), s	18.5	0.0	5.2	18.5	0.0	2.5	3.6	71.7	1.9	1.1	108.5	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	0	195	48	0	195	107	2565	1147	139	2552	1141
V/C Ratio(X)	1.63	0.00	0.31	0.84	0.00	0.15	0.85	0.87	0.06	0.37	1.05	0.10
Avail Cap(c_a), veh/h	48	0	195	48	0	195	107	2565	1147	146	2552	1141
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.3	0.0	60.2	75.3	0.0	59.0	51.7	15.6	6.0	29.9	21.0	6.3
Incr Delay (d2), s/veh	360.3	0.0	0.9	72.1	0.0	0.4	44.7	3.7	0.0	1.7	32.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	2.3	2.6	0.0	1.1	5.1	35.9	0.8	1.6	63.4	1.5
LnGrp Delay(d),s/veh	435.6	0.0	61.1	147.4	0.0	59.4	96.4	19.3	6.0	31.6	53.0	6.4
LnGrp LOS	F		E	F		E	F	B	A	C	F	A
Approach Vol, veh/h		138			70			2402			2843	
Approach Delay, s/veh		272.7			109.7			21.8			50.7	
Approach LOS		F			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.4	116.6		23.5	11.0	116.0		23.5
Change Period (Y+Rc), s	6.0	7.5		* 5	6.0	7.5		5.0
Max Green Setting (Gmax), s	5.0	108.5		* 19	5.0	108.5		18.0
Max Q Clear Time (g_c+I1), s	3.1	73.7		20.5	5.6	110.5		20.5
Green Ext Time (p_c), s	0.0	24.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	44.3
HCM 2010 LOS	D

Notes



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	60	40	30	91	2243	68	52	2674	117
v/c Ratio	0.52	0.25	0.32	0.13	0.83	0.85	0.06	0.48	1.03	0.10
Control Delay	75.3	9.7	68.2	1.1	76.8	17.6	1.8	28.9	45.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0
Total Delay	75.3	9.7	68.2	1.1	76.8	17.6	1.8	28.9	63.3	2.1
Queue Length 50th (ft)	72	0	36	0	37	728	2	7	~1430	8
Queue Length 95th (ft)	130	30	77	0	#147	923	16	47	#1603	26
Internal Link Dist (ft)	2034		2193			4876			1079	
Turn Bay Length (ft)					260		260	330		265
Base Capacity (vph)	170	264	144	259	110	2652	1200	109	2599	1185
Starvation Cap Reductn	0	0	0	0	0	0	0	0	107	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.23	0.28	0.12	0.83	0.85	0.06	0.48	1.07	0.10

Intersection Summary

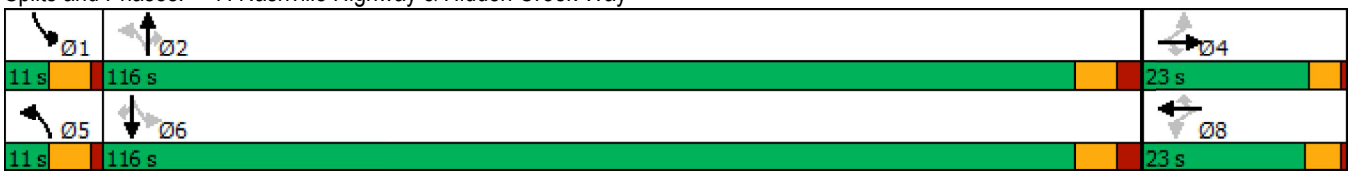
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	0	55	37	0	28	84	2064	63	48	2460	108
Future Volume (vph)	72	0	55	37	0	28	84	2064	63	48	2460	108
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	22.5	22.5	22.5	23.0	23.0	23.0	11.0	32.5	32.5	11.0	32.5	32.5
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	11.0	116.0	116.0	11.0	116.0	116.0
Total Split (%)	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%	7.3%	77.3%	77.3%	7.3%	77.3%	77.3%
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		5.0	5.0	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		16.2	16.2		15.7	15.7	116.2	110.7	110.7	115.0	108.5	108.5
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.79	0.75	0.75	0.78	0.73	0.73
v/c Ratio		0.52	0.25		0.32	0.13	0.83	0.85	0.06	0.48	1.03	0.10
Control Delay		75.3	9.7		68.2	1.1	76.8	17.6	1.8	28.9	45.7	2.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0
Total Delay		75.3	9.7		68.2	1.1	76.8	17.6	1.8	28.9	63.3	2.1
LOS		E	A		E	A	E	B	A	C	E	A
Approach Delay		46.8			39.5			19.4			60.1	
Approach LOS		D			D			B			E	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 147.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 41.6	Intersection LOS: D
Intersection Capacity Utilization 98.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: Nashville Highway & Hidden Creek Way



APPENDIX D – ADDITIONAL FIGURES

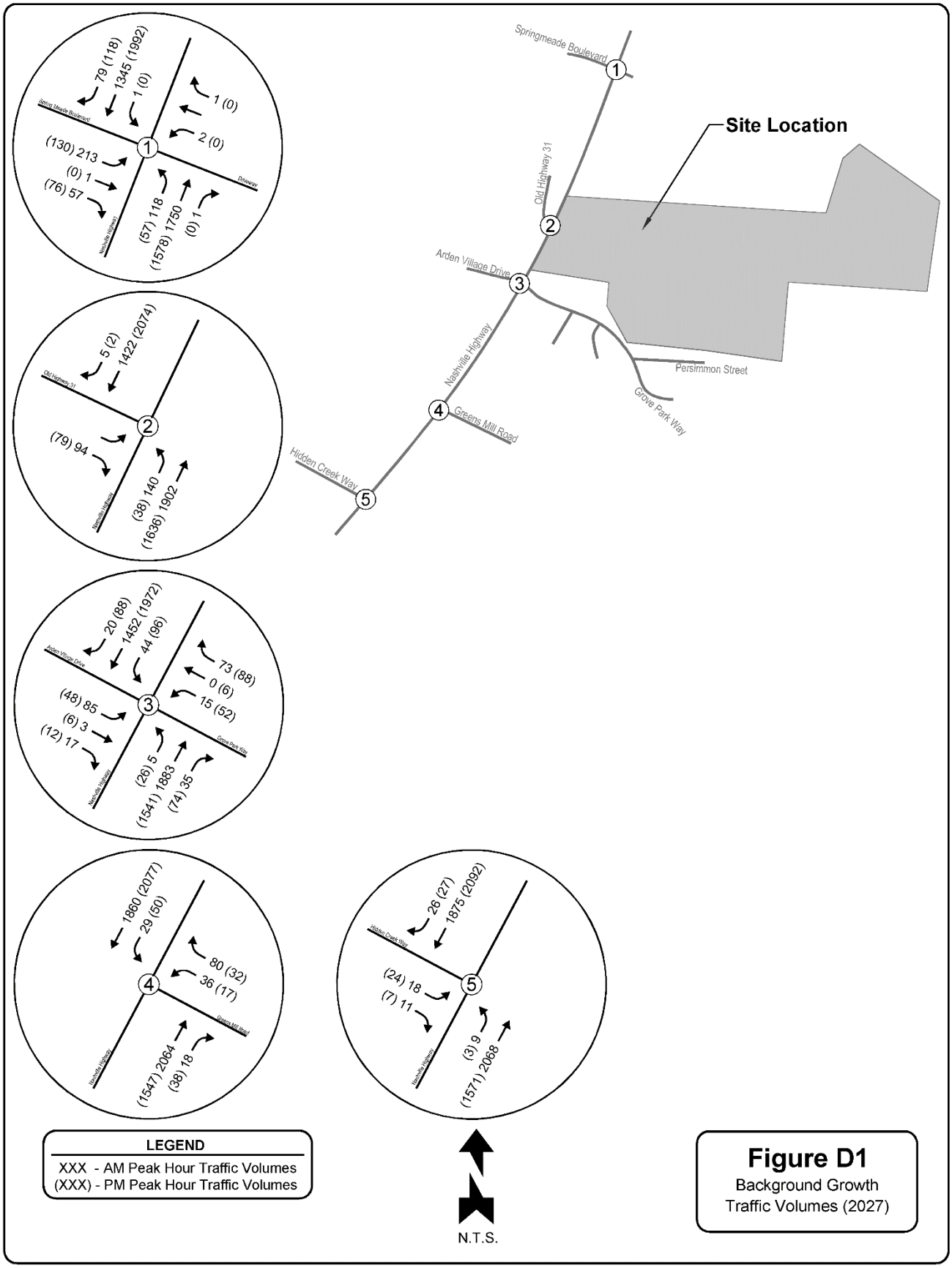
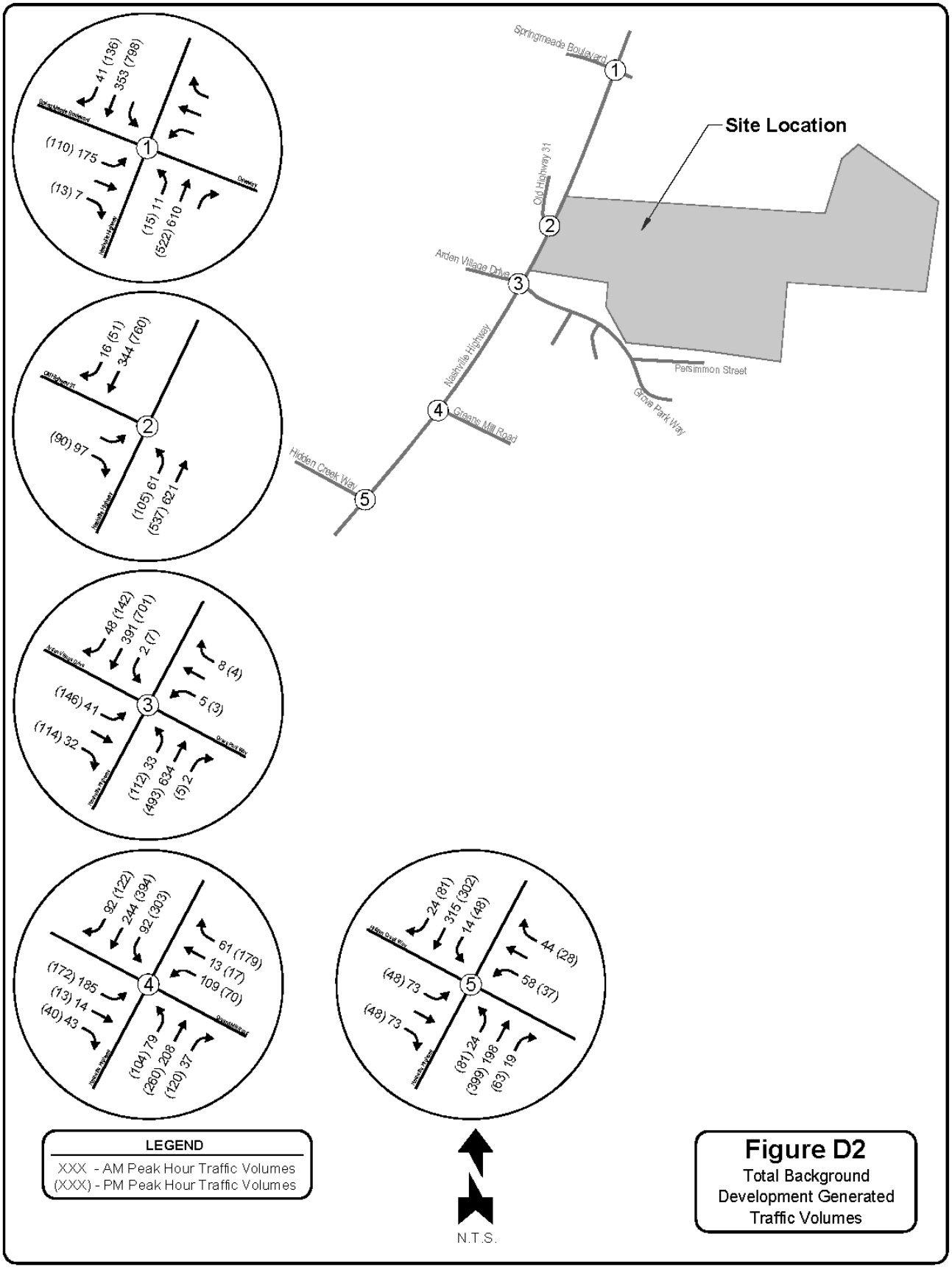


Figure D1
Background Growth
Traffic Volumes (2027)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
41 (136)
353 (798)
(110) 175
(13) 7
(15) 11
(522) 610
16 (51)
344 (760)
(90) 97
(105) 61
(537) 621
48 (142)
391 (701)
2 (7)
8 (4)
(146) 41
5 (3)
(114) 32
(112) 33
(493) 634
(5) 2
92 (122)
244 (394)
92 (303)
61 (179)
13 (17)
109 (70)
(172) 185
(13) 14
(40) 43
(104) 79
(260) 208
(120) 37
24 (81)
315 (302)
14 (48)
44 (28)
58 (37)
(48) 73
(48) 73
(81) 24
(399) 198
(63) 19
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D2
Total Background
Development Generated
Traffic Volumes

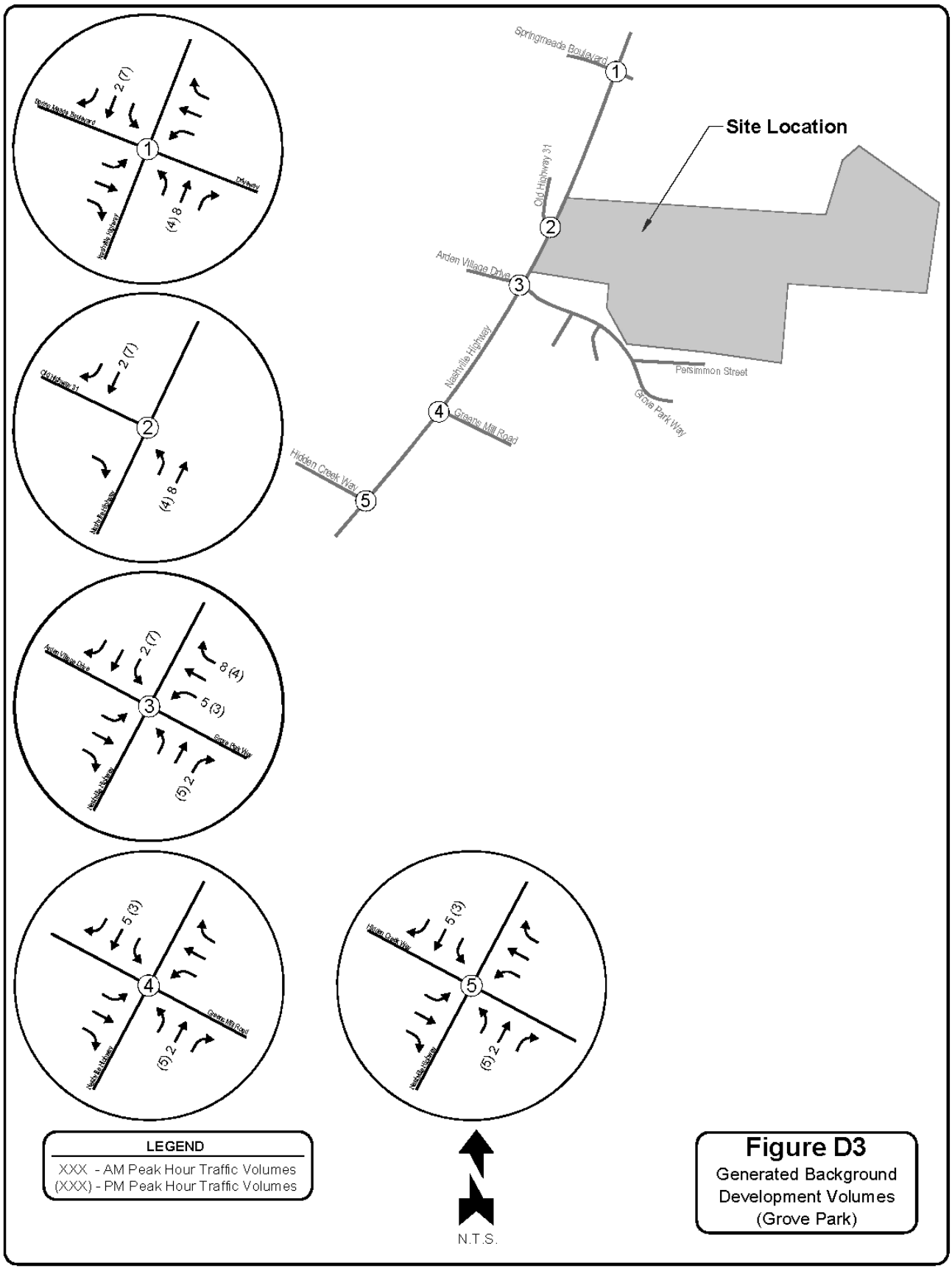


Figure D3
Generated Background Development Volumes (Grove Park)

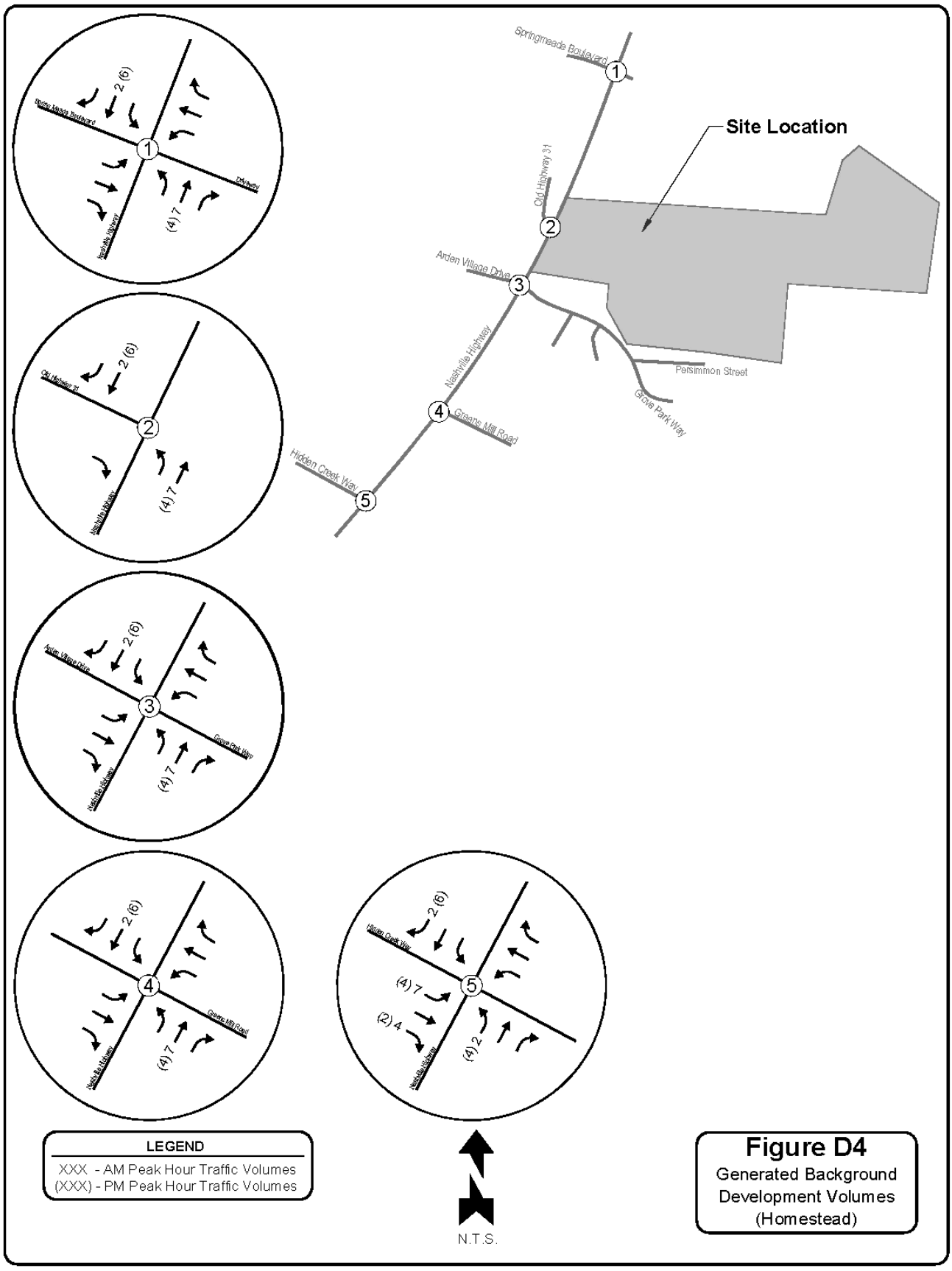
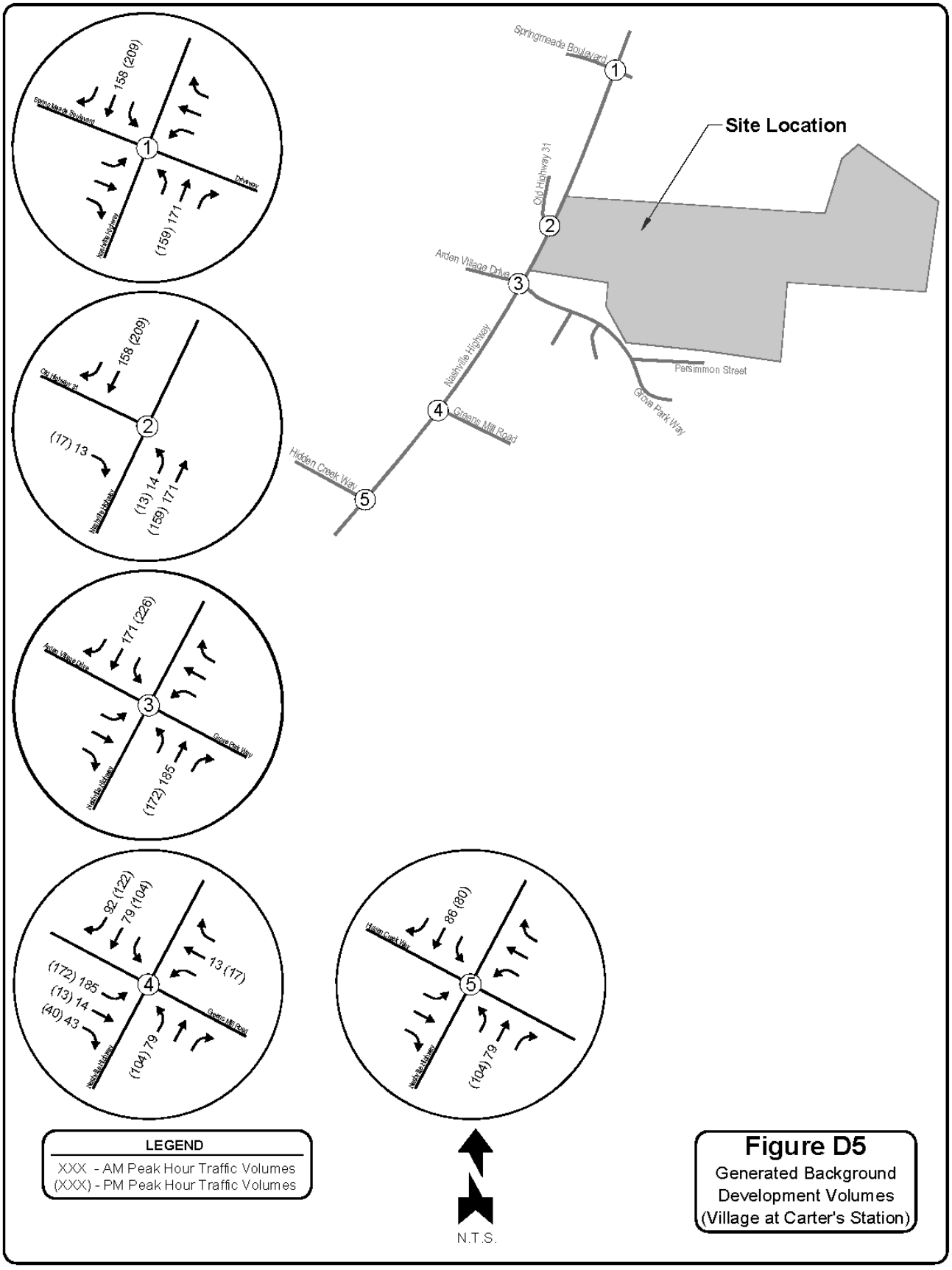
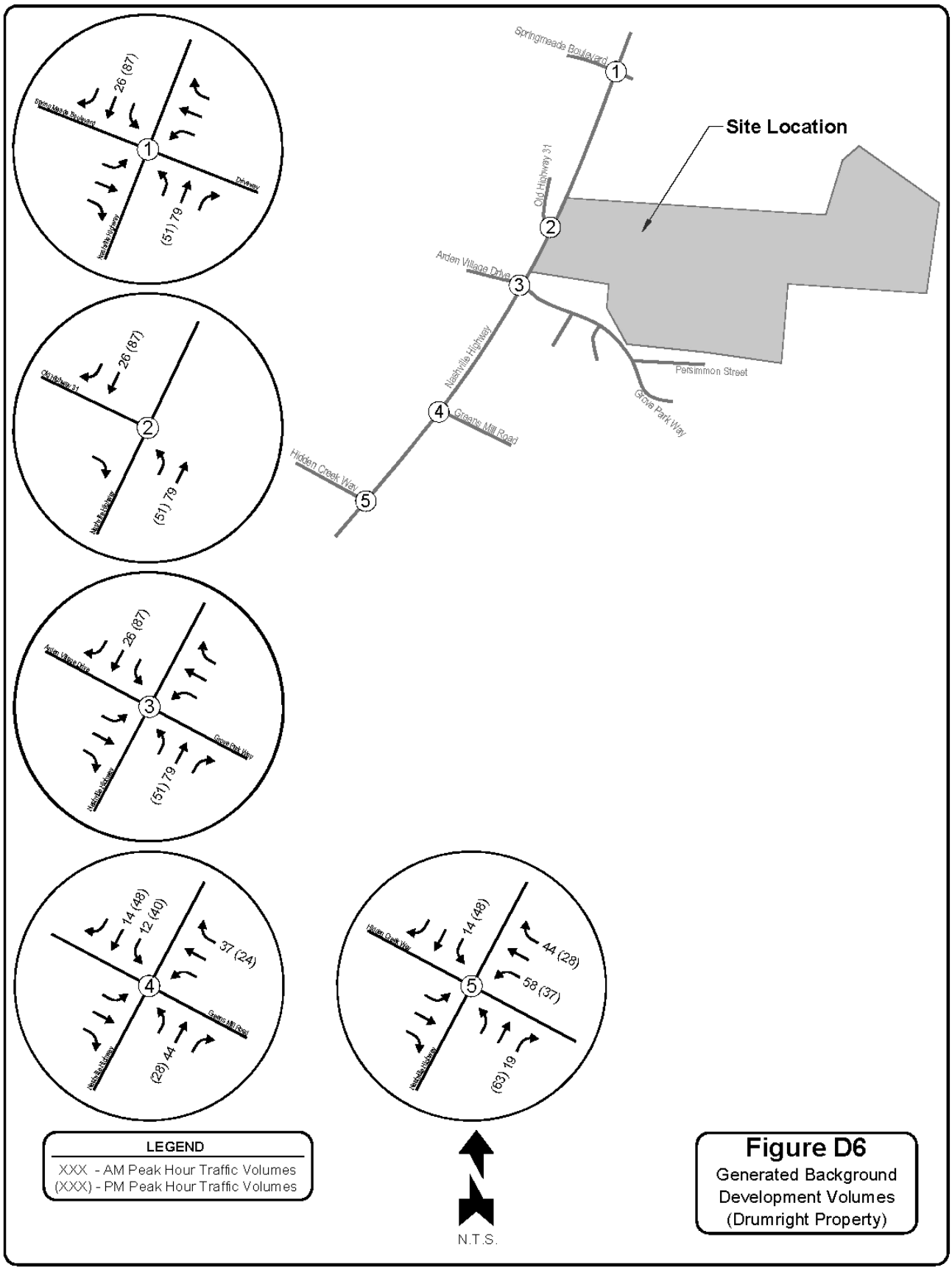
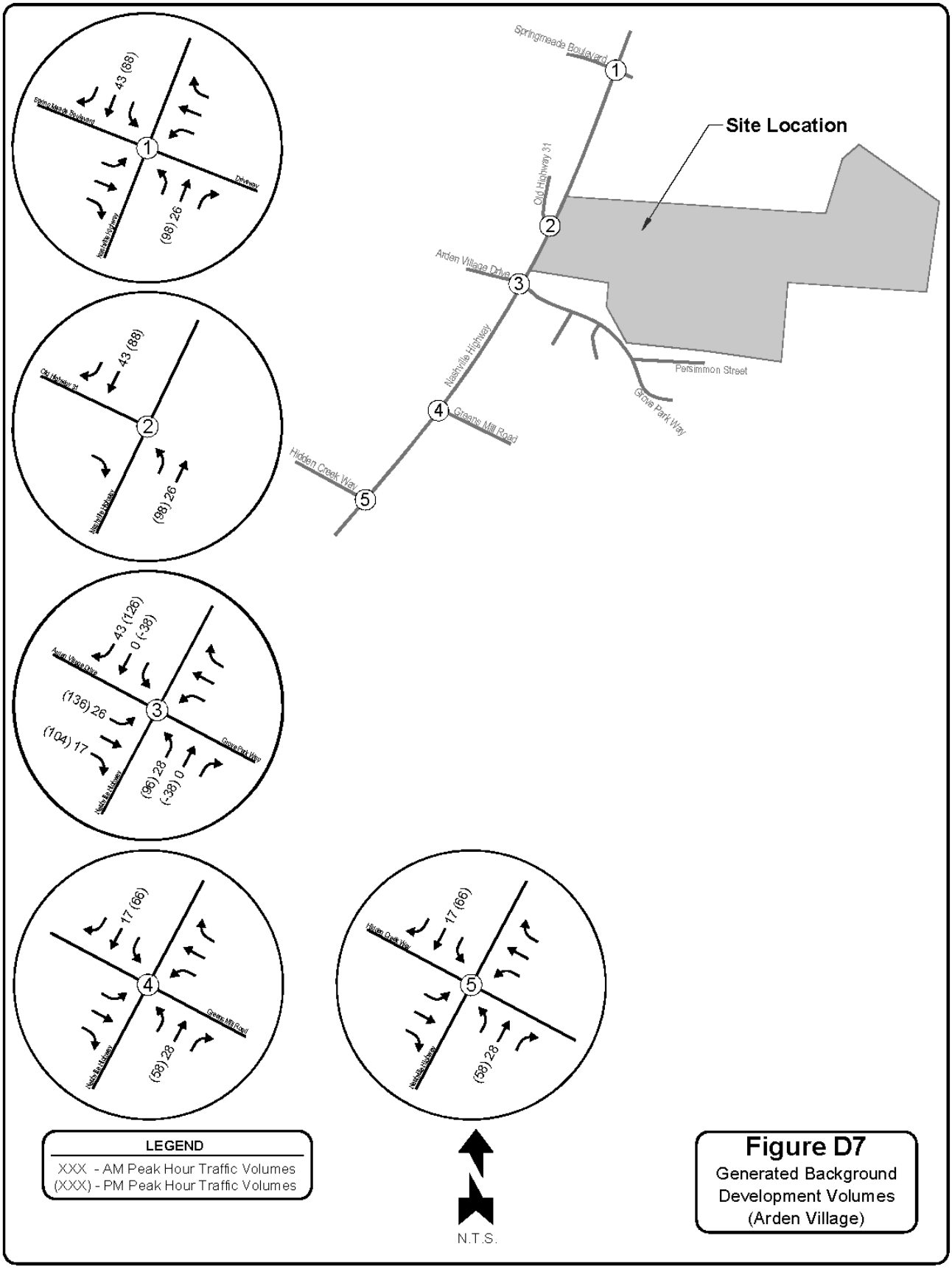
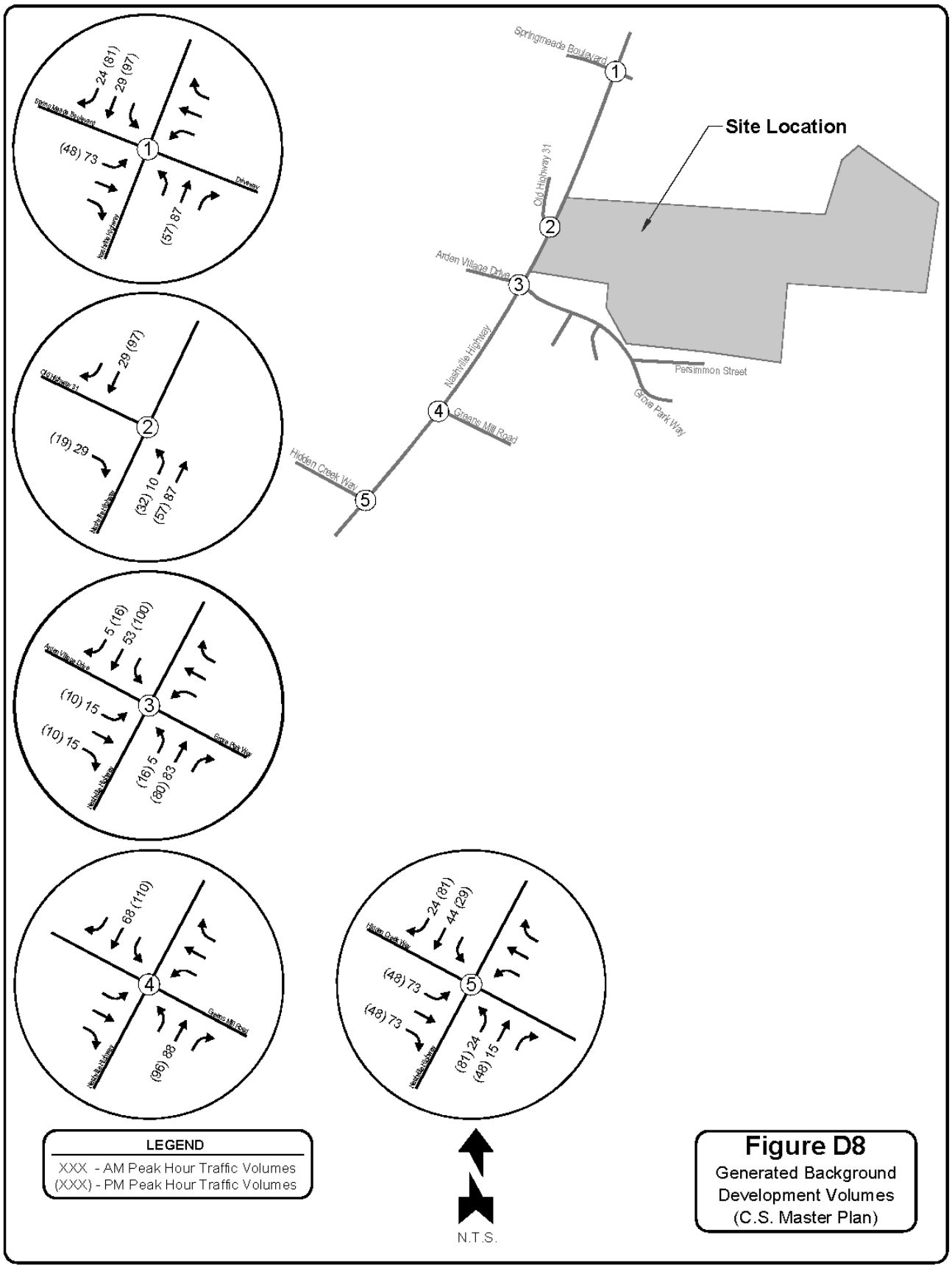


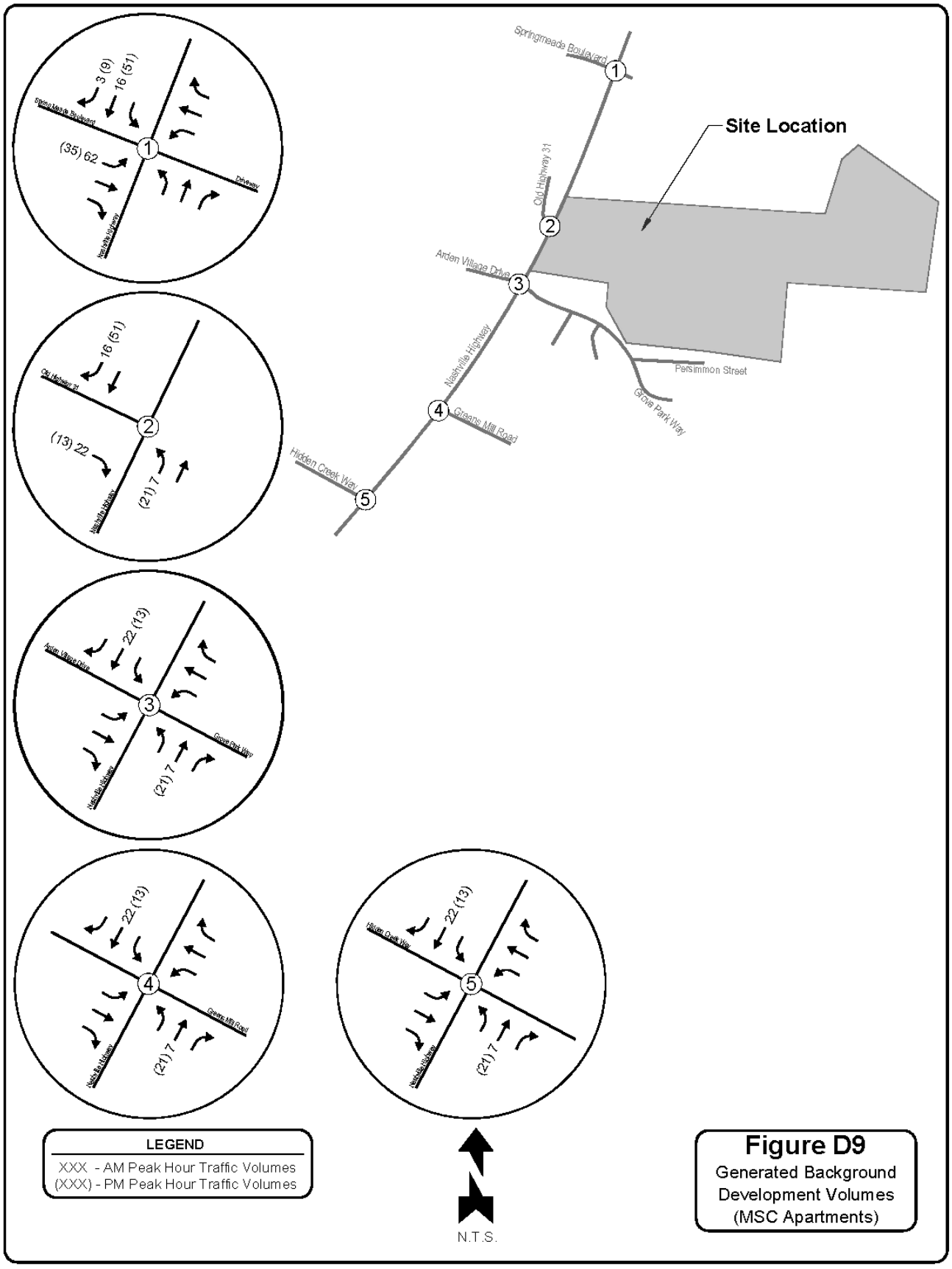
Figure D4
Generated Background Development Volumes (Homestead)

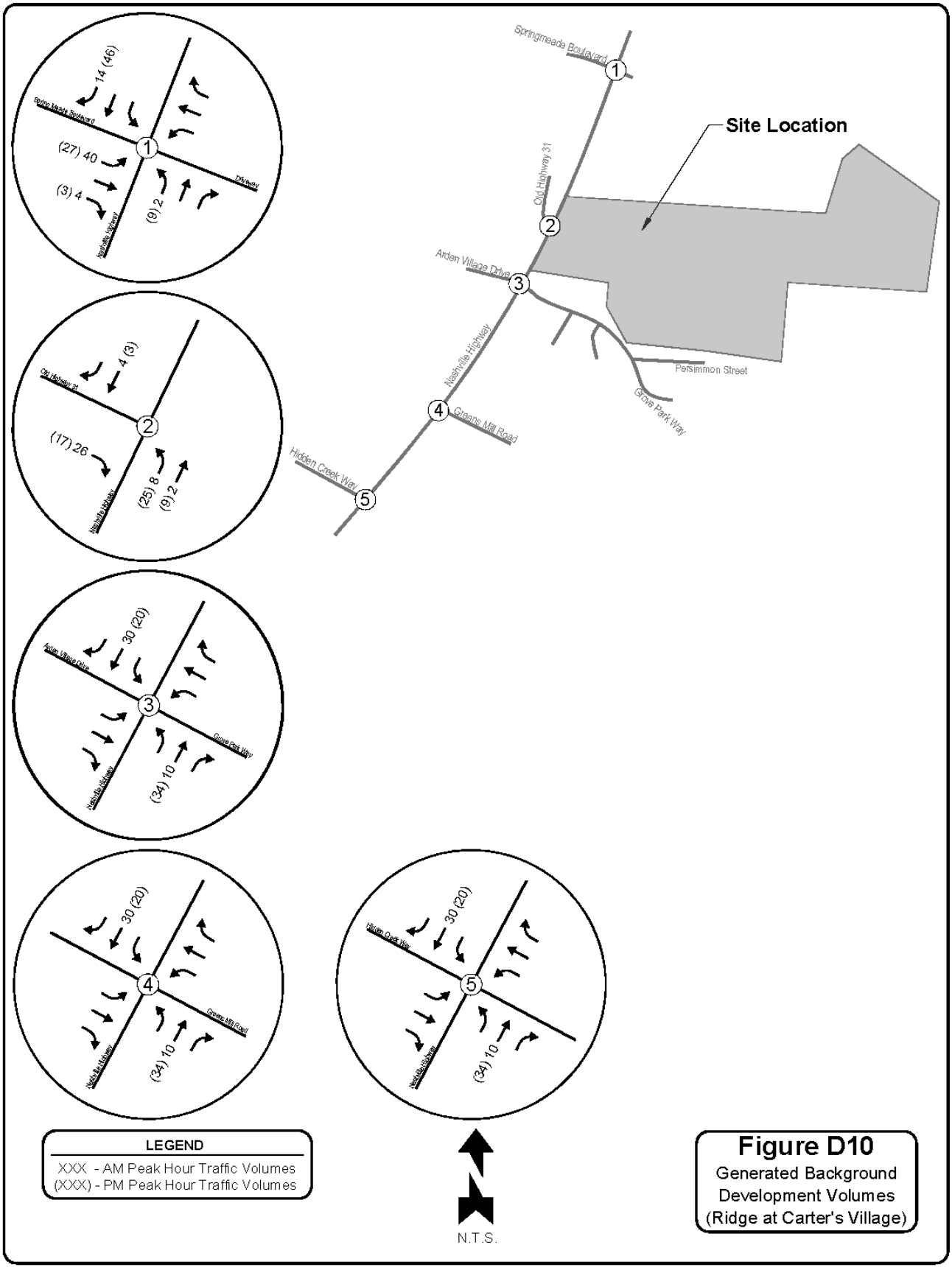

Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
158 (209)
(159) 171
(17) 13
(13) 14
171 (226)
(172) 185
92 (122)
79 (104)
13 (17)
(40) 43
86 (80)
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D5
Generated Background Development Volumes
(Village at Carter's Station)

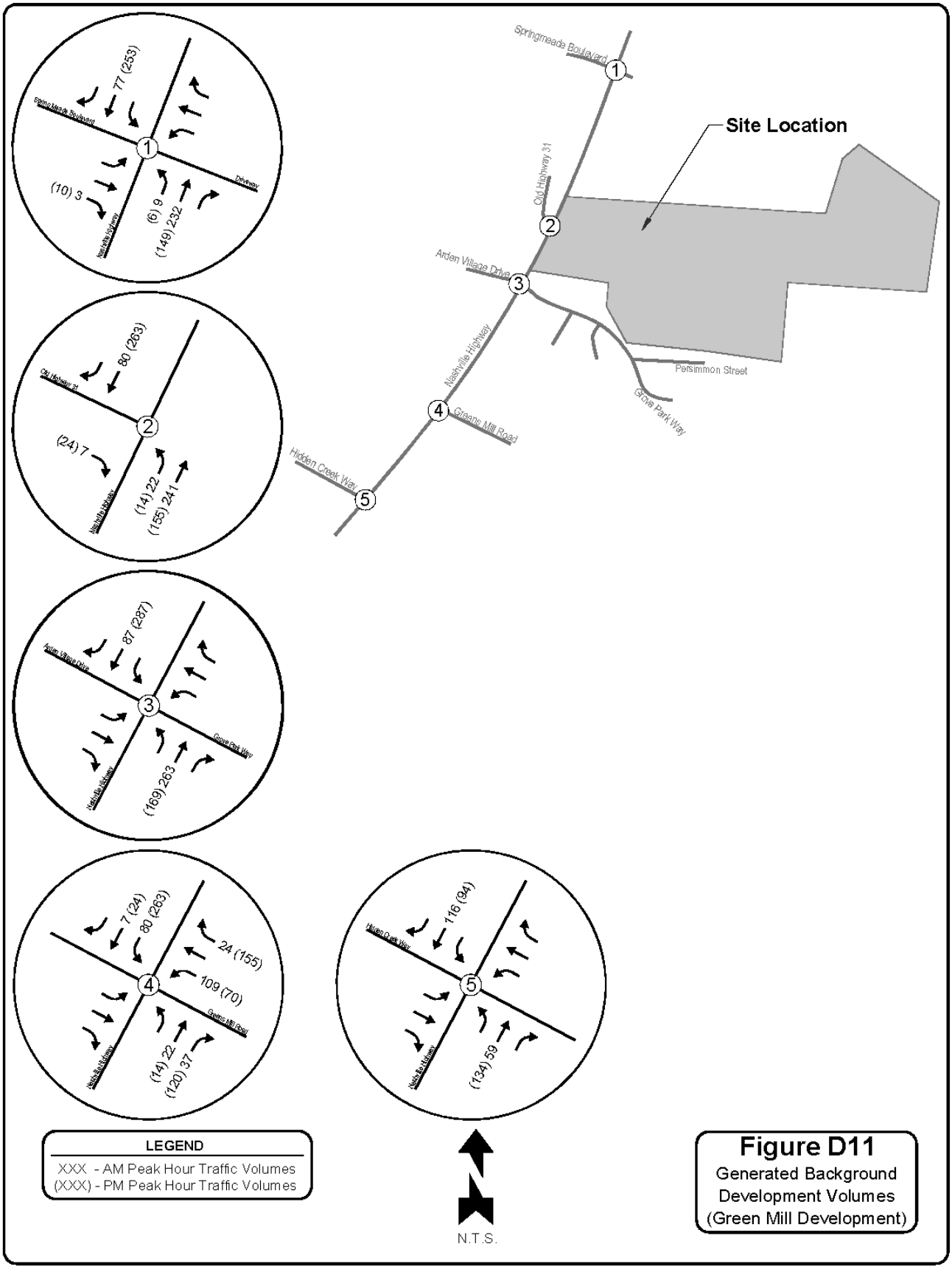

Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
1
2
3
4
5
26 (87)
(51) 79
14 (48)
12 (40)
37 (24)
(28) 44
44 (28)
58 (37)
(63) 19
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D6
Generated Background Development Volumes (Drumright Property)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
43 (88)
(98) 26
43 (126)
0 (-38)
(136) 26
(104) 17
(96) 28
(-38) 0
17 (66)
(58) 28
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D7
Generated Background Development Volumes (Arden Village)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
1
2
3
4
5
24 (81)
29 (97)
(48) 73
(57) 87
29 (97)
(19) 29
(32) 10
(57) 87
5 (16)
53 (100)
(10) 15
(10) 15
(16) 5
(80) 83
68 (110)
(96) 88
24 (81)
44 (29)
(48) 73
(48) 73
(81) 24
(48) 15
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D8
Generated Background
Development Volumes
(C.S. Master Plan)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Graans Mill Road
Hidden Creek Way
3 (9)
16 (51)
(35) 62
Driveway
16 (51)
(13) 22
(21) 7
22 (13)
(21) 7
22 (13)
(21) 7
22 (13)
(21) 7
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D9
Generated Background Development Volumes (MSC Apartments)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
14 (46)
(27) 40
(3) 4
(9) 2
4 (3)
(17) 26
(25) 8
(9) 2
30 (20)
(34) 10
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D10
Generated Background Development Volumes
(Ridge at Carter's Village)


Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Persimmon Street
Grove Park Way
Grissim Mill Road
Hidden Creek Way
77 (253)
(10) 3
(6) 9
(149) 232
80 (263)
(24) 7
(14) 22
(155) 241
87 (287)
(169) 263
7 (24)
80 (263)
24 (155)
109 (70)
(14) 22
(120) 37
116 (94)
(134) 59
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D11
Generated Background Development Volumes (Green Mill Development)

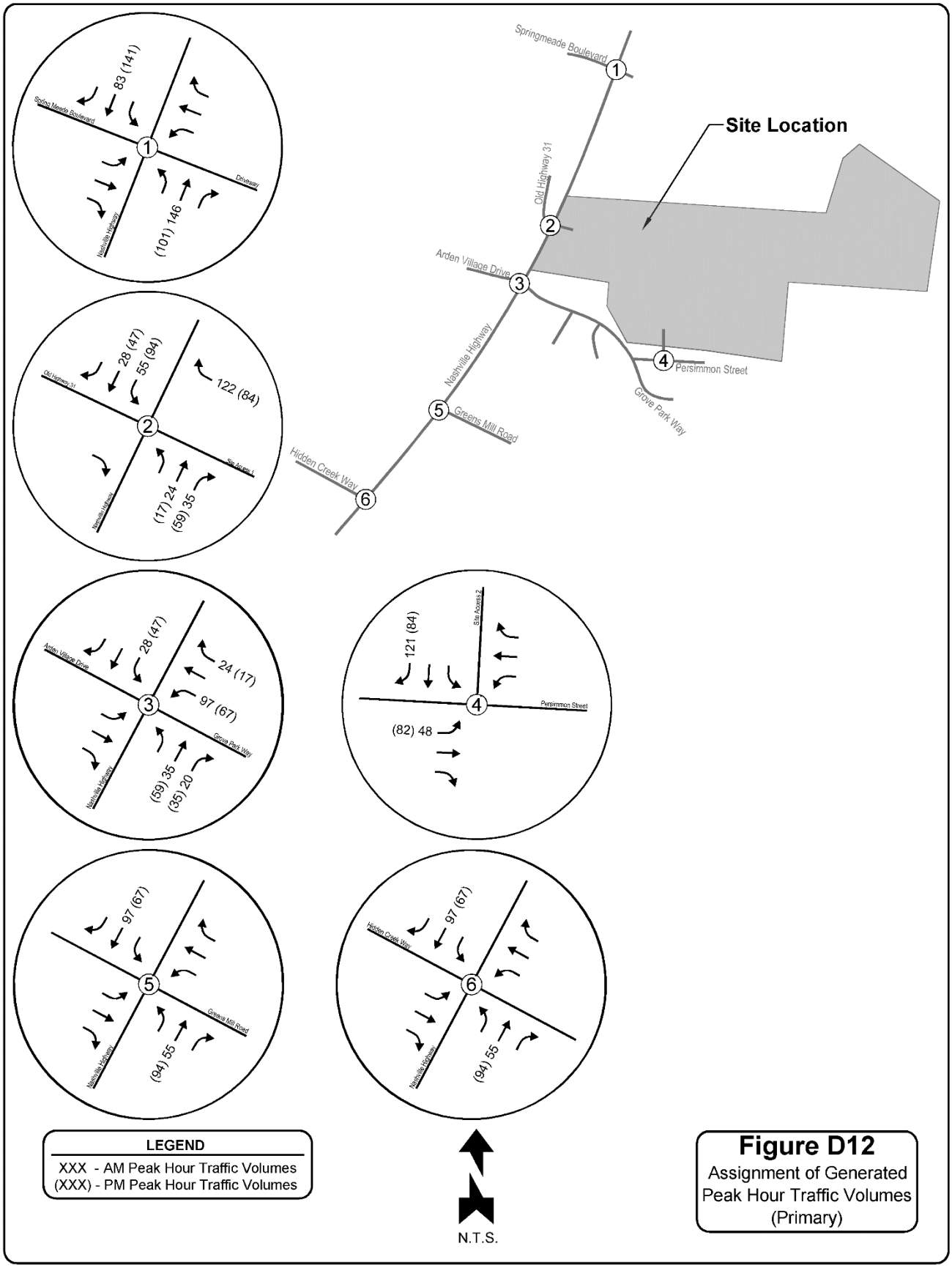


Figure D12
Assignment of Generated Peak Hour Traffic Volumes (Primary)

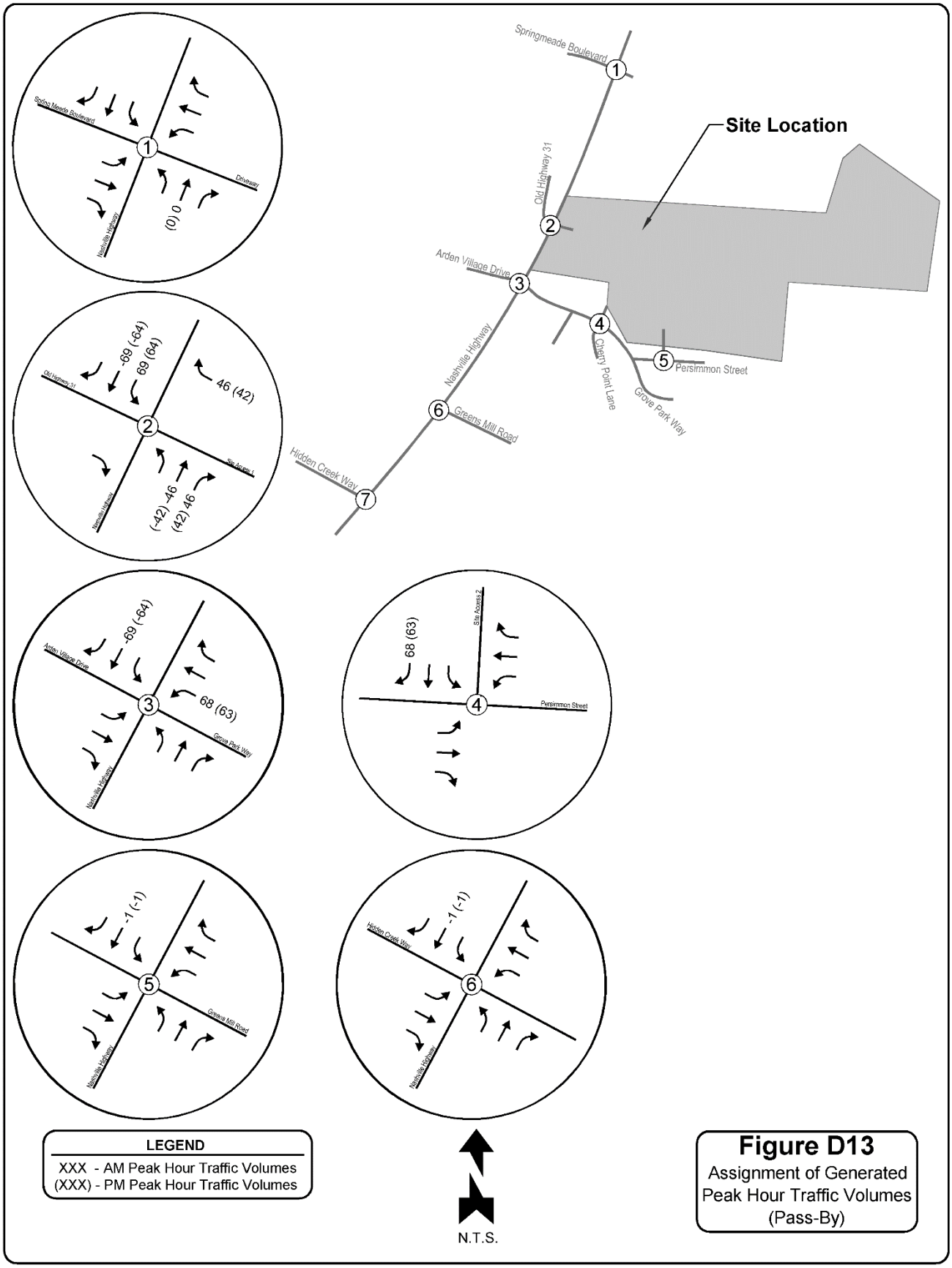
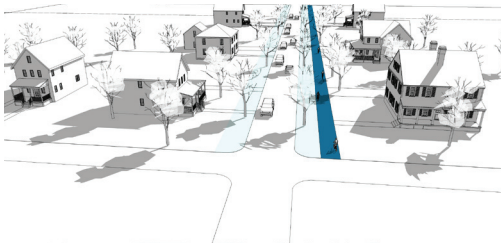
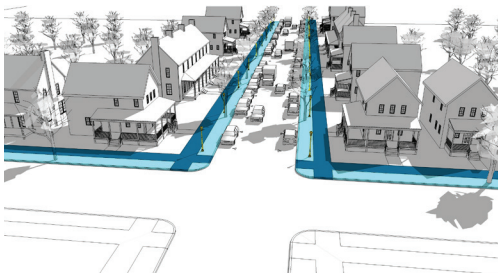
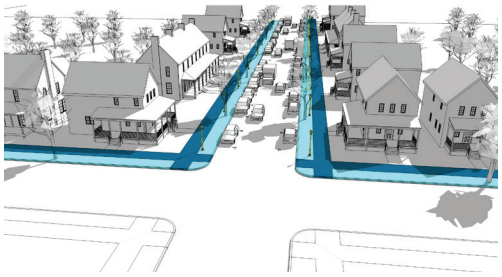
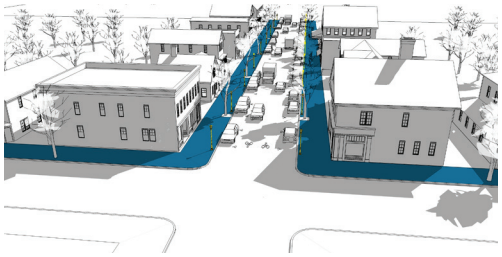
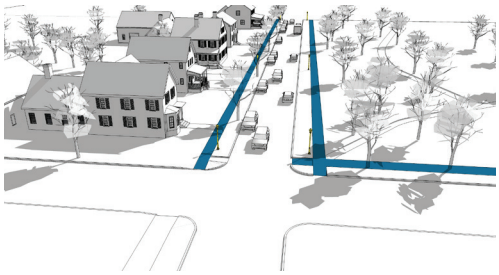
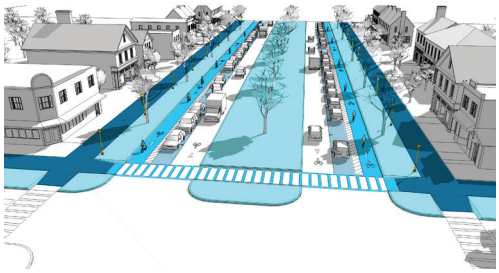
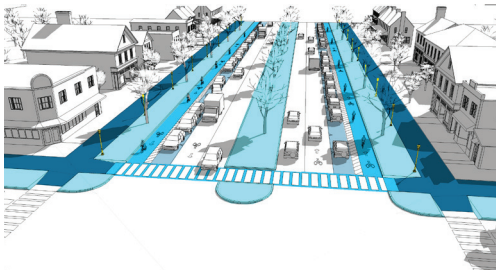

Springmeade Boulevard
Site Location
Old Highway 31
Arden Village Drive
Nashville Highway
Cherry Point Lane
Grove Park Way
Persimmon Street
Greens Mill Road
Hidden Creek Way
1
2
3
4
5
6
7
(0) 0
-69 (-64)
69 (64)
46 (42)
(-42) -46
(42) 46
68 (63)
-1 (-1)
LEGEND
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes
N.T.S.
Figure D13
Assignment of Generated Peak Hour Traffic Volumes (Pass-By)

TABLE 5.2.2.F THOROUGHFARE / INTERNAL DRIVE TYPES – SUMMARY

Thoroughfare / Internal Drive Type	Illustration	Permitted Districts
Neighborhood Street A local, rural and suburban Thoroughfare or Internal Drive of low-to-moderate vehicular speed and capacity, and having a Public Frontage that is drained by swales. There are continuous Planters and no on-street parking. The landscaping consists of clustered and irregularly spaced trees along the Thoroughfare.		CD-2
Suburban Neighborhood Street A local urban Thoroughfare of low speed and capacity and having a Public Frontage with raised Curbs drained by inlets, Sidewalks on one or both sides of the Vehicular Lanes, with each Sidewalk being accompanied by a planting strip. Parking may be provided on-street. The landscaping consists of regularly spaced and aligned rows of trees along the Thoroughfare.		CD-2 CD-3L SD-LI SD-HI
Urban Neighborhood Street A local urban Thoroughfare of low speed and capacity and having a Public Frontage with raised Curbs drained by inlets, Sidewalks are separated from the Vehicular Lanes byplanting strips, and parking is provided on or both sides. The landscaping consists of regularly spaced and aligned rows of trees along the thoroughfare.		CD-3L CD-3 CD-4 CD-4C SD-MHP PUD-R
Urban Center Street A Thoroughfare type designed for moderate to high vehicular capacity and slow speed, traversing an urbanized area. The Public Frontage has raised Curbs drained by inlets and very wide Sidewalks along both sides, separated from the Vehicular Lanes by separate tree wells or planters with grates and parking on both sides. The landscaping consists of regularly spaced and aligned rows of trees along the thoroughfare, which clears the storefront entrances.		CD-4 CD-4C CD-5 CD-5C SD-INT PUD-R PUD-MU

©2021 Town Planning & Urban Design Collaborative LLC

TABLE 5.2.2.F THOROUGHFARE / INTERNAL DRIVE TYPES – SUMMARY

Thoroughfare Type (continued)	Illustration	Permitted Districts
Internal Drive A Thoroughfare type with Building Frontages on one side and no or very sporadic Building Frontages on the other side. The Public Frontage has raised Curbs drained by inlets and a Sidewalk or paved Path along one or both sides. It is separated from the Vehicular Lanes by individual or continuous planters. The landscaping consists of Thoroughfare Trees aligned in a regularly spaced row.		CD-4C, CD-5, CD-5C, SD-INT, SD-HI, PUD-MU
2-Lane Avenue A Thoroughfare of moderate vehicular capacity and low to moderate speed, acting as a short distance connector between urban centers, and usually equipped with a landscaped median. Its Public Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the Vehicular Lanes by a narrow continuous planter with parking on both sides. The landscaping consists of regularly spaced and aligned rows of trees along the thoroughfare.		CD-3L, CD-3, CD-4, CD-4C, CD-5, CD-5C, SD-MHP, SD-INT, PUD-R, PUD-MU
4-Lane Avenue A Thoroughfare of high vehicular capacity and low to moderate speed, acting as a short distance connector between urban centers, and usually equipped with a landscaped median. Its Public Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the Vehicular Lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of regularly spaced and aligned rows of trees along the thoroughfare.		CD-4, CD-4C, CD-5, CD-5C, SD-INT, PUD-MU

©2021 Town Planning & Urban Design Collaborative LLC

G. Assemblies & Standards.

Thoroughfares and Internal Drives within Districts and within Civic Districts Adjacent to Districts shall conform to the applicable standards for such Districts set forth in **Table 5.2.2.G–1 (Thoroughfare / Internal Drive Assemblies and Standards)**. Alleys shall conform to the standards of **Table 5.2.2.L (Alley Assembly and Standards)**.

All dimensions and standards listed are considered the minimum for the general case. All street specifications shall meet engineering standards and are subject to approval by the City Engineer. Elements of the street sections may be altered and approved by the City Engineer. Permitted on minor local and major local roadway classifications. Greater classified roadways shall use standard engineering roadway sections for the appropriate roadway classification.

©2021 Town Planning & Urban Design Collaborative LLC

TABLE 5.2.2.G-1 THOROUGHFARE / INTERNAL DRIVE ASSEMBLIES AND STANDARDS
URBAN CENTER STREET

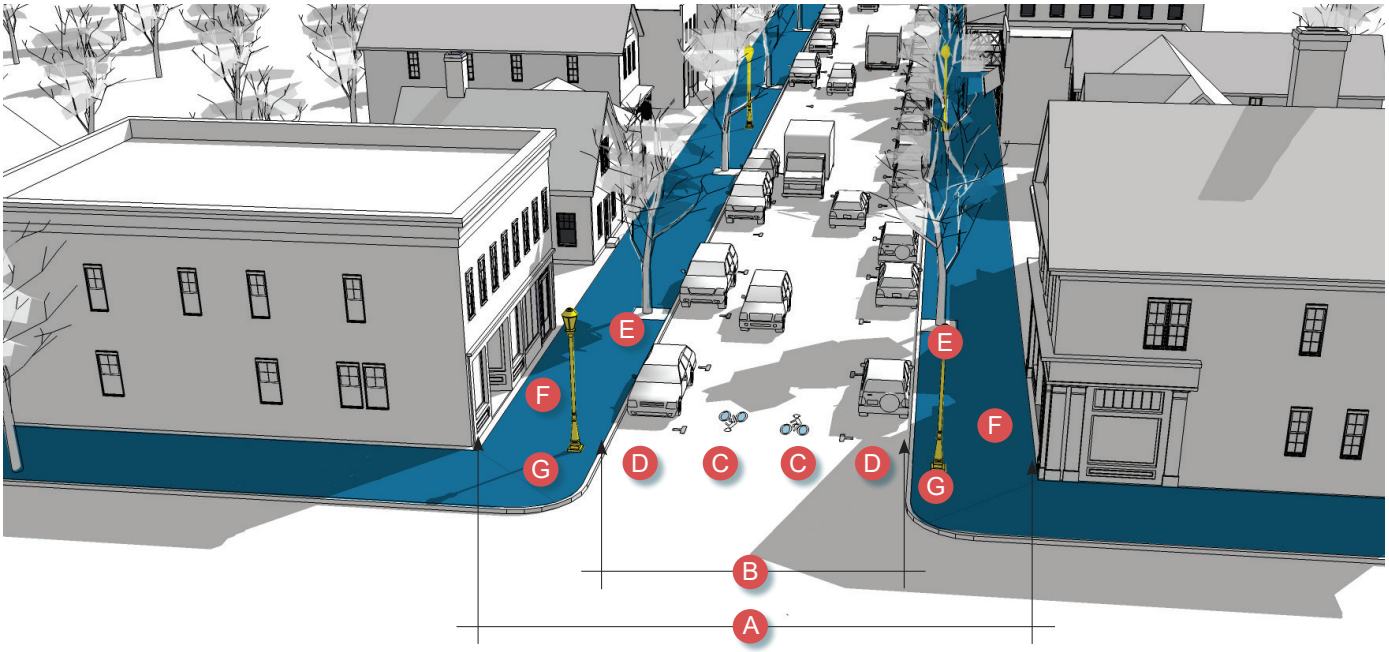


Illustration is provided for illustrative purposes only.

Permitted Districts

CD-4 | CD-4C | CD-5 | CD-5C | SD-INT | PUD-MU | PUD-R

Thoroughfare Type	Commercial Street	
Right of Way Width	65 ft	A
Pavement Width	38 ft	B
Movement	Slow	
Assemblies		
Travel Lanes	2 Lanes	
Travel Lane Width	11 ft	C
Parking Lanes	Parallel, 2 sides	D
Parking Lane Width	8 ft, marked	
Bikeway Type	Shared Use Lane, Buffered Bicycle Lane. Protected Bicycle Lane. See Table 5.2.4.B*	

* Bikeways optional. If bikeways provided, right of way & pavement width may be increased by the aggregate width of bikeways, per Table 5.2.4.B (Bikeway Types).

Walkway		
Walkway Type	Sidewalk, both sides	F
Walkway Width	12 ft with 6 ft min unobstructred	

Planter		
Planter Type	Tree Well or Planter	E
Planter Width / Area	4 ft width min; 30 SF area min	
Landscape Type	Trees at 50 ft on center average; first tree shall be placed within 50 ft of Block corner.	
Curb		
Curb Radius	15'	G
Curb Type	Curb and gutter	

Lighting	
Lighting Placement	Lighting design to be approved by Utility Service Provider and the City Engineer. Lighting foundations shall be placed within planter strip.
Lighting Type	Decorative lighting fixtures approved by Utility Service Provider and the City Engineer

©2021 Town Planning & Urban Design Collaborative LLC

TABLE 5.2.2.G-1 THOROUGHFARE / INTERNAL DRIVE ASSEMBLIES AND STANDARDS
INTERNAL DRIVE

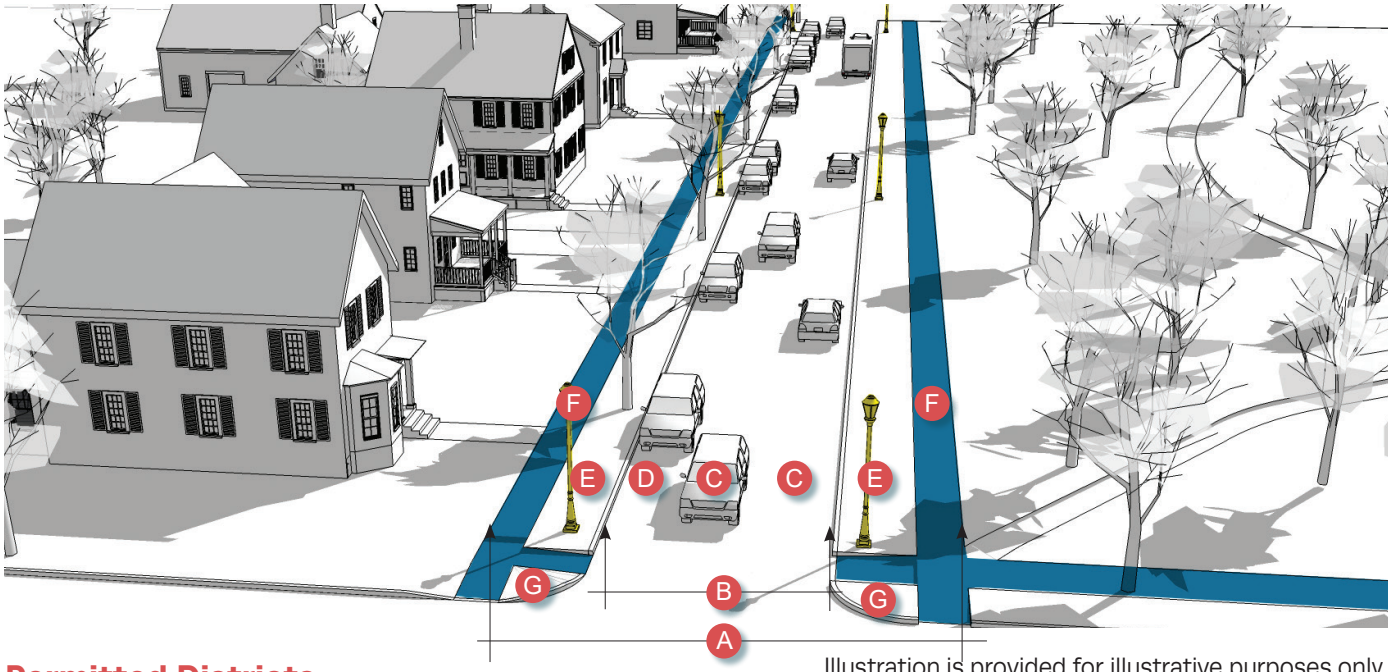


Illustration is provided for illustrative purposes only.

Permitted Districts

CD-4 | CD-4C | CD-5 | CD-5C | SD-INT | PUD-MU

Thoroughfare Type	Drive	
Right of Way Width	36 ft	A
Pavement Width	22 ft	B
Movement	Slow	
Assemblies		
Travel Lanes	2 lanes	
Travel Lane Width	11 ft	C
Parking Lanes	Not Permited	D
Parking Lane Width	Not Permitted	
Bikeway Type	Shared Use Lane, Buffered Bicycle Lane. See Table 5.2.4.B*	

* Bikeways optional. If bikeways provided, right of way & pavement width may be increased by the aggregate width of bikeways, per Table 5.2.4.B (Bikeway Types).

Walkway		
Walkway Type	Sidewalk one side, or both when building frontages on both sides	F
Walkway Width	5 ft min.	

Planter		
Planter Type	Continuous Planting Strip both sides	E
Planter Width	4 ft	
Landscape Type	Trees placed at 50 ft on center average; first tree shall be placed within 50 ft of Block corner. Within the planter area 33% shall be landscaped with shrubs.	
Curb		
Turning Radius	25 ft min	
Curb Radius	10 – 20 ft*, except where travel lane is adjacent to the curb, the maximum curb radius shall be 25 ft.	G
Curb Type	Raised Curb and Gutter (Travel Lane may not include gutter, Parking Lane may)	

* Designated truck routes may have a curb radius larger than 20 feet if required by the Division of Public Works to accommodate the design vehicle for that route.

Lighting	
Lighting Placement	Within 20' of each Block corner and at mid-Block; L lighting shall generally be placed mid-way between Thoroughfare Trees where possible.
Lighting Type	Decorative lighting fixtures approved by Utility Service Provider and the City Engineer

©2021 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1–DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT



General Description

The CD-4C General Urban – Corridor Character District consists of a medium density area along a corridor. It provides for a balanced automobile– and pedestrian– oriented built environment and a mix of Building Types and primarily Residential, Retail / Personal Service / Artisan, Office, Lodging and Civic Uses; there are medium, narrow or no front Setbacks and narrow to medium side Setbacks; it has variable private landscaping; and it has Thoroughfares and Internal Drives with curbs, Sidewalks and trees that define medium–sized blocks. CD–4C is an appropriate District for the Suburban Corridor Character Area, the Employment Character Area, the Urban Corridor Character Area, the Tom Hitch Special Area, the Bear Creek Pike "Node" Special Area the Neapolis Special Area described in the Comprehensive Plan.





©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1-E DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Density / Floor Area Ratio (FAR) *Applicable only to Development Parcels*

24 Density Units per acre max

Block Size* *Applicable only to Development Parcels.

Block Perimeter	2400 ft. max

Private Frontage Types

Common Yard	P	Stepfront	NP
Porch	P	Shopfront	P
Fence	P	Gallery	P
Terrace/Lightwell	P	Arcade	NP
Forecourt	P	Officefront	P
Stoop	P		

See Table 4.3.7.A (Private Frontage Types)

Civic Space Types* *Applicable only to Development Parcels.

Natural Area	NP	Playground	P
Green	NP	Sport Field	NP
Square	P	Community Garden	P
Plaza	P	Pocket Park	P

See Table 5.3.3.A (Civic Space Types – Summary) and Table 5.3.3.B (Civic Space – Specific Standards)

Permitted Uses

See Table 4.3.9.A-1 (Building, Lot & Building Site Principal Use), Table 4.3.9.A-2 (Building, Lot & Building Site Accessory Uses), and Table 4.3.9.A-3 (Building, Lot & Building Site Temporary Uses). For Development Parcels, see also Table 5.1.11 (Principal Use Mix).

Number of Buildings Per Lot or Building Site

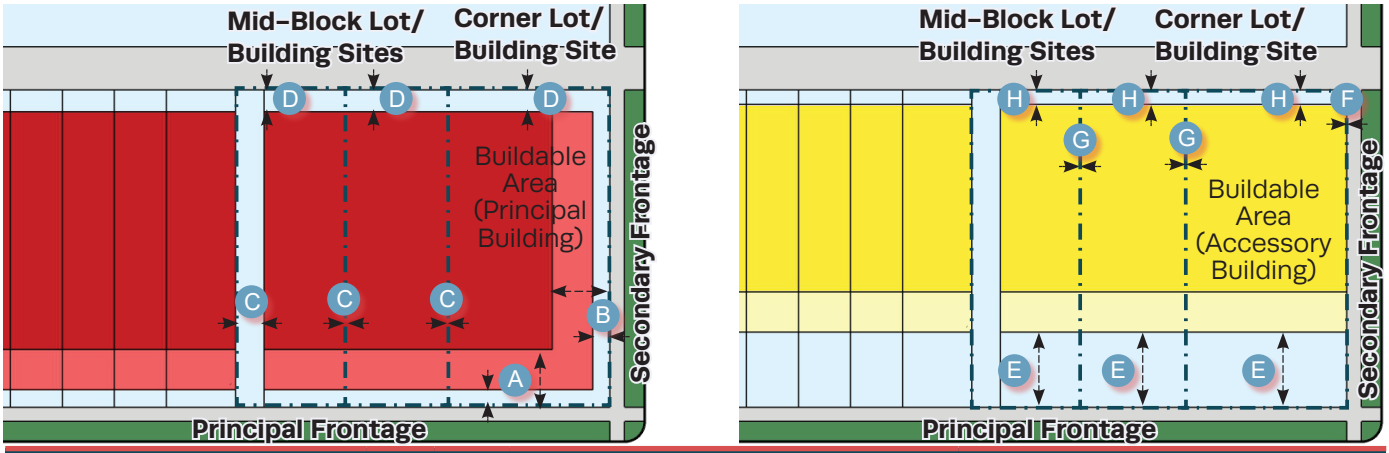
Principal Building	1 max
Accessory Buildings	1 max

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

ARTICLE 4

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1–DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT



Lot Occupation

Lot/Building Site Width	House: 38′ min if Alley loaded Garage at rear, otherwise 50 ft min. Duplex: 30 ft. min for each unit of Duplex Townhouse: For Townhouses with each unit on its own Lot or Building Site: 18 – 36 ft. for single Townhouse unit attached to other Townhouse units X 8 max. attached Townhouse units For multiple Townhouses on a single Lot or Building Site: 18 –20 ft. per Townhouse unit X 6 max. attached Townhouse units Large Scale Commercial: 600 ft. max All other Building Types: 18 ft. min. – 200 ft. max
Frontage Buildout	60% min. except commercial 40% min.
Lot/Building Site Area	NR
Impervious Surface Coverage	80% max.
Lot/Building Site Enfrontment	Must enfront a vehicular Thoroughfare or Internal Drive, except ≤ 20% of the Lots or Building Sites within each type of Character District of a Development Parcel may Enfront a Pedestrian Path, Passage, pedestrian walkway or water body if such Lots have legal and physical vehicular access to a vehicular Thoroughfare via Driveway or Easement.
Lot/Building Site Access	All Lots must have legal and physical vehicular access to a vehicular Thoroughfare via Driveway or Easement.

Setback / Yards

Setback / Yards – Principal Building

Front Setback / Yard, Principal Frontage	6 ft. min., 40 ft. max	A
Front Setback / Yard, Secondary Frontage	6 ft. min., 40 ft. max	B
Side Setback / Yard, each side	0 ft. min. per side	C
Rear Setback	3 ft. min; or 15 ft. min. from center line of Rear Alley	D

Setback / Yards – Accessory Building

Front Setback / Yard, Principal Frontage	20 ft. min. behind Principal Building Frontage	E
Front Setback / Yard, Secondary Frontage	5 ft. min.	F
Side Setback / Yard, each side	5 ft. min	G
Rear Setback	3 ft. min. or 5 ft. min. if Garage door faces Rear Alley	H

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1-E DISTRICT STANDARDS:
GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Building Standards

Building Height*

Principal Building	4 Stories max.
Accessory Building	2 Stories max.

*Stories and height do not include Attics and Basements, chimneys, flagpoles, towers, steeples, spires, belfries, parapet walls, aerials, or antennas. Any Building exceeding 35 feet in height must obtain approval from the Fire Department prior to the issuance of a Building Permit.

The Fire Department may stipulate special fire protection measures in accordance with National Fire Protection Association and International Building Code criteria as a condition of approval of such Structure. In such instance the stipulations made by the Fire Department in accordance with the above cited codes shall be required.

Ceiling Height

May not exceed 14 ft. from finished floor to finished ceiling, except for a first floor Business/Commercial, Office, Retail/ Personal Service, or Accommodation / Lodging Use, which must be a minimum of 11 ft. with a maximum of 25 ft.

Building Composition

Vertical Composition	Each Principal Building must have an identifiable Base, Middle, & Cap
Finished Floor Level	NR

Facade

Main Entrance	Main Entrance must be in Facade of Principal Frontages. If Shopfront Frontage at corner, Main Entrance may be at Principal Frontage or at corner.
Facade Position	Parallel to straight Frontage Line or to tangent of curved Frontage Line
Facade & Facade Element Design Proportions	Must be vertically proportioned
Blank Walls	NP at Frontage
Facade Articulation	Except for House Building Types, a Façade greater than 100 ft. in width must be differentiated so that it appears to be comprised of two or more Adjacent Buildings (except Large Scale Commercial 200 ft.) by dividing such Façade into two segments each of which includes a separate entrance and (1) differs from each of the other segments with respect to all of the following: (a) a change in shape, sill, and header height, detail, size, spacing, rhythm, and muntin pattern of windows; (b) a change of Building or cornice height; (c) a change in cornice details; (d) a change of wall material or wall color; a change in trim courses and other horizontal elements; (e) a change in dormer or balcony design, if any, and (f) providing or changing pilasters, columns, or other Façade elements; and (2) is composed with a defined center and edges. (See **Illustration 4.3.5.A-3**)

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

ARTICLE 4

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1–DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Building Standards (continued)

Facade (continued)

Facade Openings	Windows and/or doors spaced ≤ 20 ft. apart. In Stories above first, Facade openings must be ≤ 50% of total Facade area.
Facade Glazing	20% – 60% of total Facade area for non-Shopfront; 70% of total Facade area, min. for Shopfront.
Window Shape	Square or vertical in proportion, except for transoms.
Window Alignment	Upper floor windows and other features must be aligned with those of first floor.
Window Types	Except in Shopfront or Gallery Frontage, and except for transoms and sidelights, Windows in Facade and 1st & 2nd Layers must be single-hung, double-hung, casement or awning types. In Stories above first, Facade openings must be ≤ 50% of total Facade area.
Window Glazing Material	Clear glass (R) for all Elevations.
Window Trim in 1st Layer	Min. 4 in. trim with sill and top plate if siding surrounding window; soldier course above lintel and rollock course below sill if brick or stone surrounds window
Shutters	If any, must be functional and proportioned to cover half of window width from each side or entire window width, with shutter dogs
Facade Window Sill Height	If Residential: 5 ft. min. above avg. grade at Facade
Porch Frontages	Min. 6 ft. clear depth, excluding rails, pillars, columns or other features
Shopfront Frontages	12 in.–24 in. knee wall required at Frontage
Facade Variety	No Facade may exist more than once on a Block Face or within view of the same Facade

Roof Type & Pitch

Flat	(P)
Shed	(P) at rear only and if ridge is attached to an exterior Building wall; except for porches, stoops or dormers which may have a shed roof anywhere on the Building
Hip	(P)
Gable	(P)
Pitch	6:12 – 14:12, except for shed roofs which may be 3:12 – 14:12 and except roof pitch may match the primary roof pitch of an existing Building that is less than 6:12

Roof Design

Eaves shall extend no less than nine inches beyond the supporting walls.

LEGEND The following notations are utilized in this table.	(P) Permitted	(NP) Not Permitted	(NA) Not Applicable	(R) Required	(NR) Not Regulated

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1-E DISTRICT STANDARDS:
GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Building Standards (continued)

Gable end rakes shall overhang at least six inches.
Eaves and rakes on Accessory Buildings and dormers shall overhang at least six inches.
Soffits shall be placed perpendicular to the Building wall, not sloping in plane with the roof (except for gable end rakes).

Building Materials

Primary Building Material on Facades	Brick	P	Authentic stucco over masonry	P
	Natural stone	P	Exposed concrete	NP
	Wood	P	Aluminum or vinyl siding	NP
	Cementitious siding	P	Corrugated and/or sheet metal	NP
Changes in Building Materials	Primary materials must continue along side Elevations through 2nd Layer. Primary materials shall continue for entire length of all Facades facing a Frontage. Any material changes must coincide with form, structural, or massing changes and shall not occur at outside corner of such change.			
Building Colors	Up to 3 colors, including the natural color of any allowed materials, but excluding trim colors			
Foundation Cladding	R; brick or natural stone			
Porch Pier Cladding	R; brick or natural stone, with any space under Porch concealed by painted or stained latticework between piers			
Chimney Cladding	R; brick, natural stone, or material matching primary material of Facade			

Building Types

House	P	Commercial	P
Duplex	P	Mixed Use	P
Townhouse	P	Flex	P
Small Multifamily	P	Mid-Rise	NP
Large Multifamily	P	Large Scale Commercial	P
Live/Work	P	Civic	P

See Table 4.3.8.A (Principal Building Types – Summary) and Table 4.3.8.B (Principal Building Types – Specific Standards). For Development Parcels, see also Table 5.1.10 (Building Type Mix).

ARTICLE 4

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1–DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Vehicular Parking Requirements

Parking Location

	On-Street Parking	Off-Street Parking
Domestic Vehicles	P	P in 3rd Layer only, and in Driveway
Recreational Vehicles	NP	P in 3rd Layer only, and in Driveway
Heavy Equipment	NP	P in 3rd Layer only, and in Driveway
Tractor trailers (including trailers for storage)	NP on-Street, except for delivery and Temporary Use of trailers	P in 3rd Layer only, and in Driveway
All Other Vehicles	NP	P in 3rd Layer only, and in Driveway

Additional Parking Requirements

Off-Street Parking Surface	Prepared surface of asphalt, concrete or other hard surface
Garage Location	P in 3rd Layer only
Garage Design	Min. interior dimensions 10 ft. x 20 ft. per vehicle Parking space. If Garage faces Street: max. Garage door width 33% of total of Garage + Facade width. Garage must be detailed, finished, & designed like rest of Building with carriage house doors; max. Garage door width 9 ft.; each Garage door must have ornamental lighting fixture above it; min. 2 ft. separation between Garage doors
Driveway/Vehicular Entrance Location	P in any Layer
Driveway/Vehicular Entrance Maximum Width	10 ft max. in 1st Layer if Residential; 36 ft max. in 1st Layer if non-Residential, regardless if shared or not
Parking Structures	P, if Screened from Frontage by Liner Buildings
Parking Structure Pedestrian Exit Location	Via pedestrian access to Frontage

Bicycle Parking

See Section 4.3.13

Thoroughfares & Internal Drive Types*

**Only applicable to Development Parcels.*

See Article 5 (Development Parcel Standards) for additional requirements.

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1-E DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Loading & Access

Off-Street Loading and Storage	P in 3rd Layer only.
Utility Box & Service Meter* Locations (*Not including water meters)	P in 3rd Layer only.
Off-Street Trash Receptacle Locations	P in 3rd Layer only.
Off-Street Dumpster Locations	P in 3rd Layer only.
Drive-Through Locations	P in 3rd Layer only.

Non-Building Components

	1st Layer	2nd Layer	3rd Layer
Heating and Air Conditioning Equipment, Utility, Service and Mechanical Equipment	NP	P if Screened from Frontage	P
Solar Panels	P if coplanar to and integrated into roof design		P
Antennas & Satellite Equipment	P in 1st or 2nd Layer if such Layer is only possible location possible for satisfactory reception.		P
Recreation or Play Equipment	NP	NP	P
Animal Enclosures, Runs or Shelters	NP	NP	P
Swimming Pools, Hot Tubs and Spas	NP	NP	P
Transmitting and/or receiving towers or antennas and wind-generating machines	NP	NP	P

Signs

See Sign Standards in Article 7 (Sign Standards) and Table 7.12.B-1 (Sign Types - Summary) and Table 7.1.2.B-2 (Sign Types - Specific Standards)

Lighting

See Private Lighting requirements in Section 4.3.17 and Table 4.3.17.B (Private Lighting Standards)

ARTICLE 4

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1–DISTRICT STANDARDS:
GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Private Landscaping and Fencing

Landscaping

R continuous shrubs around foundation at Facade if 1st Layer is ≥ 3 ft. deep, plus if 1st Layer is ≥ 15 ft. deep, 1 tree planted in 1st Layer every 50 ft. of frontage. Drive aisle within the 1st layer, continuous shrubs. Landscaping must comply with Section 4.3.16.

Walls & Fencing (not including Screens)

Height	3.5–4 ft. at Frontage; otherwise 6 ft. max; height measured from avg. undisturbed grade of Adjacent property at property line
Construction	Finished side must face Adjacent property, Thoroughfare or Internal Drive, Path, Passage or Waterbody
Maintenance	Must be well-maintained, in upright condition and free of missing or broken parts and graffiti.

Materials

Natural Wood	P Only picket type allowed at Frontage; other types allowed on sides and at rear	Chain Link	P at sides and rear only
Brick, Natural Stone, or Stucco over Masonry	P	Barbed/razor/concertina wire	NP
Wrought Iron or Aluminum	P	Exposed or painted aggregate concrete	NP
Vinyl	P	Smooth or split-faced block	NP

Additional Standards

Pedestrian connections through to Adjacent Neighborhoods or Uses	R
Location of Retaining Walls	P within required Yards, per Section 4.3.10 If supporting grade 8 ft. or higher than grade at property line, must be set back 10 ft. from property line.

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

©2022 Town Planning & Urban Design Collaborative LLC

CD-4C TABLE 4.3.1-E DISTRICT STANDARDS: GENERAL URBAN CORRIDOR CHARACTER DISTRICT

Screens, Streetscreens & Buffers

Height

	At Frontage or Adjacent to Civic Space	Not at Frontage or Adjacent to Civic Space
Wall Screen/Streetscreen Height	3.5 ft. to 5 ft.	5 ft. to 6 ft.; Min. 6 ft. for Dumpsters and Trash Receptacles
Fence Screen/Streetscreen Height	NP	5 ft. to 6 ft.; Min. 6 ft. for Dumpsters and Trash Receptacles
Hedge Screen/Streetscreen Height	3 ft. to 5 ft. at installation	5 ft. to 6 ft. at installation

Materials

Wall Screen or Streetscreen	Brick, Natural Stone or Stucco over Masonry
Fence Screen or Streetscreen	Natural Wood, painted or unpainted
Hedge Screen or Streetscreen	Evergreen plants with min. 80% opacity

Additional Standards

Non-Residential & Multi-Family Residential Screen /Streetscreen Adjacent to or across Thoroughfare from Non-Multi-Family Residential	NR
Screening of Parking, Loading Areas, Service Areas, Outdoor Storage, Drive-Throughs, Trash Receptacles/Dumpsters, HVAC and other equipment Screened from Frontage, Civic Space and Adjacent Property	R; except at Driveways: Parking Lots and Parking Areas must be Screened from Frontage and Civic Space by Building or Streetscreen; Parking Structures must be Screened from Frontages by Liner Buildings. Otherwise, Screening must be by Building, wall, hedge or fence at Frontage or Building, Wall, hedge or fence not at Frontages or Adjacent to Civic Space.
Rooftop Antennas and HVAC, Mechanical and other Equipment Screening	R; must be Screened from Frontage and Civic Space by Building parapet or other Building Element
Self-Storage Warehouse Screening	NA (not permitted in District)
Streetscreen Location	2nd Layer
Parcel Buffer	Section 4.3.11.H.
Project Buffer	Section 5.8.

ARTICLE 4

LEGEND The following notations are utilized in this table.	P Permitted	NP Not Permitted	NA Not Applicable	R Required	NR Not Regulated

©2022 Town Planning & Urban Design Collaborative LLC

(4) Additional Use limitations may be applicable to specific types of Attached Dwellings.

(5) Within the CD-5 District buildings enfronting the rights of way identified in Section 4.3.9.C must contain a retail sales or service use, restaurant use, arts-related use, or office use at the sidewalk level through the depth of the second layer for at least 80 percent of the building frontage.

e. **Bar, Tavern, or Nightclub** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) With the exception of nightclubs, taverns, or bars located within District CD-5, the applicant shall demonstrate that no pre-existing Place of Worship is located within 500 feet of the proposed nightclub or similar establishment. Measurements shall be made from the property line of the proposed night club or similar establishment and from the property line of any separate Parking Lots to be used by the nightclub or similar establishment.

(2) Except in District CD-5, no nightclub, tavern, or bar shall be located within 500 feet of a Residentially zoned or Residentially used property.

(3) No outside storage or activities shall be located on the site.

(4) Outdoor activities occupying no more than 400 square feet may be permitted by Administrative Adjustment.

f. **Car Wash** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) No storage, repair, or sales of vehicles shall be allowed on the site.

(2) Provisions shall be made for an on-site drainage system to capture water used to wash vehicles. This water shall be discharged into a sanitary sewer system or another approved on-site system and shall not be discharged into the stormwater system.

(3) No wash bay shall face or be located in the 1st or 2nd Layer or the Frontage.

g. **Concrete Batch Plants and Concrete Manufacturing Plants** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) A Heavy Manufacturing Permit shall be required (See Section 8.5.22) in addition to a Conditional Use Permit.

(2) The facility shall be at least 1,500 feet from any Residential Use or Residential District.

(3) The property may not be adjacent to an existing Hospital, Day Care Facility, Educational facility, Religious Facility, Long Term Care Facility, Continuum of Care Facility, or Assisted Living Facility.

(4) The site shall be at least four acres in size and shall have access on a major or minor thoroughfare.

(5) Property boundaries facing public streets shall be fenced with a six foot high fence.

(6) Any additional conditions imposed during the Heavy Manufacturing Permit or Conditional Use Permit process.

h. **Correctional Facilities** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) In order to accommodate outdoor recreational facilities and to allow for potential building expansion, the site size for facilities located outside the CD-5 Character District shall be a minimum of one acre in size or the minimum of the District, whichever is larger; provided that County and City jail facilities have no minimum site size.

(2) The facility shall be at least 650 feet from the nearest property which is Residentially zoned or used.

©2022 Town Planning & Urban Design Collaborative LLC

shall be permitted.

3. Parking of heavy equipment or tractor trailers (including trailers as storage) shall not be permitted. This requirement shall not prohibit commercial vehicles from making deliveries. Trailers may be permitted for temporary storage in association with a construction with a Temporary Use Permit (Sec. 3.8).

4. Single and double axle trucks that exceed 90 inches in width and are greater than 12 feet in height are prohibited from Parking on a street for more than four (4) consecutive hours, unless it is related to performing a service for a property owner, ie. construction, remodeling, etc.

5. Required Parking spaces and loading facilities shall not be used for the storage or sale of merchandise, vehicle storage, vehicles for sale, or vehicle repair. Non-required spaces proposed for these uses shall be designated on a site plan.

6. The private sale or storage of one vehicle per Dwelling Unit may be permitted as an Accessory Use in association with a Residential Use.

7. Any area designated for required off-street Parking or loading shall not be changed to another use until adequate Parking and/or loading facilities in conformance with this Article have been established.

8. Required Parking spaces may be temporarily used for uses other than Parking and loading with the issuance of a Temporary Use Permit pursuant to Section 8.5.9; provided such use does not negatively impact adjacent roadways, neighborhoods, or other uses and is clearly temporary in nature.

G. Drive-Through Locations & Standards.

1. Any drive-through facilities must be located and designed and comply with all standards as specified for the applicable District as set forth in **Tables 4.3.1-A– 4.3.1-U (District Standards)**. See **Illustration 4.3.12.G (Drive-Throughs)**.

ILLUSTRATION 4.3.12.G DRIVE-THROUGH

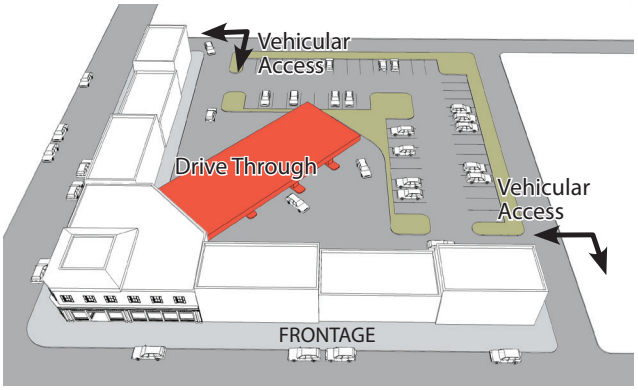


Illustration is provided for illustrative purposes only.

2. Any drive-through locations must be accessed by Rear Alleys, when such are available on the Zoning Map or otherwise available.

3. Off-street vehicular stacking spaces shall be provided for all drive-through facilities in accordance with Section 4.3.12.H.

H. Stacking Spaces.

1. Off-street vehicular stacking spaces shall be provided in accordance with **Table 4.3.12.H (Stacking Spaces)** for the activity type indicated as follows:

©2022 Town Planning & Urban Design Collaborative LLC

TABLE 4.3.12.H (STACKING SPACES)

Activity Type	Min. # Stacking Spaces*	Measured From
Automated teller machine	4	Machine
Drive–through	3	Teller
Bank teller drive through	4	Teller or Window
Car wash bay, full–service	6	Bay
Car wash bay, self–service	2	Bay
Dry cleaning/ laundry drive–through	2	Cleaner/Laundry Window
Gasoline Pump Island	1	Pump Island
Gatehouse, staffed	4	Gatehouse
Gate, unstaffed	2	Gate
Pharmacy Pickup	3	Pharmacy Windows
Restaurant Drive–through	8	Pick up window
Valet Parking	3	Valet Stand

* Other as determined by Zoning Administrator in consideration of an approved study prepared by a registered engineer with expertise in Transportation Engineering.

2. Required stacking spaces shall be subject to the following design and layout standards:

a. Stacking spaces shall be a minimum of eight feet in width by 25 feet in length.

b. Stacking spaces by shall not impede on– or off–site traffic movement or movement into or out of off–street Parking spaces.

c. Stacking spaces for each type of activity or accommodation shall be subject to any location standards applicable to the activity or accommodation itself.

d. Stacking spaces shall be separated from other drive aisles, Driveways, or Internal Drives by raised medians. if deemed necessary by the City Engineer for traffic movement and safety.

©2022 Town Planning & Urban Design Collaborative LLC

vibration and other particulate matter in order to meet the performance standards as set out in this Ordinance.

(h) Finished contours of the site after the quarrying operation has been terminated. The site shall be graded and / or filled so as to be in substantial conformity with the topography of the surrounding lands. All fill material shall be nontoxic, nonflammable, and noncombustible solids. All areas that are back – filled shall be left so that adequate drainage is provided.

(4) Approval for mining and quarrying activity may also include accessory concrete batching plants, asphaltic cement mixing plants and/ or rock crushing activities on the same or Abutting Lots or Building Sites, which may have directly opposing Frontages on the same public street. If such accessory activities are included on the quarry site, the total site must meet all of the Conditional Use requirements for mining and quarrying activities; however, in conditions of multiple Lots or Building Sites, the outer perimeter of the site shall be considered the Lot Line or Building Site Line;

(5) Before issuing a Conditional Use permit, the Board of Zoning Appeals shall require the owner of the quarry facility to execute a bond not less than $1,000 per acre or more than $2,000 per acre of active quarry throughout a five year period to restore the lands in the manner prescribed herein, including the removal of all Structures and machinery;

(6) Any permit issued hereunder shall not be for a period exceeding five years. After the expiration date of such permit, the Board of Zoning Appeals may review and grant an extension of time in the manner and procedure as prescribed for an original application.

k. **Family Day Care Facilities** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) A maximum of 12 clients may be served at any one time.

(2) Overnight accommodation shall not be permitted.

(3) No outdoor public address systems shall be allowed.

(4) The facility shall contain twice the minimum Lot area for the underlying District.

(5) When the facility is located within a Non-Residential area, the Fire Marshall shall review the proposal prior to approval and make a recommendation.

(6) A client drop off area shall be provided. All required Parking shall be in the Rear Yard or Side Yards; however, required Parking may be located in the Street Yard if the Zoning Administrator finds that such Parking is safe, not detrimental to the neighborhood, accessible, and compatible with surrounding properties.

(7) All other standards of the applicable District shall be met.

l. **Fuel Sales and Gasoline Sales Facilities, including Convenience Store with Gasoline Sales Facility,** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) Fuel pumps shall be located at least 15 feet from any property line.

(2) No outdoor storage shall be allowed.

(3) Storage of vehicles for more than 24 hours is prohibited.

(4) A spill prevention and counter measures plan shall be provided prior to construction plan approval that includes, at a minimum:

(a) Clean up procedures for fuel (or other hazardous material) spills occurring inside and outside the Building;

©2022 Town Planning & Urban Design Collaborative LLC

(b) Counter measures for use in preventing fuel (or other hazardous material) spills from entering the stormwater collection system;

(c) Routine cleanup procedures for work area and Parking Areas; and

(d) Washdown water shall not be permitted to enter the stormwater collection system.

(5) Pumps shall be located in the 3rd Layer.

(6) Within Districts CD-4, CD-4C, CD-5C, and PUD-MU, the maximum number of fuel dispensing pumps shall be eight per Lot or Building Site. Within District CD-5, the maximum number of fuel-dispensing pumps shall be eight for the entire District.

m. **Golf Course, Country Club, Swim Club, and Tennis Club** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) No maintenance Building or clubhouse shall be closer than 100 feet from any Residentially zoned or Residentially used land.

n. **Group Assembly Facilities** shall be permitted in accordance with the applicable Use Table, subject to the following:

(1) The locations, size and design of such facilities shall be situated so that the proposed Development shall be compatible with the Development within the surrounding area thus reducing the impact upon the surrounding area;

(2) The traffic generated by such facility shall be safely accommodated along major streets without traversing local minor streets; and

(3) When an application for a Group Assembly permit includes an amusement park, sports arena, fairground, racetrack, or similar recreational pursuits, the following requirements shall be observed:

(a) The minimum site area shall 25 acres;

(b) The minimum setback of all Structures from all public roads shall be 100 feet;

(c) Such facility shall be situated so that no Residentially zoned or Residentially used property is located closer than 500 feet from the Building entrance of such facility;

(4) Access to such facility shall be by a paved public major arterial or major collector thoroughfare. Traffic shall not be directed through Residentially zoned or Residentially used property, through areas that are Adjacent to Residentially zoned or Residentially used property, or on minor Residential streets traversing Residentially zoned or Residentially used property areas or areas that are Adjacent thereto;

(5) Any lighting provided at such facilities shall be designed so that no direct light falls on Adjacent Residential property; and

(6) Accessory Uses may be permitted in conjunction with the Principal Use of the property provided that such uses are physically designed as a part of or within the principal Structure. Such Uses may include food sales, beverage sales, gift or souvenir shops, and similar activities.

o. **Group Living** Uses indicated on the applicable Use Table as Uses Permitted with Limited Conditions are permitted subject to following:

(1) The home shall be operated in a manner that is compatible with the neighborhood and shall not be detrimental to Adjacent properties as a result of traffic, noise, refuse, parking, or other activities.

(2) When located in a Residential neighborhood, the home shall maintain a residential appearance compatible with the neighborhood.

(3) The home shall meet all state requirements, and all applicable housing and building codes.

©2022 Town Planning & Urban Design Collaborative LLC

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: McClure Farms Commercial

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☒ Name of development
- ☒ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☒ Plan sealed by a design professional licensed in the State of Tennessee.
- ☒ North Arrow, legend, and site vicinity map
- ☒ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☒ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☒ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☒ All property boundaries, existing easements, and encumbrances
- ☒ Parcel identification, owner, and deed and plat references of adjoining properties
- ☒ Proposed phasing and timetable for all phases of development
- ☒ Traffic Impact Study, as required.
- ☒ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☒ The size of total property to be developed in square feet and acres
- ☒ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☒ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☒ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☒ Location and approximate dimensions of all existing and proposed structures.
- ☒ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☒ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☒ Location, type, and size of proposed signs
- ☒ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☒ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☒ General proposed contours at vertical intervals of not more than two (2) feet
- ☒ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☒ Location and dimension of aquatic buffer zones
- ☒ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☒ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☒ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☒ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☒ Proposed improvements as identified in the Traffic Impact Study, as required
- ☒ Existing and proposed sidewalks, trails, and other pedestrian elements
- ☒ Existing and proposed on-street and off-street parking and loading areas
- ☒ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☒ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☒ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☒ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☒ Any amenity features and structures for private or public benefit.
- ☒ Location, dimension, and materials of fences and walls
- ☒ Tree Canopy retention

Utilities

- ☒ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☒ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PUD Specific Items

- ☒ List of all deviations from PUD Standards requested
- ☒ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ☒ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ☒ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ☒ Exterior lighting plan.

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Clinton R. Camp	Clinton R. Camp	2-19-24
Print Name	Signature	Date

April 12, 2024
Mr. Clint Camp
Prosper Engineering
PO Box 2235
Goodlettsville, TN 37072
Sent via email: clint.camp@prosperengineering.com
RE: Water Availability Letter
Whataburger - McClure Farms
2524 Nashville Highway
Tax Map 42, Parcel 28
Columbia, Maury County, TN

Dear Mr. Camp:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development is a 3,400 square-foot restaurant. CPWS has evaluated the projected water demands for the proposed development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,500 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Domestic waterline connection will be made to the proposed existing 10-inch water main installed as part of McClure Farms Phase 1.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Present the attached hydrant analysis report for coordination and approval of development from the Columbia Fire & Rescue Fire Marshall.
- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- Remit to CPWS new water service fees:

New Water Service Fee: $1,500 + $370 per SFU (9.7 SFUs)		$5,089.00

- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid.

Meter Fee: TBD per Fire Meter (if required)	TBD
Meter Fee: $710 per 1" domestic meter (1 meter)	$710.00
Meter Fee: $710 per 1" irrigation meter (1 meter)	$710.00
Impact Fee: $7,500 per 1" domestic meter (1 meter)	$7,500.00
Impact Fee: $7,500 per 1" irrigation meter (1 meter)	$7,500.00
Total Meter and Impact Fees Due =	**$16,420.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 24-015

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

11 March 2024

Clint Camp
PO Box 2235
Goodlettsville, TN 37070

RE: 2524 Nashville Highway, Columbia, TN 38401

Clint,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

I, Mark McDonald, am hereby authorized as an agent to sign on behalf of Columbia Nashville Hwy LLC.

Mark McDonald, Agent

2/19/24

Date

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

Final Plat: * *1 hard copy of all materials for submittal + PDF copy on a USB flash drive (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"
All Others: * Please submit the Application online at City of Columbia | Permitting (onlama.com)

ADDRESS/LOCATION	2524 Nashville Highway		
	TAX MAP: 042	GROUP:	PARCEL: 028.00
SUMMARY OF NATURE OF REQUEST AND WORK	Request approval of a commercial Planned Unit Development with base zoning standards consistent with CD4-C zoning standards.		

DATE OF PRE-APPLICATION CONFERENCE	7-5-23*	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Comprehensive Plan Amendment ❑ Annexation ❑ Rezoning ❑ Preliminary Plat ❑ Final Plat ☒ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Site Development Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations:** ❑ Annexation Permission Form **Annexations/Rezoning/Plan Amendments:** ❑ Requested Zone Listed ❑ Statement of Compliance with Comprehensive Plan ❑ Concept Plan **Preliminary Plats/Site Development Plans:** ❑ Plans and/or Plats conforming to City standards with signed and completed check list **All Annexations/Rezoning/Preliminary Plats/Site Development Plans and PUDS:** ☒ Receipt of Payment for Pre-Application Meeting ☒ Written Legal Description copy ☒ Columbia Water System Availability Letter ☒ Columbia Waste Water Department Will Serve Letter

	Plats/PUDs: ☒ Project Name (include Sections & Phases) ☐ Total Number of Lots/Residential Units ☒ Square Footage of Non-Residential Floor Space ☒ Total acreage

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application. Any requests to defer or move the item to future meeting dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Clinton R. Camp	PHONE	615-516-3574
ADDRESS	PO Box 2235	EMAIL	clint.camp@prosperengineering.com

Goodlettsville,e, TN 37070

PROPERTY OWNER NAME	Columbia Nashville Hwy LLC	PHONE	615-351-8277
ADDRESS	3841 Green Hills Village Dr, Suite 400	EMAIL	mmcdonald@oldacremcdonald.com

Nashville, TN 37215

If owner is not a natural person, documentation must be provided showing signing authority on behalf of the entity. If multiple persons are listed as owners in the records of the Maury County Assessor, all owners must sign or the signatory must provide documentation of authority to apply on behalf of record owner (i.e., Power of Attorney or notarized Letter of Authorization). In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Clinton R. Camp	Clinton R. Camp	2-19-24
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Mark McDonald	Mark mcDonald (Feb 19, 2024 12:27 CST)	2-19-24
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

McClure Farms_Application_PC_PrelimPUD

Final Audit Report 2024-02-19

Created:	2024-02-19
By:	Clint Camp (clint.camp@prosperengineering.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAOVlGHY8R5hqf4hqiXqRlTkiFqSUrPLCF

"McClure Farms_Application_PC_PrelimPUD" History

Document created by Clint Camp (clint.camp@prosperengineering.com)
2024-02-19 - 3:06:21 PM GMT

Document emailed to Mark (mmcdonald@oldacremcdonald.com) for signature
2024-02-19 - 3:06:26 PM GMT

Email viewed by Mark (mmcdonald@oldacremcdonald.com)
2024-02-19 - 6:26:45 PM GMT

Signer Mark (mmcdonald@oldacremcdonald.com) entered name at signing as Mark mcDonald
2024-02-19 - 6:27:08 PM GMT

Document e-signed by Mark mcDonald (mmcdonald@oldacremcdonald.com)
Signature Date: 2024-02-19 - 6:27:10 PM GMT - Time Source: server

Agreement completed.
2024-02-19 - 6:27:10 PM GMT



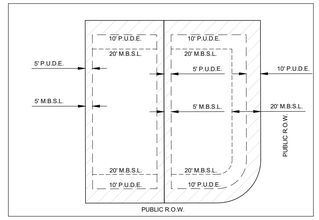
VICINITY MAP (NOT TO SCALE)

LINE	BEARING	DISTANCE
L1	N 82°23'33" W	135.00'
L2	N 07°36'27" E	75.00'
L3	S 07°36'27" W	75.00'
L4	N 82°23'33" W	135.00'
L5	N 07°36'27" E	82.91'
L6	S 07°36'27" W	75.03'
L7	N 82°24'53" W	60.00'
L8	N 82°23'49" W	75.00'
L9	N 07°36'30" E	129.93'
L10	S 07°36'27" W	100.00'
L11	N 07°36'27" E	130.00'
L12	N 82°26'16" W	57.77'
L13	N 82°24'00" W	45.00'
L14	S 35°08'43" W	15.80'
L15	S 35°18'31" W	167.36'
L16	N 49°21'52" W	33.40'
L17	N 15°30'27" W	84.09'
L18	N 18°56'19" W	16.95'
L19	N 25°39'31" W	12.70'
L20	S 74°42'04" W	139.19'
L21	N 37°15'23" W	43.15'
L22	N 29°43'58" W	145.97'
L23	N 68°57'35" W	251.21'
L24	N 66°20'20" E	217.09'
L25	N 23°52'52" W	160.32'
L26	N 66°20'20" E	17.48'
L27	N 51°20'14" E	104.54'
L28	N 06°24'26" W	13.35'
L29	N 07°58'30" W	73.09'
L30	N 82°24'21" W	24.33'
L31	N 07°36'27" E	129.97'
L32	N 82°22'12" W	22.00'
L33	N 82°22'12" W	60.00'
L34	N 82°24'21" W	60.00'
L35	N 82°23'45" W	60.00'
L36	N 82°23'49" W	75.68'
L37	N 07°36'27" E	130.00'
L38	N 07°36'27" E	130.03'
L39	S 07°36'27" W	88.03'
L40	N 82°26'16" W	46.00'
L41	N 82°22'12" W	60.00'
L42	S 01°39'29" W	83.46'
L43	N 88°20'31" W	231.35'
L44	N 01°04'57" W	65.98'
L45	S 88°18'05" E	236.38'
L46	S 01°39'29" W	16.48'
L47	N 88°20'31" W	40.00'
L48	S 01°39'29" W	30.00'
L49	S 88°20'31" E	10.00'

LINE	BEARING	DISTANCE
L50	S 01°39'29" W	2.48'
L51	S 88°18'05" E	50.00'
L52	S 88°20'31" E	10.00'
L53	N 01°39'29" E	30.00'
L54	N 88°20'31" W	40.00'
L55	N 01°39'29" E	16.45'
L56	S 88°18'05" E	181.25'
L57	S 14°28'25" E	62.84'
L58	N 88°16'01" W	193.96'
L59	N 01°39'29" E	43.79'
L60	S 14°28'25" E	62.48'
L61	N 88°16'01" W	216.07'
L62	N 01°39'29" E	42.15'
L63	S 14°28'25" E	76.55'
L64	S 88°16'01" E	39.35'
L65	S 84°05'07" E	36.08'
L66	S 84°16'23" E	60.03'
L67	S 84°19'49" E	60.03'
L68	S 84°49'23" E	42.90'
L69	N 07°36'27" E	45.18'
L70	N 07°36'27" E	42.86'
L71	N 82°23'43" W	45.00'
L72	S 07°36'27" W	133.82'
L73	N 82°23'33" W	60.00'
L74	S 07°36'27" W	135.79'
L75	N 82°23'33" W	60.00'
L76	S 07°36'27" W	137.82'
L77	N 82°23'33" W	60.00'
L78	S 74°29'43" E	17.30'
L79	S 07°36'27" W	137.26'
L80	N 82°23'33" W	60.00'
L81	S 74°48'54" E	26.20'
L82	S 80°05'52" E	34.05'
L83	S 07°36'27" W	132.44'
L84	N 82°23'33" W	60.00'
L85	S 80°20'00" E	60.04'
L86	S 07°36'27" W	130.29'
L87	N 82°23'33" W	60.00'
L88	S 80°30'58" E	60.03'
L89	S 07°36'27" W	128.32'
L90	N 82°23'33" W	60.00'
L91	S 80°09'01" E	60.05'
L92	S 07°36'27" W	125.97'
L93	S 80°23'08" E	98.68'
L94	S 82°17'50" E	11.85'
L95	S 24°15'51" W	134.75'
L96	S 80°23'39" E	109.74'

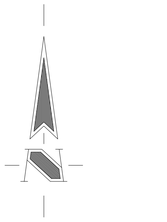
LINE	BEARING	DISTANCE
L97	N 80°23'39" E	103.36'
L98	S 07°03'56" W	27.60'
L99	S 07°36'27" W	15.64'
L100	S 57°35'35" W	211.71'
L101	S 07°36'27" W	94.36'
L102	S 07°36'20" W	28.20'
L103	S 74°17'32" W	146.68'
L104	S 07°36'20" W	26.80'
L105	S 07°36'25" W	55.00'
L106	S 07°36'25" W	12.70'
L107	N 89°00'31" W	122.03'
L108	S 07°36'40" W	42.30'
L109	S 07°36'23" W	31.36'
L110	N 82°23'33" W	120.00'
L111	N 07°36'27" E	38.86'
L112	S 07°36'33" W	23.64'
L113	S 07°36'13" W	67.50'
L114	N 82°23'33" W	90.00'
L115	N 07°36'27" E	61.14'
L116	N 82°23'32" W	81.85'
L117	N 82°23'33" W	60.00'
L118	N 07°36'27" E	130.00'
L119	S 82°23'33" E	11.85'
L120	S 82°23'33" E	60.00'
L121	N 82°23'33" W	60.00'
L122	N 07°36'27" E	130.00'
L123	S 82°23'33" E	60.00'
L124	N 82°23'33" W	60.00'
L125	N 07°36'27" E	130.00'
L126	S 82°23'33" E	60.00'
L127	N 82°23'33" W	60.00'
L128	N 07°36'27" E	130.00'
L129	S 82°23'33" E	60.00'
L130	N 82°23'33" W	60.00'
L131	N 07°36'27" E	130.00'
L132	S 82°23'33" E	60.00'
L133	N 82°23'33" W	60.00'
L134	N 07°36'27" E	130.00'
L135	S 82°23'33" E	60.00'
L136	N 82°23'33" W	60.00'
L137	N 07°36'27" E	130.00'
L138	S 82°23'33" E	60.00'
L139	N 82°23'33" W	60.00'
L140	N 07°36'27" E	130.00'
L141	S 82°23'33" E	45.00'
L142	N 82°23'33" W	75.00'
L143	N 07°36'27" E	100.00'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	30.00'	47.12'	42.43'	S 37°23'33" E
C2	33.41'	2.23'	2.23'	S 83°35'21" E
C3	33.41'	34.19'	32.72'	N 65°10'40" E
C4	55.03'	85.20'	76.94'	N 80°55'16" E
C5	55.03'	37.88'	37.13'	S 35°00'56" E
C6	55.06'	34.80'	34.22'	S 02°49'26" W
C7	55.03'	43.57'	42.44'	S 43°37'21" W
C8	54.70'	30.15'	29.77'	S 81°59'39" W
C9	30.00'	47.12'	42.43'	S 52°36'27" W
C10	225.00'	11.39'	11.38'	S 03°06'28" W
C11	225.00'	11.98'	11.98'	S 06°04'57" W
C12	275.00'	10.69'	10.69'	N 06°29'37" E
C13	275.00'	17.86'	17.86'	N 03°13'08" E
C14	30.00'	47.12'	42.43'	S 43°20'31" E
C15	30.00'	17.12'	16.89'	N 18°00'25" E
C16	30.00'	30.00'	28.77'	N 63°00'25" E
C17	30.00'	47.12'	42.43'	N 37°23'33" W
C18	180.00'	48.74'	48.59'	N 74°38'09" W
C19	185.22'	55.96'	55.75'	N 67°58'15" W
C20	180.00'	52.32'	52.14'	N 40°44'05" W
C21	180.00'	52.46'	52.28'	N 24°19'27" W
C22	179.26'	52.46'	52.27'	N 07°20'27" W
C23	175.36'	20.79'	20.77'	N 04°15'21" E
C24	30.00'	47.12'	42.43'	N 37°23'33" W
C25	129.94'	204.23'	183.85'	S 37°23'33" E
C26	30.00'	47.12'	42.43'	N 52°36'27" E



TYPICAL LOT (NOT TO SCALE)

SITE DATA	
CURRENT ZONING:	RS-10 PUD
MINIMUM BUILDING SETBACKS:	
FRONT:	20'
REAR:	20'
SIDE:	5'
TOTAL PHASE AREA:	11.84 ACRES
NEW ROW:	1.93 ACRES



TN SPCS NAD 83

SCALE 1" = 100'

100 0 50 100 200

- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- CATCH BASIN
- HEADWALL
- AREA DRAIN
- HDPE AREA DRAIN
- WATER SERVICE
- SEWER SERVICE
- 8"W — WATER LINE (TYP.)
- 8"SA — SANITARY SEWER LINE (TYP.)
- 12"ST — STORMWATER LINE (TYP.)

Lot Areas		Lot Areas	
LOT	SQ. FT.	LOT	SQ. FT.
638	10125.00	658	8050.09
639	10127.66	659	7881.88
640	9556.68	660	7758.18
641	7799.39	661	7628.74
642	13532.18	662	10119.59
643	17057.05	663	11962.50
644	22202.23	664	17594.70
645	16771.02	665	13663.04
646	7799.07	666	9453.56
647	7801.01	667	8012.38
648	9686.20	668	10743.68
649	18727.88	669	14817.48
650	17134.20	670	7800.00
651	10086.23	671	7800.00
652	12418.55	672	7800.00
653	14846.90	673	7800.00
654	9705.50	674	7800.00
655	8088.29	675	7800.00
656	8208.30	676	7800.00
657	8319.00	677	9556.86



GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE 40 LOTS AND DEDICATE RIGHT-OF-WAY AND EASEMENTS.
2. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC. ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENT SERVICES.
3. SUBJECT PROPERTY IS PARCEL 46.07 AS SHOWN ON MAURY COUNTY TAX MAP 41.
4. THE HORIZONTAL LOCATION DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS) USING THE TDOT NETWORK. TENNESSEE STATE PLANE COORDINATE SYSTEM ZONE 4100, NAD83. DRONE AERIAL PHOTOMETRY WAS ALSO USED TO SURVEY SOME ELEMENTS.
5. NO TITLE REPORT HAS BEEN FURNISHED, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH.
6. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF A GENERAL PROPERTY SURVEY AND CONFORMS TO THE ACCURACY OF A CATEGORY 1 SURVEY AS CURRENTLY DEFINED AND ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, AND THE RATIO OF PRECISION IS LESS THAN 1:10,000.
7. ALL PLOT AND DEED RECORDATION REFERENCES SHOWN HEREON ARE AS RECORDED IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
8. COLUMBIA POWER AND WATER SYSTEMS IS THE POWER PROVIDER.
9. STORMWATER MANAGEMENT OPERATION & MAINTENANCE WILL BE GOVERNED BY THE INSPECTION & MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES, DATED _____, RECORDED IN DEED BOOK ____, PAGE ____, REGISTER'S OFFICE OF MAURY COUNTY, TN.
10. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0180E WITH AN EFFECTIVE DATE OF 4/16/2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NO. 119C, PANEL NO. 0180 SUFFIX E, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
11. ACCORDING TO THE TYPICAL LOT DETAIL, ALL LOTS ARE TO HAVE A 10' PUDE IN THE FRONT AND REAR OF THE LOTS, AS WELL AS A 5' PUDE IN THE SIDE OF THE LOTS.

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____ _____
DATE DIRECTOR OF COLUMBIA WASTEWATER DEPARTMENT

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN RECORD BOOK NUMBERS R2878, PAGE 975, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINE, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES AND OTHER FACILITIES HAVE BEEN FILED.

_____, 20____ _____
DATE OWNER

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____, 20____ _____
DATE CITY ENGINEER

CERTIFICATE OF APPROVAL OF SUBDIVISION AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES ARE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND MAURY COUNTY E911.

_____, 20____ _____
DATE MAURY E911

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____ _____
DATE NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CATEGORY I LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION IS LESS THAN OR EQUAL TO 1:10,000.

_____, 20____ _____
DATE MARK CANTRELL, R.L.S

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____ _____
DATE DIRECTOR OF COLUMBIA WATER DEPARTMENT

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN SUMMIT AT CARTER'S WEST, PHASE 2 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE SURETY IN THE AMOUNT OF $_____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 20____ _____
DATE CITY ENGINEER

OWNER OF RECORD
PULTE HOMES TENNESSEE LIMITED PARTNERSHIP DEED BK. R2878, PG. 975, MAP 041 PARCEL 046.07
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 4-11-2024
SCALE: 1" = 100'
DRAWN BY: DSW
REVIEWER:

FINAL PLAT
CARTER'S STATION
SECTION 6, PHASE 5
COLUMBIA, MAURY COUNTY, TENNESSEE

INDEPENDENCE

J. MARK CANTRELL
XVI
PROFESSIONAL LAND SURVEYOR
AGRICULTURE
COMMERCE
TENNESSEE NO. 1859

PROJECT
18-0530

SHEET
1 OF 1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

DOCUMENT PREPARED BY:
Name: William Middleton
Company T-Square Engineering

Address: 1329 West Main Street
Franklin, TN

After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 41, Parcel 15.00
Project Name: Independence at Carter's Station, Section 6.5

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book R2403, Page(s) 319.

THIS AGREEMENT, made this 15th day of April, 2024, by and between Pulte Homes Tennessee Limited Partnership hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name Jeremy Brooks

Title V.P. Land Planning & Entitlement

Signature _____

Owner Pulte Homes Tennessee Limited Partnership

Address 100 Westwood Place

Suite 100

City, State ZIP Brentwood, TN 37027

STATE OF Tennessee
COUNTY OF Maury

Before me, Bethany Dollar of the state and county mentioned, personally appeared Jeremy Brooks, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the 16th day of April, 2024.

_____
Notary Public

BETHANY DOLLAR
STATE OF TENNESSEE NOTARY PUBLIC
MAURY COUNTY
MY COMMISSION EXPIRES 11-28-2027

My Commission Expires: 11/28/2027

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT

APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

701 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-eng.com

4/08/2024

City of Columbia
Development Services
700 N. Garden Street
Columbia, TN 38401

POST CONSTRUCTION LONG TERM MAINTENANCE PLAN
PROJECT NAME: INDEPENDANCE AT CARTER'S STATION, SECTION 6, PHASE 5

SYSTEM DESCRIPTION:

The site consists of stormwater conveyances through piped channel and detention ponds.

- 966 LF of round concrete pipe and 18 storm drains.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

A copy of the INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES that has been completed, notarized and recorded in the Land Records of the County of Maury, Tennessee will be kept on site with this document.

MAINTENANCE PROCEDURES

1. STORMWATER DETENTION PONDS
    a. The outlet structure shall be checked regularly for clogging and shall be cleaned and repaired as necessary---monthly after it is first built then a regular sequence should be established or at least quarterly or after a large rain event.

    b. Check banks and bottom surface of basin for erosion and correct as necessary.

    c. Check at least quarterly and after each extreme storm event, the facility should be cleaned of accumulated debris. The banks of surface ponds should be checked and areas of erosion repaired. Remove nuisance wetland species and take appropriate measures to control mosquitoes.

    d. This maintenance typically includes sediment, floatable, and debris removal from inlets, outlets and skimmers.

    e. Pond vegetation needs to be trimmed or harvested as appropriate, grassy areas frequently mowed. Grass should be mowed so that it does not get over 12 inches.

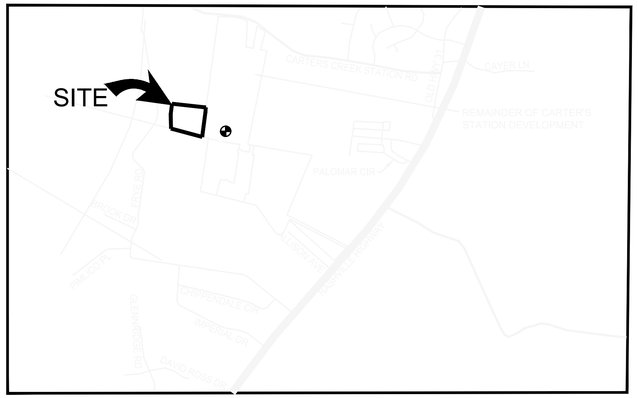
f. Remove sediment when accumulation reached 6 inches, or if re-suspension is observed or probable.

g. Some sediment may contain contaminants which the Tennessee Department of Environment and Conservation (TDEC) requires special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations followed. The TDEC Division of Water Pollution Control should be contacted at (931) 380-3371. Generally, special attention or sampling should be given to sediment accumulated in facilities serving industrial, manufacturing or heavy commercial sites, Page 2 of 4 Rev. 9/26/2016 fueling centers or automotive maintenance areas, large parking areas, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.

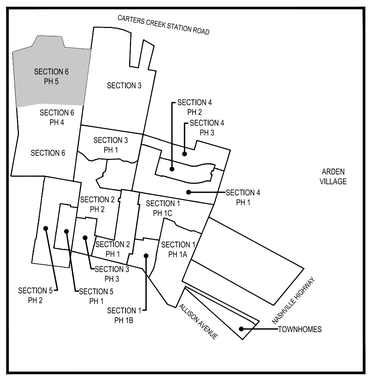
h. Some sediment collected may be innocuous (free of pollutants) and can be used as fill material, cover or land spreading. It is important that this material not be placed in any way that will promote or allow re-suspension in storm runoff.

2. 966 LF OF RCP AND 18 STORM DRAINS
   - These structures will be inspected and cleaned quarterly to ensure pipes and drain inlets do not fill with sediment or trash.

CONSTRUCTION DRAWINGS
FOR
SECTION 6, PHASE 5
INDEPENDENCE AT CARTER'S STATION
3040 CLEBURNE ROAD
COLUMBIA, TN 37174
CITY OF COLUMBIA, WARD #5



SITE VICINITY MAP



KEY MAP

DEVELOPER: PULTE GROUP
370 MALLORY STATION ROAD, STE 500
FRANKLIN, TN 37067

ENGINEER: T-SQUARE ENGINEERING
1329 WEST MAIN STREET
FRANKLIN, TN 37064
615-678-8212

SURVEYOR: H&H LAND SURVEYING
612A FITZHUGH BLVD
SMYRNA, TN 37167
615-831-0756

T-SQUARE ENGINEERING AND ITS ASSOCIATES WILL NOT BE HELD RESPONSIBLE FOR ITS ACCURACY OR FOR DESIGN ERRORS OR EMISSIONS RESULTING FROM POTENTIAL SURVEY INACCURACIES.

WATER UTILITY: Shane Andrews
CPWS
201 Pickens Lane
PO Box 379
Columbia, TN 38402
931-388-4833

POWER UTILITY: Doug Burgess
CPWS
201 Pickens Lane
PO Box 379
Columbia, TN 38402
931-388-4833

Sheet Schedule

C-0.0	Cover Sheet
C-1.0	Existing Conditions
C-2.0	Overall Site Plan
C-2.1	Site Plan
C-3.0	Initial Erosion Control Plan
C-3.1	Temporary Erosion Control Plan
C-3.2	Permanent Erosion Control Plan
C-4.0	Pre Development Plan
C-4.1	Post Development Plan
C-5.0	Grading Plan
C-5.1	Drainage Plan
C-5.2	Inlet Areas
C-6.0	Tucker Trace Plan and Profile
C-6.1	Banner Road / Briar Lane Plan and Profile
C-7.0	Utility Plan
C-7.1	Utility Plan Overview
C-7.2	Sanitary Plan and Profile
C-8.0	Detail Sheet
C-8.1	Detail Sheet
C-8.2	Detail Sheet
C-8.3	Detail Sheet
C-8.4	Detail Sheet
C-8.5	Detail Sheet

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C01180E, REVISED 16 APRIL 2017.

OWNER OF RECORD
FP TCI CCS, LLC DEED BK. R2403 PG. 319, MAP 41 PARCEL 15.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS
1	5/17/22	CHANGES PER CITY OF COLUMBIA WASTEWATER
2	12/6/22	GRADING REVISIONS PER OWNER
3	1/12/23	GRADING REVISIONS PER OWNER
4	3/13/23	GRADING REVISIONS PER CONTRACTOR
5	5/4/23	GRADING REVISIONS PER CONTRACTOR
6	7/7/23	GRADING REVISIONS PER CONTRACTOR
7	9/7/23	SANITARY REVISIONS PER CONTRACTOR

DATE: 5-11-22
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

INDEPENDENCE AT CARTER'S STATION
SECTION 6, PHASE 5
CARTER'S STATION
MAURY COUNTY, COLUMBIA TENNESSEE
COVER SHEET

TIMOTHY E. TURNER
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
9/11/23

PROJECT
18-0530

SHEET
C-0.0

P:\Projects\2018\18-0530\ (Carters Station - Pulte Homes)\Independence Construction Plans\Phase 6.5\Production\18-0530 Independence 6.5 1 Site Plan.dwg, 9/11/2023 10:49:57 AM



LEGEND

- 500 — EXISTING MAJOR CONTOURS
- 498 — EXISTING MINOR CONTOURS
- 500 — PROPOSED MAJOR CONTOURS
- 498 — PROPOSED MINOR CONTOURS
- PROPOSED STORM INLET
- PROPOSED STORM HEADWALL
- PROPOSED SPOT ELEVATION
- PROPOSED SLOPE GRADE

N

GRAPHIC SCALE
(IN FEET)
50 0 25 50 100
Scale: 1" = 50'

TYPICAL SWALE SECTION
N.T.S.

NOTE:
1. BUILDERS SWALES TO BE INSTALLED BETWEEN LOTS.
2. FFE DENOTES THE ELEVATION OF THE HIGH SIDE OF THE DIRT PAD ON EACH LOT.
3. GFE NOTES THE DIRT PAD ELEVATION FOR THE CURB SIDE OF THE LOT.
4. LOTS 642 AND 643 HAVE A 70' BUILDING PAD.

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0118OE, REVISED 16 APRIL 2017.

OWNER OF RECORD
FP TCI CCS, LLC DEED BK. R2403 PG. 319, MAP 41 PARCEL 15.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS
1	5/17/22	CHANGES PER CITY OF COLUMBIA WASTEWATER
2	12/6/22	GRADING REVISIONS PER OWNER
3	1/12/23	GRADING REVISIONS PER OWNER
4	3/13/23	GRADING REVISIONS PER CONTRACTOR
5	5/4/23	GRADING REVISIONS PER CONTRACTOR
6	7/7/23	GRADING REVISIONS PER CONTRACTOR
7	9/7/23	SANITARY REVISIONS PER CONTRACTOR

DATE: 5-11-22
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

INDEPENDENCE AT CARTER'S STATION

GRADING PLAN

CARTER'S STATION
SECTION 6, PHASE 5
MAURY COUNTY, COLUMBIA TENNESSEE

TIMOTHY E. TURNER
REGISTERED AGRICULTURAL ENGINEER
STATE OF TENNESSEE
9/11/23

PROJECT
18-0530

SHEET
C-5.0

T-SQUAREENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

P:\Projects\2018\18-0530 (Carters Station - Pulte Homes)\Independence Construction Plans\Phase 6.5\Production\18-0530 Independence 6.5 5 Grading & Drainage Plan.dwg, 9/11/2023 10:53:17 AM

STRUCTURE TABLE				
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	STRUCTURE TYPE
HW8	FG: 644.80	18" RCP; INV IN =644.73		HEADWALL
ST-I9	RIM = 693.00 FG: 693.00		18" RCP; INV OUT =689.00	SINGLE INLET
ST-I9A	RIM = 693.00 FG: 693.00	18" RCP; INV IN =688.74	18" RCP; INV OUT =688.74	SINGLE INLET
ST-I10	RIM = 677.94 FG: 677.94		18" RCP; INV OUT =673.94	SINGLE INLET
ST-I10A	RIM = 677.93 FG: 677.93	18" RCP; INV IN =673.68 18" RCP; INV IN =673.68	18" RCP; INV OUT =673.68	SINGLE INLET
ST-I11	RIM = 664.17 FG: 664.17	24" RCP; INV IN =657.94	24" RCP; INV OUT =657.94	SINGLE INLET
ST-I11A	RIM = 664.15 FG: 664.15	18" RCP; INV IN =658.20 18" RCP; INV IN =658.20	24" RCP; INV OUT =658.20	SINGLE INLET
ST-I12	RIM = 669.04 FG: 669.04		18" RCP; INV OUT =665.05	SINGLE INLET
ST-I12A	RIM = 669.04 FG: 669.04	18" RCP; INV IN =664.79 18" RCP; INV IN =664.79	18" RCP; INV OUT =664.79	SINGLE INLET

STRUCTURE TABLE				
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	STRUCTURE TYPE
ST-I12B	RIM = 669.53 FG: 669.53		18" RCP; INV OUT =664.91	AREA DRAIN
ST-I13	RIM = 663.53 FG: 663.53		18" RCP; INV OUT =659.53	SINGLE INLET
ST-I13A	RIM = 663.55 FG: 663.55	18" RCP; INV IN =659.27 18" RCP; INV IN =659.27	18" RCP; INV OUT =659.27	DOUBLE INLET
ST-I14	RIM = 657.40 FG: 657.40	24" RCP; INV IN =653.14	24" RCP; INV OUT =653.14	SINGLE INLET
ST-I14A	RIM = 657.40 FG: 657.40	24" RCP; INV IN =653.40	24" RCP; INV OUT =653.40	SINGLE INLET
ST-I15B	RIM = 652.57 FG: 652.57	12" HDPE; INV IN =648.57	18" RCP; INV OUT =648.57	AREA DRAIN
ST-J1	RIM = 649.00 FG: 649.00	18" RCP; INV IN =645.00	18" RCP; INV OUT =645.00	DOUBLE INLET
ST-J2	RIM = 652.81 FG: 652.81	18" RCP; INV IN =649.06	18" RCP; INV OUT =649.06	SINGLE INLET
ST-J3	RIM = 652.82 FG: 652.82		18" RCP; INV OUT =649.32	SINGLE INLET

Pipe Table					
FROM	TO	SIZE	LENGTH	SLOPE	MATERIAL
ST-I9	ST-I9A	18"	26'	1.00%	RCP
ST-I9A	ST-I10A	18"	185'	8.14%	RCP
ST-I10	ST-I10A	18"	26'	1.00%	RCP
ST-I10A	ST-I11A	18"	138'	11.20%	RCP
ST-I11	ST-I14A	24"	46'	9.93%	RCP
ST-I11A	ST-I11	24"	26'	1.00%	RCP
ST-I12	ST-I12A	18"	26'	1.00%	RCP
ST-I12A	ST-I13A	18"	95'	5.84%	RCP
ST-I12B	ST-I12A	18"	12'	1.00%	RCP
ST-I13	ST-I13A	18"	26'	1.00%	RCP
ST-I13A	ST-I11A	18"	57'	1.88%	RCP
ST-I14	ST-I15	24"	112'	5.40%	RCP
ST-I14A	ST-I14	24"	26'	1.00%	RCP
ST-J1	HW8	18"	27'	1.00%	RCP
ST-J2	ST-J1	18"	112'	3.63%	RCP
ST-J3	ST-J2	18"	26'	1.00%	RCP

LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- PROPOSED STORM INLET
- PROPOSED AREA DRAIN
- PROPOSED STORM HEADWALL
- PROPOSED STORM PIPE

N

GRAPHIC SCALE
(IN FEET)
50 0 25 50 100
Scale: 1" = 50'

KEY MAP
NTS



THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0118OE, REVISED 16 APRIL 2017.

OWNER OF RECORD
FP TCI CCS, LLC DEED BK. R2403 PG. 319, MAP 41 PARCEL 15.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS
1	5/17/22	CHANGES PER CITY OF COLUMBIA WASTEWATER
2	12/6/22	GRADING REVISIONS PER OWNER
3	1/12/23	GRADING REVISIONS PER OWNER
4	3/13/23	GRADING REVISIONS PER CONTRACTOR
5	5/4/23	GRADING REVISIONS PER CONTRACTOR
6	7/7/23	GRADING REVISIONS PER CONTRACTOR
7	9/7/23	SANITARY REVISIONS PER CONTRACTOR

DATE: 5-11-22
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

DRAINAGE PLAN

CARTER'S STATION
SECTION 6, PHASE 5
MAURY COUNTY, COLUMBIA TENNESSEE

INDEPENDENCE AT CARTER'S STATION

TIMOTHY E. TURNER
REGISTERED ENGINEER
AGRICULTURAL
STATE OF TENNESSEE
9/11/23

PROJECT
18-0530

SHEET
C-5.1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • WWW.T2-ENG.COM

P:\Projects\2018\18-0530 (Carters Station - Pulte Homes)\Independence Construction Plans\Phase 6.5\Production\18-0530 Independence 6.5.5 Grading & Drainage Plan.dwg, 9/11/2023 10:53:36 AM

P:\Projects\2018\18-0530\ (Carters Station - Pulte Homes)\Independence Construction Plans\Phase 6.5\Production\18-0530 Independence 6.5 5 Grading & Drainage Plan.dwg, 9/11/2023 10:53:58 AM



LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- PROPOSED STORM INLET
- PROPOSED STORM HEADWALL
- ST-A1 0.05 AC — AREA NAME AND ACREAGE
- AREA BOUNDARY

N

GRAPHIC SCALE
(IN FEET)
50 0 25 50 100
Scale: 1" = 50'

NOTES:

1) ALL ROAD CROWNS TO BE 2%.

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C01180E, REVISED 16 APRIL 2017.

OWNER OF RECORD
FP TCI CCS, LLC DEED BK. R2403 PG. 319, MAP 41 PARCEL 15.00
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS
1	5/17/22	CHANGES PER CITY OF COLUMBIA WASTEWATER
2	12/6/22	GRADING REVISIONS PER OWNER
3	1/12/23	GRADING REVISIONS PER OWNER
4	3/13/23	GRADING REVISIONS PER CONTRACTOR
5	5/4/23	GRADING REVISIONS PER CONTRACTOR
6	7/7/23	GRADING REVISIONS PER CONTRACTOR
7	9/7/23	SANITARY REVISIONS PER CONTRACTOR

DATE: 5-11-22
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

INDEPENDENCE AT CARTER'S STATION

INLET AREAS

CARTER'S STATION
SECTION 6, PHASE 5
MAURY COUNTY, COLUMBIA TENNESSEE

TIMOTHY E. TURNER — REGISTERED ENGINEER — AGRICULTURAL ENGINEER — 101145 — STATE OF TENNESSEE
9/11/23

PROJECT
18-0530

SHEET
C-5.2

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • WWW.T2-ENG.COM

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

_____ day of _____, 20_____ ,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Pulte Homes of Tennessee Partnership_____, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the “CMPC”) on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS”); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the “IMPROVEMENTS”); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register’s Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Independence at Carters Station Section 6.5 PROJECT	
Completed by the Developer	*Completed by the City*
Pulte Homes of Tennessee Partnership DEVELOPER NAME	
Jeremy Brooks AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
04/15/2024 DATE	DATE
100 Westwood Place, Suite 100 STREET	
Brentwood,TN,37027 CITY, STATE, ZIP	
629-867-8449 PHONE	
Jeremy.brooks@pultegroup.com EMAIL	
Attest	*Attest*
Kevin Chapman ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
04/15/2024 DATE	DATE

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Independence at Carter's Station, Columbia, TN		
	TAX MAP: 41	GROUP:	PARCEL: 15.00
SUMMARY OF NATURE OF REQUEST AND WORK	This application is to approve the final plat for section 6.5 Independence at Carter's Station.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ☑ Project Name (include Sections & Phases) Independence at Carter's Station Phase 6.5 ☑ Total Number of Lots 40 ☑ Total acreage 11.83

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	T-Square Engineering	PHONE	615.678.8212
ADDRESS	1329 West Main St., Franklin, TN 37064	EMAIL	william.middleton@T2-Eng.com

PROPERTY OWNER NAME	Pulte Homes of Tennessee Partnership	PHONE	615.992.9508
ADDRESS	100 Westwood Place, Suite #100 Brentwood, TN 37027	EMAIL	Jeremy.Brooks@PulteGroup.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

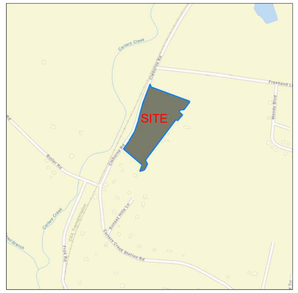
Allison Corolla	Allison Corolla	4/15/2024
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Jeremy Brooks		4/15/2024
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

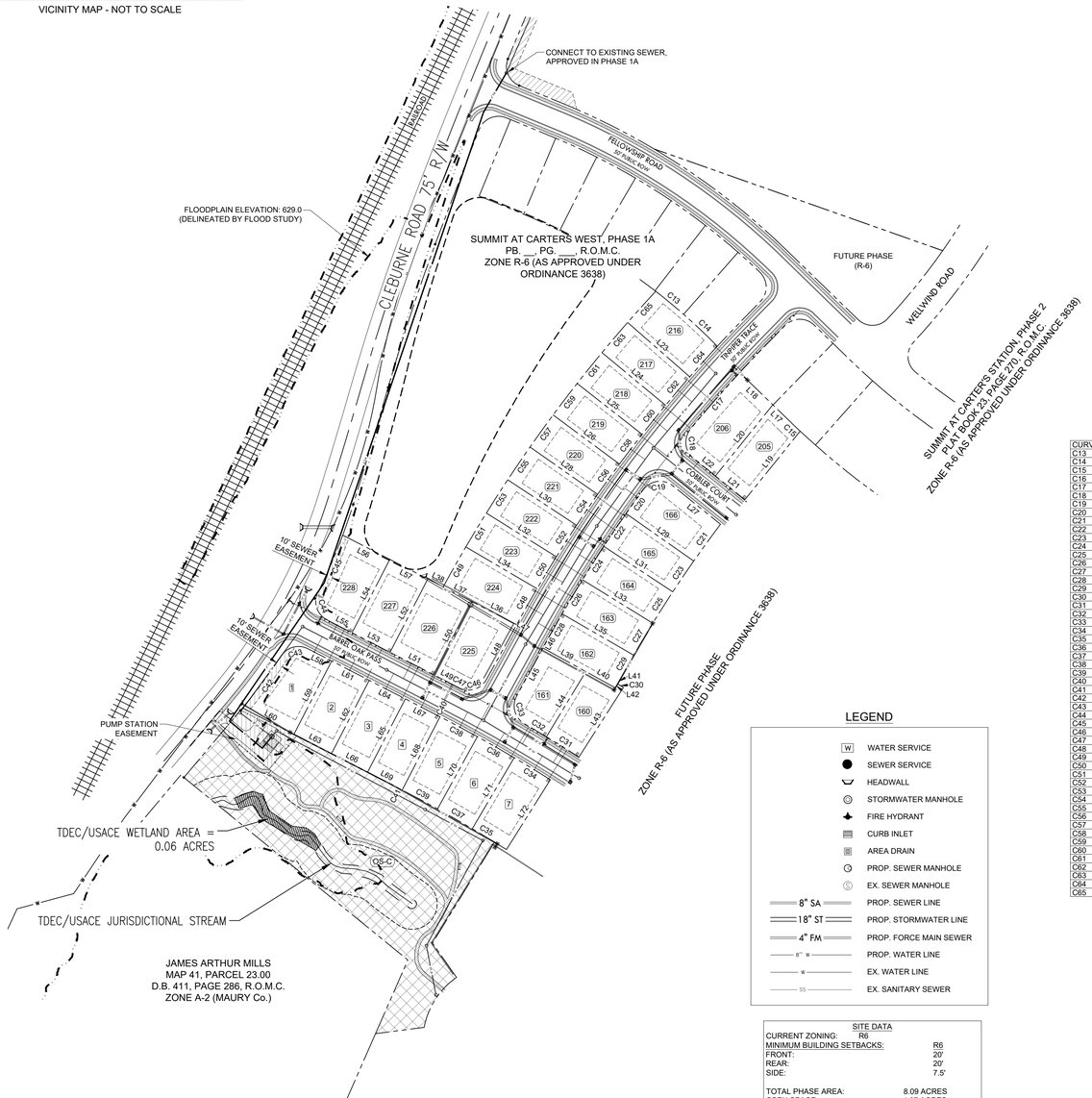
DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	



VICINITY MAP - NOT TO SCALE



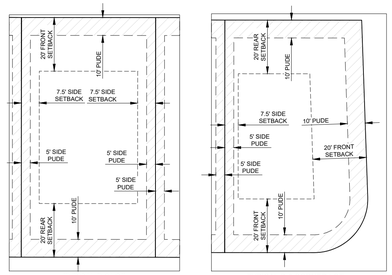
LEGEND

- W — WATER SERVICE
- SEWER SERVICE
- HEADWALL
- STORMWATER MANHOLE
- FIRE HYDRANT
- CURB INLET
- AREA DRAIN
- PROP. SEWER MANHOLE
- S — EX. SEWER MANHOLE
- 8" SA — PROP. SEWER LINE
- 18" ST — PROP. STORMWATER LINE
- 4" FM — PROP. FORCE MAIN SEWER
- 8" W — PROP. WATER LINE
- W — EX. WATER LINE
- SS — EX. SANITARY SEWER

SITE DATA	
CURRENT ZONING:	R6
MINIMUM BUILDING SETBACKS:	R6
FRONT:	20'
REAR:	20'
SIDE:	7.5'
TOTAL PHASE AREA:	8.09 ACRES
OPEN SPACE:	1.87 ACRES
NEW ROW:	1.36 ACRES

GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE 29 LOTS AND DEDICATE RIGHT-OF-WAY AND OPEN SPACE.
2. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC. ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENT SERVICES.
3. SUBJECT PROPERTY IS PARCEL 15.05 AS SHOWN ON MAURY COUNTY TAX MAP 41.
4. THE HORIZONTAL LOCATION DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS) USING THE TDOT NETWORK. TENNESSEE STATE PLANE COORDINATE SYSTEM ZONE 4100, NAD83. DRONE AERIAL PHOTOMETRY WAS ALSO USED TO SURVEY SOME ELEMENTS.
5. NO TITLE REPORT HAS BEEN FURNISHED, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH.
6. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF A GENERAL PROPERTY SURVEY AND CONFORMS TO THE ACCURACY OF A CATEGORY 1 SURVEY AS CURRENTLY DEFINED AND ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, AND THE RATIO OF PRECISION IS LESS THAN 1:10,000.
7. ALL PLOT AND DEED RECORDATION REFERENCES SHOWN HEREON ARE AS RECORDED IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
8. COLUMBIA POWER AND WATER SYSTEMS IS THE POWER PROVIDER.
9. STORMWATER MANAGEMENT OPERATION & MAINTENANCE WILL BE GOVERNED BY THE INSPECTION & MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES, DATED _____, RECORDED IN DEED BOOK ____, PAGE ____, REGISTER'S OFFICE OF MAURY COUNTY, TN.
10. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0180E WITH AN EFFECTIVE DATE OF 4/16/2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT: COMMUNITY NO. 119C, PANEL NO. 0180 SUFFIX E, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
11. ACCORDING TO THE TYPICAL LOT DETAIL, ALL LOTS ARE TO HAVE A 10' PUDE IN THE FRONT AND REAR OF THE LOTS, AS WELL AS A 5' PUDE IN THE SIDE OF THE LOTS.
12. CURRENT ZONING OF THE SUBJECT PROPERTY IS CD-3. THE SUBJECT PROPERTY AS SHOWN IS BASED ON A PRELIMINARY PLAT APPROVED UNDER ZONING ORDINANCE 3638 AND IS SUBJECT TO ALL VESTING OF THAT APPROVAL UNDER THE PREVIOUS ZONING OF R-6.



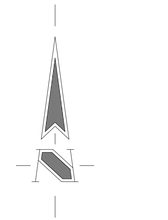
TYPICAL R-6 LOT
N.T.S.

TYPICAL R-6 CORNER LOT
N.T.S.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C13	855.00'	52.60'	52.59'	N 50°30'05" W
C14	855.00'	67.52'	67.50'	N 46°28'36" W
C15	1150.00'	23.09'	23.09'	N 46°22'03" W
C16	1150.00'	30.03'	30.03'	N 47°41'27" W
C17	1975.00'	108.88'	108.86'	S 41°06'23" W
C18	30.00'	47.45'	42.66'	S 05°47'13" E
C19	30.00'	48.49'	43.38'	S 82°35'32" W
C20	1975.00'	42.85'	42.85'	S 35°39'51" W
C21	1855.00'	66.17'	66.16'	N 36°03'52" E
C22	1975.00'	57.63'	57.63'	S 34°12'24" W
C23	1855.00'	54.13'	54.13'	N 34°12'24" E
C24	1975.00'	57.63'	57.63'	S 32°32'05" W
C25	1855.00'	54.13'	54.13'	N 32°32'05" E
C26	1975.00'	57.63'	57.63'	S 30°51'46" W
C27	1855.00'	54.13'	54.13'	N 30°51'46" E
C28	1975.00'	41.97'	41.97'	S 29°25'05" W
C29	1855.00'	39.42'	39.42'	N 29°25'05" E
C30	2345.00'	10.05'	10.05'	S 57°31'23" E
C31	2225.00'	55.73'	55.72'	N 58°07'04" W
C32	2225.00'	37.20'	37.20'	N 59°18'51" W
C33	30.00'	46.39'	41.91'	N 15°29'31" W
C34	2175.00'	61.58'	61.58'	S 58°39'56" E
C35	2055.00'	37.78'	37.78'	N 58°57'01" W
C36	2175.00'	61.58'	61.58'	S 60°17'17" E
C37	2055.00'	58.19'	58.18'	N 60°17'17" W
C38	2175.00'	61.58'	61.58'	S 61°54'37" E
C39	2055.00'	58.19'	58.18'	N 61°54'37" W
C40	2175.00'	2.07'	2.07'	S 62°44'55" E
C41	2055.00'	1.96'	1.96'	N 62°44'55" W
C42	867.59'	94.62'	94.58'	N 36°39'27" E
C43	30.00'	43.82'	40.03'	N 75°22'43" E
C44	30.00'	46.74'	42.15'	N 18°08'39" W
C45	852.94'	90.63'	90.58'	N 23°26'37" E
C46	30.00'	46.39'	41.91'	S 73°06'37" W
C47	2225.00'	7.28'	7.28'	N 62°40'56" W
C48	2025.00'	56.38'	56.38'	S 29°36'24" W
C49	2145.00'	66.67'	66.67'	N 29°30'50" E
C50	2025.00'	54.33'	54.33'	S 31°10'23" W
C51	2145.00'	57.55'	57.55'	N 31°10'23" E
C52	2025.00'	54.33'	54.33'	S 32°42'37" W
C53	2145.00'	57.55'	57.55'	N 32°42'37" E
C54	2025.00'	54.33'	54.33'	S 34°14'51" W
C55	2145.00'	57.55'	57.55'	N 34°14'51" E
C56	2025.00'	54.33'	54.33'	S 35°47'05" W
C57	2145.00'	57.55'	57.55'	N 35°47'05" E
C58	2025.00'	54.33'	54.33'	S 37°19'19" W
C59	2145.00'	57.55'	57.55'	N 37°19'19" E
C60	2025.00'	54.33'	54.33'	S 38°51'33" W
C61	2145.00'	57.55'	57.55'	N 38°51'33" E
C62	2025.00'	54.33'	54.33'	S 40°23'47" W
C63	2145.00'	57.55'	57.55'	N 40°23'47" E
C64	2025.00'	59.75'	59.74'	S 42°00'37" W
C65	2145.00'	60.99'	60.99'	N 41°58'47" E

LINE	BEARING	DISTANCE
L17	N 45°47'33" W	32.13'
L18	N 45°47'33" W	67.06'
L19	S 38°53'56" W	128.03'
L20	S 38°53'56" W	132.91'
L21	N 51°06'04" W	55.00'
L22	N 51°06'04" W	40.97'
L23	N 48°50'06" W	120.00'
L24	N 50°22'20" W	120.00'
L25	N 51°54'34" W	120.00'
L26	N 53°26'48" W	120.00'
L27	N 51°06'04" W	88.91'
L28	N 54°59'02" W	120.00'
L29	N 54°57'27" W	120.00'
L30	N 56°31'16" W	120.00'
L31	N 56°37'46" W	120.00'
L32	N 58°03'30" W	120.00'
L33	N 58°18'05" W	120.00'
L34	N 59°35'44" W	120.00'
L35	N 59°58'24" W	120.00'
L36	N 62°46'33" W	73.13'
L37	N 62°46'33" W	46.91'
L38	N 62°46'33" W	25.23'
L39	N 61°11'27" W	71.00'
L40	N 61°11'27" W	49.00'
L41	S 28°48'33" W	8.32'
L42	S 28°48'33" W	6.73'
L43	S 32°35'59" W	120.00'
L44	S 31°09'53" W	110.76'
L45	N 28°48'33" E	79.45'
L46	N 28°48'33" E	15.05'
L47	N 28°48'33" E	3.63'
L48	N 28°48'33" E	90.88'
L49	N 62°46'33" W	33.25'
L50	N 27°13'27" E	120.00'
L51	N 62°46'33" W	72.14'
L52	N 27°13'27" E	120.00'
L53	N 62°46'33" W	62.14'
L54	N 27°13'27" E	120.00'
L55	N 62°46'33" W	40.97'
L56	N 62°46'33" W	76.94'
L57	N 62°46'33" W	62.14'
L58	S 62°46'33" E	38.74'
L59	S 27°13'27" W	120.00'
L60	N 62°46'33" W	84.06'
L61	S 62°46'33" E	61.42'
L62	S 27°13'27" W	120.00'
L63	N 62°46'33" W	61.42'
L64	S 62°46'33" E	59.02'
L65	S 27°13'27" W	120.00'
L66	N 62°46'33" W	59.02'
L67	S 62°46'33" E	54.67'
L68	S 27°16'43" W	120.00'
L69	N 62°46'33" W	54.67'
L70	S 28°54'03" W	120.00'
L71	S 30°31'23" W	120.00'
L72	S 32°08'44" W	120.00'

LOT	SQ. FT.
1	8680.4
2	7370.2
3	7082.9
4	6802.2
5	7186.1
6	7186.1
7	7186.1
160	6433.6
161	7352.3
162	6689.3
163	6705.9
164	6705.9
165	6705.9
166	8212.8
205	7171.0
206	9298.7
216	7413.3
217	6712.9
218	6712.9
219	6712.9
220	6712.7
221	6712.9
222	6712.9
223	6712.9
224	7600.9
225	8395.6
226	8656.6
227	7456.6
228	8519.8
OS-C	81452.1



CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20_____ _____
DATE DIRECTOR OF COLUMBIA WATER DEPARTMENT

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN SUMMIT AT CARTER'S WEST, PHASE 1 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE SURETY IN THE AMOUNT OF $_____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 20_____ _____
DATE CITY ENGINEER

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20_____ _____
DATE NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CATEGORY I LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION IS LESS THAN OR EQUAL TO 1:10,000.

_____, 20_____ _____
DATE MARK CANTRELL, R.L.S

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____, 20_____ _____
DATE CITY ENGINEER

CERTIFICATE OF APPROVAL OF SUBDIVISION AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES ARE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND MAURY COUNTY E911.

_____, 20_____ _____
DATE MAURY E911

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20_____ _____
DATE DIRECTOR OF COLUMBIA WASTEWATER DEPARTMENT

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN RECORD BOOK NUMBERS R2806, PAGE 535 & R2403, PAGE 313, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINE, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES AND OTHER FACILITIES HAVE BEEN FILED.

_____, 20_____ _____
DATE OWNER

_____, 20_____ _____
DATE OWNER

FLOOD STUDY INFORMATION

THE FLOOD PLAIN INFORMATION AND ELEVATIONS ARE BASED ON A FLOOD STUDY (CASE NO. 1378R) PREPARED BY CRUNK ENGINEERING AS SEALED BY ADAM W. CRUNK, PE. THE FEMA PRELIMINARY FLOOD INSURANCE RATE MAP COMMUNITY PANEL MAP NUMBER IS 47119C0180E, DATED APRIL 16TH, 2007.

OWNERS OF RECORD

PULTE HOMES TENNESSEE LIMITED PARTNERSHIP
DEED BK. R2806 PG. 535, MAP 041 PARCEL 015.05
FP TCI CCS LLC
DEED BK. R2403 PAGE 313, MAP 041 PARCEL 015.00

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

J. MARK CANTRELL XVI PROFESSIONAL LAND SURVEYOR AGRICULTURE COMMERCE TENNESSEE NO. 1859

REVISIONS

NO.	DATE

DATE: 4-2-2024
SCALE: 1" = 100'
DRAWN BY: DSW
REVIEWER:

FINAL PLAT - PHASE 1B

MAP 041, P/O PARCEL 015.05
MAURY COUNTY, TENNESSEE

SUMMIT AT CARTER'S WEST

PROJECT
21-0515

SHEET
1 OF 1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

DOCUMENT PREPARED BY:
Name: Alexander Mollica
Company Crunk Engineering
Address: 7112 Crossroads Blvd.
Brentwood, TN 37027
After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 041, Parcel 15.50
Project Name: Summit at Carter's Station - Phase 1

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book _____, Page(s) _____.

THIS AGREEMENT, made this 5 day of August, 2023, by and between
Pulte Homes Tennessee Limited Partnership hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name JEREMY BROOKS

Title DIR. LAND

Signature

Owner PULTE HOMES TENNESSEE LIMITED PARTNERSHIP.

Address 100 WESTWOOD PL

SUITE #100

City, State ZIP BRENTWOOD, TN 37027.

STATE OF Tennessee
COUNTY OF Davidson

Before me, Kimberly Maynard of the state and county mentioned, personally appeared Jeremy Brooks, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

KIMBERLY MAYNARD
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY
MY COMMISSION EXPIRES 9-8-2025

Witness my hand this the 11th day of September, 2023.

Kimberly Maynard
Notary Public

My Commission Expires: 9-8-2025

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT

APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

Post Construction Long Term Maintenance Plan

Project Name: Summit at Carter's Station North – Phase 1

Columbia, TN

September 5,2023

Table of Contents

Section Name

System Description
Maintenance Procedures

System Description

The site consists of a series of stormwater conveyances both open channel and piped, detention / retention and water quality ponds.

- There is one stormwater detention ponds sized to detain through the 100 year peak event. The orifice is designed to contain the first flush, 1 inch, for 24 hour.
- 419 feet of grass lined open channel.
- 172 feet of 36 in ADS pipe, 569 feet 30 in ADS pipe, 266 feet of 24 in ADS pipe, 1,098 feet of 18 in ADS pipe, 278 feet of 15 in ADS pipe, 563 feet of 12 in ADS pipe and 39 storm inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

A copy of the INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES that has been completed, notarized, and recorded in the Land Records of the County of Maury, Tennessee will be kept on site with this document.

Maintenance Procedures

1. **STORMWATER DETENTION PONDS**
    a. The outlet structures shall be checked regularly for clogging and shall be cleaned and repaired as necessary---monthly after it is first built then a regular sequence should be established or at least quarterly or after a large rain event.
    b. Check banks and bottom surface of basins for erosion and correct as necessary.
    c. Check at least quarterly and after each extreme storm event, the facility should be cleaned of accumulated debris. The banks of surface ponds should be checked and areas of erosion repaired. Remove nuisance wetland species and take appropriate measures to control mosquitos.
    d. This maintenance typically includes sediment, floatable, and debris removal from inlets, outlets and skimmers.
    e. Pond vegetation to be trimmed or harvested as appropriate, grassy areas, frequently mowed. Grass should be mowed so that it does not get over 12.
    f. Remove sediment when accumulation reached 6 inches, or if re-suspension is observed or probable.
    g. Some sediment may contain contaminants which the Tennessee Department of Environment and Conservation (TDEC) requires special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations followed. The TDEC Division of Water Pollution Control should be contacted at (931) 380-3371. Generally, special attention or sampling should be given to sediment accumulated in facilities serving industrial, manufacturing or heavy commercial sites, Page 2 of 4 Rev. 9/26/2016 fueling centers or automotive maintenance areas, large parking areas, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.
    h. Some sediment collected may be innocuous (free of pollutants) and can be used as fill material, cover or land spreading. It is important that this material not be placed in any way that will promote or allow re-suspension in storm runoff.
2. **172 feet of 36 in ADS pipe, 569 feet 30 in ADS pipe, 266 feet of 24 in ADS pipe, 1,098 feet of 18 in ADS pipe, 278 feet of 15 in ADS pipe, 563 feet of 12 in ADS pipe and 39 storm inlets.**
    a. These structures will be inspected and cleaned quarterly to ensure pipes and drain inlets do not fill with sediment or trash.

NOTES

1. GRADING TO MATCH ABUTTING TYP. AND ANY LOTS OWN 30% GRADE SHALL BE LABELED AS CRITICAL.
2. A GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED TO DETERMINE IF SUBSURFACE DRAINAGE SYSTEMS AND/OR SUBDRAINS WILL BE REQUIRED AS NECESSARY.

0 50 100 150 200
GRAPHIC SCALE

N

C6.0
OVERALL GRADING & DRAINAGE PLAN

02/27/23
21027

REVISIONS	
No.	DATE
1	11/29/22
2	1/4/23
3	2/21/23
4	4/28/23
5	6/8/23
6	6/19/23

SUMMIT AT CARTERS STATION NORTH
PHASE 1 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

C6.1
GRADING PLAN

02/27/23
21027

REVISIONS	
No.	DATE
1	11/29/22
2	1/4/23
3	2/21/23
4	4/28/23
5	6/8/23
6	6/19/23

SUMMIT AT CARTERS STATION NORTH
PHASE 1 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

GRADING & DRAINAGE PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
(D)	SINGLE CURB INLET	C8.1 - 3
(SD)	SINGLE CATCH BASIN	C8.1 - 4
(JB)	JUNCTION BOX	C8.1 - 2
(HW)	CONCRETE HEADWALL	C8.1 - 6
(MH)	MONITY POND OUTLET STRUCTURE	C8.2 - 1
(SH)	SLOPED CONCRETE HEADWALL	C8.4 - 4

NOTES:
1. REFER TO SHEET C2.0 FOR NOTES.

PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- STORM STRUCTURE LABEL
- STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

N

C6.2 GRADING PLAN

02/27/23

21027

REVISIONS	
No.	DATE
1	11/29/22
2	1/4/23
3	2/21/23
4	4/28/23
5	6/8/23
6	6/19/23

SUMMIT AT CARTERS STATION NORTH
PHASE 1 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

NOTES

1. CONTRACTOR TO NOTIFY ENGINEER IF ANY LOTS OVER 20% GRADE SHALL BE LABELED AS CRITICAL.
2. A GEOTECHNICAL INVESTIGATION WILL BE REQUIRED TO DETERMINE IF ANY SINKHOLES EXIST ON SITE. ANY SINKHOLES DISCOVERED WILL BE REMEDIATED AS NECESSARY.

C6.3
FLOODPLAIN EARTHWORKS EXHIBIT

02/27/23
21027

REVISIONS	
No.	DATE
1	11/29/22
2	1/4/23
3	2/21/23
4	4/20/23
5	6/8/23
6	6/19/23

SUMMIT AT CARTERS STATION NORTH
PHASE 1 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 673-1795
WWW.CRUNKENG.COM

GRADING & DRAINAGE PLAN KEYNOTES

CODE	DESCRIPTION	DETAIL LOCATION
(D)	SINGLE CURB INLET	C8.1 - 3
(SD)	SINGLE GATCH BASIN	C8.1 - 4
(JB)	JUNCTION BOX	C8.1 - 2
(CH)	CONCRETE HEADWALL	C8.1 - 6
(OS)	NORTH POND OUTLET STRUCTURE	C8.2 - 1
(SH)	SKEWED CONCRETE HEADWALL	C8.4 - 4

NOTE:
1. REFER TO SHEET C3.0 FOR NOTES.

PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- STORM STRUCTURE LABEL
- STORM PIPE
- SINGLE CURB INLET
- SINGLE GATCH BASIN
- JUNCTION BOX

REVISIONS	
No.	DATE
1	11/29/22
2	1/4/23
3	2/21/23
4	4/28/23
5	6/8/23
6	6/19/23

02/27/23
21027

C6.4
DRAINAGE PLAN

SUMMIT AT CARTERS STATION NORTH
PHASE 1 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

C6.5
DRAINAGE PLAN

02/27/23
21027

REVISIONS	
No.	DATE
1	11/29/22
2	1/4/23
3	2/21/23
4	4/28/23
5	6/8/23
6	6/19/23

SUMMIT AT CARTERS STATION NORTH
PHASE 1 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-5795
WWW.CRUNKENG.COM

ID	TYPE	INVERT	COVER	INVERT	STORM PIPE TABLE LENGTH (FT)	SLOPE (%)	SHAPE	DIAMETER (IN)	MATERIAL
ST-A1	CONCRETE HEADWALL	639.00	647.64	639.64	34	5.49%	ROR	72" x 3"	RCP CLASS III
ST-A2	SINGLE GRATE INLET	639.64	647.53	639.94	22	5.49%	ROR	72" x 3"	RCP CLASS III
ST-A3	SINGLE GRATE INLET	639.94	647.53	639.59	34	5.49%	ROR	72" x 3"	RCP CLASS III
ST-A4	SINGLE GRATE INLET	639.59	647.53	639.59	34	5.49%	ROR	72" x 3"	RCP CLASS III
ST-A5	SINGLE GRATE INLET	631.40	ST-A3	631.40	50	4.00%	CROSSAR	18	CMP (SMOOTH)
ST-A6	SINGLE GRATE INLET	631.40	ST-A3	631.40	50	4.00%	CROSSAR	18	CMP (SMOOTH)
ST-A7	SINGLE GRATE INLET	631.40	ST-A3	631.40	23	0.01%	CROSSAR	18	CMP (SMOOTH)
ST-A8	CONCRETE HEADWALL	630.80	ST-C1	619.99	37	1.19%	CROSSAR	12	RCP
ST-B1	CONCRETE HEADWALL	630.80	ST-B2	630.07	81	4.89%	CROSSAR	12	RCP
ST-B2	CONCRETE HEADWALL	630.00	ST-B3	629.49	163	6.97%	CROSSAR	12	RCP
ST-B3	CONCRETE HEADWALL	629.49	ST-B4	629.00	177	7.41%	CROSSAR	12	RCP
ST-B4	12" MITORFLUST	629.00	ST-C1	619.99	11	0.98%	CROSSAR	18	RCP
ST-C1	12" MITORFLUST	619.99	ST-C2	619.79	21	0.94%	CROSSAR	48	CAP (SMOOTH)
ST-C2	12" MITORFLUST	630.70	ST-C1	619.79	21	0.94%	CROSSAR	48	CAP (SMOOTH)
ST-C3	CONCRETE HEADWALL	630.40	ST-A1	630.00	140	2.43%	CROSSAR	18	RCP
ST-A1	SINGLE GRATE INLET	640.00	ST-A2	639.80	130	9.13%	CROSSAR	18	RCP
ST-A2	SINGLE GRATE INLET	639.80	ST-A3	639.64	174	9.19%	CROSSAR	18	RCP
ST-A3	SINGLE GRATE INLET	639.64	ST-A4	639.59	35	3.89%	CROSSAR	18	RCP
ST-A4	SINGLE GRATE INLET	639.59	ST-A5	639.40	46	7.24%	CROSSAR	18	RCP
ST-A5	SINGLE GRATE INLET	639.40	ST-A6	639.00	50	3.62%	CROSSAR	18	RCP
ST-A6	SINGLE GRATE INLET	639.00	ST-A7	638.80	25	1.89%	CROSSAR	18	RCP
ST-A7	SINGLE GRATE INLET	638.80	ST-A8	638.70	25	0.82%	CROSSAR	18	RCP
ST-A8	SINGLE GRATE INLET	638.70	ST-B1	638.40	111	4.74%	CROSSAR	18	RCP
ST-B1	SINGLE GRATE INLET	638.40	ST-B2	638.30	111	0.74%	CROSSAR	18	RCP
ST-B2	SINGLE GRATE INLET	638.30	ST-B3	638.20	78	0.83%	CROSSAR	36	RCP
ST-B3	SINGLE GRATE INLET	638.20	ST-B4	638.00	88	3.51%	CROSSAR	30	RCP
ST-B4	SINGLE GRATE INLET	638.00	ST-B5	637.72	28	1.19%	CROSSAR	30	RCP
ST-B5	SINGLE GRATE INLET	637.70	ST-B4	638.00	19	2.60%	CROSSAR	30	RCP
ST-B6	SINGLE GRATE INLET	638.00	ST-B7	637.80	25	1.29%	CROSSAR	30	RCP
ST-B7	CONCRETE HEADWALL	637.80	ST-B6	638.00	46	1.89%	CROSSAR	30	RCP
ST-B8	JUNCTION MANHOLE	637.80	ST-B7	637.80	121	3.50%	CROSSAR	24	RCP
ST-B9	SINGLE GRATE INLET	638.00	ST-B2	638.00	126	6.51%	CROSSAR	18	RCP
ST-B10	SINGLE GRATE INLET	638.00	ST-B3	638.00	25	1.89%	CROSSAR	18	RCP
ST-B11	SINGLE GRATE INLET	638.00	ST-B4	638.00	25	1.89%	CROSSAR	18	RCP
ST-B12	SINGLE GRATE INLET	638.00	ST-B5	638.00	25	1.89%	CROSSAR	18	RCP
ST-B13	SINGLE GRATE INLET	638.00	ST-B6	638.00	25	1.89%	CROSSAR	18	RCP
ST-B14	SINGLE GRATE INLET	638.00	ST-B7	638.00	25	1.89%	CROSSAR	18	RCP
ST-B15	SINGLE GRATE INLET	638.00	ST-B8	638.00	25	1.89%	CROSSAR	18	RCP
ST-B16	SINGLE GRATE INLET	638.00	ST-B9	638.00	25	1.89%	CROSSAR	18	RCP
ST-B17	SINGLE GRATE INLET	638.00	ST-B10	638.00	25	1.89%	CROSSAR	18	RCP
ST-B18	SINGLE GRATE INLET	638.00	ST-B11	638.00	25	1.89%	CROSSAR	18	RCP
ST-B19	SINGLE GRATE INLET	638.00	ST-B12	638.00	25	1.89%	CROSSAR	18	RCP
ST-B20	SINGLE GRATE INLET	638.00	ST-B13	638.00	25	1.89%	CROSSAR	18	RCP
ST-B21	SINGLE GRATE INLET	638.00	ST-B14	638.00	25	1.89%	CROSSAR	18	RCP
ST-B22	SINGLE GRATE INLET	638.00	ST-B15	638.00	25	1.89%	CROSSAR	18	RCP
ST-B23	SINGLE GRATE INLET	638.00	ST-B16	638.00	25	1.89%	CROSSAR	18	RCP
ST-B24	SINGLE GRATE INLET	638.00	ST-B17	638.00	25	1.89%	CROSSAR	18	RCP
ST-B25	SINGLE GRATE INLET	638.00	ST-B18	638.00	25	1.89%	CROSSAR	18	RCP
ST-B26	SINGLE GRATE INLET	638.00	ST-B19	638.00	25	1.89%	CROSSAR	18	RCP
ST-B27	SINGLE GRATE INLET	638.00	ST-B20	638.00	25	1.89%	CROSSAR	18	RCP
ST-B28	SINGLE GRATE INLET	638.00	ST-B21	638.00	25	1.89%	CROSSAR	18	RCP
ST-B29	SINGLE GRATE INLET	638.00	ST-B22	638.00	25	1.89%	CROSSAR	18	RCP
ST-B30	SINGLE GRATE INLET	638.00	ST-B23	638.00	25	1.89%	CROSSAR	18	RCP
ST-B31	SINGLE GRATE INLET	638.00	ST-B24	638.00	25	1.89%	CROSSAR	18	RCP
ST-B32	SINGLE GRATE INLET	638.00	ST-B25	638.00	25	1.89%	CROSSAR	18	RCP
ST-B33	SINGLE GRATE INLET	638.00	ST-B26	638.00	25	1.89%	CROSSAR	18	RCP
ST-B34	SINGLE GRATE INLET	638.00	ST-B27	638.00	25	1.89%	CROSSAR	18	RCP
ST-B35	SINGLE GRATE INLET	638.00	ST-B28	638.00	25	1.89%	CROSSAR	18	RCP
ST-B36	SINGLE GRATE INLET	638.00	ST-B29	638.00	25	1.89%	CROSSAR	18	RCP
ST-B37	SINGLE GRATE INLET	638.00	ST-B30	638.00	25	1.89%	CROSSAR	18	RCP
ST-B38	SINGLE GRATE INLET	638.00	ST-B31	638.00	25	1.89%	CROSSAR	18	RCP
ST-B39	SINGLE GRATE INLET	638.00	ST-B32	638.00	25	1.89%	CROSSAR	18	RCP
ST-B40	SINGLE GRATE INLET	638.00	ST-B33	638.00	25	1.89%	CROSSAR	18	RCP
ST-B41	SINGLE GRATE INLET	638.00	ST-B34	638.00	25	1.89%	CROSSAR	18	RCP
ST-B42	SINGLE GRATE INLET	638.00	ST-B35	638.00	25	1.89%	CROSSAR	18	RCP
ST-B43	SINGLE GRATE INLET	638.00	ST-B36	638.00	25	1.89%	CROSSAR	18	RCP
ST-B44	SINGLE GRATE INLET	638.00	ST-B37	638.00	25	1.89%	CROSSAR	18	RCP
ST-B45	SINGLE GRATE INLET	638.00	ST-B38	638.00	25	1.89%	CROSSAR	18	RCP
ST-B46	SINGLE GRATE INLET	638.00	ST-B39	638.00	25	1.89%	CROSSAR	18	RCP
ST-B47	SINGLE GRATE INLET	638.00	ST-B40	638.00	25	1.89%	CROSSAR	18	RCP
ST-B48	SINGLE GRATE INLET	638.00	ST-B41	638.00	25	1.89%	CROSSAR	18	RCP
ST-B49	SINGLE GRATE INLET	638.00	ST-B42	638.00	25	1.89%	CROSSAR	18	RCP
ST-B50	SINGLE GRATE INLET	638.00	ST-B43	638.00	25	1.89%	CROSSAR	18	RCP
ST-B51	SINGLE GRATE INLET	638.00	ST-B44	638.00	25	1.89%	CROSSAR	18	RCP
ST-B52	SINGLE GRATE INLET	638.00	ST-B45	638.00	25	1.89%	CROSSAR	18	RCP
ST-B53	SINGLE GRATE INLET	638.00	ST-B46	638.00	25	1.89%	CROSSAR	18	RCP
ST-B54	SINGLE GRATE INLET	638.00	ST-B47	638.00	25	1.89%	CROSSAR	18	RCP
ST-B55	SINGLE GRATE INLET	638.00	ST-B48	638.00	25	1.89%	CROSSAR	18	RCP
ST-B56	SINGLE GRATE INLET	638.00	ST-B49	638.00	25	1.89%	CROSSAR	18	RCP
ST-B57	SINGLE GRATE INLET	638.00	ST-B50	638.00	25	1.89%	CROSSAR	18	RCP
ST-B58	SINGLE GRATE INLET	638.00	ST-B51	638.00	25	1.89%	CROSSAR	18	RCP
ST-B59	SINGLE GRATE INLET	638.00	ST-B52	638.00	25	1.89%	CROSSAR	18	RCP
ST-B60	SINGLE GRATE INLET	638.00	ST-B53	638.00	25	1.89%	CROSSAR	18	RCP
ST-B61	SINGLE GRATE INLET	638.00	ST-B54	638.00	25	1.89%	CROSSAR	18	RCP
ST-B62	SINGLE GRATE INLET	638.00	ST-B55	638.00	25	1.89%	CROSSAR	18	RCP
ST-B63	SINGLE GRATE INLET	638.00	ST-B56	638.00	25	1.89%	CROSSAR	18	RCP
ST-B64	SINGLE GRATE INLET	638.00	ST-B57	638.00	25	1.89%	CROSSAR	18	RCP
ST-B65	SINGLE GRATE INLET	638.00	ST-B58	638.00	25	1.89%	CROSSAR	18	RCP
ST-B66	SINGLE GRATE INLET	638.00	ST-B59	638.00	25	1.89%	CROSSAR	18	RCP
ST-B67	SINGLE GRATE INLET	638.00	ST-B60	638.00	25	1.89%	CROSSAR	18	RCP
ST-B68	SINGLE GRATE INLET	638.00	ST-B61	638.00	25	1.89%	CROSSAR	18	RCP
ST-B69	SINGLE GRATE INLET	638.00	ST-B62	638.00	25	1.89%	CROSSAR	18	RCP
ST-B70	SINGLE GRATE INLET	638.00	ST-B63	638.00	25	1.89%	CROSSAR	18	RCP
ST-B71	SINGLE GRATE INLET	638.00	ST-B64	638.00	25	1.89%	CROSSAR	18	RCP
ST-B72	SINGLE GRATE INLET	638.00	ST-B65	638.00	25	1.89%	CROSSAR	18	RCP
ST-B73	SINGLE GRATE INLET	638.00	ST-B66	638.00	25	1.89%	CROSSAR	18	RCP
ST-B74	SINGLE GRATE INLET	638.00	ST-B67	638.00	25	1.89%	CROSSAR	18	RCP
ST-B75	SINGLE GRATE INLET	638.00	ST-B68	638.00	25	1.89%	CROSSAR	18	RCP
ST-B76	SINGLE GRATE INLET	638.00	ST-B69	638.00	25	1.89%	CROSSAR	18	RCP
ST-B77	SINGLE GRATE INLET	638.00	ST-B70	638.00	25	1.89%	CROSSAR	18	RCP
ST-B78	SINGLE GRATE INLET	638.00	ST-B71	638.00	25	1.89%	CROSSAR	18	RCP
ST-B79	SINGLE GRATE INLET	638.00	ST-B72	638.00	25	1.89%	CROSSAR	18	RCP
ST-B80	SINGLE GRATE INLET	638.00	ST-B73	638.00	25	1.89%	CROSSAR	18	RCP
ST-B81	SINGLE GRATE INLET	638.00	ST-B74	638.00	25	1.89%	CROSSAR	18	RCP
ST-B82	SINGLE GRATE INLET	638.00	ST-B75	638.00	25	1.89%	CROSSAR	18	RCP
ST-B83	SINGLE GRATE INLET	638.00	ST-B76	638.00	25	1.89%	CROSSAR	18	RCP
ST-B84	SINGLE GRATE INLET	638.00	ST-B77	638.00	25	1.89%	CROSSAR	18	RCP
ST-B85	SINGLE GRATE INLET	638.00	ST-B78	638.00	25	1.89%	CROSSAR	18	RCP
ST-B86	SINGLE GRATE INLET	638.00	ST-B79	638.00	25	1.89%	CROSSAR	18	RCP
ST-B87	SINGLE GRATE INLET	638.00	ST-B80	638.00	25	1.89%	CROSSAR	18	RCP
ST-B88	SINGLE GRATE INLET	638.00	ST-B81	638.00	25	1.89%	CROSSAR	18	RCP
ST-B89	SINGLE GRATE INLET	638.00	ST-B82	638.00	25	1.89%	CROSSAR	18	RCP
ST-B90	SINGLE GRATE INLET	638.00	ST-B83	638.00	25	1.89%	CROSSAR	18	RCP
ST-B91	SINGLE GRATE INLET	638.00	ST-B84	638.00	25	1.89%	CROSSAR	18	RCP
ST-B92	SINGLE GRATE INLET	638.00	ST-B85	638.00	25	1.89%	CROSSAR	18	RCP
ST-B93	SINGLE GRATE INLET	638.00	ST-B86	638.00	25	1.89%	CROSSAR	18	RCP
ST-B94	SINGLE GRATE INLET	638.00	ST-B87	638.00	25	1.89%	CROSSAR	18	RCP
ST-B95	SINGLE GRATE INLET	638.00	ST-B88	638.00	25	1.89%	CROSSAR	18	RCP
ST-B96	SINGLE GRATE INLET	638.00	ST-B89	638.00	25	1.89%	CROSSAR	18	RCP
ST-B97	SINGLE GRATE INLET	638.00	ST-B90	638.00	25	1.89%	CROSSAR	18	RCP
ST-B98	SINGLE GRATE INLET	638.00	ST-B91	638.00	25	1.89%	CROSSAR	18	RCP
ST-B99	SINGLE GRATE INLET	638.00	ST-B92	638.00	25	1.89%	CROSSAR	18	RCP
ST-B100	SINGLE GRATE INLET	638.00	ST-B93	638.00	25	1.89%	CROSSAR	18	RCP
ST-B101	SINGLE GRATE INLET	638.00	ST-B94	638.00	25	1.89%	CROSSAR	18	RCP
ST-B102	SINGLE GRATE INLET	638.00	ST-B95	638.00	25	1.89%	CROSSAR	18	RCP
ST-B103	SINGLE GRATE INLET	638.00	ST-B96	638.00	25	1.89%	CROSSAR	18	RCP
ST-B104	SINGLE GRATE INLET	638.00	ST-B97	638.00	25	1.89%	CROSSAR	18	RCP
ST-B105	SINGLE GRATE INLET	638.00	ST-B98	638.00	25	1.89%	CROSSAR	18	RCP
ST-B106	SINGLE GRATE INLET	638.00	ST-B99	638.00	25	1.89%	CROSSAR	18	RCP
ST-B107	SINGLE GRATE INLET	638.00	ST-B100	638.00	25	1.89%	CROSSAR	18	RCP
ST-B108	SINGLE GRATE INLET	638.00	ST-B101	638.00	25	1.89%	CROSSAR	18	RCP
ST-B109	SINGLE GRATE INLET	638.00	ST-B102	638.00	25	1.89%	CROSSAR	18	RCP
ST-B110	SINGLE GRATE INLET	638.00	ST-B103	638.00	25	1.89%	CROSSAR	18	RCP
ST-B111	SINGLE GRATE INLET	638.00	ST-B104	638.00	25	1.89%	CROSSAR	18	RCP
ST-B112	SINGLE GRATE INLET	638.00	ST-B105	638.00	25	1.89%	CROSSAR	18	RCP
ST-B113	SINGLE GRATE INLET	638.00	ST-B106	638.00	25	1.89%	CROSSAR	18	RCP
ST-B114	SINGLE GRATE INLET	638.00	ST-B107	638.00	25	1.89%	CROSSAR	18	RCP
ST-B115	SINGLE GRATE INLET	638.00	ST-B108	638.00	25	1.89%	CROSSAR	18	RCP
ST-B116	SINGLE GRATE INLET	638.00	ST-B109	638.00	25	1.89%	CROSSAR	18	RCP
ST-B117	SINGLE GRATE INLET	638.00	ST-B110	638.00	25	1.89%	CROSSAR	18	RCP
ST-B118	SINGLE GRATE INLET	638.00	ST-B111	638.00	25	1.89%	CROSSAR	18	RCP
ST-B119	SINGLE GRATE INLET	638.00	ST-B112	638.00	25	1.89%	CROSSAR	18	RCP
ST-B120	SINGLE GRATE INLET	638.00	ST-B113	638.00	25	1.89%	CROSSAR	18	RCP
ST-B121	SINGLE GRATE INLET	638.00	ST-B114	638.00	25	1.89%	CROSSAR	18	RCP
ST-B122	SINGLE GRATE INLET	638.00	ST-B115	638.00	25	1.89%	CROSSAR	18	RCP
ST-B123	SINGLE GRATE INLET	638.00	ST-B116	638.00	25	1.89%	CROSSAR	18	RCP
ST-B124	SINGLE GRATE INLET	638.00	ST-B117	638.00	25	1.89%	CROSSAR	18	RCP
ST-B125	SINGLE GRATE INLET	638.00	ST-B118	638.00	25	1.89%	CROSSAR	18	RCP
ST-B126	SINGLE GRATE INLET	638.00	ST-B119	638.00	25	1.89%	CROSSAR	18	RCP
ST-B127	SINGLE GRATE INLET	638.00	ST-B120	638.00	25	1.89%	CROSSAR	18	RCP
ST-B128	SINGLE GRATE INLET	638.00	ST-B121	638.00	25	1.89%	CROSSAR	18	RCP
ST-B129	SINGLE GRATE INLET	638.00	ST-B122	638.00	25	1.89%	CROSSAR	18	RCP
ST-B130	SINGLE GRATE INLET	638.00	ST-B123	638.00	25	1.89%	CROSSAR	18	RCP
ST-B131	SINGLE GRATE INLET	638.00	ST-B124	638.00	25	1.89%	CROSSAR	18	RCP
ST-B132	SINGLE GRATE INLET	638.00	ST-B125	638.00	25	1.89%	CROSSAR	18	RCP
ST-B133	SINGLE GRATE INLET	638.00	ST-B126	638.00	25	1.89%	CROSSAR	18	RCP
ST-B134	SINGLE GRATE INLET	638.00	ST-B127	638.00	25	1.89%	CROSSAR	18	RCP
ST-B135	SINGLE GRATE INLET	638.00	ST-B128	638.00	25	1.89%	CROSSAR	18	RCP
ST-B136	SINGLE GRATE INLET	638.00	ST-B129	638.00	25	1.89%	CROSSAR	18	RCP
ST-B137	SINGLE GRATE INLET	638.00	ST-B130	638.00	25	1.89%	CROSSAR	18	RCP
ST-B138	SINGLE GRATE INLET	638.00	ST-B131	638.00	25	1.89%	CROSSAR	18	RCP
ST-B139	SINGLE GRATE INLET	638.00	ST-B132	638.00	25	1.89%	CROSSAR	18	RCP
ST-B140	SINGLE GRATE INLET	638.00	ST-B133	638.00	25	1.89%	CROSSAR	18	RCP
ST-B141	SINGLE GRATE INLET	638.00	ST-B134	638.00	25	1.89%	CROSSAR	18	RCP
ST-B142	SINGLE GRATE INLET	638.00	ST-B135	638.00	25	1.89%	CROSSAR	18	RCP
ST-B143	SINGLE GRATE INLET	638.00	ST-B136	638.00	25	1.89%	CROSSAR	18	RCP
ST-B144	SINGLE GRATE INLET	638.00	ST-B137	638.00	25	1.89%	CROSSAR	18	RCP
ST-B145	SINGLE GRATE INLET	638.00	ST-B138	638.00	25	1.89%	CROSSAR	18	RCP
ST-B146	SINGLE GRATE INLET	638.00	ST-B139	638.00	25	1.89%	CROSSAR	18	RCP
ST-B147	SINGLE GRATE INLET	638.00	ST-B140	638.00	25	1.89%	CROSSAR	18	RCP
ST-B148	SINGLE GRATE INLET	638.00	ST-B141	638.00	25	1.89%	CROSSAR	18	RCP
ST-B149	SINGLE GRATE INLET	638.00	ST-B142	638.00	25	1.89%	CROSSAR	18	RCP
ST-B150	SINGLE GRATE INLET	638.00	ST-B143	638.00	25	1.89%	CROSSAR	18	RCP
ST-B151	SINGLE GRATE INLET	638.00	ST-B144	638.00	25	1.89%	CROSSAR	18	RCP
ST-B152	SINGLE GRATE INLET	638.00	ST-B145	638.00	25	1.89%	CROSSAR	18	RCP
ST-B153	SINGLE GRATE INLET	638.00	ST-B146	638.00	25	1.89%	CROSSAR	18	RCP
ST-B154	SINGLE GRATE INLET	638.00	ST-B147	638.00	25	1.89%	CROSSAR	18	RCP
ST-B155	SINGLE GRATE INLET	638.00	ST-B148	638.00	25	1.89%	CROSSAR	18	RCP
ST-B156	SINGLE GRATE INLET	638.00	ST-B149	638.00	25	1.89%	CROSSAR	18	RCP
ST-B157	SINGLE GRATE INLET	638.00	ST-B150	638.00	25	1.89%	CROSSAR	18	RCP
ST-B158	SINGLE GRATE INLET	638.00	ST-B151	638.00	25	1.89%	CROSSAR	18	RCP
ST-B159	SINGLE GRATE INLET	638.00	ST-B152	638.00	25	1.89%	CROSSAR	18	RCP
ST-B160	SINGLE GRATE INLET	638.00	ST-B153	638.00	25	1.89%	CROSSAR	18	RCP
ST-B161	SINGLE GRATE INLET	638.00	ST-B154	638.00	25	1.89%	CROSSAR	18	RCP
ST-B162	SINGLE GRATE INLET	638.00	ST-B155	638.00	25	1.89%	CROSSAR	18	RCP
ST-B163	SINGLE GRATE INLET	638.00	ST-B156	638.00	25	1.89%	CROSSAR	18	RCP
ST-B164	SINGLE GRATE INLET	638.00	ST-B157	638.00	25	1.89%	CROSSAR	18	RCP
ST-B165	SINGLE GRATE INLET	638.00	ST-B158	638.00	25	1.89%	CROSSAR	18	RCP
ST-B166	SINGLE GRATE INLET	638.00	ST-B159	638.00	25	1.89%	CROSSAR	18	RCP
ST-B167	SINGLE GRATE INLET	638.00	ST-B160	638.00	25	1.89%	CROSSAR	18	RCP
ST-B168	SINGLE GRATE INLET	638.00	ST-B161	638.00	25	1.89%	CROSSAR	18	RCP
ST-B169	SINGLE GRATE INLET	638.00	ST-B162	638.00	25	1.89%	CROSSAR	18	RCP
ST-B170	SINGLE GRATE INLET	638.00	ST-B163	638.00	25	1.89%	CROSSAR	18	RCP
ST-B171	SINGLE GRATE INLET	638.00	ST-B164	638.00	25	1.89%	CROSSAR	18	RCP
ST-B172	SINGLE GRATE INLET	638.00	ST-B165	638.00	25	1.89%	CROSSAR	18	RCP
ST-B173	SINGLE GRATE INLET	638.00	ST-B166	638.00	25	1.89%	CROSSAR	18	RCP
ST-B174	SINGLE GRATE INLET	638.00	ST-B167	638.00	25	1.89%	CROSSAR	18	RCP
ST-B175	SINGLE GRATE INLET	638.00	ST-B168	638.00	25	1.89%	CROSSAR	18	RCP
ST-B176	SINGLE GRATE INLET	638.00	ST-B169	638.00	25	1.89%	CROSSAR	18	RCP
ST-B177	SINGLE GRATE INLET	638.00	ST-B170	638.00	25	1.89%	CROSSAR	18	RCP
ST-B178	SINGLE GRATE INLET	638.00	ST-B171	638.00	25	1.89%	CROSSAR	18	RCP
ST-B179	SINGLE GRATE INLET	638.00	ST-B172	638.00	25	1.89%	CROSSAR	18	RCP
ST-B180	SINGLE GRATE INLET	638.00	ST-B173	638.00	25	1.89%	CROSSAR	18	RCP
ST-B181	SINGLE GRATE INLET	638.00	ST-B174	638.00	25	1.89%	CROSSAR	18	RCP
ST-B182	SINGLE GRATE INLET	638.00	ST-B175	638.00	25	1.89%	CROSSAR	18	RCP
ST-B183	SINGLE GRATE INLET	638.00	ST-B176	638.00	25	1.89%	CROSSAR	18	RCP
ST-B184	SINGLE GRATE INLET	638.00	ST-B177	638.00	25	1.89%	CROSSAR	18	RCP
ST-B185	SINGLE GRATE INLET	638.00	ST-B178	638.00	25	1.89%	CROSSAR	18	RCP
ST-B186	SINGLE GRATE INLET	638.00	ST-B179	638.00	25	1.89%	CROSSAR	18	RCP
ST-B187	SINGLE GRATE INLET	638.00	ST-B180	638.00	25	1.89%	CROSSAR	18	RCP
ST-B188	SINGLE GRATE INLET	638.00	ST-B181	638.00	25	1.89%	CROSSAR	18	RCP
ST-B189	SINGLE GRATE INLET	638.00	ST-B182	638.00	25	1.89%	CROSSAR	18	RCP
ST-B190	SINGLE GRATE INLET	638.00	ST-B183	638.00	25	1.89%	CROSSAR	18	RCP
ST-B191	SINGLE GRATE INLET	638.00	ST-B184	638.00	25	1.89%	CROSSAR	18	RCP
ST-B192	SINGLE GRATE INLET	638.00	ST-B185	638.00	25	1.89%	CROSSAR	18	RCP
ST-B193	SINGLE GRATE INLET	638.00	ST-B186	638.00	25	1.89%	CROSSAR	18	RCP
ST-B194	SINGLE GRATE INLET	638.00	ST-B187	638.00	25	1.89%	CROSSAR	18	RCP
ST-B195	SINGLE GRATE INLET	638.00	ST-B188	638.00	25	1.89%	CROSSAR	18	RCP
ST-B196	SINGLE GRATE INLET	638.00	ST-B189	638.00	25	1.89%	CROSSAR	18	RCP
ST-B197	SINGLE GRATE INLET	638.00	ST-B190	638.00	25	1.89%	CROSSAR	18	RCP
ST-B198	SINGLE GRATE INLET	638.00	ST-B191	638.00	25	1.89%	CROSSAR	18	RCP
ST-B199	SINGLE GRATE INLET	638.00	ST-B192	638.00	25	1.89%	CROSSAR	18	RCP
ST-B200	SINGLE GRATE INLET	638.00	ST-B193	638.00	25	1.89%	CROSSAR	18	RCP
ST-B201	SINGLE GRATE INLET	638.00	ST-B194	638.00	25	1.89%	CROSSAR	18	RCP
ST-B202	SINGLE GRATE INLET	638.00	ST-B195	638.00	25	1.89%	CROSSAR	18	RCP
ST-B203	SINGLE GRATE INLET	638.00	ST-B196	638.00	25	1.89%	CROSSAR	18	RCP
ST-B204	SINGLE GRATE INLET	638.00	ST-B197	638.00	25	1.89%	CROSSAR	18	RCP
ST-B205	SINGLE GRATE INLET	638.00	ST-B198	638.00	25	1.89%	CROSSAR	18	RCP
ST-B206	SINGLE GRATE INLET	638.00	ST-B199	638.00	25	1.89%	CROSSAR	18	RCP
ST-B207	SINGLE GRATE INLET	638.00	ST-B200	638.00	25	1.89%	CROSSAR	18	RCP
ST-B208	SINGLE GRATE INLET	638.00	ST-B201	638.00	25	1.89%	CROSSAR	18	RCP
ST-B209	SINGLE GRATE INLET	638.00	ST-B202	638.00	25	1.89%	CROSSAR	18	RCP
ST-B210	SINGLE GRATE INLET	638.00	ST-B203	638.00	25	1.89%	CROSSAR	18	RCP
ST-B211	SINGLE GRATE INLET	638.00	ST-B204	638.00	25	1.89%	CROSSAR	18	RCP
ST-B212	SINGLE GRATE INLET	638.00	ST-B205	638.00	25	1.89%	CROSSAR	18	RCP
ST-B213	SINGLE GRATE INLET	638.00	ST-B206	638.00	25	1.89%	CROSSAR	18	RCP
ST-B214	SINGLE GRATE INLET	638.00	ST-B207	638.00	25	1.89%	CROSSAR	18	RCP
ST-B215	SINGLE GRATE INLET	638.00	ST-B208	638.00	25	1.89%	CROSSAR	18	RCP
ST-B216	SINGLE GRATE INLET	638.00	ST-B209	638.00	25	1.89%	CROSSAR	18	RCP
ST-B217	SINGLE GRATE INLET	638.00	ST-B210	638.00	25	1.89%	CROSSAR	18	RCP
ST-B218

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

_____ day of _____, 20_____ ,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Pulte Homes Tennessee Limited Partnership, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "CMPC") on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS"); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the "IMPROVEMENTS"); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Summit at Carter's West, Phase 1

PROJECT

Completed by the Developer	*Completed by the City*
Pulte Homes Tennessee Limited Partnership DEVELOPER NAME	
JEREMY BROOKS AUTHORIZED AGENT NAME	_____ CITY ENGINEER
_____ SIGNATURE	_____ SIGNATURE
09-12-23 DATE	_____ DATE
100 WESTWOOD PL, SUITE #100 STREET	
BRENTWOOD, TN 37027 CITY, STATE, ZIP	
629-867-8449 PHONE	
JEREMY.BROOKS@PULTEGROUP.COM EMAIL	
Attest	*Attest*
Kimberly Maynard ATTEST NAME	_____ ATTEST NAME
Kimberly Maynard ATTEST SIGNATURE	_____ ATTEST SIGNATURE
9-12-23 DATE	_____ DATE

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Carter's Creek Station Road, Columbia, TN		
	TAX MAP: 41	GROUP:	PARCEL: 15.50
SUMMARY OF NATURE OF REQUEST AND WORK	This application is to approve the final plat for phases of Summit at Carter's West, Phase 1B.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☐ Preliminary Plat ☒ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Summit at Carter's West, Phase 1B ☒ Total Number of Lots 29 ☒ Total acreage 8.09

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	T-Square Engineering	PHONE	615.678.8212
ADDRESS	111 SE Pkwy. Ct., Franklin, TN 37064	EMAIL	Allison.Corolla@T2-Eng.com

PROPERTY OWNER NAME	Pulte Homes Tennessee Limited Partnership	PHONE	629.867.8449
ADDRESS	100 Westwood Place, Suite 100 Brentwood, TN 37027	EMAIL	Jeremy.Brooks@PulteGroup.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Allison Corolla	Allison Corolla	4/9/2024
APPLICANT NAME	APPLICANT SIGNATURE	DATE

PULTE HOMES TENNESSEE LIMITED PARTNERSHIP		04/15/2024
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

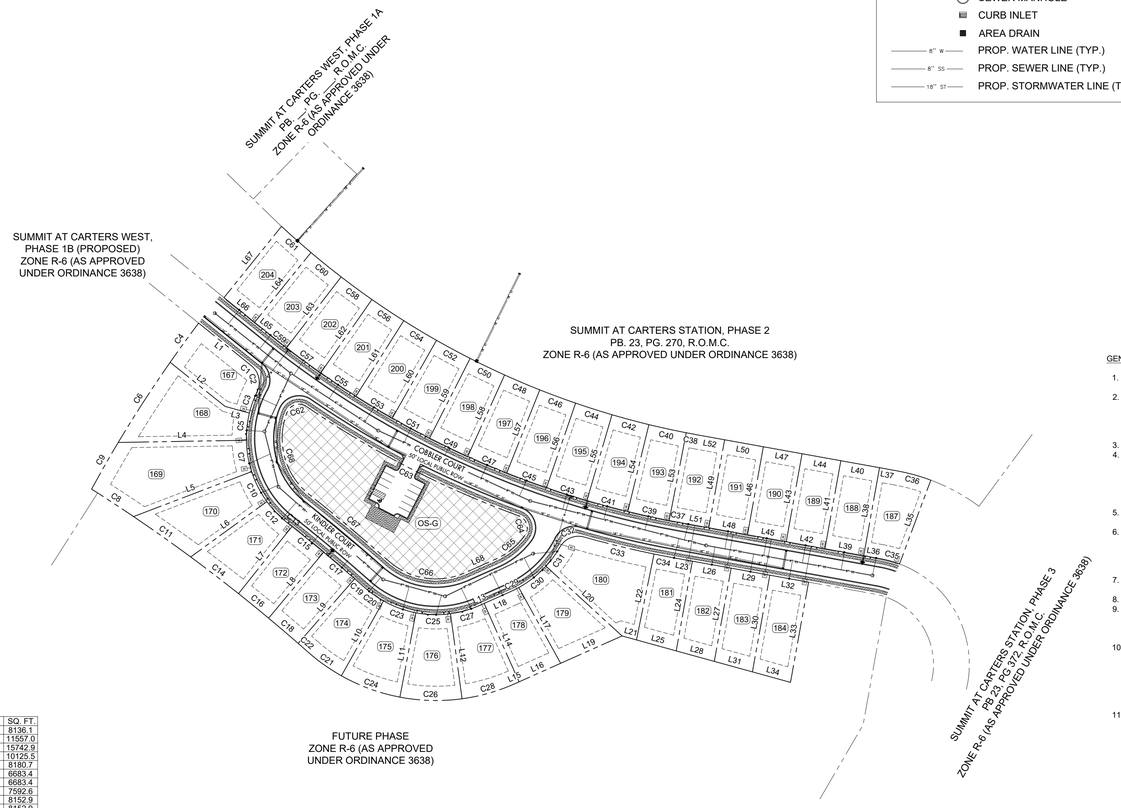
BOARD ACTION	



LINE	BEARING	DISTANCE
L1	S 51°06'04" E	88.55'
L2	S 51°13'28" E	98.43'
L3	S 74°39'44" E	35.26'
L4	N 89°00'58" E	179.11'
L5	N 69°07'17" E	176.51'
L6	N 53°57'55" E	131.68'
L7	N 38°30'53" E	120.00'
L8	N 39°50'29" E	120.00'
L9	N 41°10'06" E	120.00'
L10	N 29°19'12" E	120.00'
L11	N 10°46'59" E	120.00'
L12	N 07°45'14" W	120.00'
L13	N 65°57'42" E	6.68'
L14	N 24°02'18" W	120.00'
L15	N 65°57'42" E	6.68'
L16	N 65°57'42" E	63.61'
L17	N 28°56'25" W	120.99'
L18	N 65°57'42" E	60.46'
L19	N 65°57'42" E	93.90'
L20	N 47°26'37" W	144.28'
L21	S 74°35'15" E	20.96'
L22	N 11°31'12" E	122.55'
L23	S 79°46'31" E	24.60'
L24	S 10°13'29" W	127.38'
L25	S 74°35'15" E	67.56'
L26	S 79°46'31" E	55.00'
L27	S 10°13'29" W	132.37'
L28	N 74°35'15" W	55.23'
L29	S 79°46'31" E	55.00'
L30	S 10°13'29" W	137.37'
L31	N 74°35'15" W	55.23'
L32	S 79°46'31" E	55.00'
L33	S 10°13'29" W	142.36'
L34	N 74°35'15" W	55.23'
L35	N 20°28'21" E	125.00'
L36	N 79°46'31" W	24.65'
L37	S 79°46'31" E	24.65'
L38	N 10°13'29" E	125.00'
L39	N 79°46'31" W	55.00'
L40	S 79°46'31" E	55.00'
L41	N 10°13'29" E	125.00'
L42	N 79°46'31" W	55.00'
L43	N 10°13'29" E	125.00'
L44	S 79°46'31" E	55.00'
L45	N 79°46'31" W	55.00'
L46	N 10°13'29" E	125.00'
L47	S 79°46'31" E	55.00'
L48	N 79°46'31" W	55.00'
L49	N 10°13'29" E	125.00'
L50	S 79°46'31" E	55.00'
L51	N 79°46'31" W	38.82'
L52	S 79°46'31" E	38.82'
L53	N 11°00'27" E	125.00'
L54	N 13°40'05" E	125.00'
L55	N 16°19'42" E	125.00'
L56	N 18°59'20" E	125.00'
L57	N 21°38'57" E	125.00'
L58	N 24°18'35" E	125.00'
L59	N 26°58'12" E	125.00'
L60	N 29°37'50" E	125.00'
L61	N 32°17'27" E	125.00'
L62	N 34°57'05" E	125.00'
L63	N 37°36'42" E	125.00'
L64	N 38°53'56" E	125.35'
L65	N 51°06'04" W	28.39'
L66	N 51°06'04" W	55.00'
L67	N 38°53'56" E	128.03'
L68	S 65°57'42" W	47.14'

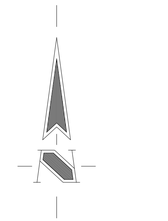
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	1325.00'	5.76'	5.76'	S 51°13'33" E
C2	30.00'	40.42'	37.43'	S 12°44'57" E
C3	150.00'	31.94'	31.88'	S 19°45'04" W
C4	1855.00'	67.73'	67.73'	N 36°02'25" E
C5	150.00'	38.31'	38.21'	S 06°20'00" W
C6	1855.00'	133.50'	133.47'	N 32°55'58" E
C7	150.00'	44.58'	44.42'	S 09°29'53" E
C8	2345.00'	70.19'	70.19'	N 56°47'18" W
C9	1855.00'	66.75'	66.75'	N 29°50'24" E
C10	150.00'	47.18'	46.99'	S 27°01'25" E
C11	2345.00'	97.72'	97.72'	N 54°44'13" W
C12	150.00'	40.98'	40.85'	S 43°51'37" E
C13	2465.00'	8.63'	8.63'	S 51°35'09" E
C14	2345.00'	84.22'	84.21'	N 52°30'51" W
C15	2465.00'	57.08'	57.08'	S 50°49'19" E
C16	2345.00'	54.31'	54.30'	N 50°49'19" W
C17	2465.00'	57.08'	57.08'	S 49°29'42" E
C18	2345.00'	54.31'	54.30'	N 49°29'42" W
C19	2465.00'	18.71'	18.71'	S 48°36'51" E
C20	150.00'	32.16'	32.10'	S 54°32'19" E
C21	270.00'	57.88'	57.77'	N 54°32'19" W
C22	2345.00'	17.80'	17.80'	N 48°36'51" W
C23	150.00'	48.53'	48.32'	S 69°56'55" E
C24	270.00'	87.35'	86.97'	N 69°56'55" W
C25	150.00'	48.53'	48.32'	S 88°29'07" E
C26	270.00'	87.35'	86.97'	N 88°29'07" W
C27	150.00'	42.63'	42.49'	N 74°06'14" E
C28	270.00'	76.74'	76.48'	S 74°06'14" W
C29	150.00'	12.83'	12.83'	N 63°30'39" E
C30	150.00'	48.53'	48.32'	N 51°47'29" E
C31	150.00'	33.19'	33.12'	N 38°11'01" E
C32	30.00'	39.80'	36.94'	N 67°50'48" E
C33	1325.00'	100.12'	100.09'	S 76°18'56" E
C34	1325.00'	29.95'	29.95'	S 79°07'39" E
C35	150.00'	26.83'	26.79'	N 74°39'05" W
C36	275.00'	49.18'	49.12'	S 74°39'05" E
C37	1275.00'	17.42'	17.42'	N 79°23'02" W
C38	1150.00'	15.71'	15.71'	S 79°23'02" E
C39	1275.00'	59.20'	59.20'	N 77°39'44" W
C40	1150.00'	53.40'	53.39'	S 77°39'44" E
C41	1275.00'	59.20'	59.20'	N 75°00'06" W
C42	1150.00'	53.40'	53.39'	S 75°00'06" E
C43	1275.00'	59.20'	59.20'	N 72°20'29" W
C44	1150.00'	53.40'	53.39'	S 72°20'29" E
C45	1275.00'	59.20'	59.20'	N 69°40'51" W
C46	1150.00'	53.40'	53.39'	S 69°40'51" E
C47	1275.00'	59.20'	59.20'	N 67°01'14" W
C48	1150.00'	53.40'	53.39'	S 67°01'14" E
C49	1275.00'	59.20'	59.20'	N 64°21'36" W
C50	1150.00'	53.40'	53.39'	S 64°21'36" E
C51	1275.00'	59.20'	59.20'	N 61°41'59" W
C52	1150.00'	53.40'	53.39'	S 61°41'59" E
C53	1275.00'	59.20'	59.20'	N 59°02'21" W
C54	1150.00'	53.40'	53.39'	S 59°02'21" E
C55	1275.00'	59.20'	59.20'	N 56°22'44" W
C56	1150.00'	53.40'	53.39'	S 56°22'44" E
C57	1275.00'	59.20'	59.20'	N 53°43'06" W
C58	1150.00'	53.40'	53.39'	S 53°43'06" E
C59	1275.00'	28.64'	28.64'	N 51°44'41" W
C60	1150.00'	54.23'	54.22'	S 51°02'14" E
C61	1150.00'	55.07'	55.07'	S 48°18'52" E
C62	18.00'	32.40'	28.20'	N 72°56'16" E
C63	1325.00'	334.91'	334.02'	S 62°44'35" E
C64	18.00'	33.23'	28.71'	S 17°05'29" E
C65	100.00'	52.64'	52.03'	S 50°52'54" W
C66	100.00'	114.57'	108.40'	N 81°13'03" W
C67	2515.00'	144.38'	144.36'	N 50°02'29" W
C68	100.00'	127.52'	119.05'	N 15°09'16" W

LOT	SQ. FT.
167	8136.1
168	11557.0
169	15742.9
170	10125.5
171	8180.7
172	6883.4
173	6883.4
174	7592.6
175	8152.9
176	8152.9
177	7964.2
178	7018.3
179	9036.6
180	12560.6
181	6986.3
182	7143.2
183	7417.8
184	7692.5
187	7831.8
188	6875.0
189	6875.0
190	6875.0
191	6875.0
192	6922.8
193	7037.5
194	7037.5
195	7037.5
196	7037.5
197	7037.5
198	7037.5
199	7037.5
200	7037.5
201	7037.5
202	7037.5
203	6956.9
204	6955.8
OS-G	38840.3



LEGEND

- FIRE HYDRANT
- WATER METER
- SEWER SERVICE
- SEWER MANHOLE
- CURB INLET
- AREA DRAIN
- 8" W — PROP. WATER LINE (TYP.)
- 8" SS — PROP. SEWER LINE (TYP.)
- 18" ST — PROP. STORMWATER LINE (TYP.)



TN SPCS NAD 83

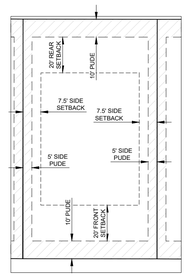
SCALE 1" = 100'

100 0 50 100 200

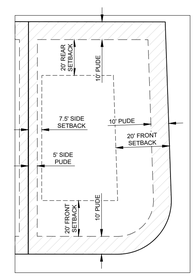
GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO CREATE 36 LOTS AND DEDICATE RIGHT-OF-WAY AND OPEN SPACE.
2. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC. ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENT SERVICES.
3. SUBJECT PROPERTY IS PARCEL 15.05 AS SHOWN ON MAURY COUNTY TAX MAP 41.
4. THE HORIZONTAL LOCATION DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS) USING THE TDOT NETWORK. TENNESSEE STATE PLANE COORDINATE SYSTEM ZONE 4100, NAD83. DRONE AERIAL PHOTOMETRY WAS ALSO USED TO SURVEY SOME ELEMENTS.
5. NO TITLE REPORT HAS BEEN FURNISHED, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH.
6. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF A GENERAL PROPERTY SURVEY AND CONFORMS TO THE ACCURACY OF A CATEGORY 1 SURVEY AS CURRENTLY DEFINED AND ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, AND THE RATIO OF PRECISION IS LESS THAN 1:10,000.
7. ALL PLOT AND DEED RECORDATION REFERENCES SHOWN HEREON ARE AS RECORDED IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
8. COLUMBIA POWER AND WATER SYSTEMS IS THE POWER PROVIDER.
9. STORMWATER MANAGEMENT OPERATION & MAINTENANCE WILL BE GOVERNED BY THE INSPECTION & MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES, DATED _____, RECORDED IN DEED BOOK ____, PAGE ____, REGISTER'S OFFICE OF MAURY COUNTY, TN.
10. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0180E WITH AN EFFECTIVE DATE OF 4/16/2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NO. 119C, PANEL NO. 0180 SUFFIX E, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
11. ACCORDING TO THE TYPICAL LOT DETAIL, ALL LOTS ARE TO HAVE A 10' PUDE IN THE FRONT AND REAR OF THE LOTS, AS WELL AS A 5' PUDE IN THE SIDE OF THE LOTS.

SITE DATA	
CURRENT ZONING:	R6
MINIMUM BUILDING SETBACKS:	
FRONT:	20'
REAR:	20'
SIDE:	7.5'
TOTAL PHASE AREA:	9.31 ACRES
OPEN SPACE:	0.89 ACRES
NEW ROW:	1.92 ACRES



TYPICAL R-6 LOT
N.T.S.



TYPICAL R-6 CORNER LOT
N.T.S.

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____
DATE

_____
DIRECTOR OF COLUMBIA WASTEWATER DEPARTMENT

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN RECORD BOOK NUMBERS R2806, PAGE 535, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINE, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES AND OTHER FACILITIES HAVE BEEN FILED.

_____, 20____
DATE

_____
OWNER

_____, 20____
DATE

_____
OWNER

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____, 20____
DATE

_____
CITY ENGINEER

CERTIFICATE OF APPROVAL OF SUBDIVISION AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES ARE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND MAURY COUNTY E911.

_____, 20____
DATE

_____
MAURY E911

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____
DATE

_____
NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CATEGORY I LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION IS LESS THAN OR EQUAL TO 1:10,000.

_____, 20____
DATE

_____
MARK CANTRELL, R.L.S

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____
DATE

_____
DIRECTOR OF COLUMBIA WATER DEPARTMENT

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN SUMMIT AT CARTER'S WEST, PHASE 2 HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE SURETY IN THE AMOUNT OF $_____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 20____
DATE

_____
CITY ENGINEER

OWNER OF RECORD
PULTE HOMES TENNESSEE LIMITED PARTNERSHIP
DEED BK. R2806 PG. 535, MAP 041 PARCEL 015.05
APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 4-1-2024
SCALE: 1" = 100'
DRAWN BY: DSW
REVIEWER:

PHASE 2 FINAL PLAT

MAP 041, P/O PARCEL 015.05
MAURY COUNTY, TENNESSEE

SUMMIT AT CARTER'S WEST

J. MARK CANTRELL XVI
PROFESSIONAL LAND SURVEYOR
AGRICULTURE COMMERCE
TENNESSEE NO. 1859

PROJECT
21-0515

SHEET
1 OF 1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • WWW.T2-ENG.COM

DOCUMENT PREPARED BY:
Name: Alexander Mollica
Company Crunk Engineering
Address: 7112 Crossroads Blvd.
Brentwood, TN 37027
After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 041, Parcel 15.50
Project Name: Summit at Carter's Station West - Phase 2

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book _____, Page(s) _____.

THIS AGREEMENT, made this 5 day of August, 2023, by and between Pulte Homes Tennessee Limited Partnership hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name JEREMY BROOKS

Title DIR. LAND

Signature

Owner PULTE HOMES TENNESSEE LIMITED PARTNERSHIP

Address 100 WESTWOOD PL, SUITE # 100

City, State ZIP BRENTWOOD, TN 37027.

STATE OF Tennessee
COUNTY OF Davidson

Before me, Kimberly Maynard of the state and county mentioned, personally appeared Jeremy Brooks, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the 11th day of September, 2023.

Kimberly Maynard
Notary Public

My Commission Expires: 9-8-2025

KIMBERLY MAYNARD
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY
MY COMMISSION EXPIRES 9-8-2025

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT

APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

Post Construction Long Term Maintenance Plan

Project Name: Summit at Carter's Station North – Phase 2

Columbia, TN

September 5, 2023

Table of Contents

Section Name

System Description
Maintenance Procedures

System Description

The site consists of a series of stormwater conveyances both open channel and piped. There are no detention/retention ponds associated with this Phase.

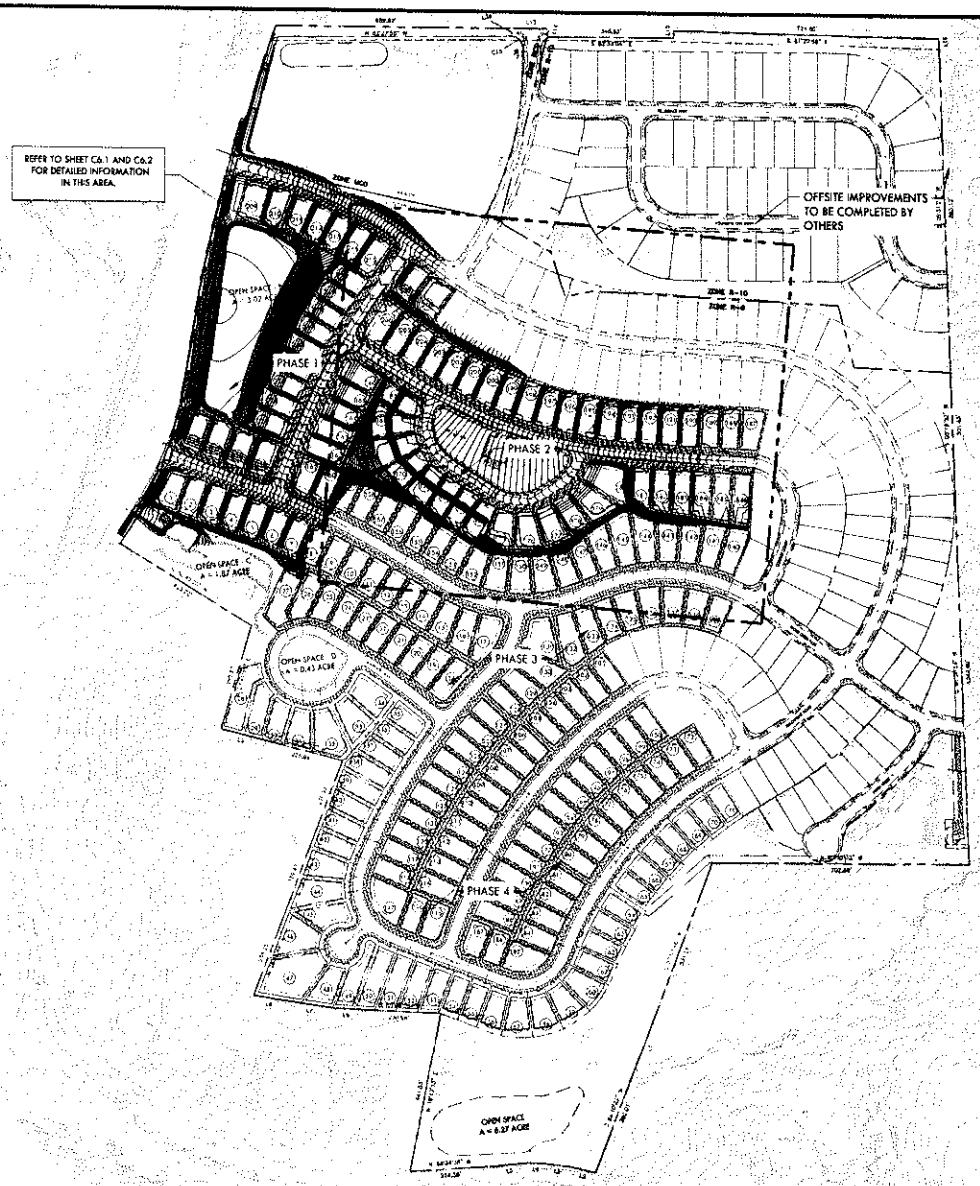
- 2,063 feet of grass lined open channel.
- 103 feet of 24 in ADS pipe, 1,285 feet of 18 in ADS pipe, 1,093 feet of 12 in HDPE pipe and 24 storm inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

A copy of the INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES that has been completed, notarized, and recorded in the Land Records of the County of Maury, Tennessee will be kept on site with this document.

Maintenance Procedures

1. **STORMWATER DETENTION PONDS**
   - **a.** The outlet structures shall be checked regularly for clogging and shall be cleaned and repaired as necessary---monthly after it is first built then a regular sequence should be established or at least quarterly or after a large rain event.
   - **b.** Check banks and bottom surface of basins for erosion and correct as necessary.
   - **c.** Check at least quarterly and after each extreme storm event, the facility should be cleaned of accumulated debris. The banks of surface ponds should be checked and areas of erosion repaired. Remove nuisance wetland species and take appropriate measures to control mosquitos.
   - **d.** This maintenance typically includes sediment, floatable, and debris removal from inlets, outlets and skimmers.
   - **e.** Pond vegetation to be trimmed or harvested as appropriate, grassy areas, frequently mowed. Grass should be mowed so that it does not get over 12.
   - **f.** Remove sediment when accumulation reached 6 inches, or if re-suspension is observed or probable.
   - **g.** Some sediment may contain contaminants which the Tennessee Department of Environment and Conservation (TDEC) requires special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations followed. The TDEC Division of Water Pollution Control should be contacted at (931) 380-3371. Generally, special attention or sampling should be given to sediment accumulated in facilities serving industrial, manufacturing or heavy commercial sites, Page 2 of 4 Rev. 9/26/2016 fueling centers or automotive maintenance areas, large parking areas, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.
   - **h.** Some sediment collected may be innocuous (free of pollutants) and can be used as fill material, cover or land spreading. It is important that this material not be placed in any way that will promote or allow re-suspension in storm runoff.
2. **103 feet of 24 in ADS pipe, 1,285 feet of 18 in ADS pipe, 1,093 feet of 12 in HDPE pipe and 24 storm inlets.**
   - a. These structures will be inspected and cleaned quarterly to ensure pipes and drain inlets do not fill with sediment or trash.



STORM PIPE TABLE

INLET	INVERT	OUTLET	INVERT	LENGTH (FT)	SLOPE (%)	SHAPE	DIAMETER (IN)	MATERIAL
N-D9	677.70		687.90	103.22	4.93%	CIRCULAR	24	ADS
N-D10	687.00	N-D9	673.10	211.91	6.56%	CIRCULAR	18	ADS
N-D11	701.90	N-D10	687.10	204.88	7.22%	CIRCULAR	18	ADS
N-D12	708.30	N-D11	702.00	93.78	6.58%	CIRCULAR	18	ADS
N-D13	726.90	N-D12	708.46	379.47	5.20%	CIRCULAR	18	ADS
N-D14	726.75	N-D13	726.10	25.00	2.60%	CIRCULAR	18	ADS
N-F1	662.40		648.00	136.64	12.16%	CIRCULAR	12	HDPE
N-F2	674.00	N-F1	663.40	135.60	7.82%	CIRCULAR	12	HDPE
N-F3	680.20	N-F2	674.00	96.05	6.45%	CIRCULAR	12	HDPE
N-F4	686.20	N-F3	680.20	106.14	5.65%	CIRCULAR	12	HDPE
N-F5	696.80	N-F4	686.30	152.11	6.90%	CIRCULAR	12	HDPE
N-F6	702.30	N-F5	696.80	107.36	5.12%	CIRCULAR	12	HDPE
N-F7	706.00	N-F6	702.30	124.58	2.97%	CIRCULAR	12	HDPE
N-F8	720.00	N-F7	706.00	91.84	15.24%	CIRCULAR	12	HDPE
N-F9	726.00	N-F8	720.00	152.36	3.94%	CIRCULAR	12	HDPE
N-K1	674.00	N-D9	673.50	25.00	2.00%	CIRCULAR	18	ADS
N-L1	676.90	N-D9	673.10	70.83	5.36%	CIRCULAR	18	ADS
N-L2	677.50	N-L1	677.00	25.00	2.00%	CIRCULAR	18	ADS
N-L3	680.70	N-L2	677.60	61.75	5.02%	CIRCULAR	18	ADS
N-L4	684.30	N-L3	680.80	66.90	5.23%	CIRCULAR	18	ADS
N-L5	690.70	N-L4	684.40	143.64	4.39%	CIRCULAR	18	ADS
N-L6	691.10	N-L5	690.60	25.00	1.20%	CIRCULAR	18	ADS
N-O1	708.70	N-D12	708.40	25.00	1.20%	CIRCULAR	18	ADS
N-F1	687.90	N-D10	687.60	25.00	1.20%	CIRCULAR	18	ADS

STORM STRUCTURE TABLE

ID	RIM	INVERT	TYPE
N-D9	676.88	677.70	SINGLE CURB INLET
N-D10	690.71	687.00	SINGLE CATCH BASIN
N-D11	705.00	701.90	SINGLE CURB INLET
N-D12	711.67	708.30	SINGLE CURB INLET
N-D13	730.11	726.00	SINGLE CURB INLET
N-D14	730.11	726.75	SINGLE CURB INLET
N-F1	666.47	663.40	12" NYLOPLAST
N-F2	676.39	674.00	12" NYLOPLAST
N-F3	682.98	680.20	12" NYLOPLAST
N-F4	690.67	686.20	12" NYLOPLAST
N-F5	699.56	696.80	12" NYLOPLAST
N-F6	705.07	702.30	12" NYLOPLAST
N-F7	708.64	706.00	12" NYLOPLAST
N-F8	722.85	720.00	12" NYLOPLAST
N-F9	730.41	726.00	12" NYLOPLAST
N-K1	676.88	674.00	SINGLE CURB INLET
N-L1	681.27	676.90	SINGLE CURB INLET
N-L2	681.37	677.50	SINGLE CURB INLET
N-L3	684.52	680.70	SINGLE CURB INLET
N-L4	687.93	684.30	SINGLE CURB INLET
N-L5	694.40	690.70	SINGLE CURB INLET
N-L6	694.40	691.10	SINGLE CURB INLET
N-O1	711.67	708.90	SINGLE CURB INLET
N-F1	690.71	687.90	SINGLE CURB INLET

NOTES:

1. GRADING TO MATCH BUILDING TYPE AND ANY LOTS OVER 20% GRADE SHALL BE LABELED AS CRITICAL
2. A GEOTECHNICAL INVESTIGATION WILL BE REQUIRED TO INVESTIGATE THE EXISTENCE OF SINKHOLES. ANY SINKHOLES DISCOVERED WILL BE REMEDIATED AS NECESSARY.

0 50 100 150 300
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 200
BRENTWOOD, TN. 37027
(615) 873-1795
WWW.CRUNKENG.COM

SUMMIT AT CARTERS STATION NORTH
PHASE 2 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

REVISIONS		
No.	DATE	
1	06/16/23	

03/29/23 21027

C6.0
OVERALL GRADING & DRAINAGE PLAN

C6.1
GRADING PLAN

03/29/23
21027

REVISIONS	
No.	DATE
1	06/16/23

SUMMIT AT CARTERS STATION NORTH
PHASE 2 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 673-1795
WWW.CRUNKENG.COM

C6.2
DRAINAGE PLAN

03/29/23
21027

REVISIONS	
No.	DATE
1	06/16/23

SUMMIT AT CARTERS STATION NORTH
PHASE 2 - CONTRACTOR SET

CARTERS CREEK STATION ROAD
MAURY COUNTY, TENNESSEE

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

_____ day of _____, 20_____ ,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Pulte Homes Tennessee Limited Partnership, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "CMPC") on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS"); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the "IMPROVEMENTS"); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Summit at Carter's West, Phase 2

PROJECT

Completed by the Developer	*Completed by the City*
Pulte Homes Tennessee Limited Partnership DEVELOPER NAME	
JEREMY BROOKS - AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
04/15/2024 DATE	DATE
100 WESTWOOD PL, SUITE #100 STREET	
BRENTWOOD, TN 37027 CITY, STATE, ZIP	
629-867-8449 PHONE	
JEREMY.BROOKS@PULTEGROUP.COM EMAIL	
Attest	*Attest*
Kyle Carson ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
4/15/2024 DATE	DATE

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Carter's Creek Station Road, Columbia, TN		
	TAX MAP: 41	GROUP:	PARCEL: 15.50
SUMMARY OF NATURE OF REQUEST AND WORK	This application is to approve the final plat for phases of Summit at Carter's West, Phase 2.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
☐ Annexation ☐ Rezoning ☐ Preliminary Plat ☒ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Summit at Carter's West, Phase 2 ☒ Total Number of Lots 36 ☒ Total acreage 9.31

Rev. 4/14/2022

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	T-Square Engineering	PHONE	615.678.8212
ADDRESS	111 SE Pkwy. Ct., Franklin, TN 37064	EMAIL	Allison.Corolla@T2-Eng.com

PROPERTY OWNER NAME	Pulte Homes Tennessee Limited Partnership	PHONE	629.867.8449
ADDRESS	100 Westwood Place, Suite 100 Brentwood, TN 37027	EMAIL	Jeremy.Brooks@PulteGroup.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Allison Corolla	Allison Corolla	4/9/2024
APPLICANT NAME	APPLICANT SIGNATURE	DATE
PULTE HOMES TENNESSEE LIMITED PARTNERSHIP		04/15/2024
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0128

DESCRIPTION: This is phase 4 of Quail Run Meadows Subdivision with 34 lots and 2 open space areas.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is City Planner Kevin McCarthy, AICP; he will prepare the staff report for this item. Please contact kmccarthy@columbiatn.com with question about the development review process or technical comments.
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged.
3. Phasing and lot numbering has changed since preliminary plat. Please provide an updated phasing plan for all portions of Quail Run.
4. Please revise typical lot layout. The typical shown on the submittal should be noted "lots 406-421." The typical layout for lots 401 through 404 as well as lots 424 through 434 should depict the 21' PUDE at the front of the lot.
5. Please add a notation to general notes that PUDEs exceed MBSLs on lots 401 – 404, lots 424 – 434, and lot 405.
6. Does the sanitary sewer extend through the PUDE between lots 405 and 520 (see approved CDs sheet C-7.0)? If yes, please show on final plat.
7. This Final Plat will be placed on the Planning Commission's discussion agenda due to changes in phasing, stormwater detentions, and utility easements (some of which exceed MBSLs).
8. Correct notation of "Future Phase 4" to "Future Phase 5".
9. Please revise note #10 to indicate that the development was approved in May 2018 under Ordinance 3638.
10. If Development Services receives a complete and timely resubmittal responsive to all comments and conditions on or before April 15th, this item will be forwarded to the Planning Commission. If a complete and responsive resubmittal is not received by April 15th, this item will automatically be added to the May Development Review Committee agenda for additional review. If the application remains incomplete on May 20th, the project will be closed.

Fire

11. No comments

Engineering

12. Binder and curbing to be installed by resubmittal date.
13. Provide calculation and LOC by resubmittal date.
14. Grading shall substantially meet construction plans (within 1 ft of proposed grades)
15. Reference and record stormwater maintenance agreement prior to resubmittal date.

ATT

16. PLAN TO SERVE

Building

17. No comments.

Columbia Power

18. Columbia Power System does not have existing power facilities near your proposed development within our service territory. DREMC will be the service provider for this area.

Maury County Schools

19. Howell Elementary, Cox Middle School, Battle Creek High School 24/25 SY 9-10th 25/26 SY 9-11tj. 26/27 9-12th. Spring Hill High School 24/25 11-12th, 25/26 12th. The development combined with current neighborhood and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Wastewater

20. Sanitary sewer going north on Somersby Trail is not shown.

Duck River Electric Membership Corp

21. No comments.

Maury County Highway Dept.

22. No comments provided.

Maury County E911

23. Contact Maury County 911 for any road names to be reserved.

Columbia Water

24. "Complete any remaining infrastructure, conduct bacteria and pressure testing, and be prepared to deed over infrastructure to CPWS at time of plat signing. Water system must be active in order for plat signing"

CPWS BB

25. Do Not Plan to Serve

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity
Elementary	Baker	1960	43,920	12	340
	Battle Creek	2019	90,000	30	700
	Brown	1968	56,720	20	405
	Highland	1986	47,800	4.5	380
	Howell	1999	81,600	17.5	700
	Mt. Pleasant	1978	80,021	22	630
	Riverside	1984	71,150	14	500
	Spring Hill	1984	69,000	10	540
	Woodard	1990	76,200	17	600
	Wright	2005	97,765	18	740
					5535
Middle	Battle Creek	2019	125,000	45	900
	Cox	1997	137,200	25	900
	Mt. Pleasant	2001	113,938	29.2	550
	Spring Hill	2010	158,106	39.49	950
	Whitthorne	1979	175,600	17	1050
					4350
High	Central	2016	296,740	55	1700
	Mt. Pleasant	1969	110,759	31	600
	Spring Hill	1993	181,800	57	1200
					3500
Unit	Culleoka	1969	205,800	34	1020
	Hampshire	1978	83,410	13.12	500
	Santa Fe	1964	94,225	24	650
					2170
Other	Central Office	1960	15,400	1.5	
	College Hill	1958	42,211	2.26	
	Maintenance	1987	9,400	4.7	
	McDowell		46,165	7	
			2,509,930	**550.27**	**15555**

Current Enrollment	Capacity Used
320	94.1%
638	91.1%
366	90.4%
319	83.9%
595	85.0%
571	90.6%
402	80.4%
449	83.1%
565	94.2%
601	81.2%
4826	***87.2%***
732	81.3%
646	71.8%
415	75.5%
523	55.1%
980	93.3%
3296	***75.8%***
1372	80.7%
366	61.0%
1195	99.6%
2933	***83.8%***
873	85.6%
415	83.0%
512	78.8%
1800	***82.9%***
174	
13029	

Lot Table		
Parcel #	Area SF	Area AC
401	6737.50	0.15
402	6737.50	0.15
403	6737.50	0.15
404	6737.50	0.15
405	7043.75	0.16
406	7906.86	0.18
407	6600.00	0.15
408	6600.00	0.15
409	6600.00	0.15

Lot Table		
Parcel #	Area SF	Area AC
410	10287.83	0.24
411	8524.57	0.20
412	6985.73	0.16
413	6973.84	0.16
414	6979.53	0.16
415	6985.39	0.16
416	6991.03	0.16
417	6996.79	0.16
418	7002.55	0.16

Lot Table		
Parcel #	Area SF	Area AC
419	8408.77	0.19
420	8413.11	0.19
421	7012.50	0.16
422	6600.00	0.15
423	7906.86	0.18
424	9046.86	0.21
425	6600.00	0.15
426	6600.00	0.15
427	6600.00	0.15

Lot Table		
Parcel #	Area SF	Area AC
428	6600.00	0.15
429	6600.00	0.15
430	6600.00	0.15
431	6600.00	0.15
432	7372.37	0.17
433	7827.82	0.18
434	7993.70	0.18

GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE THIS PROPERTY INTO 34 LOTS, 2 OPEN SPACES, AND DEDICATE RIGHT-OF-WAY AND EASEMENTS.
2. THE PROPERTY SHOWN HEREON IS LOCATED WITHIN THE CITY OF COLUMBIA, MAURY COUNTY, TN. ALL MATTERS PERTAINING TO CONSTRUCTION, USE, LOCATION OF IMPROVEMENTS, SIGNAGE, PARKING, NOISE, VIBRATION, EMISSIONS, FIRE HAZARDS, RADIATION, ILLUMINATION, SETBACK PROVISIONS, ETC. ARE SUBJECT TO THE CITY OF COLUMBIA'S ZONING REGULATIONS AS INTERPRETED AND REGULATED BY THE DEPARTMENT OF DEVELOPMENT SERVICES.
3. SUBJECT PROPERTY IS PARCEL 17.06 AS SHOWN ON MAURY COUNTY TAX MAP 73.
4. DEED REFERENCE: RECORD BOOK 2837, PAGE 394, REGISTER'S OFFICE OF MAURY COUNTY, TN.
5. THE HORIZONTAL LOCATION DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS) USING THE TDOT NETWORK. TENNESSEE STATE PLANE COORDINATE SYSTEM ZONE 4100, NAD83. DRONE AERIAL PHOTOMETRY WAS ALSO USED TO SURVEY SOME ELEMENTS.
6. NO TITLE REPORT HAS BEEN FURNISHED, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH.
7. THE TOTAL AREA OF THE PROPERTY SURVEYED IS 10.26 +/- ACRES.
8. THE NEW RIGHT-OF-WAY DEDICATION AREA IS 1.89 +/- ACRES.
9. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0195E WITH AN EFFECTIVE DATE OF 4/16/2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NO. 119C, PANEL NO. 0195 SUFFIX E. WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
10. THIS PROPERTY IS ZONED R6.
11. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF A GENERAL PROPERTY SURVEY AND CONFORMS TO THE ACCURACY OF A CATEGORY 1 SURVEY AS CURRENTLY DEFINED AND ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, AND THE RATIO OF PRECISION IS LESS THAN 1:10,000.
12. ALL PLOT AND DEED RECORDATION REFERENCES SHOWN HEREON ARE AS RECORDED IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.
13. THIS SURVEY HAS BEEN SIGNED AND SEALED DIGITALLY.
14. DUCK RIVER ELECTRIC MEMBERSHIP CORPORATION IS THE POWER PROVIDER.
15. STORM WATER MANAGEMENT OPERATION AND MAINTENANCE WILL BE GOVERNED BY THE INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORM WATER MANAGEMENT FACILITIES, DATED _____, IN RECORD BOOK ____, PAGE ___, REGISTER'S OFFICE OF MAURY COUNTY, TN.

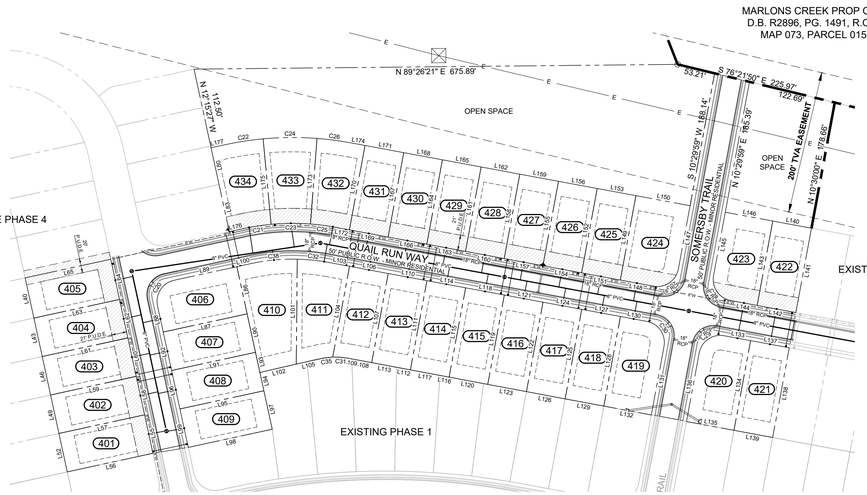
SPECIAL UTILITY NOTE

THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF UTILITIES SHOWN SHOULD BE DOWN SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTANCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE, IT IS A REQUIREMENT PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT" THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN (3) NOR MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT.

Parcel Line Table		
Line #	Length	Direction
L40	57.50	N12° 15' 27.35"W
L43	55.00	N12° 15' 27.35"W
L46	55.00	N12° 15' 27.35"W
L49	55.00	N12° 15' 27.35"W
L52	55.00	N12° 15' 27.35"W
L55	55.00	S12° 15' 27.35"E
L56	122.50	S77° 44' 32.65"W
L57	122.50	S77° 44' 32.65"W
L58	55.00	S12° 15' 27.35"E
L59	122.50	S77° 44' 32.65"W
L60	55.00	S12° 15' 27.35"E
L61	122.50	S77° 44' 32.65"W
L62	55.00	S12° 15' 27.35"E
L63	122.50	S77° 44' 32.65"W
L64	57.50	S12° 15' 27.35"E
L65	122.50	S77° 44' 32.65"W
L80	52.50	S12° 15' 27.35"E
L83	67.50	S12° 15' 27.35"E
L86	67.50	S12° 15' 27.35"E
L87	120.00	S77° 44' 32.65"W
L88	37.50	N12° 15' 27.35"W
L89	90.00	N77° 44' 32.65"E
L90	55.00	S12° 15' 27.35"E
L91	120.00	S77° 44' 32.65"W
L92	55.00	N12° 15' 27.35"W
L93	28.87	S12° 15' 27.35"E
L94	26.13	S12° 15' 27.35"E
L95	120.00	S77° 44' 32.65"W
L96	55.00	N12° 15' 27.35"W
L97	55.00	S12° 15' 27.35"E
L98	120.00	S77° 44' 32.65"W
L99	55.00	N12° 15' 27.35"W
L100	20.00	N77° 44' 32.65"E
L101	146.71	N0° 30' 47.40"E
L102	52.18	S77° 05' 28.54"W
L103	29.86	S79° 30' 00.75"E
L104	129.07	N10° 29' 59.25"E
L105	32.96	S77° 05' 28.54"W
L106	55.00	S79° 30' 00.75"E
L107	126.75	N10° 29' 59.25"E
L108	24.48	N79° 22' 47.84"W
L109	8.60	N79° 23' 27.96"W
L110	55.00	S79° 30' 00.75"E
L111	126.85	N10° 29' 59.25"E
L112	16.51	N79° 23' 27.96"W
L113	38.49	N79° 23' 53.47"W
L114	55.00	S79° 30' 00.75"E
L115	126.96	N10° 29' 59.25"E
L116	10.82	N79° 21' 57.21"W
L117	44.18	N79° 23' 27.96"W
L118	55.00	S79° 30' 00.75"E
L119	127.06	N10° 29' 59.25"E
L120	55.00	N79° 23' 45.81"W
L121	55.00	S79° 30' 00.75"E
L122	127.16	N10° 29' 59.25"E
L123	55.00	N79° 23' 27.96"W
L124	55.00	S79° 30' 00.75"E
L125	127.27	S10° 29' 59.25"W
L126	55.00	N79° 23' 27.96"W
L127	55.00	N79° 30' 00.75"W

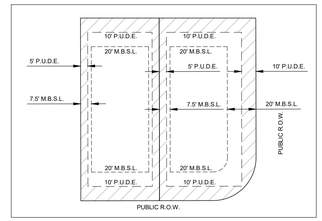
Parcel Line Table		
Line #	Length	Direction
L128	127.37	N10° 29' 59.25"E
L129	55.00	S79° 23' 27.96"E
L130	37.50	S79° 30' 00.75"E
L131	97.50	S10° 29' 59.25"W
L132	67.50	N79° 23' 27.96"W
L133	37.50	N79° 30' 00.75"W
L134	127.50	N10° 29' 59.25"E
L135	67.50	S79° 30' 00.75"E
L136	97.50	S10° 29' 59.25"W
L137	55.00	S79° 30' 00.75"E
L138	127.50	S10° 29' 59.25"W
L139	55.00	N79° 30' 00.75"W
L140	55.00	S79° 30' 00.75"E
L141	120.00	S10° 29' 59.25"W
L142	55.00	N79° 30' 00.75"W
L143	120.00	N10° 29' 59.25"E
L144	37.50	S79° 30' 00.75"E
L145	90.00	S10° 29' 59.25"W
L146	67.50	N79° 30' 00.75"W
L147	90.00	S10° 29' 59.25"W
L148	47.00	N79° 30' 00.75"W
L149	120.00	N10° 29' 59.25"E
L150	77.00	S79° 30' 00.75"E
L151	55.00	N79° 30' 00.75"W
L152	120.00	N10° 29' 59.25"E
L153	55.00	S79° 30' 00.75"E
L154	55.00	N79° 30' 00.75"W
L155	120.00	N10° 29' 59.25"E
L156	55.00	S79° 30' 00.75"E
L157	55.00	N79° 30' 00.75"W
L158	120.00	N10° 29' 59.25"E
L159	55.00	S79° 30' 00.75"E
L160	55.00	S79° 30' 00.75"E
L161	120.00	S10° 29' 59.25"W
L162	55.00	N79° 30' 00.75"W
L163	55.00	N79° 30' 00.75"W
L164	120.00	N10° 29' 59.25"E
L165	55.00	S79° 30' 00.75"E
L166	55.00	N79° 30' 00.75"W
L167	120.00	N10° 29' 59.25"E
L168	55.00	S79° 30' 00.75"E
L169	55.00	N79° 30' 00.75"W
L170	120.00	N10° 29' 59.25"E
L171	55.00	S79° 30' 00.75"E
L172	20.36	N79° 30' 00.75"W
L173	120.00	N4° 23' 11.80"E
L174	20.36	S79° 30' 00.75"E
L175	120.00	N5° 19' 16.34"W
L176	20.00	N77° 44' 32.65"E
L177	20.00	S77° 44' 32.65"W

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C35	18.95	100.00	10.86	S82° 31' 10"W	18.92
C32	44.01	275.00	9.17	S84° 05' 07"E	43.97
C38	65.21	275.00	13.59	N84° 32' 09"E	65.06
C24	75.40	445.00	9.71	N89° 31' 58"E	75.31
C23	55.07	325.00	9.71	S89° 31' 58"W	55.00
C26	47.48	445.00	6.11	S82° 33' 24"E	47.46
C25	34.68	325.00	6.11	N82° 33' 24"W	34.66
C20	47.12	30.00	90.00	N32° 44' 33"E	42.43
C31	22.10	100.00	12.66	N85° 43' 19"W	22.05
C22	53.87	445.00	6.94	S81° 12' 38"W	53.84
C21	39.35	325.00	6.94	N81° 12' 38"E	39.32
C27	47.12	30.00	90.00	S55° 29' 59"W	42.43
C28	47.12	30.00	90.00	S34° 30' 01"E	42.43
C29	47.12	30.00	90.00	S55° 29' 59"W	42.43
C30	47.12	30.00	90.00	S34° 30' 01"E	42.43





VICINITY MAP (NOT TO SCALE)



TYPICAL LOT (NOT TO SCALE)

8"W	WATER LINE
18" RCP	STORM SEWER LINE
8" PVC	SANITARY SEWER LINE
E	OVERHEAD ELECTRIC LINE
	DRAINAGE EASEMENT
	UTILITY EASEMENT
	FIRE HYDRANT
	CATCH BASIN
D	STORMWATER MANHOLE
SS	SANITARY SEWER MANHOLE
	HEADWALL

SITE DATA	
CURRENT ZONING:	R-6
MINIMUM BUILDING SETBACKS	
FRONT:	20'
REAR:	20'
SIDE:	7.5'
TOTAL PHASE AREA:	10.26 ACRES
TOTAL OPEN SPACE:	2.71 ACRES
NEW STREETS:	1.89 ACRES

IF YOU DIG TENNESSEE...
CALL US FIRST!
1-800-351-1111
TENNESSEE ONE CALL
IT'S THE LAW

TN SPCS NAD 83
SCALE 1" = 100'

100 0 50 100 200

CERTIFICATE OF APPROVAL OF SUBDIVISION AND STREET NAMES

SUBDIVISION NAME AND STREET NAMES ARE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND MAURY COUNTY E911.

_____, 20____
DATE MAURY E911

CERTIFICATE OF APPROVAL OF SEWER SYSTEM

I HEREBY CERTIFY THAT THE SEWER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____
DATE DIRECTOR OF COLUMBIA WASTEWATER DEPARTMENT

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AS EVIDENCED IN RECORD BOOK NUMBER 2837, PAGE 394, MAURY COUNTY REGISTER'S OFFICE, AND THAT I (WE) HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY (OUR) FREE CONSENT, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINE, AND THAT OFFERS OF IRREVOCABLE DEDICATION FOR ALL PUBLIC WAYS, UTILITIES AND OTHER FACILITIES HAVE BEEN FILED.

_____, 20____
DATE OWNER

CERTIFICATE OF SURVEY ACCURACY

I (WE) HEREBY CERTIFY THAT TO THE BEST OF MY (OUR) KNOWLEDGE AND BELIEF THIS IS A TRUE AND ACCURATE SURVEY OF THE PROPERTY SHOWN HEREON; THAT THIS IS A CATEGORY I LAND SURVEY AS DEFINED IN TITLE 62, CHAPTER 18, TENNESSEE CODE ANNOTATED, AND THAT THE RATIO OF PRECISION IS LESS THAN OR EQUAL TO 1:10,000.

_____, 20____
DATE MARK CANTRELL, R.L.S

CERTIFICATE OF COMPLIANCE

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS AND OTHER ADOPTED ORDINANCES AND POLICIES.

_____, 20____
DATE CITY ENGINEER

CERTIFICATE OF APPROVAL FOR RECORDING

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE COLUMBIA SUBDIVISION REGULATIONS WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED IN THE MINUTES OF THE PLANNING COMMISSION AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE COUNTY REGISTER.

_____, 20____
DATE NAME, TITLE, AGENCY OF AUTHORIZED AGENT

CERTIFICATE OF APPROVAL OF STREETS, DRAINAGE AND UTILITIES

I HEREBY CERTIFY THAT THE STREETS, DRAINAGE AND UTILITIES DESIGNATED IN QUAIL RUN MEADOWS SUBDIVISION (PHASE 4) HAVE BEEN INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS, OR A PERFORMANCE SURETY IN THE AMOUNT OF $_____ FOR STREETS AND DRAINAGE HAS BEEN POSTED WITH THE CITY OF COLUMBIA TO ASSURE COMPLETION OF SUCH IMPROVEMENTS.

_____, 20____
DATE CITY ENGINEER

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I HEREBY CERTIFY THAT THE WATER SYSTEM OUTLINED OR INDICATED ON THIS FINAL SUBDIVISION PLAT HAS BEEN INSTALLED IN ACCORDANCE WITH THE CURRENT LOCAL AND STATE GOVERNMENT REQUIREMENTS OR A SUFFICIENT BOND OR OTHER SURETY HAS BEEN FILED TO GUARANTEE SAID INSTALLATION.

_____, 20____
DATE DIRECTOR OF COLUMBIA WATER DEPARTMENT

OWNER OF RECORD
QUAIL RUN DEVELOPMENT CO., LLC 1804 WILLIAMSON COURT, SUITE 101 BRENTWOOD, TN 37027 D.B. R2837, PG. 394, R.O.M.C. MAP 073, PARCEL 017.06
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

J. MARK CANTRELL XVI
PROFESSIONAL LAND SURVEYOR
AGRICULTURE
COMMERCE
TENNESSEE NO. 1859

REVISIONS

NO.	DATE

DATE: 3-13-2024
SCALE: 1" = 100'
DRAWN BY: DSW
REVIEWER:

PHASE 4 FINAL PLAT
LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

QUAIL RUN MEADOWS SUBDIVISION

PROJECT
17-0707

SHEET
1 OF 1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

_____ day of _____, 20_____,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

Quail Run Development Co. LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the "CMPC") on the

_____ day of _____, 20_____,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS"); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the "IMPROVEMENTS"); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER's properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register's Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Quail Run Meadows, Phase 4

PROJECT

Completed by the Developer	*Completed by the City*
Quail Run Development Co. LLC DEVELOPER NAME	
Joey Smith AUTHORIZED AGENT NAME	CITY ENGINEER
SIGNATURE	SIGNATURE
3-4-24 DATE	DATE
1804 Williamson Ct. #101 STREET	
Brentwood TN 37027 CITY, STATE, ZIP	
615 308 1885 PHONE	
JoeySmith@me.com EMAIL	
Attest	*Attest*
Hudson Smith ATTEST NAME	ATTEST NAME
ATTEST SIGNATURE	ATTEST SIGNATURE
3/6/2024 DATE	DATE

DOCUMENT PREPARED BY:
Name: Allison Corolla
Company T-Square Engineering
Address:
1329 West Main Street
Franklin, TN 37064
After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 73, Parcel 17.03
Project Name: Quail Run Meadows Subdivision, Phase 4 & 5

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book R2837, Page(s) 394.

THIS AGREEMENT, made this _____ day of _____, 20____, by and between Quail Run Development Co. LLC hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name Joel A. Smith

Title Chief Manager

Signature Joel A Smith

Owner Quail Run Development LLC

Address 1804 Williamson Ct. #101

City, State ZIP Brentwood TN 37027

STATE OF TN
COUNTY OF Williamson

Before me, Alicia R Hamilton of the state and county mentioned, personally appeared Joel A. Smith, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the 4th day of March, 2024.

Notary Public

ALICIA R. HAMILTON
TENNESSEE NOTARY PUBLIC
My Comm Exp. 06/21/25
COUNTY OF WILLIAMSON

My Commission Expires:_____

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT

APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

T-SQUAREENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

1329 West Main Street
Franklin, TN 37064
615.678.8212

www.T2-eng.com

2/13/2024

City of Columbia
Development Services
700 N. Garden Street
Columbia, TN 38401

POST CONSTRUCTION LONG TERM MAINTENANCE PLAN
PROJECT NAME: QUAIL RUN MEADOWS, PHASE 4 & 5

SYSTEM DESCRIPTION:

The site consists of stormwater conveyances through piped channel and detention ponds.

- There is one (1) pond in Phase 4 that is sized to detain the 100-year peak event.
- 2,569 LF of round concrete pipe and 29 storms inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

A copy of the INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES that has been completed, notarized and recorded in the Land Records of the County of Maury, Tennessee will be kept on site with this document.

MAINTENANCE PROCEDURES

1. STORMWATER DETENTION PONDS
    a. The outlet structure shall be checked regularly for clogging and shall be cleaned and repaired as necessary---monthly after it is first built then a regular sequence should be established or at least quarterly or after a large rain event.

    b. Check banks and bottom surface of basin for erosion and correct as necessary.

    c. Check at least quarterly and after each extreme storm event, the facility should be cleaned of accumulated debris. The banks of the surface pond should be checked and areas of erosion repaired. Remove nuisance wetland species and take appropriate measures to control mosquitoes.

    d. This maintenance typically includes sediment, floatable, and debris removal from inlets, outlets and skimmers.

    e. Pond vegetation needs to be trimmed or harvested as appropriate, grassy areas frequently mowed. Grass should be mowed so that it does not get over 12 inches.

f. Remove sediment when accumulation reached 6 inches, or if re-suspension is observed or probable.

g. Some sediment may contain contaminants which the Tennessee Department of Environment and Conservation (TDEC) requires special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations followed. The TDEC Division of Water Pollution Control should be contacted at (931) 380-3371. Generally, special attention or sampling should be given to sediment accumulated in facilities serving industrial, manufacturing or heavy commercial sites, Page 2 of 4 Rev. 9/26/2016 fueling centers or automotive maintenance areas, large parking areas, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.

h. Some sediment collected may be innocuous (free of pollutants) and can be used as fill material, cover or land spreading. It is important that this material not be placed in any way that will promote or allow re-suspension in storm runoff.

2. 2,569 LF OF RCP AND 29 STORM DRAINS
   - These structures will be inspected and cleaned quarterly to ensure pipes and drain inlets do not fill with sediment or trash.

CONSTRUCTION PLANS
FOR
QUAIL RUN MEADOWS SUBDIVISION, PHASE 4 & 5

1628 Lasea Road
Columbia, Tennessee 37174
(Zoned R-6)

Developer: Joey Smith
1804 Williamson Court, Ste 101
Brentwood, TN 37027
Email: joeysmith@me.com
Phone: 615-308-1885

Engineer:
Surveyor: T-SQUARE ENGINEERING
Consulting Civil Engineering
1329 West Main Street | Franklin TN 37064
(615)370-1443 | Email tim@t2-eng.com

Water: Shane Andrews (Water Engineer Technician)
Columbia Power & Water Services
201 Pickens Lane
Columbia, TN 38402
931-375-7649

Electric: Michael Trew (District Manager)
Duck River Electric Membership Corporation
PO BOX 1226
Columbia, TN 38402
931-388-3131



Sheet Schedule

C-0.0	Cover Sheet
C-1.0	Existing Conditions and Demolition Plan
C-2.0	Overall Site Plan
C-2.1	Detailed Site Plan
C-2.2	Site Plan Notes
C-3.0	Initial Erosion Control Plan
C-3.1	Temporary Erosion Control Plan
C-3.2	Permanent Erosion Control Plan
C-4.0	Predevelopment Stormwater Plan
C-4.1	Post development Stormwater Plan
C-5.0	Grading Plan
C-5.1	Drainage Plan
C-5.2	Drainage Inlet Areas
C-6.0	Abberly Circle Plan & Profile
C-6.1	Abberly Circle Plan & Profile
C-6.2	Quail Run Way Plan & Profile
C-6.3	Somersby Trail Plan & Profile
C-7.0	Utility Plan
C-7.1	Sanitary Plan and Profile
C-7.2	Sanitary Plan and Profile
C-7.3	Sanitary Plan and Profile
C-8.0 - C-8.3	Detail Sheets

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0195E, REVISED APRIL 16, 2007.

OWNER OF RECORD
LASEA LAND GROUP MAP 073, PARCEL 17.03 108 WILLIAMSON COURT, SUITE 101 BRENTWOOD, TN 37027
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 12-01-2023
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: NSM

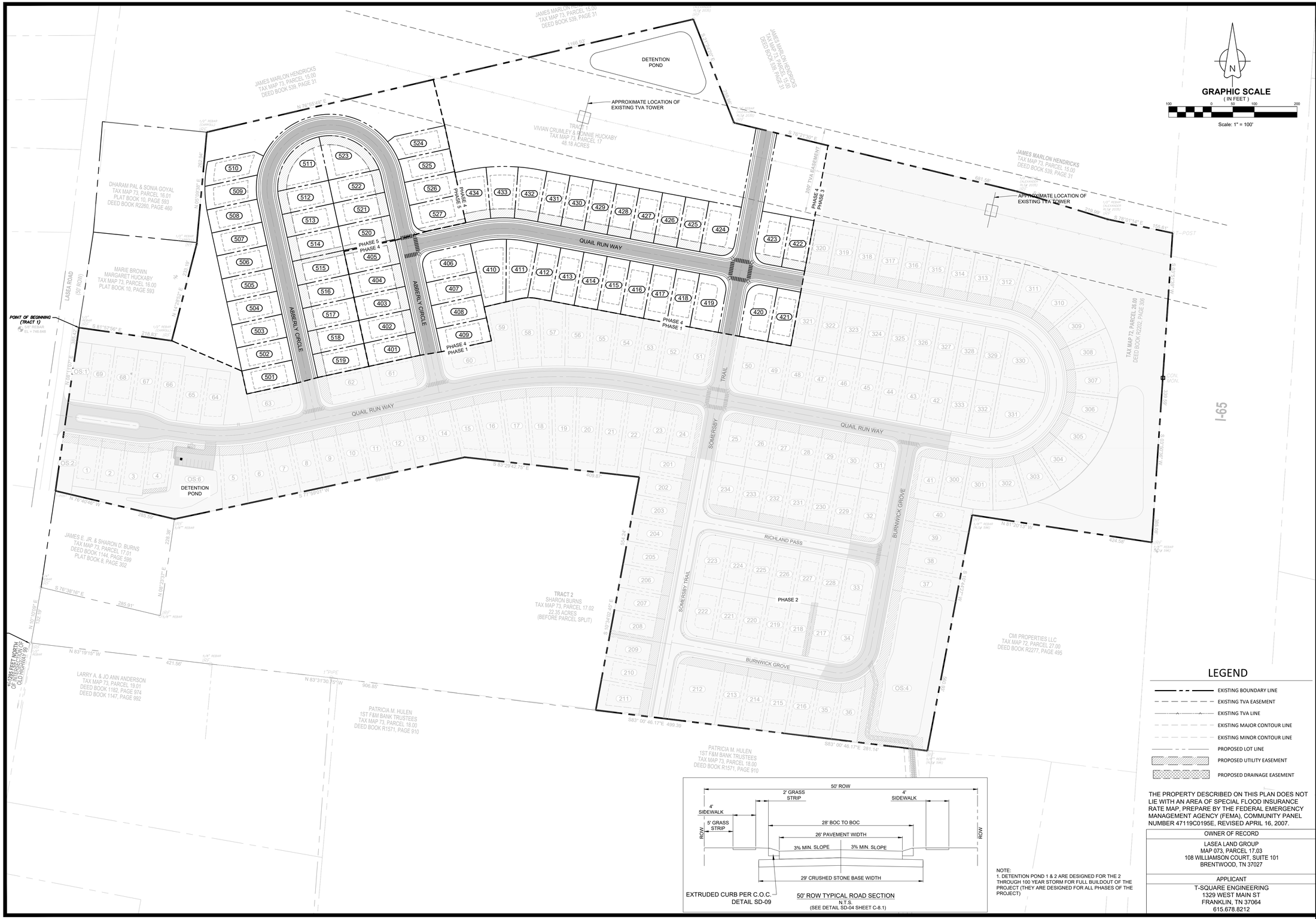
COVER SHEET
1628 LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

QUAIL RUN MEADOWS SUBDIVISION
PHASE 4 & 5

NATHAN S. MCKEE
REGISTERED ENGINEER
No. 122469
STATE OF TENNESSEE
12/01/2023

17-0707

SHEET
C-0.0



LEGEND

- EXISTING BOUNDARY LINE
- EXISTING TVA EASEMENT
- EXISTING TVA LINE
- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- PROPOSED LOT LINE
- PROPOSED UTILITY EASEMENT
- PROPOSED DRAINAGE EASEMENT

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0195E, REVISED APRIL 16, 2007.

NOTE:
1. DETENTION POND 1 & 2 ARE DESIGNED FOR THE 2 THROUGH 100 YEAR STORM FOR FULL BUILDOUT OF THE PROJECT (THEY ARE DESIGNED FOR ALL PHASES OF THE PROJECT)

OWNER OF RECORD
LASEA LAND GROUP MAP 073, PARCEL 17.03 108 WILLIAMSON COURT, SUITE 101 BRENTWOOD, TN 37027
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS

DATE: 12-01-2023
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: NSM

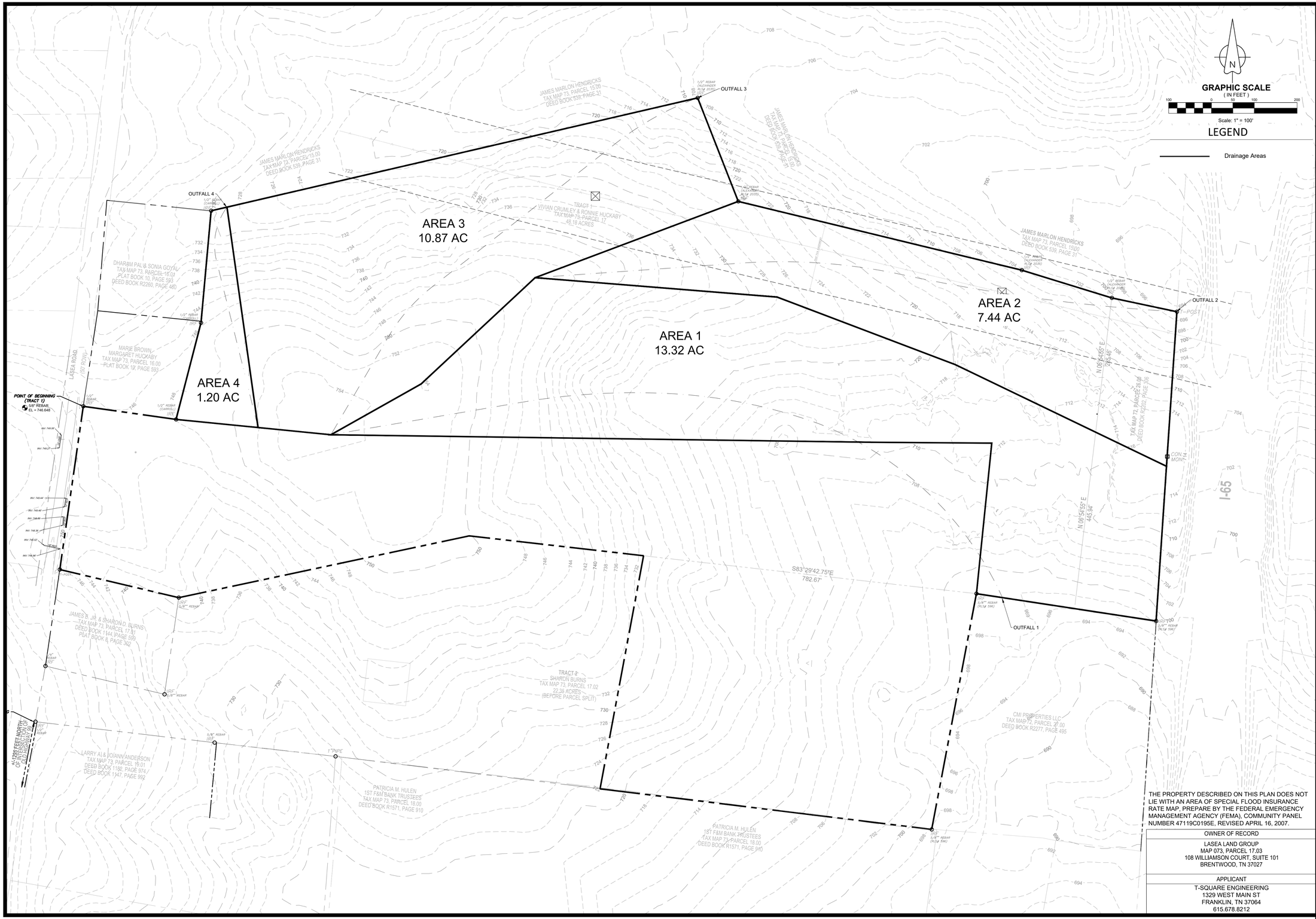
QUAIL RUN MEADOWS SUBDIVISION PHASE 4 & 5

OVERALL SITE PLAN
1628 LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

NATHAN S. MCVEY
REGISTERED ENGINEER
No. 122139
STATE OF TENNESSEE
12/01/2023

17-0707

SHEET
C-2.0



THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0195E, REVISED APRIL 16, 2007.

OWNER OF RECORD
LASEA LAND GROUP MAP 073, PARCEL 17.03 108 WILLIAMSON COURT, SUITE 101 BRENTWOOD, TN 37027
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS

DATE: 12-01-2023
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: NSM

QUAIL RUN MEADOWS SUBDIVISION PHASE 4 & 5

PRE-DEVELOPMENT STORMWATER PLAN

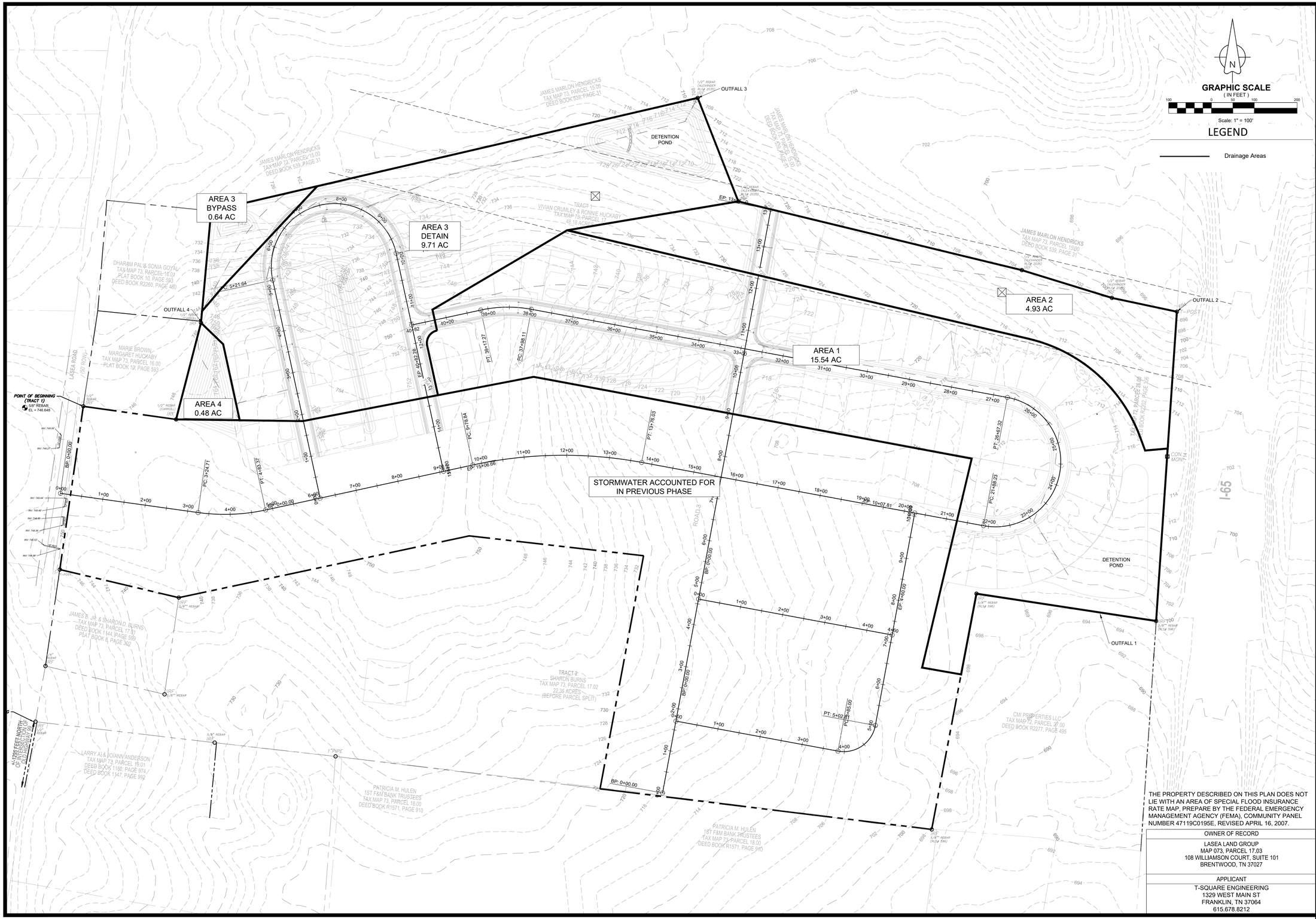
1628 LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

NATHAN S. MCVEY
REGISTERED ENGINEER
No. 122159
STATE OF TENNESSEE
12/01/2023

17-0707

SHEET
C-4.0

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • WWW.T2-ENG.COM


N
GRAPHIC SCALE
(IN FEET)
100 0 50 100 200
Scale: 1" = 100'
LEGEND
Drainage Areas
AREA 1
15.54 AC
AREA 2
4.93 AC
AREA 3
BYPASS
0.64 AC
AREA 3
DETAIN
9.71 AC
AREA 4
0.48 AC
OUTFALL 1
OUTFALL 2
OUTFALL 3
OUTFALL 4
DETENTION POND
DETENTION POND
STORMWATER ACCOUNTED FOR IN PREVIOUS PHASE
POINT OF BEGINNING (TRACT 1)
5/8" REBAR
EL = 746.648
LASEA ROAD
(50' R/W)
TRACT 1
VIVIAN CRUMLEY & RONNIE HUCKABY
TAX MAP 73, PARCEL 17.01
48.18 ACRES +/-
DEED BOOK R2277, PAGE 495
TRACT 2
SHARON BURNS
TAX MAP 73, PARCEL 17.02
22.38 ACRES +/-
(BEFORE PARCEL SPLIT)
DHARAM PAL & SONIA GOYAL
TAX MAP 73, PARCEL 16.01
PLAT BOOK 10, PAGE 593
DEED BOOK R2260, PAGE 480
MARIE BROWN
MARGARET HUCKABY
TAX MAP 73, PARCEL 16.00
PLAT BOOK 19, PAGE 593
JAMES R. JR. & SHARON D. BURNS
TAX MAP 73, PARCEL 17.01
DEED BOOK 1144, PAGE 289
PLAT BOOK 8, PAGE 302
LARRY AI & JOANN ANDERSON
TAX MAP 73, PARCEL 16.01
DEED BOOK 1180, PAGE 974
DEED BOOK 1147, PAGE 992
PATRICIA M. HULEN
1ST F&M BANK TRUSTEES
TAX MAP 73, PARCEL 16.00
DEED BOOK R1571, PAGE 910
PATRICIA M. HULEN
1ST F&M BANK TRUSTEES
TAX MAP 73, PARCEL 18.00
DEED BOOK R1571, PAGE 910
CMI PROPERTIES LLC
TAX MAP 73, PARCEL 20.00
DEED BOOK R2277, PAGE 495
JAMES MARLON HENDRICKS
TAX MAP 73, PARCEL 15.00
DEED BOOK 539, PAGE 31
JAMES MARLON HENDRICKS
TAX MAP 73, PARCEL 15.00
DEED BOOK 539, PAGE 31
JAMES MARLON HENDRICKS
TAX MAP 73, PARCEL 15.00
DEED BOOK 539, PAGE 31
TAX MAP 72, PARCEL 25.00
DEED BOOK R2220, PAGE 536
I-65
CON'N MONT.
BP: 0+00.00
EP: 15+06.66
PC: 3+24.71
PT: 4+83.31
PC: 5+21.64
PT: 11+17.17
PC: 37+98.11
PT: 15+76.03
PC: 15+76.64
PC: 21+89.23
PT: 25+57.32
BP: 0+00.00
EP: 4+60.00
PC: 2+65.00
PT: 5+02.65
BP: 0+00.00
BP: 0+00.00
EP: 13+10.00
10+07.81
1/2" REBAR
ALEXANDER
EL = 705.14 (NAD83)
5/8" REBAR
(N,S,& 596')
1" PIPE
1" POST
1/2" REBAR
(CAPPED)
(RLS 1839)
1/2" REBAR
(RLS 1839)
1/2" REBAR
(RLS 1839)
1/2" REBAR

JAMES MARLON HENDRICKS
TAX MAP 73, PARCEL 15.00
DEED BOOK 539, PAGE 31

TRACT 1
VIVIAN CRUMLEY & RONNIE HUCKABY
TAX MAP 73, PARCEL 17
48.18 ACRES

1/2" REBAR (CARR 340 L) (RF)

1/2" REBAR (ALEXANDER RLS# 2035) (RF)

5' EMERGENCY SPILLWAY
EL = 715.5

POND 4
TOP EL = 716.0
BTM EL = 709.0

PERMANENT DUMPED ROCK OR GABION BERM (3' HIGH)

PHASE 4
PHASE 5

ABBEY L CIRCLE (50' PUBLIC R.O.W.)

QUAIL RUN WAY (50' PUBLIC R.O.W.)

SOMERSBY TRAIL (50' PUBLIC R.O.W.)

ROAD 2

200' TVA EASEMENT

MATCH EXISTING GRADE AT PHASE 1

MATCH EXISTING GRADE AT PHASE 1

N

GRAPHIC SCALE
(IN FEET)
50 0 25 50 100
Scale: 1" = 50'

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED LOT LINE

NOTE:
1. LOT LINE SWALES TO BE CONSTRUCTED BY BUILDER. ALL FLOW MUST BE DIRECTED AWAY FROM STRUCTURE.

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0195E, REVISED APRIL 16, 2007.

OWNER OF RECORD
LASEA LAND GROUP MAP 073, PARCEL 17.03 108 WILLIAMSON COURT, SUITE 101 BRENTWOOD, TN 37027
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM

NO.	DATE	REVISIONS

DATE: 12-01-2023
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: NSM

GRADING PLAN
1628 LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

QUAIL RUN MEADOWS SUBDIVISION PHASE 4 & 5

NATHAN S. MCVEY
REGISTERED ENGINEER
No. 122158
STATE OF TENNESSEE
12/01/2023

17-0707

SHEET
C-5.0

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
A9-A9A	18"	25.60'	0.59%	RCP
A9A-(PH3 ST-A8)	18"	106.50'	0.50%	RCP
A9B-A9A	18"	40.80'	4.51%	RCP
A9C-A9B	18"	25.72'	1.00%	RCP
A10-A9	18"	42.07'	1.00%	RCP
A10A-A10	18"	25.63'	1.00%	RCP
A11-A11A	18"	25.60'	1.00%	RCP
A11A-A9C	18"	43.63'	3.92%	RCP
A12-A11	18"	165.52'	4.94%	RCP
A12A-A12	18"	25.59'	1.00%	RCP
A13-A12	18"	165.71'	5.68%	RCP
A14-A13	18"	162.65'	3.99%	RCP
A14A-A14	18"	25.58'	1.00%	RCP
AD1-(PH 3 B16)	18"	45.10'	2.20%	RCP

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
B1-BMH1	24"	205.52'	2.67%	RCP
B1A-B1	18"	25.58'	10.00%	RCP
B2-B1	18"	120.32'	8.10%	RCP
B2A-B2	18"	25.61'	1.00%	RCP
B3-B2	18"	142.59'	8.16%	RCP
B3A-B3	18"	25.56'	1.00%	RCP
B4-B3	18"	42.34'	3.00%	RCP
B4A-B4	18"	25.60'	1.00%	RCP
B5-B1	24"	100.95'	1.12%	RCP
B5A-B5	24"	25.46'	1.00%	RCP
B6-B5	18"	132.58'	2.43%	RCP
B6A-B6	18"	25.50'	1.00%	RCP

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
B7-B6	18"	118.17'	6.88%	RCP
B7A-B7	18"	25.92'	1.00%	RCP
B8-B7	18"	163.46'	7.05%	RCP
B8A-B8	18"	25.78'	0.99%	RCP
BHW2-B5A	24"	18.40'	1.00%	RCP
BMH1-BHW1	24"	352.14'	1.00%	RCP
BR1-HW3	18"	43.25'	0.58%	RCP

JAMES MARLON RENFRO
TAX MAP 73, PARCEL 15.00
DEED BOOK 539, PAGE 31

TRACT 1
VIVIAN CRUMLEY & RONNIE HUCKABY
TAX MAP 73, PARCEL 17
48.18 ACRES

1/2" REBAR (ALEXANDER RLS# 2035) IRF

PHASE 4
PHASE 5

QUAIL RUN WAY (50' PUBLIC R.O.W.)

ABBERLY CIRCLE (50' PUBLIC R.O.W.)

SOMERSBY TRAIL (50' PUBLIC R.O.W.)

20' TVA EASEMENT

CONNECT TO EXISTING STORM STRUCTURE: INV IN: 714.11

HEADWALL SET WITH PREVIOUS PHASE

(PH3 ST-HWA4)

ST-HW3, ST-BR1, ST-BHW1, ST-BMH1, ST-B5, ST-B1, ST-B5A, ST-BHW2, ST-B1A, ST-B6, ST-B6A, ST-B2, ST-B2A, ST-B7, ST-B7A, ST-B3, ST-B3A, ST-B4, ST-B4A, ST-B8, ST-B8A, ST-A14, ST-A14A, ST-A13, ST-A12, ST-A12A, ST-A11, ST-A11A, ST-A10, ST-A10A, ST-A9, ST-A9A, ST-A9B, ST-A9C, (PH3 ST-A8)

N

GRAPHIC SCALE
(IN FEET)
50 0 25 50 100
Scale: 1" = 50'

LEGEND

- PROPOSED STORM PIPE
- DRAIN INLET
- SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE
- PROPOSED LOT LINE
- PROPOSED UTILITY EASEMENT
- PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED DRAINAGE EASEMENT

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
(PH3 ST-A8) HEADWALL	INV IN = 714.11
(PH3 ST-HWA4) HEADWALL	INV OUT = 713.29
ST-A9 SINGLE INLET	RIM = 719.99 INV IN = 714.79 INV OUT = 714.79
ST-A9A SINGLE INLET	RIM = 720.00 INV IN = 714.64 INV IN = 714.64 INV OUT = 714.64

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-A9B SINGLE INLET	RIM = 720.68 INV IN = 716.48 INV OUT = 716.48
ST-A9C SINGLE INLET	RIM = 720.74 INV IN = 716.74 INV OUT = 716.74
ST-A10 SINGLE INLET	RIM = 719.46 INV IN = 715.21 INV OUT = 715.21
ST-A10A SINGLE INLET	RIM = 719.47 INV OUT = 715.47

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-A11 SINGLE INLET	RIM = 722.71 INV OUT = 718.71
ST-A11A SINGLE INLET	RIM = 722.70 INV IN = 718.45 INV OUT = 718.45
ST-A12 SINGLE INLET	RIM = 730.87 INV IN = 726.63 INV IN = 726.63 INV OUT = 726.63
ST-A12A SINGLE INLET	RIM = 730.89 INV OUT = 726.89

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-A13 SINGLE INLET	RIM = 740.05 INV IN = 736.05 INV OUT = 736.05
ST-A14 SINGLE INLET	RIM = 746.82 INV IN = 742.54 INV OUT = 742.54
ST-A14A SINGLE INLET	RIM = 746.80 INV OUT = 742.80

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-B1 SINGLE INLET	RIM = 730.08 INV IN = 723.00 INV IN = 723.00 INV IN = 723.00 INV OUT = 723.00
ST-B1A SINGLE INLET	RIM = 730.20 INV OUT = 725.56
ST-B2 SINGLE INLET	RIM = 737.11 INV IN = 732.75 INV IN = 732.75 INV OUT = 732.75
ST-B2A SINGLE INLET	RIM = 737.01 INV OUT = 733.01

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-B3 SINGLE INLET	RIM = 748.65 INV IN = 744.38 INV IN = 744.38 INV OUT = 744.38
ST-B3A SINGLE INLET	RIM = 748.64 INV OUT = 744.64
ST-B4 SINGLE INLET	RIM = 749.92 INV IN = 745.65 INV OUT = 745.65
ST-B4A SINGLE INLET	RIM = 749.91 INV OUT = 745.91

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-B5 SINGLE INLET	RIM = 728.25 INV IN = 724.13 INV IN = 724.13 INV OUT = 724.13
ST-B5A TRIPLE INLET	RIM = 728.38 INV IN = 724.38 INV OUT = 724.38
ST-B6 SINGLE INLET	RIM = 731.49 INV IN = 727.35 INV IN = 727.35 INV OUT = 727.35
ST-B6A SINGLE INLET	RIM = 731.60 INV OUT = 727.60

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-B7 SINGLE INLET	RIM = 739.77 INV IN = 735.48 INV IN = 735.48 INV OUT = 735.48
ST-B7A SINGLE INLET	RIM = 739.74 INV OUT = 735.74
ST-B8 SINGLE INLET	RIM = 751.33 INV IN = 747.01 INV OUT = 747.01
ST-B8A SINGLE INLET	RIM = 751.31 INV OUT = 747.27

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-BHW1 HEADWALL	INV IN = 714.00
ST-BHW2 HEADWALL	INV OUT = 724.56
ST-BMH1 MANHOLE	RIM = 723.50 INV IN = 717.52 INV OUT = 717.52
ST-BR1 RISER	INV OUT = 709.00

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ST-HW3 HEADWALL	INV IN = 708.75

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0195E, REVISED APRIL 16, 2007.

OWNER OF RECORD

LASEA LAND GROUP
MAP 073, PARCEL 17.03
108 WILLIAMSON COURT, SUITE 101
BRENTWOOD, TN 37027

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 12-01-2023
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: NSM

QUAIL RUN MEADOWS SUBDIVISION PHASE 4 & 5

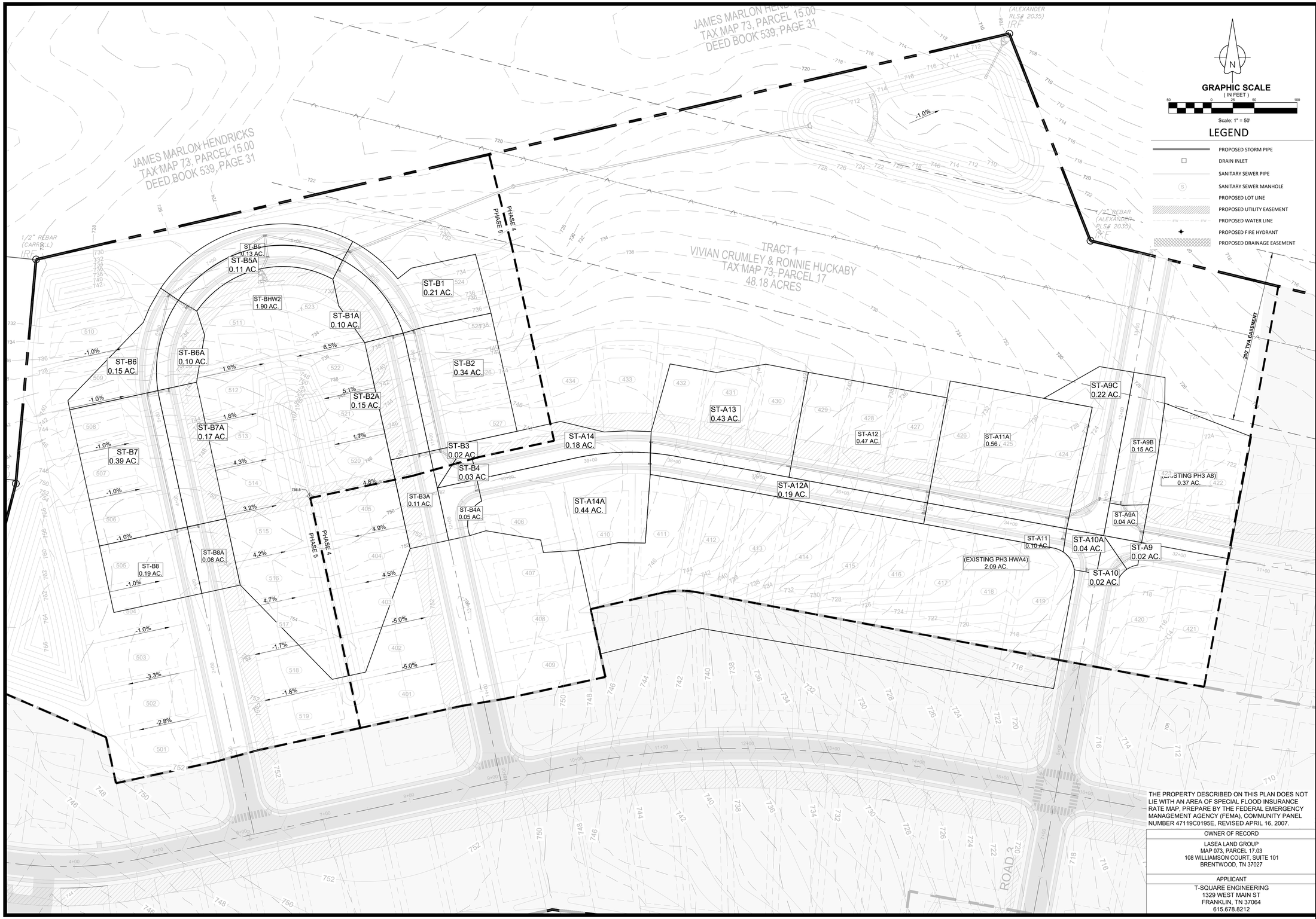
DRAINAGE PLAN
1628 LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

NATHAN S. MCKEY
REGISTERED ENGINEER
No. 122139
STATE OF TENNESSEE
12/01/2023

17-0707

SHEET
C-5.1

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • www.T2-ENG.COM



N

GRAPHIC SCALE
(IN FEET)
50 0 25 50 100
Scale: 1" = 50'

LEGEND

- PROPOSED STORM PIPE
- DRAIN INLET
- SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE
- PROPOSED LOT LINE
- PROPOSED UTILITY EASEMENT
- PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED DRAINAGE EASEMENT

THE PROPERTY DESCRIBED ON THIS PLAN DOES NOT LIE WITH AN AREA OF SPECIAL FLOOD INSURANCE RATE MAP, PREPARE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), COMMUNITY PANEL NUMBER 47119C0195E, REVISED APRIL 16, 2007.

OWNER OF RECORD
LASEA LAND GROUP MAP 073, PARCEL 17.03 108 WILLIAMSON COURT, SUITE 101 BRENTWOOD, TN 37027
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS

DATE: 12-01-2023
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: NSM

QUAIL RUN MEADOWS SUBDIVISION PHASE 4 & 5

INLET AREAS
1628 LASEA ROAD
COLUMBIA, TN 37174
MAURY COUNTY, TENNESSEE

NATHAN S. MCVEY
REGISTERED ENGINEER
No. 127159
STATE OF TENNESSEE
12/01/2023

17-0707

SHEET
C-5.2

T-SQUARE ENGINEERING
1329 WEST MAIN STREET • FRANKLIN, TN • 615-678-8212 • WWW.T2-ENG.COM

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	Quail Run Meadows Subdivision		
	TAX MAP: 73	GROUP:	PARCEL: P/O 17.03
SUMMARY OF NATURE OF REQUEST AND WORK	This application is to approve the final plat for phase 4 of Quail Run Meadows Subdivision.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	**SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:**
☐ Annexation ☐ Rezoning ☐ Preliminary Plat ☒ Final Plat ☐ PUD Preliminary Master Plan ☐ PUD Final Site Plan ☐ Multi-Family Site Plan ☐ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ☐ Written Legal Description copy ☐ Requested Zone Listed ☐ Compliance with Comprehensive Plan ☐ Annexation Permission Form ☐ Plans and/or Plats conforming to City standards with check list completed ☐ Columbia Water System Availability Letter **Plats/PUDs:** ☒ Project Name (include Sections & Phases) Quail Run Meadows Subdivision, Phase 4 ☒ Total Number of Lots 34 ☒ Total acreage 10.26

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	T-Square Engineering	**PHONE**	615.678.8212
ADDRESS	1329 West Main St., Franklin, TN 37064	**EMAIL**	Allison.Corolla@T2-Eng.com

PROPERTY OWNER NAME	Quail Run Development Co. LLC	**PHONE**	615.337.5248
ADDRESS	1804 Williamson Court, Suite 101 Brentwood, TN 37027	**EMAIL**	Hudsonallensmith@gmail.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

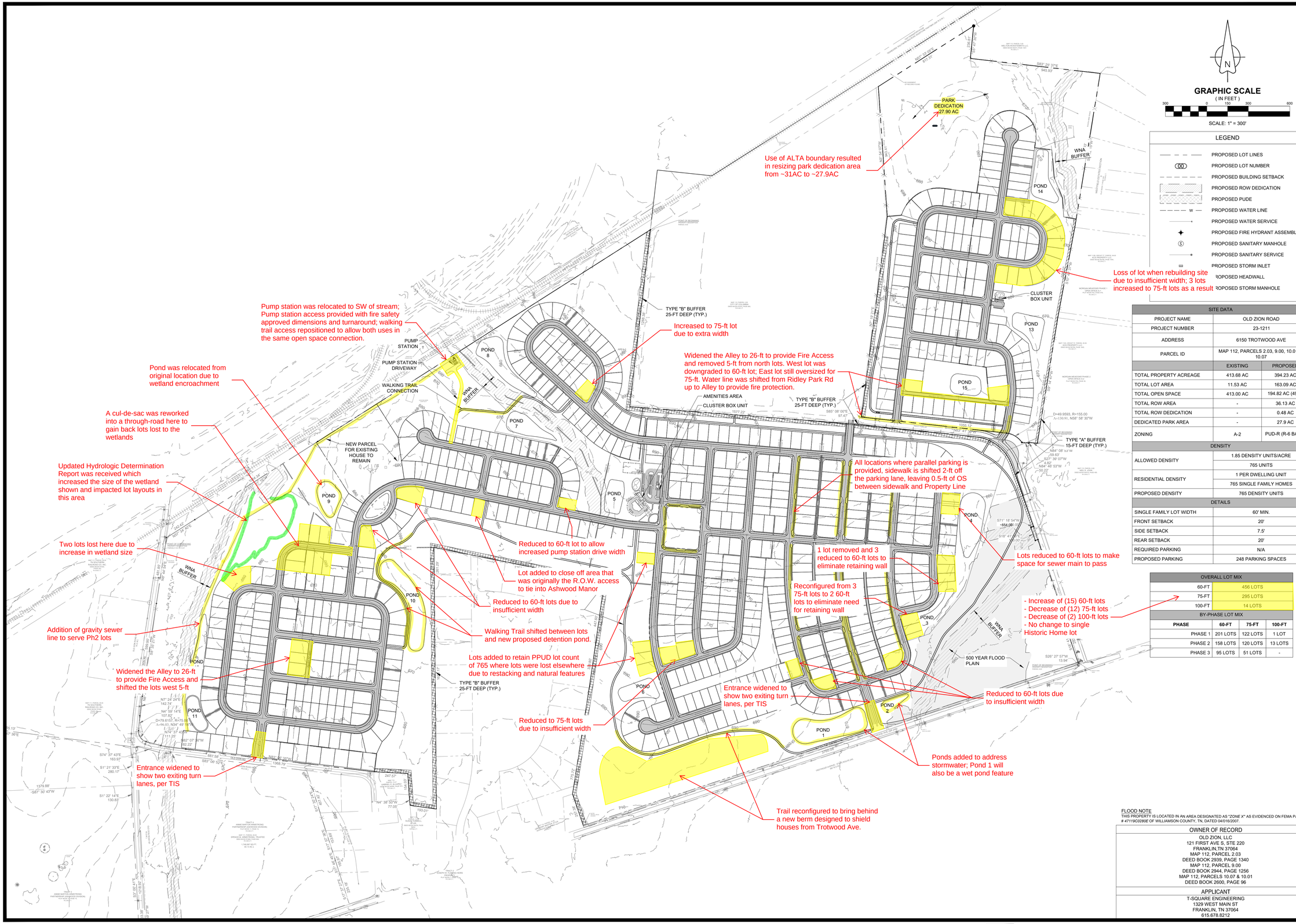
Allison Corolla	*Allison Corolla*	2/13/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
[signature]	[signature]	3-4-24
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		**FEE PAID**	
RECEIPT NO.		**REQUESTED AGENDA**	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	



N

GRAPHIC SCALE

(IN FEET)

300 0 150 300 600

SCALE: 1" = 300'

LEGEND

- PROPOSED LOT LINES
- PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- PROPOSED STORM MANHOLE

SITE DATA		
PROJECT NAME	OLD ZION ROAD	
PROJECT NUMBER	23-1211	
ADDRESS	6150 TROTWOOD AVE	
PARCEL ID	MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07	
	EXISTING	PROPOSED
TOTAL PROPERTY ACREAGE	413.68 AC	394.23 AC
TOTAL LOT AREA	11.53 AC	163.09 AC
TOTAL OPEN SPACE	413.00 AC	194.82 AC (49%)
TOTAL ROW AREA	-	36.13 AC
TOTAL ROW DEDICATION	-	0.48 AC
DEDICATED PARK AREA	-	27.9 AC
ZONING	A-2	PUD-R (R-6 BASE)
DENSITY		
ALLOWED DENSITY	1.85 DENSITY UNITS/ACRE	
RESIDENTIAL DENSITY	765 UNITS	
	1 PER DWELLING UNIT	
	765 SINGLE FAMILY HOMES	
PROPOSED DENSITY	765 DENSITY UNITS	
DETAILS		
SINGLE FAMILY LOT WIDTH	60' MIN.	
FRONT SETBACK	20'	
SIDE SETBACK	7.5'	
REAR SETBACK	20'	
REQUIRED PARKING	N/A	
PROPOSED PARKING	248 PARKING SPACES	

OVERALL LOT MIX	
60-FT	456 LOTS
75-FT	295 LOTS
100-FT	14 LOTS

BY-PHASE LOT MIX			
PHASE	60-FT	75-FT	100-FT
PHASE 1	201 LOTS	122 LOTS	1 LOT
PHASE 2	158 LOTS	120 LOTS	13 LOTS
PHASE 3	95 LOTS	51 LOTS	-

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

NO.	DATE	REVISIONS
1	4/22/2024	REVISIONS PER CITY OF COLUMBIA STAFF COMMENTS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PUD CHANGES EXHIBIT

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

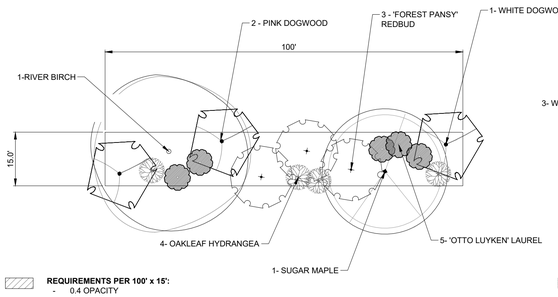
T-SQUARE ENGINEERING

PROJECT 23-1211

SHEET C-0.2

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Eltridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 4/22/2024 1:09:05 PM

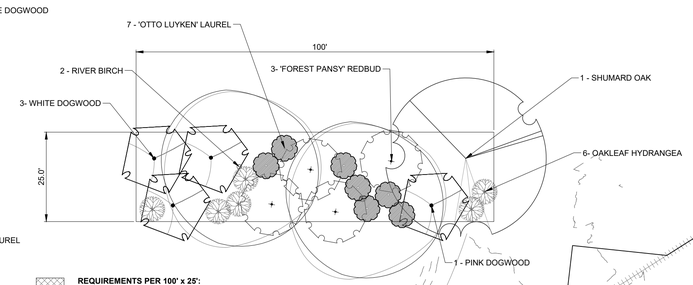
LANDSCAPE BUFFER TEMPLATE



REQUIREMENTS PER 100' x 15':
- 0.4 OPACITY
- 15' DEEP
- 2 CANOPY TREES
- 6 ACCENT TREES
- 9 SHRUBS

2 L-1.0 TYPE A BUFFER TYPICAL
SCALE 1"=20'-0"

LANDSCAPE BUFFER TEMPLATE



REQUIREMENTS PER 100' x 25':
- 0.6 OPACITY
- 25' DEEP
- 3 CANOPY TREES
- 8 ACCENT TREES
- 13 SHRUBS

3 L-1.0 TYPE B BUFFER TYPICAL
SCALE 1"=20'-0"

NOTE: WHERE REQUIRED BUFFERS MEET EXISTING TREES TO REMAIN, PROPOSED PLANT MATERIALS SHALL BE LOCATED TO BLEND WITH EXISTING VEGETATION, TO CREATE NATURALIZED OVERLAPS

1 L-1.0 PLANTING PLAN
SCALE 1"=40'-0"

N

GRAPHIC SCALE
(IN FEET)
300 0 150 300 600
SCALE: 1" = 300'

TREE PRESERVATION	
TOTAL SITE ACREAGE	428 ACRES
EXISTING CANOPY	149 ACRES
PERCENTAGE OF SITE IN CANOPY	35 % OF SITE
TREE PRESERVATION REQUIREMENT	48% (71.5 ACRES)
TOTAL TREE PRESERVATION	103.5 ACRES (69%)

REVISIONS

NO.	DATE

DATE: 04/22/2024
SCALE: AS SHOWN
DRAWN BY: CES
REVIEWER: CES

LANDSCAPE PLAN

TROTWOOD AVE.
CITY OF COLUMBIA, MAURY COUNTY, TN

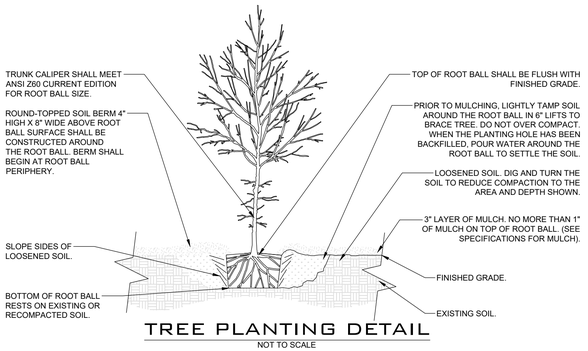
OLD ZION SUBDIVISION

CHRIS E. STEWART
REGISTERED
AGRICULTURE
ENVIRONMENTAL
LANDSCAPE ARCHITECT
04/22/2024

PROJECT
23-1211

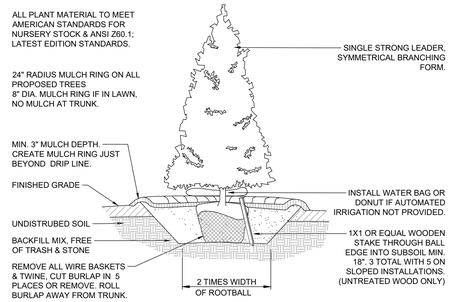
SHEET
L-1.0

T-SQUARE ENGINEERING



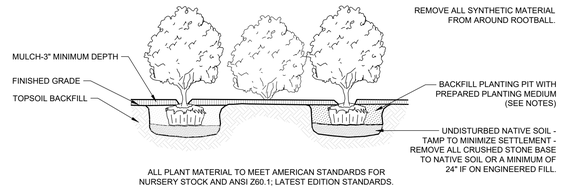
TREE PLANTING DETAIL

NOT TO SCALE



EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



SHRUB PLANTING IN GROUP DETAIL

NOT TO SCALE

GENERAL NOTES:

1. UTILITY SERVICES MAY EXIST ON SITE. THE LOCATION OF ALL SURFACE AND UNDERGROUND UTILITIES, RIGHT-OF-WAYS, EASEMENTS, ETC., SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES FROM DAMAGE DURING CONSTRUCTION AND TO REPAIR ANY DAMAGE WHICH SHOULD OCCUR TO THE SATISFACTION OF THE OWNER AND UTILITY COMPANIES. COMMENCEMENT OF PROJECT INSTALLATION INDICATES ACKNOWLEDGMENT OF AND ACCEPTANCE BY THE CONTRACTOR OF EXISTING CONDITIONS.
2. ACTUAL AS-BUILT AND/OR EXISTING SITE CONDITIONS MAY VARY AS SHOWN ON THIS PLAN.
3. DAMAGE BY CONTRACTOR TO UNDISTURBED AREAS OUTSIDE THE LIMITS OF CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE OWNER.
4. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING SITE INSPECTION PRIOR TO BIDDING WORK, TO DETERMINE SITE CONDITIONS AND AREAS TO BE IMPROVED. SUBMISSION OF BID INDICATES CONTRACTOR HAS VERIFIED SITE CONDITIONS AND PLANT MATERIAL QUANTITIES.
5. FINAL ACCEPTANCE: THE LANDSCAPE ARCHITECT OR THE OWNER'S REPRESENTATIVE WILL PROVIDE THE FINAL INSPECTION. SHOULD THE INSPECTION FIND WORK INCOMPLETE, THE CONTRACTOR SHALL REMEDY THE DEFICIENCIES.
6. IF THE SUBSTANTIAL COMPLETION OR FINAL INSPECTION REQUIRE REINSPECTION BY LANDSCAPE ARCHITECT DUE TO FAILURE OF WORK TO COMPLY WITH CONTRACTOR'S CLAIMS ON INITIAL INSPECTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPENSATING THE LANDSCAPE ARCHITECT FOR REINSPECTION SERVICES AT THE RATE OF ONE HUNDRED SEVENTY FIVE DOLLARS ($175) PER HOUR PER PERSON PLUS ALL RELATED TRAVEL EXPENSES FOR EACH REQUESTED REINSPECTION TRIP.
7. AFTER FINAL ACCEPTANCE AND PRIOR TO END OF WARRANTY PERIOD, CONTRACTOR SHALL REPLACE ALL PLANT MATERIAL THAT HAS DIED OR HAS DEFECTS, INCLUDING UNSATISFACTORY GROWTH, IN THE OPINION OF THE OWNER.
8. DURING LANDSCAPE INSTALLATION KEEP PAVEMENTS CLEAN AND WORK AREA IN ORDERLY CONDITION. THE PROJECT SITE SHALL BE LEFT IN A CLEAN CONDITION AT THE END OF EVERY WORK DAY.
9. CONTRACTOR TO REPAIR ANY PAVEMENTS, CURBS, AND OTHER IMPROVEMENTS DAMAGED AS A RESULT OF LANDSCAPE INSTALLATION ACTIVITY
10. STEEL EDGING AS INDICATED SHALL BE 'RYERSON' STEEL EDGING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S WRITTEN SPECIFICATIONS FOR THIS TYPE APPLICATION. COLOR: BLACK.
11. THE LOCATION OF ALL PLANT MATERIALS SHOWN ON THE PLAN SHALL BE FIELD LOCATED AND STAKED/FLAGGED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE BEFORE THE DIGGING OF PLANTING HOLES. PLANTING SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS OR WHERE FIELD LOCATED BY THE LANDSCAPE ARCHITECT.
12. PROVIDE ONLY PLANTS THAT ARE FREE FROM DISEASES AND PESTS, AND THAT COMPLY WITH THE LATEST EDITION OF PUBLICATION ANSI Z60.1, AMERICAN STANDARDS FOR NURSERY STOCK", BY THE AMERICAN ASSOCIATION OF NURSERYMEN. DIMENSIONS FOR HEIGHTS, SPREAD, AND TRUNK SPECIFIED ON THE MATERIAL SCHEDULE IS A GENERAL GUIDE FOR THE MINIMUM DESIRED SIZE OF EACH PLANT.
13. DO NOT MAKE SUBSTITUTIONS REGARDING PLANT SIZES OR SPECIES WITHOUT WRITTEN PERMISSION FROM THE OWNER OR LANDSCAPE ARCHITECT.
14. REMOVE ALL METAL BASKETS, STRINGS AND OTHER TIES FROM TREES.
15. FERTILIZE ALL PLANTS WITH 16-16-16 SLOW RELEASE FERTILIZER AT THE RATE OF: 3 POUNDS PER CUBIC YARD OF SOIL MIX. 3 POUNDS PER 100 SF OF BED FOR SHRUBS AND GROUND COVER.
16. PLANTS DESIGNATED "B&B" IN THE PLANT LIST SHALL BE BALLED AND BURLAPPED. THEY SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP OR SIMILAR MATERIAL AND BOUND WITH TWINE OR CORD.
17. ONLY "HEMP" BURLAP AND TWINE SHALL BE USED. NO TREATED OR PRESERVED BURLAP OR TWINE IS ALLOWED. ALL HEMP TWINE ATTACHED TO THE TREE TRUNK IS TO BE REMOVED AFTER PLANTING. AT A MINIMUM THE TOP ONE-THIRD OF THE ROOT BALL IS TO HAVE ALL BURLAP AND TWINE REMOVED. IF ROOTS ARE GIRDLING OR CIRCLING THEY MUST BE LOOSENED OR CUT.
18. THE BALLS OF "B&B" PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY SHALL BE COVERED WITH MOIST SOIL OR MULCH, OR OTHER PROTECTION FROM DRYING WINDS AND SUN. ALL PLANTS INSTALLED OR STORED SHALL BE WATERED BY CONTRACTOR AS NECESSARY UNTIL FINAL ACCEPTANCE.
19. FOLD DOWN OR CUT THE BURLAP FROM THE TOP 1/3 OF THE BALL OR TO THE WIDEST TOP EDGE OF THE BALL IN ORDER TO EXPOSE THE TOP PLANE OF THE BALL. REMOVE ALL NAILS, STAPLES, ETC USED TO HOLD THE BALL TOGETHER.
20. TREE BALLS SHALL HAVE A MINIMUM DIAMETER IN FEET EQUAL TO 10" FOR EACH CALIPER INCH OF THE TREE.
21. ALL PLANTS SHALL BE HANDLED SO THAT ROOTS ARE ADEQUATELY PROTECTED AT ALL TIMES. DURING SHIPMENT, THE ENTIRE PLANT SHALL BE PROTECTED BY TARPAULINS OR OTHER SUITABLE COVERING. PLANT MATERIAL SUFFERING FROM WIND BURN OR OTHER WIND DAMAGE IS NOT ACCEPTABLE.
22. NO PLANT SHALL BE BOUND WITH ROPE OR WIRE IN A MANNER THAT DAMAGES THE BARK, BREAKS BRANCHES, OR DESTROYS ITS NATURAL SHAPE. NO PLANT MATERIAL REQUIRED TO BE BALLED AND BURLAPPED SHALL BE ACCEPTED IF THE BALL IS CRACKED OR BROKEN EITHER BEFORE OR DURING THE PROCESS OF PLANTING, OR WHEN REQUIRED BURLAP, STAVES, ROPES OR PLATFORM HAVE BEEN REMOVED.
23. ANY SERIES OF TREES OR SHRUBS TO BE PLACED IN A PARTICULAR ARRANGEMENT WILL BE FIELD CHECKED FOR ACCURACY BY THE OWNER. ANY PLANTS INCORRECTLY ARRANGED SHALL BE RELOCATED WITH THE OWNER'S APPROVAL.
24. PRE-EMERGENT HERBICIDE (TREFLAN OR EQUIVALENT) SHALL BE APPLIED (ACCORDING TO MANUFACTURER'S INSTRUCTIONS) TO ALL PLANT BEDS, PRIOR TO PLANTING, FOR NOXIOUS WEED CONTROL.
25. ALL PLANTING BEDS AND TREE AND SHRUB PLANTINGS SHALL RECEIVE A MINIMUM 3" DEEP SHREDDED HARDWOOD MULCH LAYER.
26. CONTRACTOR IS RESPONSIBLE FOR THE WATERING AND MAINTENANCE OF ALL INSTALLED PLANT MATERIAL, INCLUDING GRASS AREAS, UNTIL FINAL ACCEPTANCE BY OWNER. WATER ALL PLANT MATERIAL AT TIME OF PLANTING.
27. ALL PLANT MATERIAL IS TO BE GUARANTEED FOR ONE (1) YEAR. GUARANTEE PERIOD STARTS FROM DATE OF FINAL ACCEPTANCE.
28. OWNER RETAINS THE RIGHT TO INSPECT TREES AND SHRUBS FOR SIZE AND CONDITION OR ROOT BALL, INSECTS, INJURIES, AND LATENT DEFECTS AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. REMOVE REJECTED MATERIAL IMMEDIATELY FROM THE PROJECT SITE.
29. REPLACEMENTS SHALL CLOSELY MATCH ADJACENT SPECIMENS OF THE SAME SPECIES AND SHALL CONFORM TO THE STANDARDS FOR PLANT MATERIALS SPECIFIED. ALL REPLACED MATERIAL SHALL IMMEDIATELY BE REMOVED FROM THE SITE AND ALL NECESSARY REPAIRS TO PLANTS, GRADES, LAWN AREAS, PAVING, AND OTHER AREAS DAMAGED DURING REPLACEMENT SHALL BE MADE AT NO COST TO THE OWNER.
30. ONLY ONE REPLACEMENT PER TREE, SHRUB, OR PLANT WILL BE REQUIRED AT THE END OF THE WARRANTY PERIOD, EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH THE SPECIFIED REQUIREMENTS.

PLANT LIST

QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	MATURE DIAMETER	NOTES
CANOPY						
22	*Quercus Schumardii*	SCHUMARD OAK	2.5" CAL	AS SHOWN	40'	
155	*Betula Nigra*	RIVER BIRCH	2.5" CAL	AS SHOWN	40'	
109	*Acer Saccharum*	SUGAR MAPLE	2.5" CAL	AS SHOWN	40'	
ACCENT						
244	*Cornus Floridia F. Rubra*	PINK DOGWOOD	2.5" CAL	AS SHOWN	20'-25'	
177	*Cornus Florida*	WHITE DOGWOOD	2.5" CAL	AS SHOWN	20'-25'	
397	*Cercis Canadensis 'Forest Pansy'*	'FOREST PANSY' REDBUD	2.5" CAL	AS SHOWN	25'	
SHUBS						
577	*Hydrangea Quercifolia*	OAKLEAF HYDRANGEA	3 GAL	AS SHOWN		
708	*Prunus Laurocerasus 'Otto Luyken'*	'OTTO LUYKEN' LAUREL	1 GAL	AS SHOWN		

THE LANDSCAPE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS WITHOUT PRIOR APPROVAL FROM LANDSCAPE ARCHITECT



GRAPHIC SCALE
(IN FEET)
300 0 150 300 600
SCALE: 1" = 300'

REVISIONS

NO.	DATE

DATE: 04/22/2024
SCALE: AS SHOWN
DRAWN BY: CES
REVIEWER: CES

PLANTING DETAILS AND NOTES

TROTWOOD AVE.
CITY OF COLUMBIA, MAURY COUNTY, TN

OLD ZION SUBDIVISION

CHRIS E. SIENKO
REGISTERED
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
04/22/2024

PROJECT
23-1211

SHEET
L-1.1

T-SQUARE ENGINEERING

PRELIMINARY PLAT

FOR

OLD ZION SUBDIVISION

TROTWOOD AVE - STATE ROUTE 243

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07

COLUMBIA, MAURY COUNTY, TENNESSEE

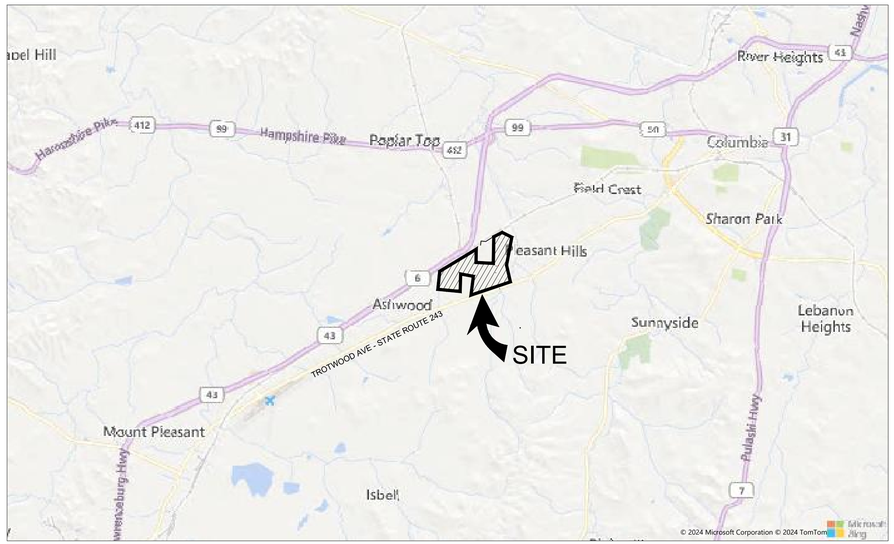
DEVELOPER: OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
615-594-4366

ENGINEER: T-SQUARE ENGINEERING
111 SOUTHEAST PARKWAY CT
FRANKLIN, TN 37064

WATER: COLUMBIA POWER AND WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401

SEWER: CITY OF SPRING HILL
3893 MAHLON MOORE RD
SPRING HILL, TN 37174

POWER: COLUMBIA POWER AND WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401



LOCATION MAP

N.T.S.

Sheet Schedule

C-0.0	Cover Sheet
C-0.1	Overall Existing Conditions
C-0.2	Overall Site Plan
C-0.3	Overall Phasing Plan
C-0.4	Typical Lot Layouts and Roadway Sections
C-1.0	Overall Phase 1
C-1.1	Detailed Phase 1 Preliminary Plat
C-1.2	Detailed Phase 1 Preliminary Plat
C-1.3	Phase 1 Parcel Line and Curve Tables
C-1.4	Detailed Phase 1 Utility Plan
C-1.5	Detailed Phase 1 Utility Plan
C-1.6	Detailed Phase 1 Grading and Drainage Plan
C-1.7	Detailed Phase 1 Grading and Drainage Plan
C-2.0	Overall Phase 2
C-2.1	Detailed Phase 2 Preliminary Plat
C-2.2	Detailed Phase 2 Preliminary Plat
C-2.3	Phase 2 Parcel Line and Curve Tables
C-2.4	Detailed Phase 2 Utility Plan
C-2.5	Detailed Phase 2 Utility Plan
C-2.6	Detailed Phase 2 Grading and Drainage Plan
C-2.7	Detailed Phase 2 Grading and Drainage Plan
C-3.0	Overall Phase 3
C-3.1	Detailed Phase 3 Preliminary Plat
C-3.2	Detailed Phase 3 Preliminary Plat
C-3.3	Phase 3 Parcel Line and Curve Tables
C-3.4	Detailed Phase 3 Utility Plan
C-3.5	Detailed Phase 3 Utility Plan
C-3.6	Detailed Phase 3 Grading and Drainage Plan
C-3.7	Detailed Phase 3 Grading and Drainage Plan
EX-1	Building Elevations Exhibit
EX-2	Building Elevations Exhibit
EX-3	Building Elevations Exhibit
EX-4	Building Elevations Exhibit
EX-5	Amenities Area Exhibit
EX-6	Amenities Area Exhibit
EX-7	Lighting Impact Exhibit

SITE DATA		
PROJECT NAME	OLD ZION ROAD	
PROJECT NUMBER	23-1211	
ADDRESS	6150 TROTWOOD AVE	
PARCEL ID	MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07	
	EXISTING	PROPOSED
TOTAL PROPERTY ACREAGE	413.68 AC	394.23 AC
TOTAL LOT AREA	11.53 AC	163.09 AC
TOTAL OPEN SPACE	413.00 AC	194.82 AC (49%)
TOTAL ROW AREA	-	36.13 AC
TOTAL ROW DEDICATION	-	0.48 AC
DEDICATED PARK AREA	-	27.9 AC
ZONING	A-2	PUD-R (R-6 BASE)
DENSITY		
ALLOWED DENSITY	1.85 DENSITY UNITS/ACRE	
	765 UNITS	
RESIDENTIAL DENSITY	1 PER DWELLING UNIT	
	765 SINGLE FAMILY HOMES	
PROPOSED DENSITY	765 DENSITY UNITS	
DETAILS		
SINGLE FAMILY LOT WIDTH	60' MIN.	
FRONT SETBACK	20'	
SIDE SETBACK	7.5'	
REAR SETBACK	20'	
REQUIRED PARKING	N/A	
PROPOSED PARKING	248 PARKING SPACES	

OVERALL LOT MIX	
60-FT	443 LOTS
75-FT	308 LOTS
100-FT	14 LOTS

BY-PHASE LOT MIX			
PHASE	60-FT	75-FT	100-FT
PHASE 1	196 LOTS	129 LOTS	1 LOT
PHASE 2	151 LOTS	127 LOTS	13 LOTS
PHASE 3	96 LOTS	52 LOTS	-

PHASES 1-3

PURPOSE: THIS PRELIMINARY PLAT PROPOSES THE APPROVAL OF 765 SINGLE-FAMILY LOTS ON THE NORTH SIDE PF TROTWOOD AVENUE - STATE ROUTE 243, IN ACCORDANCE WITH THE PREVIOUSLY APPROVED MASTER PLAN.

COLUMBIA PUD-R (RS6 BASE) ZONING CODE IN EFFECT FOR THIS DEVELOPMENT.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

COVER

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

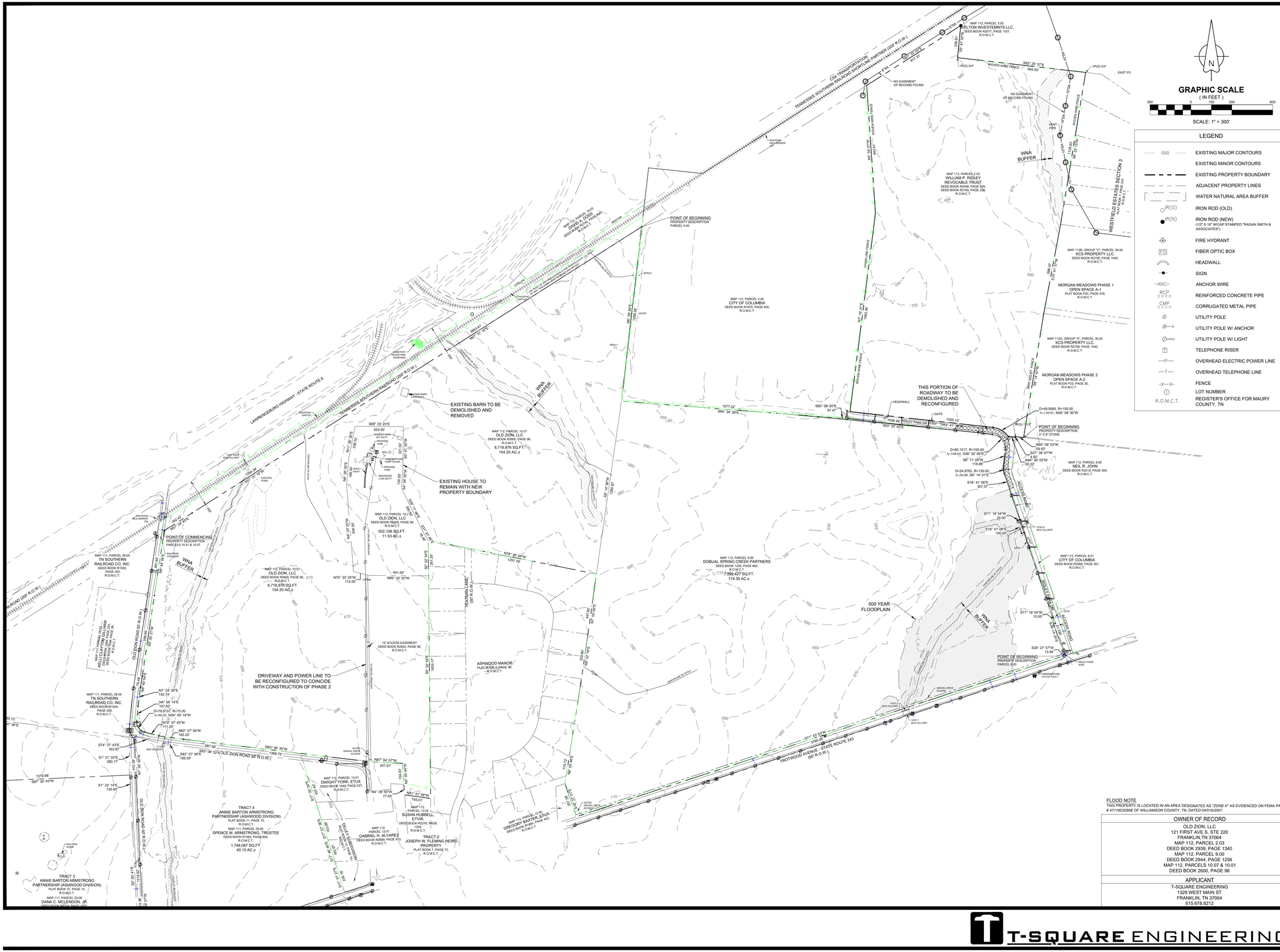
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127734
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-0.0

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:22:38 PM



OVERALL EXISTING CONDITIONS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PROJECT
23-1211

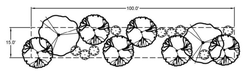
SHEET
C-0.1

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:22:51 PM

NOTES:

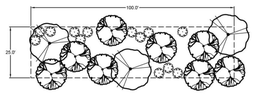
1. ALL BUFFERS SHALL MEET THE REQUIREMENTS OUTLINED IN SECTION 11 OF THE ZONING ORDINANCE INCLUDING TABLES 11.27A AND 11.27B.
2. ALL BUFFER YARDS TO BE MAINTAINED BY HOA.
3. PROPOSED PLANTS SHALL BE RELOCATED AS NECESSARY TO AVOID PLANTING WITHIN EXISTING DRIPLINE



TYPE A BUFFER
0.4 OPACITY
15' DEEP
2 CANOPY TREES, 6 ACCENT TREES, & 9 SHRUBS
(TYPICAL PER 100 LINEAR FEET)



TYPE "A" BUFFER EXAMPLE



TYPE B BUFFER
0.6 OPACITY
25' DEEP
3 CANOPY TREES, 8 ACCENT TREES, & 13 SHRUBS
(TYPICAL PER 100 LINEAR FEET)



TYPE "B" BUFFER EXAMPLE

GRAPHIC SCALE

(IN FEET)

300 0 150 300 600

SCALE: 1" = 300'

LEGEND

- PROPOSED LOT LINES
- PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- PROPOSED STORM MANHOLE

SITE DATA		
PROJECT NAME	OLD ZION ROAD	
PROJECT NUMBER	23-1211	
ADDRESS	6150 TROTWOOD AVE	
PARCEL ID	MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07	
	EXISTING	PROPOSED
TOTAL PROPERTY ACREAGE	413.68 AC	394.23 AC
TOTAL LOT AREA	11.53 AC	163.09 AC
TOTAL OPEN SPACE	413.00 AC	194.82 AC (49%)
TOTAL ROW AREA	-	36.13 AC
TOTAL ROW DEDICATION	-	0.48 AC
DEDICATED PARK AREA	-	27.9 AC
ZONING	A-2	PUD-R (R-6 BASE)
DENSITY		
ALLOWED DENSITY	1.85 DENSITY UNITS/ACRE	
	765 UNITS	
RESIDENTIAL DENSITY	1 PER DWELLING UNIT	
	765 SINGLE FAMILY HOMES	
PROPOSED DENSITY	765 DENSITY UNITS	
DETAILS		
SINGLE FAMILY LOT WIDTH	60' MIN.	
FRONT SETBACK	20'	
SIDE SETBACK	7.5'	
REAR SETBACK	20'	
REQUIRED PARKING	N/A	
PROPOSED PARKING	248 PARKING SPACES	

OVERALL LOT MIX			
60-FT	443 LOTS		
75-FT	308 LOTS		
100-FT	14 LOTS		
BY-PHASE LOT MIX			
PHASE	**60-FT**	**75-FT**	**100-FT**
PHASE 1	196 LOTS	129 LOTS	1 LOT
PHASE 2	151 LOTS	127 LOTS	13 LOTS
PHASE 3	96 LOTS	52 LOTS	-

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

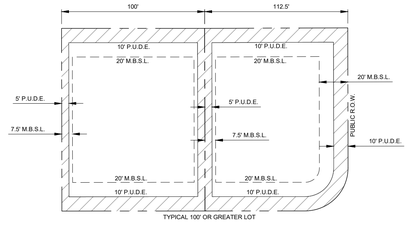
PROJECT
23-1211

SHEET
C-0.2

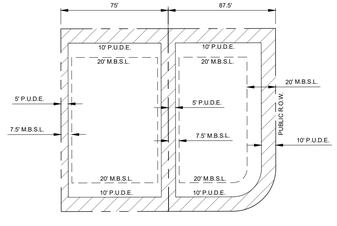
T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:23:06 PM

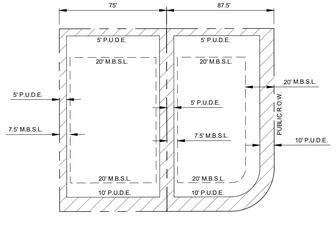

PARK DEDICATION
1A 82 LOTS
1B 37 LOTS
1B 51 LOTS
1C 69 LOTS
1D 87 LOTS
2A 76 LOTS
2B 54 LOTS
2C 84 LOTS
2D 77 LOTS
3A 76 LOTS
3B 72 LOTS
POND 1
POND 2
POND 3
POND 4
POND 5
POND 6
POND 7
POND 8
POND 9
POND 10
POND 11
POND 12
POND 13
POND 14
POND 15
OLD ZION ROAD
FM
FM
FM



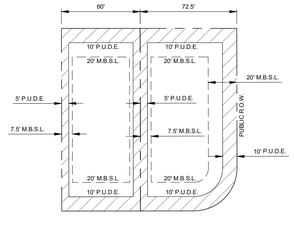
TYPICAL 100' LOT
(NOT TO SCALE)



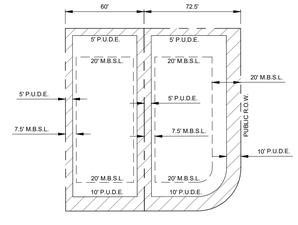
TYPICAL 75' LOT
(NOT TO SCALE)



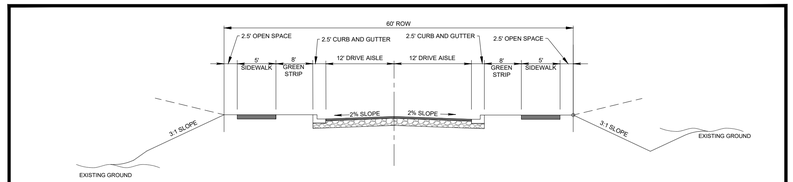
TYPICAL 75' ALLEY LOT
(NOT TO SCALE)



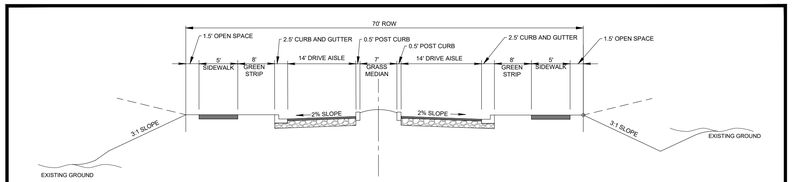
TYPICAL 60' LOT
(NOT TO SCALE)



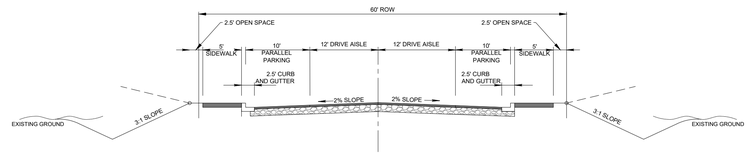
TYPICAL 60' ALLEY LOT
(NOT TO SCALE)



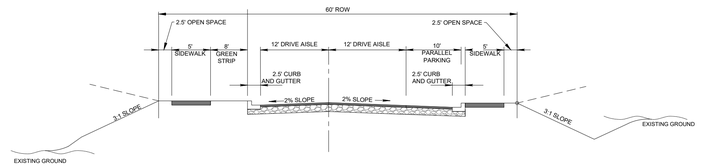
TYPICAL 60' LOCAL R.O.W (PUBLIC)



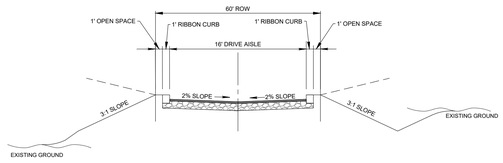
TYPICAL 70' LOCAL R.O.W (PUBLIC)



TYPICAL 60' LOCAL R.O.W PARALLEL PARKING BOTH SIDES (PUBLIC)



TYPICAL 60' LOCAL R.O.W PARALLEL PARKING ON ONE SIDE (PUBLIC)



TYPICAL 20' ALLEY R.O.W (PUBLIC)

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

T-SQUARE ENGINEERING

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

TYPICAL LOT LAYOUTS AND ROADWAY SECTIONS
MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127134
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-0.4

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:23:44 PM

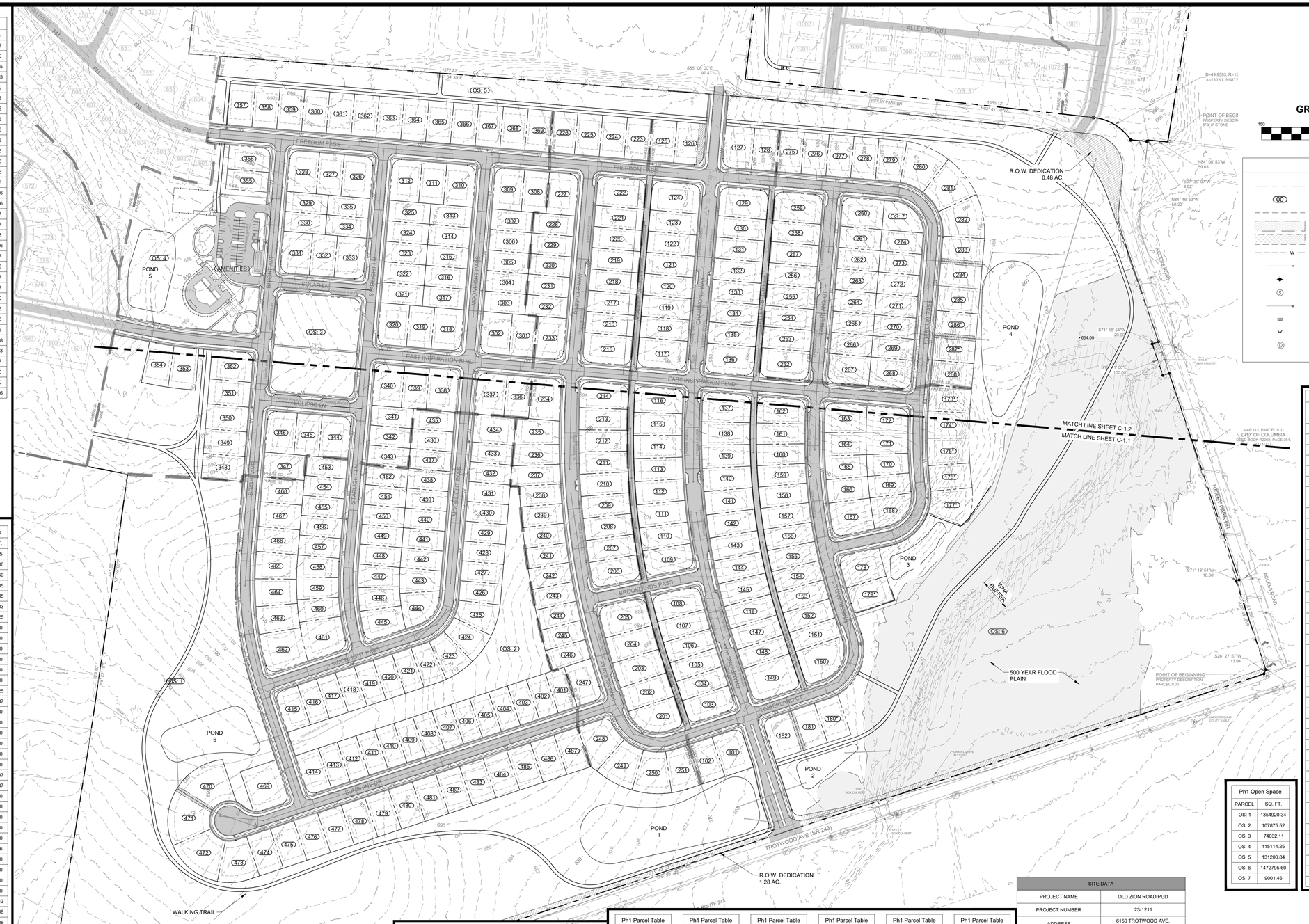
OLD ZION ROAD

PH1 OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET



Ph1 Parcel Table	
PARCEL	SQ. FT.
102	9375.00
103	10292.53
104	8700.00
105	8700.00
106	9018.47
107	9107.39
108	10625.83
109	10625.50
110	9815.51
111	9815.51
112	9815.51
113	9815.51
114	9815.51
115	9815.51
116	10633.75
117	12419.25
118	9280.00
119	9280.00
120	9352.50
121	9352.50
122	9280.00
123	9280.00
124	12419.25
125	9375.00
126	10803.37
127	10803.37
128	9375.00
129	12419.25
130	9280.00
131	9280.00
132	9352.50
133	9352.50
134	9280.00
135	9280.00
136	12419.25
137	12189.07
138	9826.86
139	9826.86
140	9826.86
141	9826.86
142	9826.86
143	9826.86
144	9826.86
145	9826.86
146	9826.86

Ph1 Parcel Table	
PARCEL	SQ. FT.
147	9353.02
148	8700.00
149	15144.95
150	13342.23
151	8700.00
152	8857.78
153	8972.35
155	8972.35
156	8972.35
157	8972.35
158	8972.35
159	8972.35
160	8972.35
161	8972.35
162	10714.36
163	10717.66
164	8542.37
165	8542.37
166	8542.08
167	12183.96
168	9361.27
169	7847.48
170	7847.87
171	7847.87
172	9539.30
174	9879.66
175	9879.66
176	9494.65
177	11553.28
178	11432.23
179	9612.43
180	9404.20
181	9375.00
182	11115.86

Ph1 Parcel Table	
PARCEL	SQ. FT.
201	11389.45
202	10874.97
203	11051.65
204	11133.29
205	12823.97
206	10597.05
207	9411.21
208	9411.21
209	9411.21
210	9411.21
211	9411.21
212	9411.21
213	9411.21
214	10703.73
215	12419.25
216	9280.00
217	9280.00
218	9352.50
219	9352.50
220	9280.00
221	9280.00
222	12467.53
223	9375.00
224	9375.00
225	9375.00
226	9375.00
227	10803.37
228	7750.00
229	7750.00
230	7750.00
231	7750.00
232	7750.00
233	10803.37
234	11071.37
235	10165.88
236	8543.55
237	8985.19
238	7621.16
239	7620.55
240	7620.56
241	7621.20
242	7622.46
243	7624.34
244	7626.84
245	7629.96

Ph1 Parcel Table	
PARCEL	SQ. FT.
246	7646.75
247	10136.36
248	12548.49
249	11742.85
250	11742.85
251	10301.83
252	12419.25
253	9280.00
254	9280.00
255	9352.50
256	9352.50
257	9280.00
258	9280.00
259	12419.25
260	10803.37
261	8000.00
262	8000.00
263	8062.50
264	8062.50
265	8000.00
266	8000.00
267	10803.37
268	10803.37
269	8000.00
270	8000.00
271	8062.50
272	8062.50
273	8000.00
274	7999.26
275	9375.00
276	9375.00
277	9375.00
278	9375.00
279	10007.13
280	13287.08
281	13287.08
282	13287.08
283	9561.87
284	9374.99
285	9374.99
286	9374.98
287	9374.98
288	9374.97

Ph1 Parcel Table	
PARCEL	SQ. FT.
301	9375.00
302	10803.37
303	7750.00
304	7750.00
305	7750.00
306	7750.00
307	7750.00
308	9375.00
309	10803.37
310	10803.37
311	9375.00
312	10803.37
313	7750.00
314	7750.00
315	7750.00
316	7750.00
317	7752.50
318	10801.62
319	9373.61
320	10802.76
321	7751.25
322	7750.00
323	7750.00
324	7750.00
325	7750.00
326	10803.37
327	9375.00
328	10803.37
329	7500.00
330	7500.00
331	10803.37
332	9375.00
333	10803.37
334	7500.00
335	7500.00
336	9375.00
337	10803.37
338	10803.37
339	9375.00
340	10803.37
341	7500.00
342	7500.00
343	7500.00
344	10803.37
345	9375.00

Ph1 Parcel Table	
PARCEL	SQ. FT.
346	10803.37
347	9375.00
348	9375.00
349	9375.00
350	9375.00
351	9375.00
352	10803.37
353	9843.24
354	9799.21
355	7500.00
356	8928.37
357	9375.00
358	9375.00
359	9375.00
360	9375.00
361	9375.00
362	9375.00
363	9375.00
364	9375.00
365	9375.00
366	9375.00
367	9375.00
368	9375.00
369	9375.00

Ph1 Open Space	
PARCEL	SQ. FT.
OS: 1	1354920.34
OS: 2	107875.52
OS: 3	74032.11
OS: 4	115114.25
OS: 5	131200.84
OS: 6	1472795.60
OS: 7	9001.46

Ph1 Parcel Table	
PARCEL	SQ. FT.
401	7500.00
402	7500.00
403	7500.00
404	7500.00
405	7500.00
406	7500.00
407	7500.00
408	7500.00
409	7500.00
410	7500.00
411	7500.00
412	7500.00
413	7500.00
414	8928.35
415	8928.37

Ph1 Parcel Table	
PARCEL	SQ. FT.
416	7500.00
417	7500.00
418	7500.00
419	7500.00
420	7500.00
421	7500.00
422	8083.81
423	9367.70
424	9367.70
425	9367.70
426	7628.19
427	7500.00
428	7500.00
429	7500.00
430	7500.00

Ph1 Parcel Table	
PARCEL	SQ. FT.
431	7500.00
432	7500.00
433	7500.00
434	10559.38
435	7500.00
436	7500.00
437	7500.00
438	7500.00
439	7500.00
440	7500.00
441	7500.00
442	7500.00
443	8515.14
444	9794.18
445	10107.19

Ph1 Parcel Table	
PARCEL	SQ. FT.
446	8078.16
447	8096.20
448	7500.00
449	7500.00
450	7500.00
451	7500.00
452	7500.00
453	7500.00
454	7500.00
455	7500.00
456	7500.00
457	7500.00
458	7860.57
459	7932.92
460	7932.92

Ph1 Parcel Table	
PARCEL	SQ. FT.
461	13398.60
462	13946.89
463	9838.70
464	9838.70
465	9776.78
466	9375.00
467	9375.00
468	9375.00
469	14635.41
470	15630.56
471	14861.23
472	14861.23
473	12253.02
474	9374.98
475	9374.99

Ph1 Parcel Table	
PARCEL	SQ. FT.
476	9374.99
477	9375.01
478	9375.02
479	9375.03
480	9375.04
481	9375.05
482	9375.06
483	9375.07
484	9375.08
485	9375.10
486	9375.13
487	9375.15

SITE DATA	
PROJECT NAME	OLD ZION ROAD PUD
PROJECT NUMBER	23-1211
ADDRESS	6150 TROTWOOD AVE. COLUMBIA, TN 38120
PARCEL ID	MAP 112, PARCELS 009 & 10.07
	EXISTING / PROPOSED
TOTAL PROPERTY AREA	175.66 AC / 173.88 AC
TOTAL ROW DEDICATION	- / 1.78 AC
ZONING	A2 / PUD-R (RS6 BASE)
NUMBER OF LOTS	1 / 326
TOTAL LOT AREA	- / 69.71 AC
TOTAL OPEN SPACE AREA	175.68 / 74.99 AC (43%)
TOTAL AMENITIES AREA	- / 1.57 AC
TOTAL ROW AREA	- / 27.60 AC
MINIMUM LOT SIZE	40,000 SF / 40,000 SF
MINIMUM LOT WIDTH	N/A / 60'
ERROR OF CLOSURE	1/10,000 / 1/10,000

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A *** FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

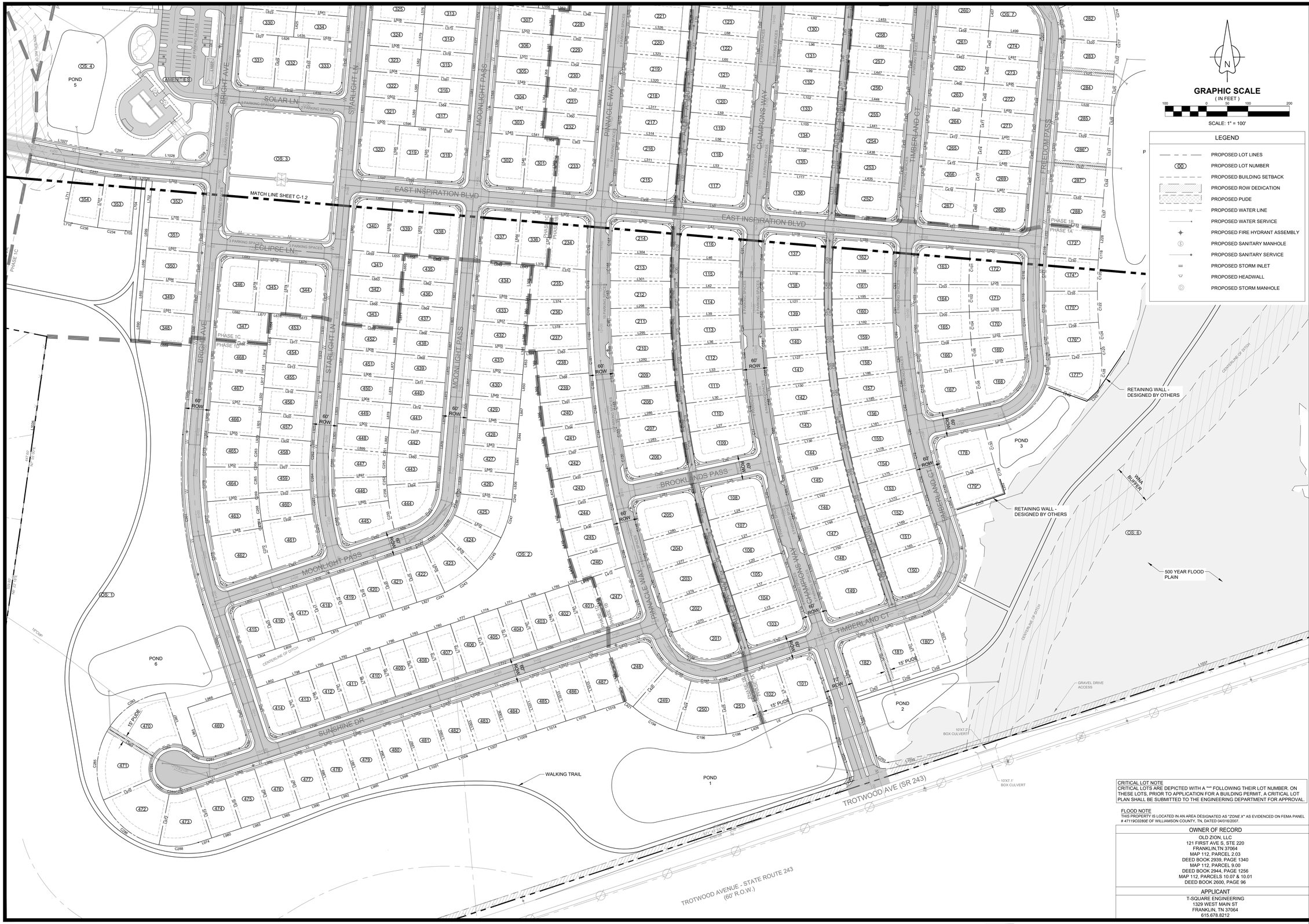
KELSEY H. MAGEE
REGISTERED ENGINEER
117740
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.0

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Eltridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:33:37 PM



CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A *** FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

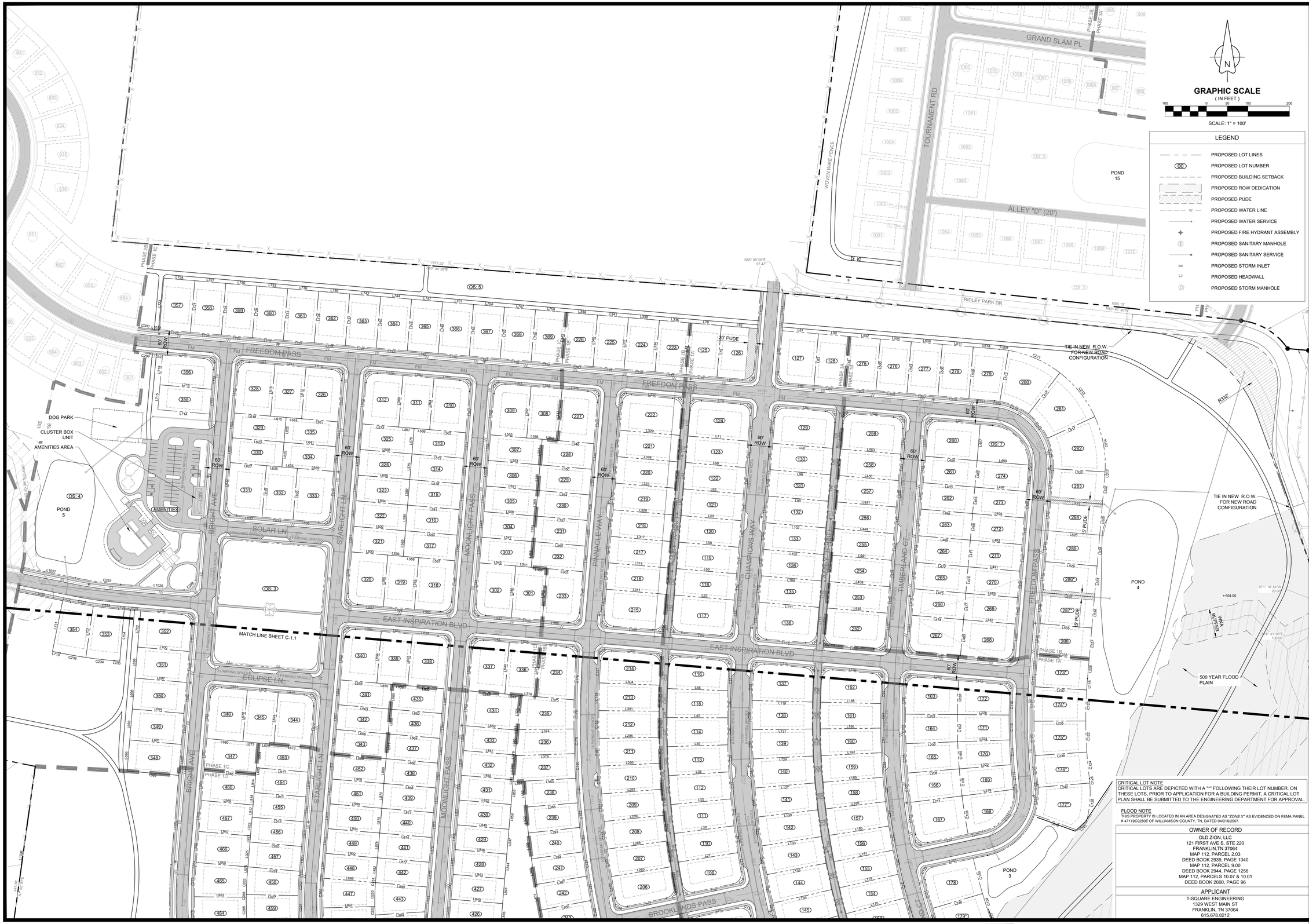
OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127740
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.1

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:35:17 PM



CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 121371
STATE OF TENNESSEE
03/18/2024

T-SQUARE ENGINEERING

REVISIONS	NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH 1 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

PROJECT
23-1211

SHEET
C-1.2

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:36:01 PM

Phase 1 Parcel Line Table		
Line #	Length	Direction
L1	90.03	N18° 16' 06.29"W
L2	89.73	N71° 43' 53.32"E
L3	125.00	N18° 16' 06.29"E
L4	65.00	S71° 43' 53.46"W
L5	75.00	S71° 43' 53.32"W
L6	75.00	N18° 16' 06.29"W
L7	125.00	N18° 16' 06.29"W
L8	75.00	N71° 43' 53.46"E
L9	100.00	S71° 43' 53.02"W
L10	100.00	S71° 43' 53.71"W
L11	52.50	N18° 16' 06.29"W
L12	52.50	N18° 16' 06.29"E
L13	145.00	N71° 43' 53.02"E
L14	47.50	S18° 16' 06.29"E
L15	60.00	S18° 16' 06.29"E
L16	60.00	N18° 16' 06.29"W
L17	145.00	N71° 43' 53.02"E
L18	58.69	S18° 16' 06.29"E
L19	58.69	N18° 16' 06.29"W
L20	145.00	N71° 43' 53.02"E
L21	145.02	N73° 27' 43.40"E
L24	145.01	N75° 10' 24.69"E
L25	95.03	N78° 02' 18.40"E
L26	95.03	S78° 02' 18.40"W
L27	145.00	N80° 54' 12.13"E
L30	145.00	N82° 44' 53.14"E
L33	145.00	N84° 35' 34.15"E
L36	145.00	N86° 25' 15.15"E
L39	145.00	N88° 16' 56.16"E
L42	145.00	S89° 52' 22.83"E
L46	145.00	S88° 01' 41.82"E
L47	95.03	S85° 08' 00.08"E
L48	62.50	S4° 51' 59.92"W
L50	95.00	N85° 08' 00.08"W
L52	62.50	N4° 51' 59.92"E
L53	145.00	S85° 08' 00.08"E
L54	64.00	S4° 51' 59.92"W
L55	64.00	N4° 51' 59.92"E
L56	145.00	S85° 08' 00.08"E
L57	64.00	S4° 51' 59.92"W
L58	64.00	N4° 51' 59.92"E
L59	145.00	S85° 08' 00.08"E
L60	64.50	S4° 51' 59.92"W
L61	64.50	N4° 51' 59.92"E
L62	145.00	S85° 08' 00.08"E
L63	64.50	S4° 51' 59.92"W
L64	64.50	N4° 51' 59.92"E
L65	145.00	S85° 08' 00.08"E
L66	64.00	S4° 51' 59.92"W
L67	64.00	N4° 51' 59.92"E
L68	145.00	S85° 08' 00.08"E
L69	64.00	S4° 51' 59.92"W
L70	64.00	N4° 51' 59.92"E
L71	145.00	S85° 08' 00.08"E
L72	62.50	S4° 51' 59.92"W
L73	62.50	N4° 51' 59.92"E
L74	95.00	S85° 08' 00.08"E
L75	125.00	S4° 51' 59.92"W
L76	75.00	N85° 08' 00.08"W
L77	125.00	N4° 51' 59.92"E
L78	75.00	S85° 08' 00.08"E
L79	100.00	S4° 51' 59.92"W
L80	75.00	N85° 08' 00.08"W
L81	62.50	N4° 51' 59.92"E
L82	87.50	S85° 08' 00.08"E
L83	125.00	S4° 51' 59.92"W
L84	62.50	N85° 08' 00.08"W
L85	100.00	S4° 51' 59.92"W
L86	100.00	N4° 51' 59.92"E
L87	87.50	S85° 08' 00.08"E
L88	125.00	S4° 51' 59.92"W
L89	75.00	N85° 08' 00.08"W
L90	75.00	S85° 08' 00.08"E
L91	62.50	S4° 51' 59.92"W
L92	145.00	N85° 08' 00.08"W
L93	62.50	N4° 51' 59.92"E
L94	95.00	S85° 08' 00.08"E
L95	64.00	S4° 51' 59.92"W
L96	145.00	N85° 08' 00.08"W
L97	64.00	N4° 51' 59.92"E
L98	64.00	S4° 51' 59.92"W
L99	145.00	N85° 08' 00.08"W
L100	64.00	N4° 51' 59.92"E
L101	64.50	S4° 51' 59.92"W
L102	145.00	N85° 08' 00.08"W
L103	64.50	N4° 51' 59.92"E
L104	64.50	S4° 51' 59.92"W
L105	145.00	N85° 08' 00.08"W
L106	64.50	N4° 51' 59.92"E
L107	64.00	S4° 51' 59.92"W
L108	145.00	N85° 08' 00.08"W
L109	64.00	N4° 51' 59.92"E
L110	64.00	S4° 51' 59.92"W
L111	145.00	N85° 08' 00.08"W
L112	64.00	N4° 51' 59.92"E
L113	62.50	S4° 51' 59.92"W
L115	95.00	N85° 08' 00.08"W
L117	62.50	N4° 51' 59.92"E
L118	145.00	N88° 39' 53.77"W
L119	95.04	S85° 08' 00.08"E
L121	145.00	S89° 17' 19.24"W
L124	145.00	S87° 14' 32.24"W
L127	145.00	S85° 11' 45.25"W
L130	145.00	S83° 08' 58.26"W
L133	145.00	S81° 06' 11.27"W

Phase 1 Parcel Line Table		
Line #	Length	Direction
L136	145.00	S79° 03' 24.28"W
L139	145.00	S77° 00' 37.29"W
L142	145.00	S74° 57' 50.29"W
L146	145.00	S72° 55' 03.30"W
L149	145.00	S70° 52' 16.29"W
L150	145.00	S71° 43' 53.71"W
L153	60.00	S18° 16' 06.29"E
L154	145.00	S71° 43' 53.71"W
L155	60.00	N18° 16' 06.29"W
L158	85.96	S18° 16' 06.29"E
L160	100.00	S71° 43' 53.02"W
L162	80.97	N18° 16' 06.29"W
L163	30.00	S71° 43' 53.02"E
L164	85.96	N18° 16' 06.29"W
L165	145.00	N71° 43' 53.71"E
L166	10.96	S18° 16' 06.29"E
L167	60.00	S18° 16' 06.29"E
L168	60.00	N18° 16' 06.29"W
L169	145.00	N71° 43' 53.71"E
L170	25.23	S18° 16' 06.29"E
L171	25.23	N18° 16' 06.29"W
L172	145.00	N72° 55' 03.30"E
L175	145.00	N74° 57' 50.29"E
L178	145.00	N77° 00' 37.29"E
L181	145.00	N79° 03' 24.28"E
L182	145.00	N81° 06' 11.27"E
L186	145.00	N83° 08' 58.26"E
L189	145.00	N85° 11' 45.25"E
L192	145.00	N87° 14' 32.24"E
L195	145.00	N89° 17' 19.24"E
L198	145.00	S88° 39' 53.77"E
L199	95.05	S85° 08' 00.08"E
L202	99.33	S85° 08' 00.08"E
L203	125.00	N89° 31' 42.18"W
L205	125.00	S85° 22' 29.74"W
L208	125.00	S85° 22' 41.66"W
L211	125.00	S82° 49' 53.89"W
L214	99.34	S78° 02' 18.40"W
L218	35.11	S78° 02' 18.40"W
L219	124.91	N82° 49' 53.89"E
L222	125.00	N85° 22' 41.66"E
L224	125.00	N87° 55' 29.74"E
L226	125.00	S89° 31' 42.18"E
L227	100.82	S85° 08' 00.08"E
L228	47.66	S4° 51' 59.92"W
L230	125.00	N86° 28' 40.57"W
L232	48.71	N4° 51' 59.75"E
L233	125.00	S85° 08' 00.08"E
L235	125.00	S89° 49' 58.28"W
L238	125.00	S86° 08' 37.14"W
L242	125.00	S85° 16' 27.90"W
L245	28.88	S47° 10' 12.29"W
L246	110.64	N69° 58' 42.00"W
L248	125.00	S85° 08' 00.08"E
L251	99.34	N78° 02' 18.40"E
L252	30.27	S18° 16' 06.29"E
L253	125.00	S71° 43' 53.71"W
L254	30.27	N18° 16' 06.29"W
L255	127.93	S18° 16' 06.29"E
L256	75.00	S71° 43' 52.86"W
L257	125.00	S4° 51' 59.92"W
L258	45.00	N71° 43' 52.86"E
L259	75.00	S71° 43' 52.86"W
L260	125.00	N18° 16' 06.29"W
L261	75.00	N71° 43' 52.86"E
L262	90.00	S71° 43' 53.71"W
L263	100.00	N18° 16' 06.29"W
L265	65.00	N71° 43' 52.86"E
L266	72.50	S18° 16' 06.29"E
L268	30.00	S71° 43' 54.17"W
L270	144.97	N71° 43' 53.71"E
L271	75.00	S18° 16' 06.29"E
L273	72.50	N18° 16' 06.29"W
L274	145.00	N71° 43' 53.71"E
L275	23.70	S18° 16' 06.29"E
L276	23.70	N18° 16' 06.29"W
L277	145.00	N73° 03' 31.51"E
L280	145.00	N74° 59' 55.98"E
L281	95.03	N78° 02' 18.40"E
L282	95.03	S78° 02' 18.40"W
L283	145.00	N80° 41' 23.78"E
L286	145.00	N82° 19' 47.90"E
L289	145.00	N83° 58' 12.02"E
L292	145.00	N85° 36' 36.15"E
L295	145.00	N87° 15' 00.27"E
L298	145.00	N88° 53' 24.40"E
L301	145.00	S89° 28' 11.48"E
L304	145.00	S87° 49' 47.35"E
L305	95.03	S85° 08' 00.08"E
L306	62.50	S4° 51' 59.92"W
L308	95.00	N85° 08' 00.08"W
L310	62.50	N4° 51' 59.92"E
L311	145.00	S85° 08' 00.08"E
L312	64.00	S4° 51' 59.92"W
L313	64.00	N4° 51' 59.92"E
L314	145.00	S85° 08' 00.08"E
L315	64.00	S4° 51' 59.92"W
L316	64.00	N4° 51' 59.92"E
L317	145.00	S85° 08' 00.08"E

Phase 1 Parcel Line Table		
Line #	Length	Direction
L318	64.50	S4° 51' 59.92"W
L319	64.50	N4° 51' 59.92"E
L320	145.00	S85° 08' 00.08"E
L321	64.50	S4° 51' 59.92"W
L322	64.50	N4° 51' 59.92"E
L323	145.00	S85° 08' 00.08"E
L324	64.00	S4° 51' 59.92"W
L325	64.00	N4° 51' 59.92"E
L326	145.00	S85° 08' 00.08"E
L327	64.00	S4° 51' 59.92"W
L328	64.00	N4° 51' 59.92"E
L329	145.00	S85° 08' 00.08"E
L330	62.50	S4° 51' 59.92"W
L331	67.50	N4° 51' 59.92"E
L332	100.00	S85° 08' 00.08"E
L333	75.00	N85° 08' 00.08"W
L334	125.00	N4° 51' 59.92"E
L335	75.00	S85° 08' 00.08"E
L336	75.00	N85° 08' 00.08"W
L337	125.00	N4° 51' 59.92"E
L338	75.00	S85° 08' 00.08"E
L339	75.00	N85° 08' 00.08"W
L340	125.00	N4° 51' 59.92"E
L341	75.00	S85° 08' 00.08"E
L342	75.00	N85° 08' 00.08"W
L343	125.00	N4° 51' 59.92"E
L344	75.00	S85° 08' 00.08"E
L345	100.00	S4° 51' 59.92"W
L346	87.50	N85° 08' 00.08"W
L347	125.00	N4° 51' 59.92"E
L348	62.50	S85° 08' 00.08"E
L349	62.00	S4° 51' 59.92"W
L350	125.00	N85° 08' 00.08"W
L351	62.00	N4° 51' 59.92"E
L352	37.50	S85° 08' 00.08"E
L353	62.00	S4° 51' 59.92"W
L354	125.00	N85° 08' 00.08"W
L355	62.00	N4° 51' 59.92"E
L356	62.00	S4° 51' 59.92"W
L357	125.00	N85° 08' 00.08"W
L358	62.00	N4° 51' 59.92"E
L359	64.00	S4° 51' 59.92"W
L360	125.00	N85° 08' 00.08"W
L361	62.00	N4° 51' 59.92"E
L362	62.00	S4° 51' 59.92"W
L363	87.50	N85° 08' 00.08"W
L364	37.50	N85° 08' 00.08"W
L365	62.00	N4° 51' 59.92"E
L366	100.00	S4° 51' 59.92"W
L367	62.50	N85° 08' 00.08"W
L368	62.50	N85° 08' 00.08"W
L369	125.00	N4° 51' 59.92"E
L370	92.58	N85° 08' 00.08"W
L371	125.00	N4° 51' 59.92"E
L372	63.15	S85° 08' 00.08"E
L374	136.28	S89° 27' 40.29"W
L375	82.88	N4° 51' 59.92"E
L376	37.50	S85° 08' 00.08"E
L378	143.03	S88° 02' 26.16"W
L379	1.73	N4° 51' 59.92"E
L380	60.00	N4° 51' 59.92"E
L381	1.59	N4° 51' 59.92"E
L383	124.79	S86° 51' 15.34"W
L384	26.51	S86° 51' 15.34"W
L385	4.89	N4° 51' 59.92"E
L386	58.27	N4° 51' 59.92"E
L388	124.78	S85° 18' 55.03"W
L389	62.81	N4° 05' 46.98"W
L391	124.77	S83° 46' 34.69"W
L392	62.81	N5° 30' 46.28"W
L394	124.78	S82° 14' 14.36"W
L395	62.81	N6° 55' 45.58"W
L397	124.79	S80° 41' 54.02"W
L398	62.81	N8° 20' 44.89"W
L400	124.82	S79° 09' 33.68"W
L401	62.82	N9° 45' 44.21"W
L403	124.86	S77° 37' 13.35"W
L404	62.82	N11° 10' 43.54"W
L406	124.90	S76° 04' 53.01"W
L407	62.82	N12° 35' 42.89"W
L409	124.96	S74° 32' 32.67"W
L410	62.82	N14° 00' 42.28"W
L412	83.42	S71° 43' 53.02"W
L413	38.48	S71° 43' 53.02"W
L414	65.08	N18° 16' 06.98"W
L416	11.19	S18° 16' 06.29"E
L418	56.77	S71° 43' 53.02"W
L419	125.00	N18° 16' 06.68"W
L420	125.00	S41° 04' 55.90"W
L421	22.67	N56° 46' 56.73"W
L422	125.00	N18° 16' 06.29"W
L423	76.74	N71° 43' 52.86"E
L424	125.00	S16° 20' 05.79"W
L425	125.00	S8° 24' 44.31"E
L426	45.00	S71° 43' 53.32"W
L429	45.00	N71° 43' 53.46"E
L430	62.50	S4° 51' 59.92"W
L432	95.00	N85° 08' 00.08"W
L434	62.50	N4° 51' 59.92"E
L435	145.00	S85° 08' 00.08"E
L436	64.00	S4° 51' 59.92"W

Phase 1 Parcel Line Table		
Line #	Length	Direction
L437	64.00	N4° 51' 59.92"E
L438	145.00	S85° 08' 00.08"E
L439	64.00	S4° 51' 59.92"W
L440	64.00	N4° 51' 59.92"E
L441	145.00	S85° 08' 00.08"E
L442	64.50	S4° 51' 59.92"W
L443	64.50	N4° 51' 59.92"E
L444	145.00	S85° 08' 00.08"E
L445	64.50	S4° 51' 59.92"W
L446	64.50	N4° 51' 59.92"E
L447	145.00	S85° 08' 00.08"E
L448	64.00	S4° 51' 59.92"W
L449	64.00	N4° 51' 59.92"E
L450	145.00	S85° 08' 00.08"E
L451	64.00	S4° 51' 59.92"W
L452	64.00	N4° 51' 59.92"E
L453	145.00	S85° 08' 00.08"E
L454	62.50	S4° 51' 59.92"W
L455	62.50	N4° 51' 59.92"E
L456	95.00	S85° 08' 00.08"E
L457	87.50	S4° 51' 59.92"W
L458	125.00	N85° 08' 00.08"W
L459	62.50	N4° 51' 59.92"E
L461	100.00	S85° 08' 00.08"E
L462	64.00	S4° 51' 59.92"W
L463	125.00	N85° 08' 00.08"W
L464	64.00	N4° 51' 59.92"E
L465	64.00	S4° 51' 59.92"W
L466	125.00	N85° 08' 00.08"W
L467	64.00	N4° 51' 59.92"E
L468	64.50	S4° 51' 59.92"W
L469	125.00	N85° 08' 00.08"W
L470	64.50	N4° 51' 59.92"E
L471	64.50	S4° 51' 59.92"W
L472	125.00	N85° 08' 00.08"W
L473	64.50	N4° 51' 59.92"E
L474	64.00	S4° 51' 59.92"W
L475	125.00	N85° 08' 00.08"W
L476	64.00	N4° 51' 59.92"E
L477	64.00	S4° 51' 59.92"W
L478	125.00	N85° 08' 00.08"W
L479	64.00	N4° 51' 59.92"E
L480	87.50	S4° 51' 59.92"W
L481	100.00	N85° 08' 00.08"W
L483	62.50	N4° 51' 59.92"E
L484	62.50	S4° 51' 59.92"W
L486	100.00	N85° 08' 00.08"W
L487	125.00	S85° 08' 00.08"E
L488	64.00	S4° 51' 59.92"W
L489	125.00	S85° 08' 00.08"E
L490	64.00	S4° 51' 59.92"W
L491	125.00	S85° 08' 00.08"E
L492	64.50	S4° 51' 59.92"W
L493	125.00	S85° 08' 00.08"E
L494	64.50	S4° 51' 59.92"W
L495	125.00	S85° 08' 00.08"E
L496	64.00	S4° 51' 59.92"W
L497	125.00	S85° 08' 00.08"E
L498	56.50	S4° 51' 59.92"W
L499	124.70	S85° 08' 00.08"E
L500	125.00	S4° 51' 59.92"W
L501	75.00	N85° 08' 00.08"W
L502	75.00	S85° 08' 00.08"E
L503	125.00	S4° 51' 59.92"W
L504	75.00	N85° 08' 00.08"W
L505	75.00	S85° 08' 00.08"E
L506	125.00	S4° 51' 59.92"W
L507	75.00	N85° 08' 00.08"W
L508	75.00	S85° 08' 00.08"E
L509	125.00	S4° 51' 59.92"W
L510	75.00	N85° 08' 00.08"W
L511	75.00	S85° 08' 00.08"E
L512	125.00	S9° 29' 30.00"W
L513	62.50	N85° 08' 00.08"W
L514	62.50	S85° 08' 00.08"E
L515	125.00	S37° 29' 35.78"W
L517	125.00	S65° 29' 41.55"W
L520	125.00	N86° 30' 12.67"W
L522	71.29	S4° 51' 59.92"W
L523	125.00	N85° 08' 00.08"W
L524	71.29	N4° 51' 59.75"E
L525	75.00	S4° 51' 59.92"W
L526	125.00	N85° 08' 00.08"W
L527	75.00	N4° 51' 59.75"E
L528	75.00	S4° 51' 59.92"W
L529	125.00	N85° 08' 00.08"W
L530	75.00	N4° 51' 59.75"E
L531	75.00	S4° 51' 59.92"W
L532	125.00	N85° 08' 00.08"W
L533	75.00	N4° 51' 59.75"E
L534	75.00	S4° 51' 59.92"W
L535	125.00	N85° 08' 00.08"W
L536	75.00	N4° 51' 59.75"E
L537	75.00	S4° 51' 59.92"W
L538	75.00	N4° 51' 59.75"E
L539	75.00	N85° 08' 00.08"W
L540	125.00	N4° 51' 59.92"E
L541	37.50	S85° 08' 00.08"E
L542	62.50	N85° 08' 00.08"W
L544	100.00	N4° 51' 59.92"E

Phase 1 Parcel Line Table		
Line #	Length	Direction
L545	87.50	S85° 08' 00.08"E
L546	62.00	N4° 51' 59.92"E
L547	125.00	S85° 08' 00.08"E
L548	62.00	N4° 51' 59.92"E
L549	125.00	S85° 08' 00.08"E
L550	62.00	N4° 51' 59.92"E
L551	125.00	S85° 08' 00.08"E
L552	62.00	N4° 51' 59.92"E
L553	125.00	S85° 08' 00.08"E
L554	62.00	N4° 51' 59.92"E
L555	87.50	S85° 08' 00.08"E
L556	37.50	S85° 08' 00.08"E
L557	125.00	N4° 51' 59.92"E
L558	75.00	S85° 08' 00.08"E
L559	100.00	N4° 51' 59.92"E
L561	62.50	S85° 08' 00.08"E
L562	100.00	S4° 51' 59.92"W
L563	87.50	N85° 08' 00.08"W
L564	125.00	N4° 51' 59.92"E
L565	62.50	S85° 08' 00.08"E
L566	37.50	N85° 08' 00.08"W
L567	37.50	N85° 08' 00.08"W
L568	125.00	N4° 51' 59.92"E
L569	75.00	S85° 08' 00.08"E
L570	100.00	N4° 51' 59.92"E
L572	62.50	S85° 08' 00.08"E
L573	87.50	N85° 08' 00.08"W
L574	62.00	S4° 51' 59.92"W
L575	125.00	N85° 08' 00.08"W
L576	62.00	N4° 51' 59.92"E
L577	62.00	S4° 51' 59.92"W
L578	125.00	N85° 08' 00.08"W
L579	62.00	N4° 51' 59.92"E
L580	62.00	S4° 51' 59.92"W
L581	125.00	N85° 08' 00.08"W
L582	62.00	N4° 51' 59.92"E
L583	62.00	S4° 51' 59.92"W
L584	125.00	N85° 08' 00.08"W
L585	62.00	N4° 51' 59.92"E
L586	62.02	S4° 51' 59.92"W
L587	87.50	N85° 08' 00.08"W
L588	37.50	N85° 08' 00.08"W
L589	62.02	N4° 51' 59.92"E
L590	99.98	S4° 51' 59.92"W
L592	62.50	N85° 08' 00.08"W
L593	124.98	N4° 51' 59.92"E
L594	75.00	N85° 08' 00.08"W
L595	124.99	N4° 51' 59.92"E
L596	37.50	S85° 07' 27.07"E
L597	62.50	N85° 08' 00.08"W
L599	100.00	N4° 51' 59.92"E
L600	87.50	S85° 07' 27.07"E
L601	62.00	N4° 51' 59.92"E
L602	125.00	S85° 08' 00.08"E
L603	62.00	N4° 51' 59.92"E
L604	125.00	S85° 08' 00.08"E
L605	62.00	N4° 51' 59.92"E
L606	125.00	S85° 08' 00.08"E
L607	62.00	N4° 51' 59.92"E
L608	125.00	S85° 08' 00.08"E
L609	62.00	N4° 51' 59.92"E
L610	100.00	S4° 51' 59.92"W
L611	87.50	N85° 08' 00.08"W
L612	125.00	N4° 51' 59.92"E
L613	62.50	S85° 08' 00.08"E
L614	37.50	N85° 08' 00.08"W
L615	37.50	N85° 08' 00.08"W
L616	125.00	N4° 51' 59.92"E
L617	75.00	S85° 08' 00.08"E
L618	87.50	N85° 08' 00.08"W
L619	100.00	N4° 51' 59.92"E
L621	62.50	S85° 08' 00.08"E
L622	60.00	S4° 51' 59.92"W
L623	125.00	N85° 08' 00.08"W
L624	60.00	N4° 51' 59.92"E
L625	60.00	S4° 51' 59.92"W
L626	37.50	N85° 08' 00.08"W
L627	87.50	N85° 08' 00.08"W
L628	60.00	N4° 51' 59.92"E
L629	125.00	S4° 51' 59.92"W
L630	62.50	N85° 08' 00.08"W
L632	100.00	N4° 51' 59.92"E
L633	125.00	S4° 51' 59.92"W
L634	75.00	N85° 08' 00.08"W
L635	37.50	S85° 08' 00.08"E
L636	100.00	S4° 51' 59.92"W
L638	62.50	N85° 08' 00.08"W
L639	87.50	S85° 08' 00.08"E
L640	60.00	S4° 51' 59.92"W
L641	125.00	S85° 08' 00.08"E
L642	60.00	S4° 51' 59.92"W
L643	37.50	N85° 08' 00.08"W
L644	125.00	N4° 51' 59.92"E
L645	75.00	S85° 08' 00.08"E
L646	100.00	N4° 51' 59.92"E
L648	62.50	S85° 08' 00.08"E
L649	87.50	N85° 08' 00.08"W
L651	87.50	N85° 08' 00.08"W
L652	87.50	N85° 08' 00.08"W
L653	125.00	N4° 51' 59.92"E

Phase 1 Parcel Line Table		
Line #	Length	Direction
L654	62.50	S85° 08' 00.08"E
L655	37.50	N85° 08' 00.08"W
L656	125.00	N4° 51' 59.92"E
L657	75.00	S85° 08' 00.08"E
L658	37.50	N85° 08' 00.08"W
L659	87.50	N85° 08' 00.08"W
L660	100.00	N4° 51' 59.92"E
L662	62.50	S85° 08' 00.08"E
L663	125.00	N85° 08' 00.08"W
L664	60.00	N4° 51' 59.92"E
L665	60.00	S4° 51' 59.92"W
L666	125.00	N85° 08' 00.08"W
L667	60.00	N4° 51' 59.92"E
L668	60.00	S4° 51' 59.92"W
L669	125.00	N85° 08' 00.08"W
L670	60.00	N4° 51' 59.92"E
L671	60.00	S4° 51' 59.92"W
L672	100.00	S4° 51' 59.92"W
L673	87.50	N85° 08' 00.08"W
L674	125.00	N4° 51' 59.92"E
L675	62.50	S85° 08' 00.08"E
L676	37.50	N85° 08' 00.08"W
L677	37.50	N85° 08' 00.08"W
L678	125.00	N4° 51' 59.92"E
L679	75.00	S85° 08' 00.08"E
L680	87.50	N85° 08' 00.08"W
L681	100.00	N4° 51' 59.92"E
L683	62.50	S85° 08' 00.08"E
L684	60.00	S4° 51' 59.92"W
L685	15.00	S4° 51' 59.92"W
L686	125.00	N85° 08' 00.08"W
L687	75.00	N4° 51' 59.92"E
L688	75.00	S4° 51' 59.92"W
L689	125.00	N85° 08' 00.08"W
L690	75.00	N4° 51' 59.92"E
L691	125.00	S85° 08' 00.08"E
L692	75.00	S4° 51' 59.92"W
L693	75.00	N4° 51' 59.92"E
L694	125.00	S85° 08' 00.08"E
L695	75.00	S4° 51' 59.92"W
L696	75.00	N4° 51' 59.92"E
L697	125.00	S85° 08' 00.08"E
L698	75.00	S4° 51' 59.92"W
L699	75.00	N4° 51' 59.92"E
L700	125.00	S85° 08' 00.08"E
L701	62.50	N4° 51' 59.92"E
L702	87.50	N4° 51' 59.92"E
L703	100.00	S85° 08' 00.08"E
L704	125.00	S4° 51' 59.92"W
L705	13.51	N85° 08' 00.08"W
L707	125.00	N8° 17' 15.97"E
L709	13.51	S85° 08' 00.08"E
L710	19.28	N78° 36' 43.80"W
L711	125.00	N11° 23' 16.20"E
L712	19.28	S78° 36' 43.80"E
L713	60.00	S4° 51' 59.92"W
L714	125.00	N85° 08' 00.08"W
L715	60.00	N4° 51' 59.92"E
L716	125.00	S85° 08' 00.08"E
L718	47.50	S4° 51' 59.92"W
L719	72.50	N4° 51' 59.92"E
L720	100.00	S85° 08' 00.08"E
L721	125.00	S4° 51' 59.92"W
L722	75.00	N85° 08' 00.08"W
L723	125.00	N4° 51' 59.92"E
L724	75.00	S85° 08' 00.08"E
L725	125.00	S4° 51' 59.92"W
L726	75.00	N85° 08' 00.08"W
L727	75.00	S85° 08' 00.08"E
L728	125.00	S4° 51' 59.92"W
L729	75.00	N85° 08' 00.08"W
L730	75.00	S85° 08' 00.08"E
L731	125.00	S4° 51' 59.92"W
L732	75.00	N85° 08' 00.08"W
L733	75.00	S85° 08' 00.08"E
L734	125.00	S4° 51' 59.92"W
L735	75.00	N85° 08' 00.08"W
L736	75.00	S85° 08' 00.08"E
L737	125.00	S4° 51' 59.92"W
L738	75.00	N85° 08' 00.08"W
L739	75.00	S85° 08' 00.08"E
L740	125.00	S4° 51' 59.92"W
L741	75.00	N85° 08' 00.08"W
L742	75.00	S85° 08' 00.08"E
L743	75.00	N85° 08' 00.08"W
L744	75.00	S85° 08' 00.08"E
L745	125.00	S4° 51' 59.92"W
L746	75.00	N85° 08' 00.08"W
L747	75.00	S85° 08' 00.08"E
L748	125.00	S4° 51' 59.92"W
L749	125.00	S4° 51' 59.92"W
L750	75.00	N85° 08' 00.08"W
L751	75.00	S85° 08' 00.08"E
L752	125.00	S4° 51' 59.92"W
L753	75.00	N85° 08' 00.08"W
L754	75.00	S85° 08' 00.08"E
L755	125.00	S4° 51' 59.92"W
L756	75.00	N85° 08' 00.08"W
L757	75.00	S85° 08' 00.08"E
L758	75.00	N85° 08' 00.08"W

Phase 1 Parcel Line Table		
Line #	Length	Direction
L759	75.00	S85° 08' 00.08"E
L760	60.00	S71° 43' 53.02"W
L761	125.00	N18° 16' 06.68"W
L762	21.52	N71° 43' 53.02"E
L763	60.00	S71° 43' 53.02"W
L764	125.00	N18° 16' 06.68"W
L765	60.00	N71° 43' 53.02"E
L766	60.00	S71° 43' 53.02"W
L767	125.00	N18° 16' 06.68"W
L768	60.00	S71° 43' 53.02"W
L769	60.00	N71° 43' 53.02"E
L770	125.00	N18° 16' 06.68"W
L771	60.00	N71° 43' 53.02"E
L772	60.00	S71° 43' 53.02"W
L773	125.00	N18° 16' 06.68"W
L774	60.00	N71° 43' 53.02"E
L775	60.00	S71° 43' 53.02"W
L776	125.00	N18° 16' 06.68"W
L777	60.00	N71° 43' 53.02"E
L778	60.00	S71° 43' 53.02"W
L779	125.00	N18° 16' 06.68"W
L780	60.00	N71° 43' 53.02"E
L781	60.00	S71° 43' 53.02"W
L782	125.00	N18° 16' 06.


SAN1-69
SAN1-70
SAN1-76
SAN1-68
SAN1-63
SAN1-71
SAN1-40
SAN1-75
SAN1-72
SAN1-73
SAN1-41
SAN1-74
SAN1-42
SAN1-43
SAN1-57
SAN1-52
SAN1-51
SAN1-50
SAN1-49
SAN1-48
SAN1-47
SAN1-13
SAN1-12
SAN1-15
SAN1-39
SAN1-56
SAN1-55
SAN1-54
SAN1-53
SAN1-35
SAN1-36
SAN1-37
SAN1-38
SAN1-16
SAN1-14
SAN1-30
SAN1-31
SAN1-28
SAN1-27
SAN1-26
SAN1-29
SAN1-46
SAN1-45
SAN1-44
SAN1-62
SAN1-61
SAN1-60
SAN1-59
SAN1-58
SAN1-25
SAN1-24
SAN1-22
SAN1-23
SAN1-18
SAN1-17
SAN1-6
SAN1-7
SAN1-8
SAN1-9
SAN1-10
SAN1-11
POND 5
POND 6
POND 1
POND 2
POND 3
OS: 1
OS: 2
OS: 3
OS: 4
OS: 6
OS: 7
SOLAR LN
ECLIPSE LN
EAST INSPIRATION BLVD
BRIGHT AVE
STARLIGHT LN
MOONLIGHT PASS
PINNACLE WAY
ALLEY A (20')
ALLEY B (20')
CHAMPIONS WAY
TIMBERLAND CT
FREEDOM PASS
BROOKLANDS PASS
SUNSHINE DR
MATCH LINE SHEET C-1.5
PHASE 1C
PHASE 1D
PHASE 1B
PHASE 1A
PHASE 1E
PHASE 1F
PHASE 1G
PHASE 1H
PHASE 1I
PHASE 1J
PHASE 1K
PHASE 1L
PHASE 1M
PHASE 1N
PHASE 1O
PHASE 1P
PHASE 1Q
PHASE 1R
PHASE 1S
PHASE 1T
PHASE 1U
PHASE 1V
PHASE 1W
PHASE 1X
PHASE 1Y
PHASE 1Z
PHASE 1AA
PHASE 1AB
PHASE 1AC
PHASE 1AD
PHASE 1AE
PHASE 1AF
PHASE 1AG
PHASE 1AH
PHASE 1AI
PHASE 1AJ
PHASE 1AK
PHASE 1AL
PHASE 1AM
PHASE 1AN
PHASE 1AO
PHASE 1AP
PHASE 1AQ
PHASE 1AR
PHASE 1AS
PHASE 1AT
PHASE 1AU
PHASE 1AV
PHASE 1AW
PHASE 1AX
PHASE 1AY
PHASE 1AZ
PHASE 1BA
PHASE 1BB
PHASE 1BC
PHASE 1BD
PHASE 1BE
PHASE 1BF
PHASE 1BG
PHASE 1BH
PHASE 1BI
PHASE 1BJ
PHASE 1BK
PHASE 1BL
PHASE 1BM
PHASE 1BN
PHASE 1BO
PHASE 1BP
PHASE 1BQ
PHASE 1BR
PHASE 1BS
PHASE 1BT
PHASE 1BU
PHASE 1BV
PHASE 1BW
PHASE 1BX
PHASE 1BY
PHASE 1BZ
PHASE 1CA
PHASE 1CB
PHASE 1CC
PHASE 1CD
PHASE 1CE
PHASE 1CF
PHASE 1CG
PHASE 1CH
PHASE 1CI
PHASE 1CJ
PHASE 1CK
PHASE 1CL
PHASE 1CM
PHASE 1CN
PHASE 1CO
PHASE 1CP
PHASE 1CQ
PHASE 1CR
PHASE 1CS
PHASE 1CT
PHASE 1CU
PHASE 1CV
PHASE 1CW
PHASE 1CX
PHASE 1CY
PHASE 1CZ
PHASE 1DA
PHASE 1DB
PHASE 1DC
PHASE 1DD
PHASE 1DE
PHASE 1DF
PHASE 1DG
PHASE 1DH
PHASE 1DI
PHASE 1DJ
PHASE 1DK
PHASE 1DL
PHASE 1DM
PHASE 1DN
PHASE 1DO
PHASE 1DP
PHASE 1DQ
PHASE 1DR
PHASE 1DS
PHASE 1DT
PHASE 1DU
PHASE 1DV
PHASE 1DW
PHASE 1DX
PHASE 1DY
PHASE 1DZ
PHASE 1EA
PHASE 1EB
PHASE 1EC
PHASE 1ED
PHASE 1EE
PHASE 1EF
PHASE 1EG
PHASE 1EH
PHASE 1EI
PHASE 1EJ
PHASE 1EK
PHASE 1EL
PHASE 1EM
PHASE 1EN
PHASE 1EO
PHASE 1EP
PHASE 1EQ
PHASE 1ER
PHASE 1ES
PHASE 1ET
PHASE 1EU
PHASE 1EV
PHASE 1EW
PHASE 1EX
PHASE 1EY
PHASE 1EZ
PHASE 1FA
PHASE 1FB
PHASE 1FC
PHASE 1FD
PHASE 1FE
PHASE 1FF
PHASE 1FG
PHASE 1FH
PHASE 1FI
PHASE 1FJ
PHASE 1FK
PHASE 1FL
PHASE 1FM
PHASE 1FN
PHASE 1FO
PHASE 1FP
PHASE 1FQ
PHASE 1FR
PHASE 1FS
PHASE 1FT
PHASE 1FU
PHASE 1FV
PHASE 1FW
PHASE 1FX
PHASE 1FY
PHASE 1FZ
PHASE 1GA
PHASE 1GB
PHASE 1GC
PHASE 1GD
PHASE 1GE
PHASE 1GF
PHASE 1GG
PHASE 1GH
PHASE 1GI
PHASE 1GJ
PHASE 1GK
PHASE 1GL
PHASE 1GM
PHASE 1GN
PHASE 1GO
PHASE 1GP
PHASE 1GQ
PHASE 1GR
PHASE 1GS
PHASE 1GT
PHASE 1GU
PHASE 1GV
PHASE 1GW
PHASE 1GX
PHASE 1GY
PHASE 1GZ
PHASE 1HA
PHASE 1HB
PHASE 1HC
PHASE 1HD
PHASE 1HE
PHASE 1HF
PHASE 1HG
PHASE 1HH
PHASE 1HI
PHASE 1HJ
PHASE 1HK
PHASE 1HL
PHASE 1HM
PHASE 1HN
PHASE 1HO
PHASE 1HP
PHASE 1HQ
PHASE 1HR
PHASE 1HS
PHASE 1HT
PHASE 1HU
PHASE 1HV
PHASE 1HW
PHASE 1HX
PHASE 1HY
PHASE 1HZ
PHASE 1IA
PHASE 1IB
PHASE 1IC
PHASE 1ID
PHASE 1IE
PHASE 1IF
PHASE 1IG
PHASE 1IH
PHASE 1II
PHASE 1IJ
PHASE 1IK
PHASE 1IL
PHASE 1IM
PHASE 1IN
PHASE 1IO
PHASE 1IP
PHASE 1IQ
PHASE 1IR
PHASE 1IS
PHASE 1IT
PHASE 1IU
PHASE 1IV
PHASE 1IW
PHASE 1IX
PHASE 1IY
PHASE 1IZ
PHASE 1JA
PHASE 1JB
PHASE 1JC
PHASE 1JD
PHASE 1JE
PHASE 1JF
PHASE 1JG
PHASE 1JH
PHASE 1JI
PHASE 1JJ
PHASE 1JK
PHASE 1JL
PHASE 1JM
PHASE 1JN
PHASE 1JO
PHASE 1JP
PHASE 1JQ
PHASE 1JR
PHASE 1JS
PHASE 1JT
PHASE 1JU
PHASE 1JV
PHASE 1JW
PHASE 1JX
PHASE 1JY
PHASE 1JZ
PHASE 1KA
PHASE 1KB
PHASE 1KC
PHASE 1KD
PHASE 1KE
PHASE 1KF
PHASE 1KG
PHASE 1KH
PHASE 1KI
PHASE 1KJ
PHASE 1KK
PHASE 1KL
PHASE 1KM
PHASE 1KN
PHASE 1KO
PHASE 1KP
PHASE 1KQ
PHASE 1KR
PHASE 1KS
PHASE 1KT
PHASE 1KU
PHASE 1KV
PHASE 1KW
PHASE 1KX
PHASE 1KY
PHASE 1KZ
PHASE 1LA
PHASE 1LB
PHASE 1LC
PHASE 1LD
PHASE 1LE
PHASE 1LF
PHASE 1LG
PHASE 1LH
PHASE 1LI
PHASE 1LJ
PHASE 1LK
PHASE 1LL
PHASE 1LM
PHASE 1LN
PHASE 1LO
PHASE 1LP
PHASE 1LQ
PHASE 1LR
PHASE 1LS
PHASE 1LT
PHASE 1LU
PHASE 1LV
PHASE 1LW
PHASE 1LX
PHASE 1LY
PHASE 1LZ
PHASE 1MA
PHASE 1MB
PHASE 1MC
PHASE 1MD
PHASE 1ME
PHASE 1MF
PHASE 1MG
PHASE 1MH
PHASE 1MI
PHASE 1MJ
PHASE 1MK
PHASE 1ML
PHASE 1MM
PHASE 1MN
PHASE 1MO
PHASE 1MP
PHASE 1MQ
PHASE 1MR
PHASE 1MS
PHASE 1MT
PHASE 1MU
PHASE 1MV
PHASE 1MW
PHASE 1MX
PHASE 1MY
PHASE 1MZ
PHASE 1NA
PHASE 1NB
PHASE 1NC
PHASE 1ND
PHASE 1NE
PHASE 1NF
PHASE 1NG
PHASE 1NH
PHASE 1NI
PHASE 1NJ
PHASE 1NK
PHASE 1NL
PHASE 1NM
PHASE 1NN
PHASE 1NO
PHASE 1NP
PHASE 1NQ
PHASE 1NR
PHASE 1NS
PHASE 1NT
PHASE 1NU
PHASE 1NV
PHASE 1NW
PHASE 1NX
PHASE 1NY
PHASE 1NZ
PHASE 1OA
PHASE 1OB
PHASE 1OC
PHASE 1OD
PHASE 1OE
PHASE 1OF
PHASE 1OG
PHASE 1OH
PHASE 1OI
PHASE 1OJ
PHASE 1OK
PHASE 1OL
PHASE 1OM
PHASE 1ON
PHASE 1OO
PHASE 1OP
PHASE 1OQ
PHASE 1OR
PHASE 1OS
PHASE 1OT
PHASE 1OU
PHASE 1OV
PHASE 1OW
PHASE 1OX
PHASE 1OY
PHASE 1OZ
PHASE 1PA
PHASE 1PB
PHASE 1PC
PHASE 1PD
PHASE 1PE
PHASE 1PF
PHASE 1PG
PHASE 1PH
PHASE 1PI
PHASE 1PJ
PHASE 1PK
PHASE 1PL
PHASE 1PM
PHASE 1PN
PHASE 1PO
PHASE 1PP
PHASE 1PQ
PHASE 1PR
PHASE 1PS
PHASE 1PT
PHASE 1PU
PHASE 1PV
PHASE 1PW
PHASE 1PX
PHASE 1PY
PHASE 1PZ
PHASE 1QA
PHASE 1QB
PHASE 1QC
PHASE 1QD
PHASE 1QE
PHASE 1QF
PHASE 1QG
PHASE 1QH
PHASE 1QI
PHASE 1QJ
PHASE 1QK
PHASE 1QL
PHASE 1QM
PHASE 1QN
PHASE 1QO
PHASE 1QP
PHASE 1QQ
PHASE 1QR
PHASE 1QS
PHASE 1QT
PHASE 1QU
PHASE 1QV
PHASE 1QW
PHASE 1QX
PHASE 1QY
PHASE 1QZ
PHASE 1RA
PHASE 1RB
PHASE 1RC
PHASE 1RD
PHASE 1RE
PHASE 1RF
PHASE 1RG
PHASE 1RH
PHASE 1RI
PHASE 1RJ
PHASE 1RK
PHASE 1RL
PHASE 1RM
PHASE 1RN
PHASE 1RO
PHASE 1RP
PHASE 1RQ
PHASE 1RR
PHASE 1RS
PHASE 1RT
PHASE 1RU
PHASE 1RV
PHASE 1RW
PHASE 1RX
PHASE 1RY
PHASE 1RZ
PHASE 1SA
PHASE 1SB
PHASE 1SC
PHASE 1SD
PHASE 1SE
PHASE 1SF
PHASE 1SG
PHASE 1SH
PHASE 1SI
PHASE 1SJ
PHASE 1SK
PHASE 1SL
PHASE 1SM
PHASE 1SN
PHASE 1SO
PHASE 1SP
PHASE 1SQ
PHASE 1SR
PHASE 1SS
PHASE 1ST
PHASE 1SU
PHASE 1SV
PHASE 1SW
PHASE 1SX
PHASE 1SY
PHASE 1SZ
PHASE 1TA
PHASE 1TB
PHASE 1TC
PHASE 1TD
PHASE 1TE
PHASE 1TF
PHASE 1TG
PHASE 1TH
PHASE 1TI
PHASE 1TJ
PHASE 1TK
PHASE 1TL
PHASE 1TM
PHASE 1TN
PHASE 1TO
PHASE 1TP
PHASE 1TQ
PHASE 1TR
PHASE 1TS
PHASE 1TT
PHASE 1TU
PHASE 1TV
PHASE 1TW
PHASE 1TX
PHASE 1TY
PHASE 1TZ
PHASE 1UA
PHASE 1UB
PHASE 1UC
PHASE 1UD
PHASE 1UE
PHASE 1UF
PHASE 1UG
PHASE 1UH
PHASE 1UI
PHASE 1UJ
PHASE 1UK
PHASE 1UL
PHASE 1UM
PHASE 1UN
PHASE 1UO
PHASE 1UP
PHASE 1UQ
PHASE 1UR
PHASE 1US
PHASE 1UT
PHASE 1UU
PHASE 1UV
PHASE 1UW
PHASE 1UX
PHASE 1UY
PHASE 1UZ
PHASE 1VA
PHASE 1VB
PHASE 1VC
PHASE 1VD
PHASE 1VE
PHASE 1VF
PHASE 1VG
PHASE 1VH
PHASE 1VI
PHASE 1VJ
PHASE 1VK
PHASE 1VL
PHASE 1VM
PHASE 1VN
PHASE 1VO
PHASE 1VP
PHASE 1VQ
PHASE 1VR
PHASE 1VS
PHASE 1VT
PHASE 1VU
PHASE 1VV
PHASE 1VW
PHASE 1VX
PHASE 1VY
PHASE 1VZ
PHASE 1WA
PHASE 1WB
PHASE 1WC
PHASE 1WD
PHASE 1WE
PHASE 1WF
PHASE 1WG
PHASE 1WH
PHASE 1WI
PHASE 1WJ
PHASE 1WK
PHASE 1WL
PHASE 1WM
PHASE 1WN
PHASE 1WO
PHASE 1WP
PHASE 1WQ
PHASE 1WR
PHASE 1WS
PHASE 1WT
PHASE 1WU
PHASE 1WV
PHASE 1WW
PHASE 1WX
PHASE 1WY
PHASE 1WZ
PHASE 1XA
PHASE 1XB
PHASE 1XC
PHASE 1XD
PHASE 1XE
PHASE 1XF
PHASE 1XG
PHASE 1XH
PHASE 1XI
PHASE 1XJ
PHASE 1XK
PHASE 1XL
PHASE 1XM
PHASE 1XN
PHASE 1XO
PHASE 1XP
PHASE 1XQ
PHASE 1XR
PHASE 1XS
PHASE 1XT
PHASE 1XU
PHASE 1XV
PHASE 1XW
PHASE 1XX
PHASE 1XY
PHASE 1XZ
PHASE 1YA
PHASE 1YB
PHASE 1YC
PHASE 1YD
PHASE 1YE
PHASE 1YF
PHASE 1YG
PHASE 1YH
PHASE 1YI
PHASE 1YJ
PHASE 1YK
PHASE 1YL
PHASE 1YM
PHASE 1YN
PHASE 1YO
PHASE 1YP
PHASE 1YQ
PHASE 1YR
PHASE 1YS
PHASE 1YT
PHASE 1YU
PHASE 1YV
PHASE 1YW
PHASE 1YX
PHASE 1YY
PHASE 1YZ
PHASE 1ZA
PHASE 1ZB
PHASE 1ZC
PHASE 1ZD
PHASE 1ZE
PHASE 1ZF
PHASE 1ZG
PHASE 1ZH
PHASE 1ZI
PHASE 1ZJ
PHASE 1ZK
PHASE 1ZL
PHASE 1ZM
PHASE 1ZN
PHASE 1ZO
PHASE 1ZP
PHASE 1ZQ
PHASE 1ZR
PHASE 1ZS
PHASE 1ZT
PHASE 1ZU
PHASE 1ZV
PHASE 1ZW
PHASE 1ZX
PHASE 1ZY
PHASE 1ZZ
PHASE 1AAA
PHASE 1AAB
PHASE 1AAC
PHASE 1AAD
PHASE 1AAE
PHASE 1AAF
PHASE 1AAG
PHASE 1AAH
PHASE 1AAI
PHASE 1AAJ
PHASE 1AAK
PHASE 1AAL
PHASE 1AAM
PHASE 1AAN
PHASE 1AAO
PHASE 1AAP
PHASE 1AAQ
PHASE 1AAR
PHASE 1AAS
PHASE 1AAT
PHASE 1AAU
PHASE 1AAV
PHASE 1AAW
PHASE 1AAX
PHASE 1AAY
PHASE 1AAZ
PHASE 1ABA
PHASE 1ABB
PHASE 1ABC
PHASE 1ABD
PHASE 1ABE
PHASE 1ABF
PHASE 1ABG
PHASE 1ABH
PHASE 1ABI
PHASE 1ABJ
PHASE 1ABK
PHASE 1ABL
PHASE 1ABM
PHASE 1ABN
PHASE 1ABO
PHASE 1ABP
PHASE 1ABQ
PHASE 1ABR
PHASE 1ABS
PHASE 1ABT
PHASE 1ABU
PHASE 1ABV
PHASE 1ABW
PHASE 1ABX
PHASE 1ABY
PHASE 1ABZ
PHASE 1ACA
PHASE 1ACB
PHASE 1ACC
PHASE 1ACD
PHASE 1ACE
PHASE 1ACF
PHASE 1ACG
PHASE 1ACH
PHASE 1ACI
PHASE 1ACJ
PHASE 1ACK
PHASE 1ACL
PHASE 1ACM
PHASE 1ACN
PHASE 1ACO
PHASE 1ACP
PHASE 1ACQ
PHASE 1ACR
PHASE 1ACS
PHASE 1ACT
PHASE 1ACU
PHASE 1ACV
PHASE 1ACW
PHASE 1ACX
PHASE 1ACY
PHASE 1ACZ
PHASE 1ADA
PHASE 1ADB
PHASE 1ADC
PHASE 1ADD
PHASE 1ADE
PHASE 1ADF
PHASE 1ADG
PHASE 1ADH
PHASE 1ADI
PHASE 1ADJ
PHASE 1ADK
PHASE 1ADL
PHASE 1ADM
PHASE 1ADN
PHASE 1ADO
PHASE 1ADP
PHASE 1ADQ
PHASE 1ADR
PHASE 1ADS
PHASE 1ADT
PHASE 1ADU
PHASE 1ADV
PHASE 1ADW
PHASE 1ADX
PHASE 1ADY
PHASE 1ADZ
PHASE 1AEA
PHASE 1AEB
PHASE 1AEC
PHASE 1AED
PHASE 1AEE
PHASE 1AEF
PHASE 1AEG
PHASE 1AEH
PHASE 1AEI
PHASE 1AEJ
PHASE 1AEK
PHASE 1AEL
PHASE 1AEM
PHASE 1AEN
PHASE 1AEO
PHASE 1AEP
PHASE 1AEQ
PHASE 1AER
PHASE 1AES
PHASE 1AET
PHASE 1AEU
PHASE 1AEV
PHASE 1AEW
PHASE 1AEX
PHASE 1AEY
PHASE 1AEZ
PHASE 1AFA
PHASE 1AFB
PHASE 1AFC
PHASE 1AFD
PHASE 1AFE
PHASE 1AFF
PHASE 1AFG
PHASE 1AFH
PHASE 1AFI
PHASE 1AFJ
PHASE 1AFK
PHASE 1AFL
PHASE 1AFM
PHASE 1AFN
PHASE 1AFO
PHASE 1AFP
PHASE 1AFQ
PHASE 1AFR
PHASE 1AFS
PHASE 1AFT
PHASE 1AFU
PHASE 1AFV
PHASE 1AFW
PHASE 1AFX
PHASE 1AFY
PHASE 1AFZ
PHASE 1AGA
PHASE 1AGB
PHASE 1AGC
PHASE 1AGD
PHASE 1AGE
PHASE 1AGF
PHASE 1AGG
PHASE 1AGH
PHASE 1AGI
PHASE 1AGJ
PHASE 1AGK
PHASE 1AGL
PHASE 1AGM
PHASE 1AGN
PHASE 1AGO
PHASE 1AGP
PHASE 1AGQ
PHASE 1AGR
PHASE 1AGS
PHASE 1AGT
PHASE 1AGU
PHASE 1AGV
PHASE 1AGW
PHASE 1AGX
PHASE 1AGY
PHASE 1AGZ
PHASE 1AHA
PHASE 1AHB
PHASE 1AHC
PHASE 1AHD
PHASE 1AHE
PHASE 1AHF
PHASE 1AHG
PHASE 1AHH
PHASE 1AHI
PHASE 1AHJ
PHASE 1AHK
PHASE 1AHL
PHASE 1AHM
PHASE 1AHN
PHASE 1AHO
PHASE 1AHP
PHASE 1AHQ
PHASE 1AHR
PHASE 1AHS
PHASE 1AHT
PHASE 1AHU
PHASE 1AHV
PHASE 1AHW
PHASE 1AHX
PHASE 1AHY
PHASE 1AHZ
PHASE 1AIA
PHASE 1AIB
PHASE 1AIC
PHASE 1AID
PHASE 1AIE
PHASE 1AIF
PHASE 1AIG
PHASE 1AIH
PHASE 1AII
PHASE 1AIJ
PHASE 1AIK
PHASE 1AIL
PHASE 1AIM
PHASE 1AIN
PHASE 1AIO
PHASE 1AIP
PHASE 1AIQ
PHASE 1AIR
PHASE 1AIS
PHASE 1AIT
PHASE 1AIU
PHASE 1AIV
PHASE 1AIW
PHASE 1AIX
PHASE 1AIY
PHASE 1AIZ
PHASE 1AJA
PHASE 1AJB
PHASE 1AJC
PHASE 1AJD
PHASE 1AJE
PHASE 1AJF
PHASE 1AJG
PHASE 1AJH
PHASE 1AJI
PHASE 1AJJ
PHASE 1AJK
PHASE 1AJL
PHASE 1AJM
PHASE 1AJN
PHASE 1AJO
PHASE 1AJP
PHASE 1AJQ
PHASE 1AJR
PHASE 1AJS
PHASE 1AJT
PHASE 1AJU
PHASE 1AJV
PHASE 1AJW
PHASE 1AJX
PHASE 1AJY
PHASE 1AJZ
PHASE 1AKA
PHASE 1AKB
PHASE 1AKC
PHASE 1AKD
PHASE 1AKE
PHASE 1AKF
PHASE 1AKG
PHASE 1AKH
PHASE 1AKI
PHASE 1AKJ
PHASE 1AKK
PHASE 1AKL
PHASE 1AKM
PHASE 1AKN
PHASE 1AKO
PHASE 1AKP
PHASE 1AKQ
PHASE 1AKR
PHASE 1AKS
PHASE 1AKT
PHASE 1AKU
PHASE 1AKV
PHASE 1AKW
PHASE 1AKX
PHASE 1AKY
PHASE 1AKZ
PHASE 1ALA
PHASE 1ALB
PHASE 1ALC
PHASE 1ALD
PHASE 1ALE
PHASE 1ALF
PHASE 1ALG
PHASE 1ALH
PHASE 1ALI
PHASE 1ALJ
PHASE 1ALK
PHASE 1ALL
PHASE 1ALM
PHASE 1ALN
PHASE 1ALO
PHASE 1ALP
PHASE 1ALQ
PHASE 1ALR
PHASE 1ALS
PHASE 1ALT
PHASE 1ALU
PHASE 1ALV
PHASE 1ALW
PHASE 1ALX
PHASE 1ALY
PHASE 1ALZ
PHASE 1AMA
PHASE 1AMB
PHASE 1AMC
PHASE 1AMD
PHASE 1AME
PHASE 1AMF
PHASE 1AMG
PHASE 1AMH
PHASE 1AMI
PHASE 1AMJ
PHASE 1AMK
PHASE 1AML
PHASE 1AMM
PHASE 1AMN
PHASE 1AMO
PHASE 1AMP
PHASE 1AMQ
PHASE 1AMR
PHASE 1AMS
PHASE 1AMT
PHASE 1AMU
PHASE 1AMV
PHASE 1AMW
PHASE 1AMX
PHASE 1AMY
PHASE 1AMZ
PHASE 1ANA
PHASE 1ANB
PHASE 1ANC
PHASE 1AND
PHASE 1ANE
PHASE 1ANF
PHASE 1ANG
PHASE 1ANH
PHASE 1ANI
PHASE 1ANJ
PHASE 1ANK
PHASE 1ANL
PHASE 1ANM
PHASE 1ANN
PHASE 1ANO
PHASE 1ANP
PHASE 1ANQ
PHASE 1ANR
PHASE 1ANS
PHASE 1ANT
PHASE 1ANU
PHASE 1ANV
PHASE 1ANW
PHASE 1ANX
PHASE 1ANY
PHASE 1ANZ
PHASE 1AOA
PHASE 1AOB
PHASE 1AOC
PHASE 1AOD
PHASE 1AOE
PHASE 1AOF
PHASE 1AOG
PHASE 1AOH
PHASE 1AOI
PHASE 1AOJ
PHASE 1AOK
PHASE 1AOL
PHASE 1AOM
PHASE 1AON
PHASE 1AOO
PHASE 1AOP
PHASE 1AOQ
PHASE 1AOR
PHASE 1AOS
PHASE 1AOT
PHASE 1AOU
PHASE 1AOV
PHASE 1AOW
PHASE 1AOX
PHASE 1AOY
PHASE 1AOZ
PHASE 1APA
PHASE 1APB
PHASE 1APC
PHASE 1APD
PHASE 1APE
PHASE 1APF
PHASE 1APG
PHASE 1APH
PHASE 1API
PHASE 1APJ
PHASE 1APK
PHASE 1APL
PHASE 1APM
PHASE 1APN
PHASE 1APO
PHASE 1APP
PHASE 1APQ
PHASE 1APR
PHASE 1APS
PHASE 1APT
PHASE 1APU
PHASE 1APV
PHASE 1APW
PHASE 1APX
PHASE 1APY
PHASE 1APZ
PHASE 1AQA
PHASE 1AQB
PHASE 1AQC
PHASE 1AQD
PHASE 1AQE
PHASE 1AQF
PHASE 1AQG
PHASE 1AQH
PHASE 1AQI
PHASE 1AQJ
PHASE 1AQK
PHASE 1AQL
PHASE 1AQM
PHASE 1AQN
PHASE 1AQO
PHASE 1AQP
PHASE 1AQQ
PHASE 1AQR
PHASE 1AQS
PHASE 1AQT
PHASE 1AQU
PHASE 1AQV
PHASE 1AQW
PHASE 1AQX
PHASE 1AQY
PHASE 1AQZ
PHASE 1ARA
PHASE 1ARB
PHASE 1ARC
PHASE 1ARD
PHASE 1ARE
PHASE 1ARF
PHASE 1ARG
PHASE 1ARH
PHASE 1ARI
PHASE 1ARJ
PHASE 1ARK
PHASE 1ARL
PHASE 1ARM
PHASE 1ARN
PHASE 1ARO
PHASE 1ARP
PHASE 1ARQ
PHASE 1ARR
PHASE 1ARS
PHASE 1ART
PHASE 1ARU
PHASE 1ARV
PHASE 1ARW
PHASE 1ARX
PHASE 1ARY
PHASE 1ARZ
PHASE 1ASA
PHASE 1ASB
PHASE 1ASC
PHASE 1ASD
PHASE 1ASE
PHASE 1ASF
PHASE 1ASG
PHASE 1ASH
PHASE 1ASI
PHASE 1ASJ
PHASE 1ASK
PHASE 1ASL
PHASE 1ASM
PHASE 1ASN
PHASE 1ASO
PHASE 1ASP
PHASE 1ASQ
PHASE 1ASR
PHASE 1ASS
PHASE 1AST
PHASE 1ASU
PHASE 1ASV
PHASE 1ASW
PHASE 1ASX
PHASE 1ASY
PHASE 1ASZ
PHASE 1ATA
PHASE 1ATB
PHASE 1ATC
PHASE 1ATD
PHASE 1ATE
PHASE 1ATF
PHASE 1ATG
PHASE 1ATH
PHASE 1ATI
PHASE 1ATJ
PHASE 1ATK
PHASE 1ATL
PHASE 1ATM
PHASE 1ATN
PHASE 1ATO
PHASE 1ATP
PHASE 1ATQ
PHASE 1ATR
PHASE 1ATS
PHASE 1ATT
PHASE 1ATU
PHASE 1ATV
PHASE 1ATW
PHASE 1ATX
PHASE 1ATY
PHASE 1ATZ
PHASE 1AUA
PHASE 1AUB
PHASE 1AUC
PHASE 1AUD
PHASE 1AUE
PHASE 1AUF
PHASE 1AUG
PHASE 1AUH
PHASE 1AUI
PHASE 1AUJ
PHASE 1AUK
PHASE 1AUL
PHASE 1AUM
PHASE 1AUN
PHASE 1AUO
PHASE 1AUP
PHASE 1AUQ
PHASE 1AUR
PHASE 1AUS
PHASE 1AUT
PHASE 1AUU
PHASE 1AUV
PHASE 1AUW
PHASE 1AUX
PHASE 1AUY
PHASE 1AUZ
PHASE 1AVA
PHASE 1AVB
PHASE 1AVC
PHASE 1AVD
PHASE 1AVE
PHASE 1AVF
PHASE 1AVG
PHASE 1AVH
PHASE 1AVI
PHASE 1AVJ
PHASE 1AVK
PHASE 1AVL
PHASE 1AVM
PHASE 1AVN
PHASE 1AVO
PHASE 1AVP
PHASE 1AVQ
PHASE 1AVR
PHASE 1AVS
PHASE 1AVT
PHASE 1AVU
PHASE 1AVV
PHASE 1AVW
PHASE 1AVX
PHASE 1AVY
PHASE 1AVZ
PHASE 1AWA
PHASE 1AWB
PHASE 1AWC
PHASE 1AWD
PHASE 1AWE
PHASE 1AWF
PHASE 1AWG
PHASE 1AWH
PHASE 1AWI
PHASE 1AWJ
PHASE 1AWK
PHASE 1AWL
PHASE 1AWM
PHASE 1AWN
PHASE 1AWO
PHASE 1AWP
PHASE 1AWQ
PHASE 1AWR
PHASE 1AWS
PHASE 1AWT
PHASE 1AWU
PHASE 1AWV
PHASE 1AWW
PHASE 1AWX
PHASE 1AWY
PHASE 1AWZ
PHASE 1AXA
PHASE 1AXB
PHASE 1AXC
PHASE 1AXD
PHASE 1AXE
PHASE 1AXF
PHASE 1AXG
PHASE 1AXH
PHASE 1AXI
PHASE 1AXJ
PHASE 1AXK
PHASE 1AXL
PHASE 1AXM
PHASE 1AXN
PHASE 1AXO
PHASE 1AXP
PHASE 1AXQ
PHASE 1AXR
PHASE 1AXS
PHASE 1AXT
PHASE 1AXU
PHASE 1AXV
PHASE 1AXW
PHASE 1AXX
PHASE 1AXY
PHASE 1AXZ
PHASE 1AYA
PHASE 1AYB
PHASE 1AYC
PHASE 1AYD
PHASE 1AYE
PHASE 1AYF
PHASE 1AYG
PHASE 1AYH
PHASE 1AYI
PHASE 1AYJ
PHASE 1AYK
PHASE 1AYL
PHASE 1AYM
PHASE 1AYN
PHASE 1AYO
PHASE 1AYP
PHASE 1AYQ
PHASE 1AYR
PHASE 1AYS
PHASE 1AYT
PHASE 1AYU
PHASE 1AYV
PHASE 1AYW
PHASE 1AYX
PHASE 1AYY
PHASE 1AYZ
PHASE 1AZA
PHASE 1AZB
PHASE 1AZC
PHASE 1AZD
PHASE 1AZE
PHASE 1AZF
PHASE 1AZG
PHASE 1AZH
PHASE 1AZI
PHASE 1AZJ
PHASE 1AZK
PHASE 1AZL
PHASE 1AZM
PHASE 1AZN
PHASE 1AZO
PHASE 1AZP
PHASE 1AZQ
PHASE 1AZR
PHASE 1AZS
PHASE 1AZT
PHASE 1AZU
PHASE 1AZV
PHASE 1AZW
PHASE 1AZX
PHASE 1AZY
PHASE 1AZZ
PHASE 1BAA
PHASE 1BAB
PHASE 1BAC
PHASE 1BAD
PHASE 1BAE
PHASE 1BAF
PHASE 1BAG
PHASE 1BAH
PHASE 1BAI
PHASE 1BAJ
PHASE 1BAK
PHASE 1BAL
PHASE 1BAM
PHASE 1BAN
PHASE 1BAO
PHASE 1BAP
PHASE 1BAQ
PHASE 1BAR
PHASE 1BAS
PHASE 1BAT
PHASE 1BAU
PHASE 1BAV
PHASE 1BAW
PHASE 1BAX
PHASE 1BAY
PHASE 1BAZ
PHASE 1BBA
PHASE 1BBB
PHASE 1BBC
PHASE 1BBD
PHASE 1BBE
PHASE 1BBF
PHASE 1BBG
PHASE 1BBH
PHASE 1BBI
PHASE 1BBJ
PHASE 1BBK
PHASE 1BBL
PHASE 1BBM
PHASE 1BBN
PHASE 1BBO
PHASE 1BBP
PHASE 1BBQ
PHASE 1BBR
PHASE 1BBS
PHASE 1BBT
PHASE 1BBU
PHASE 1BBV
PHASE 1BBW
PHASE 1BBX
PHASE 1BBY
PHASE 1BBZ
PHASE 1BCA
PHASE 1BCB
PHASE 1BCC
PHASE 1BCD
PHASE 1BCE
PHASE 1BCF
PHASE 1BCG
PHASE 1BCH
PHASE 1BCI
PHASE 1BCJ
PHASE 1BCK
PHASE 1BCL
PHASE 1BCM
PHASE 1BCN
PHASE 1BCO
PHASE 1BCP
PHASE 1BCQ
PHASE 1BCR
PHASE 1BCS
PHASE 1BCT
PHASE 1BCU
PHASE 1BCV
PHASE 1BCW
PHASE 1BCX
PHASE 1BCY
PHASE 1BCZ
PHASE 1BDA
PHASE 1BDB
PHASE 1BDC
PHASE 1BDD
PHASE 1BDE
PHASE 1BDF
PHASE 1BDG
PHASE 1BDH
PHASE 1BDI
PHASE 1BDJ
PHASE 1BDK
PHASE 1BDL
PHASE 1BDM
PHASE 1BDN
PHASE 1BDO
PHASE 1BDP
PHASE 1BDQ
PHASE 1BDR
PHASE 1BDS
PHASE 1BDT
PHASE 1BDU
PHASE 1BDV
PHASE 1BDW
PHASE 1BDX
PHASE 1BDY
PHASE 1BDZ
PHASE 1BEA
PHASE 1BEB
PHASE 1BEC
PHASE 1BED
PHASE 1BEE
PHASE 1BEF
PHASE 1BEG
PHASE 1BEH
PHASE 1BEI
PHASE 1BEJ
PHASE 1BEK
PHASE 1BEL
PHASE 1BEM
PHASE 1BEN
PHASE 1BEO
PHASE 1BEP
PHASE 1BEQ
PHASE 1BER
PHASE 1BES
PHASE 1BET
PHASE 1BEU
PHASE 1BEV
PHASE 1BEW
PHASE 1BEX
PHASE 1BEY
PHASE 1BEZ
PHASE 1BFA
PHASE 1BFB
PHASE 1BFC
PHASE 1BFD
PHASE 1BFE
PHASE 1BFF
PHASE 1BFG
PHASE 1BFH
PHASE 1BFI
PHASE 1BFJ
PHASE 1BFK
PHASE 1BFL
PHASE 1BFM
PHASE 1BFN
PHASE 1BFO
PHASE 1BFP
PHASE 1BFQ
PHASE 1BFR
PHASE 1BFS
PHASE 1BFT
PHASE 1BFU
PHASE 1BFV
PHASE 1BFW
PHASE 1BFX
PHASE 1BFY
PHASE 1BFZ
PHASE 1BGA
PHASE 1BGB
PHASE 1BGC
PHASE 1BGD
PHASE 1BGE
PHASE 1BGF
PHASE 1BGG
PHASE 1BGH
PHASE 1BGI
PHASE 1BGJ
PHASE 1BGK
PHASE 1BGL
PHASE 1BGM
PHASE 1BGN
PHASE 1BGO
PHASE 1BGP
PHASE 1BGQ
PHASE 1BGR
PHASE 1BGS
PHASE 1BGT
PHASE 1BGU
PHASE 1BGV
PHASE 1BGW
PHASE 1BGX
PHASE 1BGY
PHASE 1BGZ
PHASE 1BHA
PHASE 1BHB
PHASE 1BHC
PHASE 1BHD
PHASE 1BHE
PHASE 1BHF
PHASE 1BHG
PHASE 1BHH
PHASE 1BHI
PHASE 1BHJ
PHASE 1BHK
PHASE 1BHL
PHASE 1BHM
PHASE 1BHN
PHASE 1BHO
PHASE 1BHP
PHASE 1BHQ
PHASE 1BHR
PHASE 1BHS
PHASE 1BHT
PHASE 1BHU
PHASE 1BHV
PHASE 1BHW
PHASE 1BHX
PHASE 1B



GRAPHIC SCALE
(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY EASEMENT
- W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- FM — PROPOSED SANITARY FORCE MAIN

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.5

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:37:40 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.6

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 | Old Zion Rd. - Andrew Ethridge\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:38:22 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/01/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2938, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING

REVISIONS		
NO.	DATE	

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.7

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:38:57 PM

Ph 2 Parcel Table	
PARCEL	SQ. FT.
501	9375.00
502	9375.00
503	9375.00
504	9375.00
505	9375.00
506	9375.00
507	9375.00
508	9375.00
509	9375.00
510	9374.84
511	9375.00
512	9375.00
513	9375.00
514	9375.00
515	9375.00
516	19187.09
517	13109.79
518	12762.92
519	12837.42
520	13634.84
521	14781.10
522	10540.35
523	10751.30
524	10751.30
525	11190.81
526	10537.49
527	9375.00
528	9375.00
529	9375.00
530	9375.00
531	10803.37
532	10803.37
533	9375.00
534	9375.00
535	9375.00
536	9375.00
537	10803.37
538	10875.72

Ph 2 Parcel Table	
PARCEL	SQ. FT.
539	7500.00
540	7500.00
541	7500.00
542	7500.00
543	7500.00
544	8928.37
545	8928.37
546	7500.00
547	7500.00
548	7500.00
549	7500.00
550	7500.00
551	7500.00
552	13246.73
553	15263.93
554	11919.21
555	11714.21
556	9186.41
557	9696.77
558	9114.77
559	7500.00
560	7500.00
561	7500.00
562	7500.00
563	7500.00
564	7500.00
565	7500.00
566	7500.00
567	7500.00
568	7500.00
569	7500.00
570	7978.44
571	10591.03
572	10591.03
573	10591.03
574	10207.72
575	7500.00
576	10803.37

Ph 2 Parcel Table	
PARCEL	SQ. FT.
601	8083.56
602	8083.56
603	8083.56
604	8083.56
605	8083.56
606	7976.97
607	7500.00
608	7500.00
609	7500.00
610	7500.00
611	7500.00
612	7812.50
613	7812.50
614	7500.00
615	7500.00
616	7500.02
617	9478.53
618	9367.70
619	9367.70
620	9367.70
621	8423.68
622	8426.50
623	9330.18
624	9367.70
625	9367.70
626	9367.70
627	7608.12

Ph 2 Parcel Table	
PARCEL	SQ. FT.
628	7500.00
629	7500.00
630	7500.00
631	7967.70
632	8676.36
633	8676.36
634	8676.36
635	8676.36
636	11699.06
637	7395.43
638	7500.00
639	7500.00
640	7500.00
641	7500.00
642	7979.55
643	7979.55
644	7500.00
645	7500.00
646	7500.00
647	7500.00
648	7500.00
649	7500.00
650	11018.94
651	13591.55
652	10543.58
653	11095.29
654	11095.29

Ph2 Open Space	
PARCEL	SQ. FT.
OS: 1	1083157.16
OS: 2	10433.24
OS: 3	9385.19
OS: 4	970554.02
OS: 5	1202487.13
OS: 6	15520.31
OS: 7	29106.75

Existing House	
PARCEL	SQ. FT.
1	261778.94

Ph 2 Parcel Table	
PARCEL	SQ. FT.
701	9375.00
702	9375.00
703	9375.00
704	11678.36
705	11631.22
706	13287.08
707	13287.08
708	12465.31
709	9375.00
710	9375.00
711	9375.00
712	9375.00
713	9375.00
714	9375.00
715	9375.00
716	9375.00
717	11371.21
718	13287.08
719	17212.91
720	12654.38
721	9375.00
722	9375.00
723	9375.00
724	9375.00
725	9375.00
726	9375.00
727	9375.00
728	7500.00
729	7500.00
730	7500.00
731	7500.00
732	7500.00
733	7500.00
734	7500.00
735	7500.00
736	9657.71
737	9936.76
738	11459.62
739	7500.00
740	7500.00
741	7500.00
742	7500.00

Ph 2 Parcel Table	
PARCEL	SQ. FT.
743	7500.00
744	7500.00
745	7500.00
746	7500.00
747	12053.37
748	7500.00
749	7500.00
750	7500.00
751	7500.00
752	11897.12
753	10312.50
754	11897.12
755	7500.00
756	7500.00
757	7500.00
758	7500.00
759	12053.37
760	7500.00
761	7500.00
762	7500.00
763	7500.00
764	7500.00
765	7500.00
766	7500.00
767	7500.00
768	11459.62
769	9936.76
770	9657.71
771	7500.00
772	7500.00
773	7500.00
774	7500.00
775	7500.00
776	7500.00
777	7500.00
778	7500.00
779	9375.00
780	9375.00
781	9375.00
782	10803.40
783	9375.03
784	9375.00

Ph 2 Parcel Table	
PARCEL	SQ. FT.
801	10803.37
802	9375.00
803	10803.37
804	10803.37
805	9375.00
806	10803.37
807	10803.37
808	9375.00
809	10803.37
810	9240.89
811	7500.01
812	7500.01
813	7500.01
814	7500.01
815	7500.01
816	7500.01
817	7500.01
818	7500.01
819	7500.01
820	7500.01
821	7500.01
822	7500.01
823	9240.89
824	13063.00
825	7874.90
826	7874.91
827	7874.92
828	7874.94
829	7874.95
830	7874.96
831	7874.98
832	7874.99
833	7875.00
834	7875.02
835	13063.27
836	11115.87
837	10947.55
838	9841.04
839	13382.93

Ph 2 Parcel Table	
PARCEL	SQ. FT.
840	11742.85
841	11742.85
842	11493.74
843	9375.00
844	9375.00
845	9375.00
846	9375.00
847	9375.00
848	9375.00
849	9375.00
850	10222.80
851	11742.85
852	11742.85
853	11742.85
854	10628.32
855	11803.89
856	12071.76
857	10462.19
858	10461.72
859	15349.31
860	16042.22
861	15092.23
862	12764.22
863	10147.79
864	9375.00
865	12501.74
866	12499.96
867	12500.00
868	12500.04
869	14016.50
870	14240.87
871	12500.00
872	12500.00
873	12500.00
874	12500.00
875	12500.00
876	12500.00
877	12542.84

GRAPHIC SCALE
(IN FEET)
150 0 75 150 300
SCALE: 1" = 150'

LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

KEY PLAN

SITE DATA PHASE 2	
PROJECT NAME	OLD ZION ROAD PUD
PROJECT NUMBER	23-1211
ADDRESS	6150 TROTWOOD AVE. COLUMBIA, TN 38120
PARCEL ID	MAP 112 PARCELS 009, 10.01 & 10.07
	EXISTING / PROPOSED
TOTAL PROPERTY AREA	164.38 AC / 158.08 AC
EXISTING HOUSE PARCEL	11.53 AC / 6.01 AC
ZONING	A2 / PUD-R (RS6 BASE)
NUMBER OF LOTS	1 / 291
TOTAL LOT AREA	152.84 AC / 63.14 AC
TOTAL OPEN SPACE AREA	152.84 AC / 75.66 AC (48%)
TOTAL ROW AREA	- / 19.57 AC
MINIMUM LOT SIZE	40,000 SF / 40,000 SF
MINIMUM LOT WIDTH	N/A / 60'
ERROR OF CLOSURE	1/10,000 / 1/10,000

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A *** FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

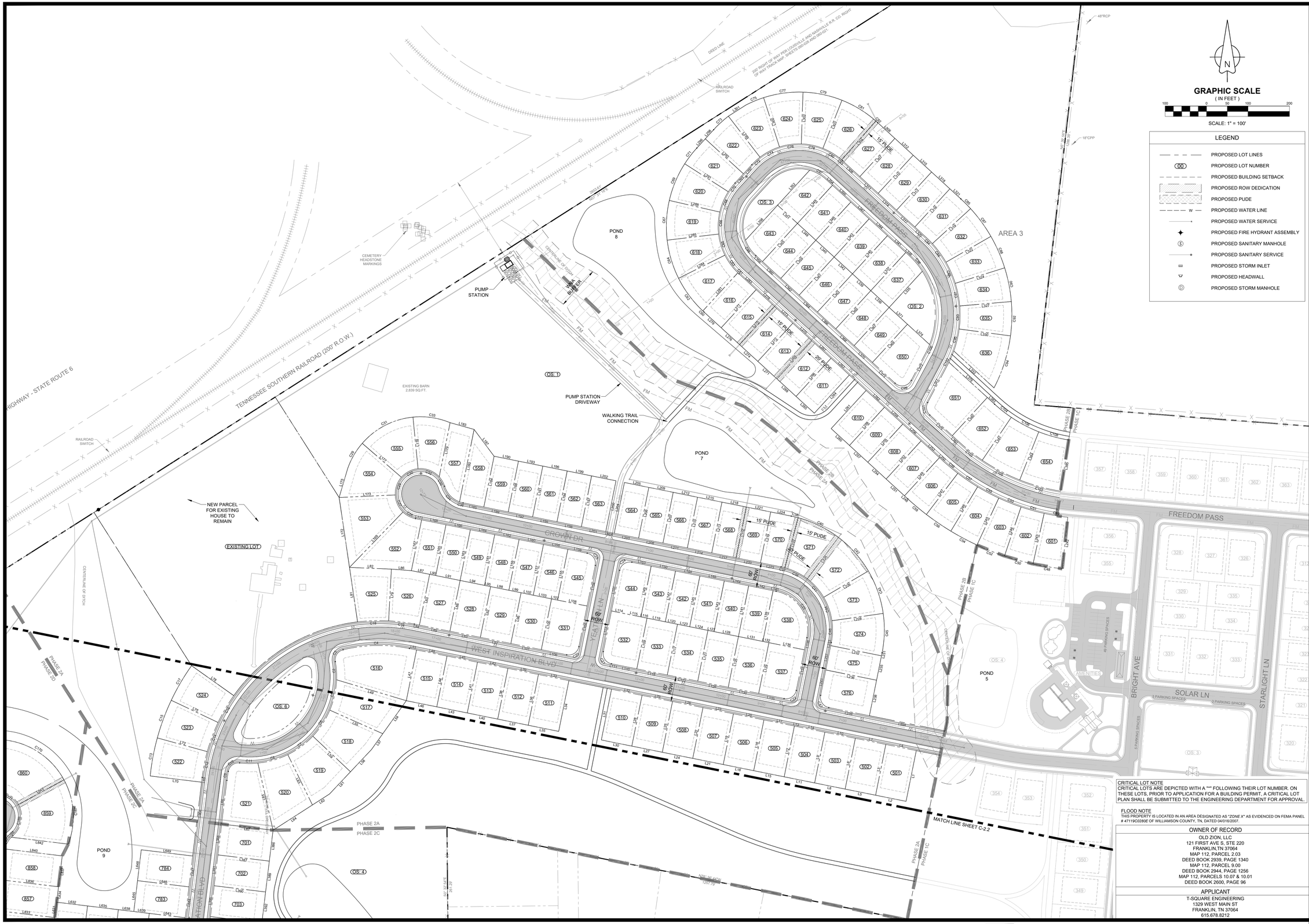
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127748
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.0

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:48:07 PM



REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

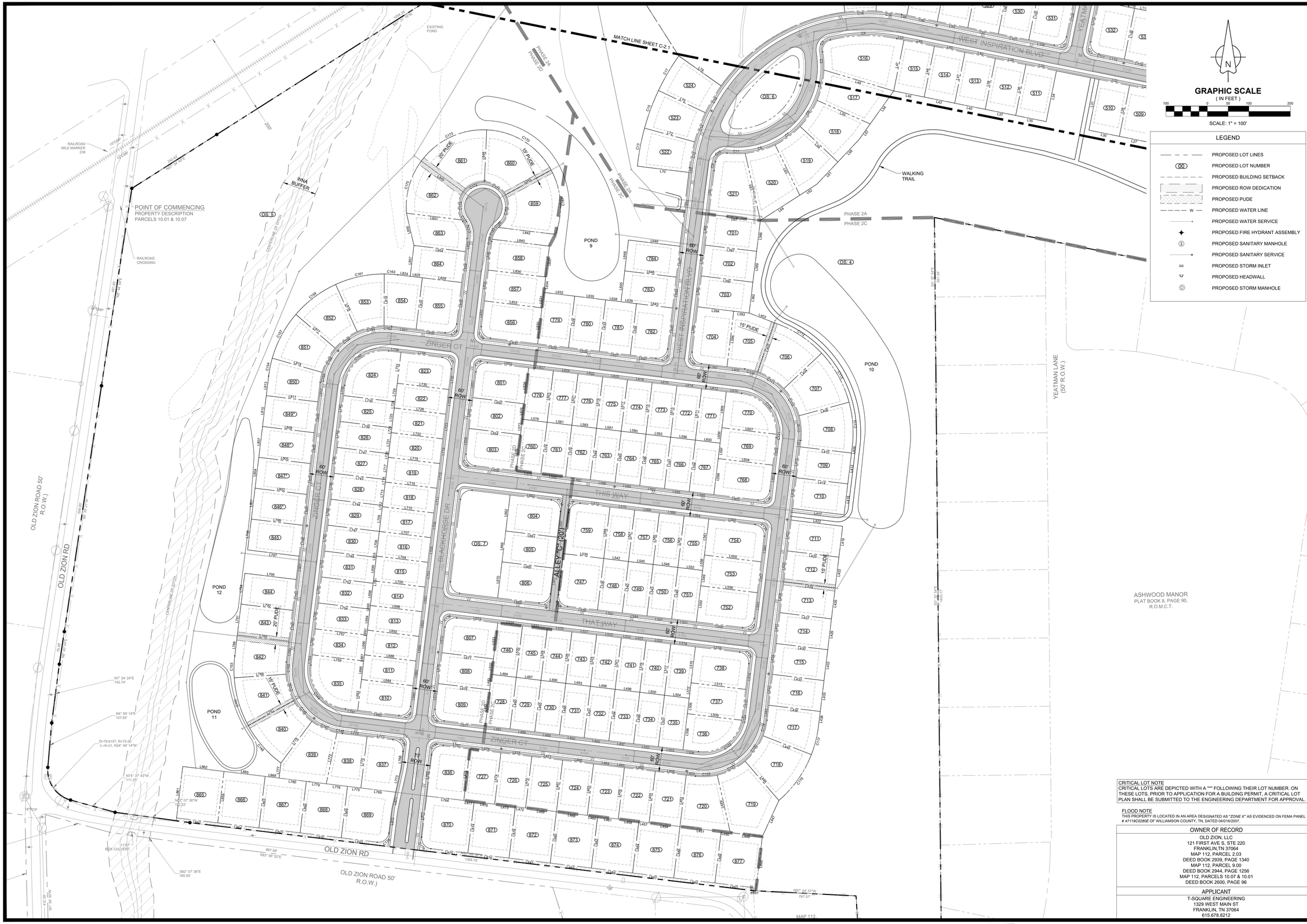
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.1

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph2 Preliminary Plan.dwg, 3/18/2024 2:49:35 PM



GRAPHIC SCALE

(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.2

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:50:15 PM

Phase 2 Parcel Line Table		
Line #	Length	Direction
L1	125.00	S11° 23' 16.20"W
L2	75.00	N78° 36' 43.80"W
L3	125.00	N11° 23' 16.20"E
L4	75.00	S78° 36' 43.80"E
L5	75.00	N78° 36' 43.80"W
L6	125.00	N11° 23' 16.20"E
L7	75.00	S78° 36' 43.80"E
L8	75.00	N78° 36' 43.80"W
L9	125.00	N11° 23' 16.20"E
L10	75.00	S78° 36' 43.80"E
L11	75.00	N78° 36' 43.80"W
L12	125.00	N11° 23' 16.20"E
L13	6.91	S78° 36' 43.80"E
L14	68.09	S78° 36' 43.80"E
L15	75.00	N78° 36' 43.80"W
L16	125.00	N11° 23' 16.20"E
L17	75.00	S78° 36' 43.80"E
L18	75.00	N78° 36' 43.80"W
L19	125.00	N11° 23' 16.20"E
L20	75.00	S78° 36' 43.80"E
L21	75.00	N78° 36' 43.80"W
L22	125.00	N11° 23' 16.20"E
L23	75.00	S78° 36' 43.80"E
L24	75.00	N78° 36' 43.80"W
L25	125.00	N11° 23' 16.20"E
L26	75.00	S78° 36' 43.80"E
L27	75.00	N78° 36' 43.80"W
L28	125.00	N11° 23' 16.20"E
L29	75.00	S78° 36' 43.80"E
L30	75.00	N78° 36' 43.80"W
L31	125.00	N11° 23' 16.20"E
L32	75.00	S78° 36' 55.24"E
L33	75.00	S78° 36' 43.80"E
L34	125.00	S11° 23' 16.20"W
L35	75.00	N78° 36' 43.80"W
L36	125.00	N11° 23' 16.20"E
L37	75.00	N78° 36' 43.80"W
L38	125.00	N11° 23' 16.20"E
L39	75.00	S78° 36' 43.80"E
L40	75.00	N78° 36' 43.80"W
L41	125.00	N11° 23' 16.20"E
L42	75.00	S78° 36' 43.80"E
L43	75.00	N78° 36' 43.80"W
L44	125.00	N11° 23' 16.20"E
L45	75.00	S78° 36' 43.80"E
L46	75.00	N78° 36' 43.80"W
L47	125.00	N11° 23' 16.20"E
L48	75.00	S78° 36' 43.80"E
L49	175.76	N73° 20' 04.38"W
L53	17.56	S78° 36' 43.80"E
L54	97.82	S35° 28' 55.61"W
L55	139.90	N66° 01' 40.90"W
L57	46.88	S35° 28' 55.61"W
L58	73.79	S43° 21' 33.04"W
L59	125.00	N46° 38' 26.96"W
L61	73.79	S43° 21' 33.04"W
L62	48.96	S57° 18' 06.30"W
L63	135.22	N26° 04' 03.72"W
L64	112.91	S57° 18' 06.30"W
L65	166.14	N12° 43' 08.48"W
L66	106.03	N6° 53' 25.47"E
L67	125.00	N83° 06' 34.53"W
L69	11.60	S6° 53' 25.47"W
L70	125.00	N83° 06' 34.53"W
L72	125.00	S74° 39' 02.91"E
L75	125.00	S64° 38' 40.74"E
L76	125.00	S54° 38' 18.56"E
L79	125.00	S3° 03' 24.09"W
L81	132.86	N8° 25' 30.85"W
L82	101.17	S87° 42' 16.97"E
L83	125.00	S11° 23' 16.20"W
L84	12.56	N78° 36' 43.80"W
L86	48.33	S85° 34' 21.07"E
L87	45.00	S78° 36' 43.80"E
L88	125.00	S11° 23' 16.20"W
L89	75.00	N78° 36' 43.80"W
L90	15.00	S78° 36' 43.80"E
L91	60.00	S78° 36' 43.80"E
L92	125.00	S11° 23' 16.20"W
L93	75.00	N78° 36' 43.80"W
L94	60.00	S78° 36' 43.80"E
L95	15.00	S78° 36' 43.80"E
L96	125.00	S11° 23' 16.20"W
L97	75.00	N78° 36' 43.80"W
L98	45.00	S78° 36' 43.80"E
L99	30.00	S78° 36' 43.80"E
L100	125.00	S11° 23' 16.20"W
L101	75.00	N78° 36' 43.80"W
L102	30.00	S78° 36' 43.80"E
L103	45.00	S78° 36' 43.80"E
L104	100.00	S11° 23' 16.20"W
L106	62.50	N78° 36' 43.80"W
L107	15.00	S78° 36' 43.80"E
L108	72.50	S78° 36' 43.80"E
L109	125.00	S11° 23' 16.20"W
L110	51.45	N78° 36' 43.80"W
L111	11.05	N78° 36' 43.80"W
L113	100.00	N11° 23' 16.20"E
L114	36.05	S78° 36' 43.80"E
L115	36.45	S78° 36' 43.80"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L116	15.00	S78° 36' 43.80"E
L117	125.00	S11° 23' 16.20"W
L118	75.00	N78° 36' 43.80"W
L119	45.00	S78° 36' 43.80"E
L120	30.00	S78° 36' 43.80"E
L121	125.00	S11° 23' 16.20"W
L122	75.00	N78° 36' 43.80"W
L123	30.00	S78° 36' 43.80"E
L124	45.00	S78° 36' 43.80"E
L125	125.00	S11° 23' 16.20"W
L126	75.00	N78° 36' 43.80"W
L127	15.00	S78° 36' 43.80"E
L128	60.00	S78° 36' 43.80"E
L129	125.00	S11° 23' 16.20"W
L130	75.00	N78° 36' 43.80"W
L131	60.00	S78° 36' 43.80"E
L132	15.00	S78° 36' 43.80"E
L133	100.00	S11° 23' 16.20"W
L135	62.50	N78° 36' 43.80"W
L136	87.50	S78° 36' 43.80"E
L138	30.00	S11° 23' 16.20"W
L139	125.00	N11° 23' 16.20"E
L140	7.50	S78° 36' 43.80"E
L141	125.00	N11° 23' 16.20"E
L142	60.00	S78° 36' 43.80"E
L143	125.00	N11° 23' 16.20"E
L144	60.00	S78° 36' 43.80"E
L145	125.00	N11° 23' 16.20"E
L146	60.00	S78° 36' 43.80"E
L147	125.00	N11° 23' 16.20"E
L148	60.00	S78° 36' 43.80"E
L149	125.00	N11° 23' 16.20"E
L150	60.00	S78° 36' 43.80"E
L151	100.00	N11° 23' 16.20"E
L153	47.50	S78° 36' 43.80"E
L154	100.00	S11° 23' 16.20"W
L155	125.00	N11° 23' 16.20"E
L156	47.50	S78° 36' 43.80"E
L157	125.00	N11° 23' 16.20"E
L158	60.00	S78° 36' 43.80"E
L159	125.00	N11° 23' 16.20"E
L160	60.00	S78° 36' 43.80"E
L161	125.00	N11° 23' 16.20"E
L162	60.00	S78° 36' 43.80"E
L163	125.00	N11° 23' 16.20"E
L164	60.00	S78° 36' 43.80"E
L165	125.00	N11° 23' 16.20"E
L166	60.00	S78° 36' 43.80"E
L167	125.00	N11° 23' 16.20"E
L168	60.00	S78° 36' 43.80"E
L169	185.69	N43° 58' 41.07"E
L171	15.00	S78° 36' 43.80"E
L172	170.63	N8° 25' 30.85"W
L173	135.49	N87° 27' 17.99"E
L175	72.86	N16° 27' 10.50"E
L176	125.00	S49° 04' 05.09"E
L177	125.00	S49° 04' 05.09"E
L178	125.00	S5° 35' 28.18"E
L179	133.31	S11° 23' 16.20"W
L180	178.22	S11° 23' 16.20"W
L183	60.17	S74° 15' 48.49"E
L184	125.00	S11° 23' 16.20"W
L185	51.09	N78° 36' 43.80"W
L187	80.65	S36° 40' 53.98"E
L188	125.00	S11° 23' 16.20"W
L189	60.00	N78° 36' 43.80"W
L190	60.00	S78° 36' 43.80"E
L191	125.00	S11° 23' 16.20"W
L192	60.00	N78° 36' 43.80"W
L193	60.00	S78° 36' 43.80"E
L194	125.00	S11° 23' 16.20"W
L195	60.00	N78° 36' 43.80"W
L196	60.00	S78° 36' 43.80"E
L197	125.00	S11° 23' 16.20"W
L198	60.00	N78° 36' 43.80"W
L199	60.00	S78° 36' 43.80"E
L200	125.00	S11° 23' 16.20"W
L201	60.00	N78° 36' 43.80"W
L202	60.00	S78° 36' 43.80"E
L203	60.00	N78° 36' 43.80"W
L204	125.00	N11° 23' 16.20"E
L205	60.00	S78° 36' 43.80"E
L206	125.00	S11° 23' 16.20"W
L207	125.00	S11° 23' 16.20"W
L208	60.00	N78° 36' 43.80"W
L209	60.00	S78° 36' 43.80"E
L210	125.00	S11° 23' 16.20"W
L211	60.00	N78° 36' 43.80"W
L212	60.00	S78° 36' 43.80"E
L213	125.00	S11° 23' 16.20"W
L214	60.00	N78° 36' 43.80"W
L215	60.00	S78° 36' 43.80"E
L216	125.00	S11° 23' 16.20"W
L217	60.00	N78° 36' 43.80"W
L218	60.00	S78° 36' 43.80"E
L219	125.00	S11° 23' 16.20"W
L220	60.00	N78° 36' 43.80"W
L221	60.00	S78° 36' 43.80"E
L222	125.00	S14° 53' 30.73"W
L223	50.53	N78° 36' 43.80"W
L224	50.53	S78° 36' 43.80"E

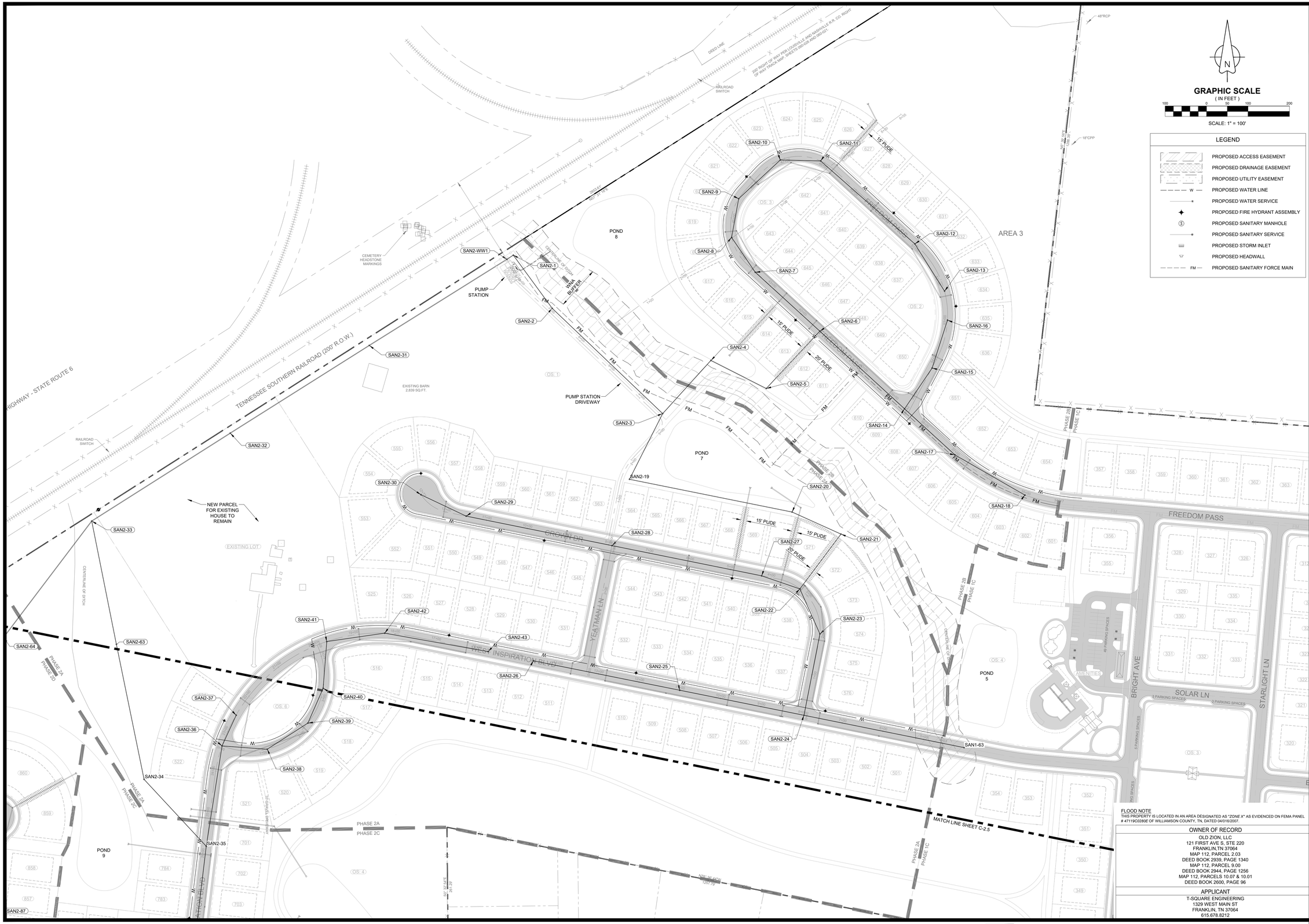
Phase 2 Parcel Line Table		
Line #	Length	Direction
L225	125.00	S37° 12' 42.28"W
L226	125.00	S59° 31' 53.83"W
L228	125.00	S81° 51' 05.37"W
L231	7.50	S11° 23' 16.20"W
L232	125.00	N78° 36' 43.80"W
L233	7.50	N11° 23' 16.20"E
L235	60.00	S11° 23' 16.20"W
L236	125.00	N78° 36' 43.80"W
L237	60.00	N11° 23' 16.20"E
L238	87.50	S11° 23' 16.20"W
L239	100.00	N78° 36' 43.80"W
L241	62.50	N11° 23' 16.20"E
L242	125.00	S6° 08' 35.14"W
L243	125.00	N12° 23' 47.93"E
L244	125.00	N18° 39' 00.72"E
L245	125.00	N24° 54' 13.50"E
L246	125.00	N31° 09' 26.29"E
L247	125.00	N37° 24' 39.08"E
L248	10.97	N47° 28' 44.00"W
L249	125.00	N42° 31' 16.00"E
L250	10.97	S47° 28' 44.00"E
L251	60.00	N47° 28' 44.00"W
L252	125.00	N42° 31' 16.00"E
L253	60.00	S47° 28' 44.00"E
L254	60.00	N47° 28' 44.00"W
L255	125.00	N42° 31' 16.00"E
L256	60.00	S47° 28' 44.00"E
L257	60.00	N47° 28' 44.00"W
L258	125.00	N42° 31' 16.00"E
L259	60.00	S47° 28' 44.00"E
L260	60.00	N47° 28' 44.00"W
L261	125.00	N42° 31' 16.00"E
L262	60.00	S47° 28' 44.00"E
L263	60.00	N47° 28' 44.00"W
L264	125.00	S42° 31' 16.00"W
L265	60.00	N47° 28' 44.00"W
L266	125.00	N42° 31' 16.00"E
L267	62.50	S47° 28' 44.00"E
L268	62.50	N47° 28' 44.00"W
L269	125.00	N42° 31' 16.00"E
L270	62.50	S47° 28' 44.00"E
L271	62.50	N47° 28' 44.00"W
L272	125.00	N42° 31' 16.00"E
L273	60.00	S47° 28' 44.00"E
L274	60.00	N47° 28' 44.00"W
L275	125.00	N42° 31' 16.00"E
L276	60.00	N47° 28' 44.00"W
L277	125.00	N42° 31' 16.00"E
L278	60.00	S47° 28' 44.00"E
L279	56.35	N47° 28' 44.00"W
L281	125.02	N42° 31' 16.00"E
L283	56.35	S47° 28' 44.00"E
L284	125.00	N63° 27' 29.05"E
L285	125.00	N83° 11' 59.46"E
L288	125.00	S77° 03' 30.14"E
L291	125.00	S57° 18' 59.73"E
L292	125.00	S47° 28' 44.00"E
L293	30.04	S42° 31' 16.00"W
L296	30.04	N42° 31' 16.00"E
L297	29.96	S42° 31' 16.00"W
L298	29.96	N42° 31' 16.00"E
L299	125.00	S37° 36' 42.21"E
L300	125.00	S17° 52' 11.80"E
L301	50.10	N57° 31' 16.00"E
L302	125.00	S1° 52' 18.60"W
L303	125.00	S21° 36' 49.01"W
L304	125.00	S41° 21' 19.41"W
L306	56.44	S47° 28' 44.00"E
L307	125.00	S42° 31' 16.00"W
L308	56.44	N47° 28' 44.00"W
L310	125.00	S42° 31' 16.00"W
L311	60.00	N47° 28' 44.00"W
L312	60.00	S47° 28' 44.00"E
L313	125.00	S42° 31' 16.00"W
L314	60.00	N47° 28' 44.00"W
L315	60.00	S47° 28' 44.00"E
L316	125.00	S42° 31' 16.00"W
L317	60.00	N47° 28' 44.00"W
L318	60.00	S47° 28' 44.00"E
L319	125.00	S47° 32' 10.88"W
L320	35.95	N47° 28' 44.00"W
L321	35.95	S47° 28' 44.00"E
L322	125.00	S60° 03' 43.85"W
L324	125.00	S72° 35' 16.83"W
L327	125.00	S85° 06' 49.80"W
L330	125.00	N82° 21' 37.22"W
L333	131.73	N47° 28' 44.00"W
L335	118.62	S42° 31' 16.00"W
L336	60.00	N47° 28' 44.00"W
L337	125.00	N42° 31' 16.00"E
L338	10.52	S47° 28' 44.00"E
L339	60.00	N47° 28' 44.00"W
L340	125.00	N42° 31' 16.00"E
L341	60.00	S47° 28' 44.00"E
L342	60.00	N47° 28' 44.00"W
L343	125.00	N42° 31' 16.00"E
L344	60.00	S47° 28' 44.00"E
L345	60.00	N47° 28' 44.00"W
L346	125.00	N42° 31' 16.00"E
L347	60.00	S47° 28' 44.00"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L348	60.00	N47° 28' 44.00"W
L349	125.00	N42° 31' 16.00"E
L350	60.00	S47° 28' 44.00"E
L351	65.00	N47° 28' 44.00"W
L352	114.65	N42° 31' 16.00"E
L354	21.87	S47° 28' 44.00"E
L355	125.00	S42° 31' 16.00"W
L356	21.87	N47° 28' 44.00"W
L358	114.65	N42° 31' 16.00"E
L359	125.00	S42° 31' 16.00"W
L360	60.00	N47° 28' 44.00"W
L361	125.00	S42° 31' 16.00"W
L362	60.00	N47° 28' 44.00"W
L363	125.00	S42° 31' 16.00"W
L364	60.00	N47° 28' 44.00"W
L365	125.00	S42° 31' 16.00"W
L366	60.00	N47° 28' 44.00"W
L367	125.00	S42° 31' 16.00"W
L368	60.00	N47° 28' 44.00"W
L369	125.00	S42° 31' 16.00"W
L370	60.00	N47° 28' 44.00"W
L371	60.00	S47° 28' 44.00"E
L372	75.53	S27° 50' 47.02"W
L373	74.11	N47° 28' 44.00"W
L374	72.52	S47° 28' 44.00"E
L375	73.64	N47° 28' 44.00"W
L377	104.34	N27° 50' 47.02"E
L379	125.73	S47° 28' 44.00"E
L380	125.00	S42° 31' 16.00"W
L381	125.00	S34° 02' 04.97"W
L382	23.99	N47° 28' 44.00"W
L383	23.99	S47° 28' 44.00"E
L384	125.00	S21° 33' 16.02"W
L385	125.00	S9° 04' 27.08"W
L386	75.00	S6° 53' 25.47"W
L387	125.00	N83° 06' 34.53"W
L388	75.00	N6° 53' 25.47"E
L389	75.00	S6° 53' 25.47"W
L390	125.00	N83° 06' 34.53"W
L391	75.00	N6° 53' 25.47"E
L392	75.00	S6° 53' 25.47"W
L393	37.50	N83° 06' 34.53"W
L394	87.50	N83° 06' 34.53"W
L395	75.00	N6° 53' 25.47"E
L396	135.00	S6° 53' 25.47"W
L397	62.50	N83° 06' 35.22"W
L399	110.00	N6° 53' 25.47"E
L400	125.00	S18° 46' 31.14"W
L402	43.00	N83° 06' 35.22"W
L403	65.16	S68° 53' 40.94"E
L404	125.00	S46° 46' 36.92"W
L406	125.00	S74° 46' 42.70"W
L409	15.78	S6° 53' 24.78"W
L410	125.00	N83° 06' 35.22"W
L411	15.78	N6° 53' 24.78"E
L413	75.00	S6° 53' 24.78"W
L414	125.00	N83° 06' 35.22"W
L415	75.00	N6° 53' 24.78"E
L416	75.00	S6° 53' 24.78"W
L417	125.00	N83° 06' 35.22"W
L418	75.00	N6° 53' 24.78"E
L419	75.00	S6° 53' 24.78"W
L420	125.00	N83° 06' 35.22"W
L421	75.00	N6° 53' 24.78"E
L422	125.00	S83° 06' 35.22"E
L423	75.00	S6° 53' 24.78"W
L424	125.00	N83° 06' 35.22"W
L425	75.00	N6° 53' 24.78"E
L426	75.00	S6° 53' 24.78"W
L427	125.00	N83° 06' 35.22"W
L428	75.00	N6° 53' 24.78"E
L429	75.00	S6° 53' 24.78"W
L430	125.00	N83° 06' 35.22"W
L431	75.00	N6° 53' 24.78"E
L432	75.00	S6° 53' 24.78"W
L433	125.00	N83° 06' 35.22"W
L434	75.00	N6° 53' 24.78"E
L435	75.00	S6° 53' 24.78"W
L436	125.00	N83° 06' 35.22"W
L437	75.00	N6° 53' 24.78"E
L438	36.27	S6° 53' 24.78"W
L440	125.00	N68° 41' 59.82"W
L442	36.27	N6° 53' 24.78"E
L446	125.00	S40° 41' 54.04"E
L447	95.73	S24° 40' 09.76"W
L448	77.87	N83° 06' 35.22"W
L449	142.20	N12° 41' 48.27"W
L450	22.13	N83° 06' 35.22"W
L451	100.00	N83° 06' 35.22"W
L452	125.00	N6° 53' 24.78"E
L453	22.50	S83° 06' 35.22"E
L454	75.00	N83° 06' 35.22"W
L455	125.00	N6° 53' 24.78"E
L456	75.00	S83° 06' 35.22"E
L457	25.00	N83° 06' 35.22"W
L458	50.00	N83° 06' 35.22"W
L459	125.00	N6° 53' 24.78"E
L460	75.00	S83° 06' 35.22"E
L461	50.00	N83° 06' 35.22"W
L462	25.00	N83° 06' 35.22"W

Phase 2 Parcel Line Table		
Line #	Length	Direction
L463	125.00	N6° 53' 24.78"E
L464	57.00	S83° 06' 35.22"E
L465	18.00	S83° 06' 35.22"E
L466	75.00	N83° 06' 35.22"W
L467	125.00	N6° 53' 24.78"E
L468	75.00	S83° 06' 35.22"E
L469	75.00	N83° 06' 35.22"W
L470	125.00	N6° 53' 24.78"E
L471	75.00	S83° 06' 35.22"E
L472	25.00	N83° 06' 35.22"W
L473	50.00	N83° 06' 35.22"W
L474	125.00	N6° 53' 24.78"E
L475	75.00	S83° 06' 35.22"E
L476	50.00	N83° 06' 35.22"W
L477	25.00	N83° 06' 35.22"W
L478	125.00	N6° 53' 24.78"E
L479	75.00	S83° 06' 35.22"E
L480	125.00	S6° 53' 24.78"W
L481	60.00	N83° 06' 35.22"W
L482	87.50	N6° 53' 24.78"E
L483	37.50	N6° 53' 24.78"E
L484	60.00	S83° 06' 35.22"E
L485	125.00	S6° 53' 24.78"W
L486	60.00	N83° 06' 35.22"W
L487	60.00	S83° 06' 35.22"E
L488	125.00	S6° 53' 24.78"W
L489	60.00	N83° 06' 35.22"W
L490	60.00	S83° 06' 35.22"E
L491	125.00	S6° 53' 24.78"W
L492	60.00	N83° 06' 35.22"W
L493	60.00	S83° 06' 35.22"E
L494	125.00	S6° 53' 24.78"W
L495	60.00	N83° 06' 35.22"W
L496	60.00	S83° 06' 35.22"E
L497	60.00	N83° 06' 35.22"W
L498	60.00	S83° 06' 35.22"E
L499	125.00	S6° 53' 24.78"W
L500	60.00	S83° 06' 35.22"E
L501	125.00	S6° 53' 24.78"W
L502	60.00	N83° 06' 35.22"W
L503	60.00	N83° 06' 35.22"W
L504	60.00	S83° 06' 35.22"E
L505	37.50	S6° 53' 24.78"W
L506	87.50	S6° 53' 24.78"W
L508	37.50	N83° 06' 35.22"W
L509	132.20	S83° 06' 35.22"E
L510	67.50	S6° 53' 24.78"W
L512	37.50	N6° 53' 24.78"E
L513	132.50	S83° 06' 35.22"E
L514	62.50	S6° 53' 24.78"W
L515	87.50	N6° 53' 24.78"E
L516	107.50	S83° 06' 35.22"E
L517	125.00	N6° 53' 24.78"E
L518	60.00	S83° 06' 35.22"E
L519	125.00	N6° 53' 24.78"E
L520	60.00	S83° 06' 35.22"E
L521	125.00	N6° 53' 24.78"E
L522	27.00	S83° 06' 35.22"E
L523	33.00	S83° 06' 35.22"E
L524	125.00	N6° 53' 24.78"E
L525	60.00	S83° 06' 35.22"E
L526	125.00	N6° 53' 24.78"E
L527	60.00	S83° 06' 35.22"E
L528	125.00	N6° 53' 24.78"E
L529	60.00	S83° 06' 35.22"E
L530	125.00	N6° 53' 24.78"E
L531	60.00	S83° 06' 35.22"E
L532	37.50	N6° 53' 24.78"E
L533	87.50	N6° 53' 24.78"E
L534	60.00	S83° 06' 35.22"E
L535	125.00	S6° 53' 24.78"W
L536	72.50	N83° 06' 35.22"W
L538	100.00	N6° 53' 24.78"E
L539	97.50	S83° 06' 35.22"E
L540	125.00	S6° 53' 24.78"W
L541	60.00	N83° 06' 35.22"W
L542	60.00	S83° 06' 35.22"E
L543	125.00	S6° 53' 24.78"W
L544	60.00	N83° 06' 35.22"W
L545	60.00	S83° 06' 35.22"E
L546	125.00	S6° 53' 24.78"W
L547	60.00	N83° 06' 35.22"W
L548	60.00	S83° 06' 35.22"E
L549	37.50	S6° 53' 24.78"W
L550	87.50	S6° 53' 24.78"W
L551	60.00	N83° 06' 35.22"W
L552	60.00	S83° 06' 35.22"E
L553	62.50	S6° 53' 24.78"W
L555	112.50	N83° 06' 35.22"W
L556	137.50	S83° 06' 35.22"E
L557	75.00	S6° 53' 24.78"W
L558	37.50	N6° 53' 24.78"E
L559	137.50	S83° 06' 35.22"E
L560	62.50	S6° 53' 24.78"W
L561	87.50	N6° 53' 24.78"E
L562	112.50	S83° 06' 35.22"E
L563	125.00	N6° 53' 24.78"E
L564	60.00	S83° 06' 35.22"E
L565	125.00	N6° 53' 24.78"E
L566	60.00	S83° 06' 35.22"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L567	125.00	N6° 53' 24.78"E
L568	60.00	S83° 06' 35.22"E
L569	125.00	N6° 53' 24.78"E
L570	60.00	S83° 06' 35.22"E
L571	100.00	N6° 53' 24.78"E
L573	72.50	S83° 06' 35.22"E
L574	125.00	S6° 53' 24.78"W
L575	60.00	N83° 06' 35.22"W
L576	87.50	N6° 53' 24.78"E
L577	37.50	N6° 53' 24.78"E
L578	60.00	S83° 06' 35.22"E
L579	125.00	S6° 53' 24.78"W
L580	60.00	N83° 06' 35.22"W
L581	60.00	S83° 06' 35.22"E
L582	60.00	N83° 06' 35.22"W
L583	60.00	S83° 06' 35.22"E
L584	125.00	S6° 53' 24.78"W
L585	125.00	S6° 53' 24.78"W
L586	60.00	N83° 06' 35.22"W
L587	60.00	S83° 06' 35.22"E
L588	125.00	S6° 53' 24.78"W
L589	60.00	N83° 06' 35.22"W
L590	60.00	S83° 06' 35.22"E
L591	125.00	S6° 53' 24.78"W
L592	60.00	N83° 06' 35.22"W
L593	60.00	S83° 06' 35.22"E
L594	125.00	S6° 53' 24.78"W
L595	60.00	N83° 06' 35.22"W
L596	60.00	S83° 06' 35.22"E
L597	37.50	S6° 53' 24.78"W
L598	87.50	S6° 53' 24.78"W
L599	60.00	N83° 06' 35.22"W
L600	60.00	S83° 06' 35.22"E
L601	62.50	S6° 53' 24.78"W
L603	107.50	N83° 06' 35.22"W
L604	132.50	S83° 06' 35.22"E
L605	67.50	S6° 53' 24.78"W
L606	37.50	N6° 53' 24.78"E
L607	132.20	S83° 06' 35.22"E
L609	87.50	N6° 53' 24.78"E
L610	37.50	S83° 06' 35.22"E
L611	125.00	N6° 53' 24.78"E
L612	60.00	S83° 06' 35.22"E
L613	125.00	N6° 53' 24.78"E
L614	60.00	S83° 06' 35.22"E
L615	125.00	N6° 53' 24.78"E
L616	60.00	S83° 06' 35.22"E
L617	125.00	N6° 53' 24.78"E
L618	60.00	S83° 06' 35.22"E
L619	125.00	N6° 53' 24.78"E
L620	60.00	S83° 06' 35.22"E
L621	125.00	N6° 53' 24.78"E
L622	60.00	S83° 06' 35.22"E
L623	125.00	N6° 53' 24.78"E
L624	60.00	S83° 06' 35.22"E
L625	37.50	N6° 53' 24.78"E
L626	87.50	N6° 53' 24.78"E
L627	60.00	S83° 06' 35.22"E
L628	125.00	S6° 53' 24.78"W
L629	75.00	N83° 06' 35.22"W
L630	87.50	N6° 53' 24.78"E
L631	37.50	N6° 53' 24.78"E
L632	75.00	S83° 06' 35.22"E
L633	125.00	S6° 53' 24.78"W
L634	75.00	N83° 06' 35.22"W
L635	75.00	S83° 06' 35.22"E
L636	125.00	S6° 53' 24.78"W
L637	75.00	N83° 06' 35.22"W
L638	37.50	S83° 06' 35.22"E
L639	37.50	S83° 06' 35.22"E
L640	100.00	S6° 53' 25.47"W
L642	62.50	N83° 06' 35.22"W
L643	87.50	S83° 06' 35.22"E
L644	75.00	S6° 53' 25.47"W
L645	75.00	N6° 53' 25.47"E
L646	125.00	S83° 06' 34.53"E
L647	75.00	S6° 53' 25.47"W
L648	75.00	N6° 53' 25.47"E
L649	125.00	S83° 06' 34.53"E
L650	125.00	N83° 06' 35.22"W
L651	62.50	N6° 53' 24.78"E
L653	100.00	S83° 06' 35.22"E
L654	125.00	N83° 06' 35.22"W
L655	75.00	N6° 53' 24.78"E
L656	100.00	N83° 06' 35.22"W
L658	62.50	N6° 53' 24.78"E
L660	62.50	S6° 53' 24.78"W
L661	125.00	N83° 06' 35.22"W
L662	87.50	N6° 53' 24.78"E
L663	100.00	S83° 06' 35.22"E
L664	75.00	S6° 53' 24.78"W
L665	125.00	N83° 06' 35.22"W
L666	75.00	N6° 53' 24.78"E
L667	62.50	S6° 53' 24.78"W
L669	100.00	N83° 06' 35.22"W
L670	87.50	N6° 53' 24.78"E
L671	125.00	N83° 06' 35.22"W
L672	62.50	N6° 53' 24.78"E
L674	100.00	S83° 06' 35.22"E
L675	125.00	S6° 53' 24.78"W

Phase 2 Parcel Line Table		
Line #	Length	Direction
L676	75.00	N6° 53' 24.78"E
L677	100.00	N83° 06' 35.22"W
L679	62.50	N6° 53' 24.78"E
L680	50.00	S6° 53' 24.78"W
L682	100.00	N83° 06' 35.22"W
L683	75.00	N6° 53' 24.78"E
L684	125.00	S83° 06' 35.22"E
L685	60.00	S6° 53' 24.78"W
L686	45.00	N6° 53' 24.78"E
L687	15.00	N6° 53' 24.78"E
L688	125.00	S83° 06' 35.22"E
L689	60.00	S6° 53' 24.78"W
L690	48.00	N6° 53' 24.78"E
L691	12.00	N6° 53' 24.78"E
L692	125.00	S83° 06' 35.22"E
L693	60.00	S6° 53' 24.78"W
L694	51.00	N6° 53' 24.78"E
L695	9.00	N6° 53' 24.78"E
L696	125.00	S83° 06' 35.22"E
L697	60.00	S6° 53' 24.78"W
L698	54.00	N6° 53' 24.78"E
L699	57.00	N6° 53' 24.78"E
L700	125.00	S83° 06' 35.22"E
L701	60.00	S6° 53' 24.78"W
L703	3.00	N6° 53' 24.78"E
L704	125.00	S83° 06' 35.22"E
L705	60.00	S6° 53' 24.78"W
L706	60.00	N6° 53' 24.



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.4

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:51:14 PM



GRAPHIC SCALE
(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY EASEMENT
- W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- FM — PROPOSED SANITARY FORCE MAIN

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127740
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.5

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph2 Preliminary Plan.dwg, 3/18/2024 2:51:55 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.6

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:52:38 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127734
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.7

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph2 Preliminary Plan.dwg, 3/18/2024 2:53:11 PM

Ph3 Parcel Table	
PARCEL	SQ. FT.
1001	9434.90
1002	9495.52
1003	9375.00
1004	9375.00
1005	9375.00
1006	9375.00
1007	9375.00
1008	9375.00
1009	9375.00
1010	9375.00
1011	9375.00
1012	9375.00
1013	9375.00
1014	9375.00
1015	9375.00
1016	9375.00
1017	9375.00
1018	9375.00
1019	13287.08
1020	13287.08
1021	12808.87
1022	9375.00
1023	7500.00
1024	7500.00
1025	7500.00
1026	7900.00
1027	7900.00
1028	7900.00
1029	8038.51
1030	10806.41
1031	7906.45
1032	7900.00
1033	7900.00
1034	7900.00
1035	7825.28
1036	7825.28

Ph3 Parcel Table	
PARCEL	SQ. FT.
1037	7825.28
1038	7825.28
1039	10801.09
1040	10806.41
1041	7825.28
1042	7825.28
1043	7825.28
1044	7825.28
1045	7500.00
1046	7500.00
1047	7500.00
1048	8272.87
1049	10801.09
1050	10806.41
1051	8139.81
1052	7500.00
1053	7500.00
1054	7500.00
1055	7500.00
1056	7500.00
1057	7500.00
1058	7500.00
1059	7500.00
1060	8992.22
1061	11333.92
1062	9375.00
1063	10976.33
1064	9349.61
1065	9375.00
1066	9375.00
1067	9375.00
1068	9375.00
1069	9375.00
1070	9375.00
1071	9375.00
1072	9375.00

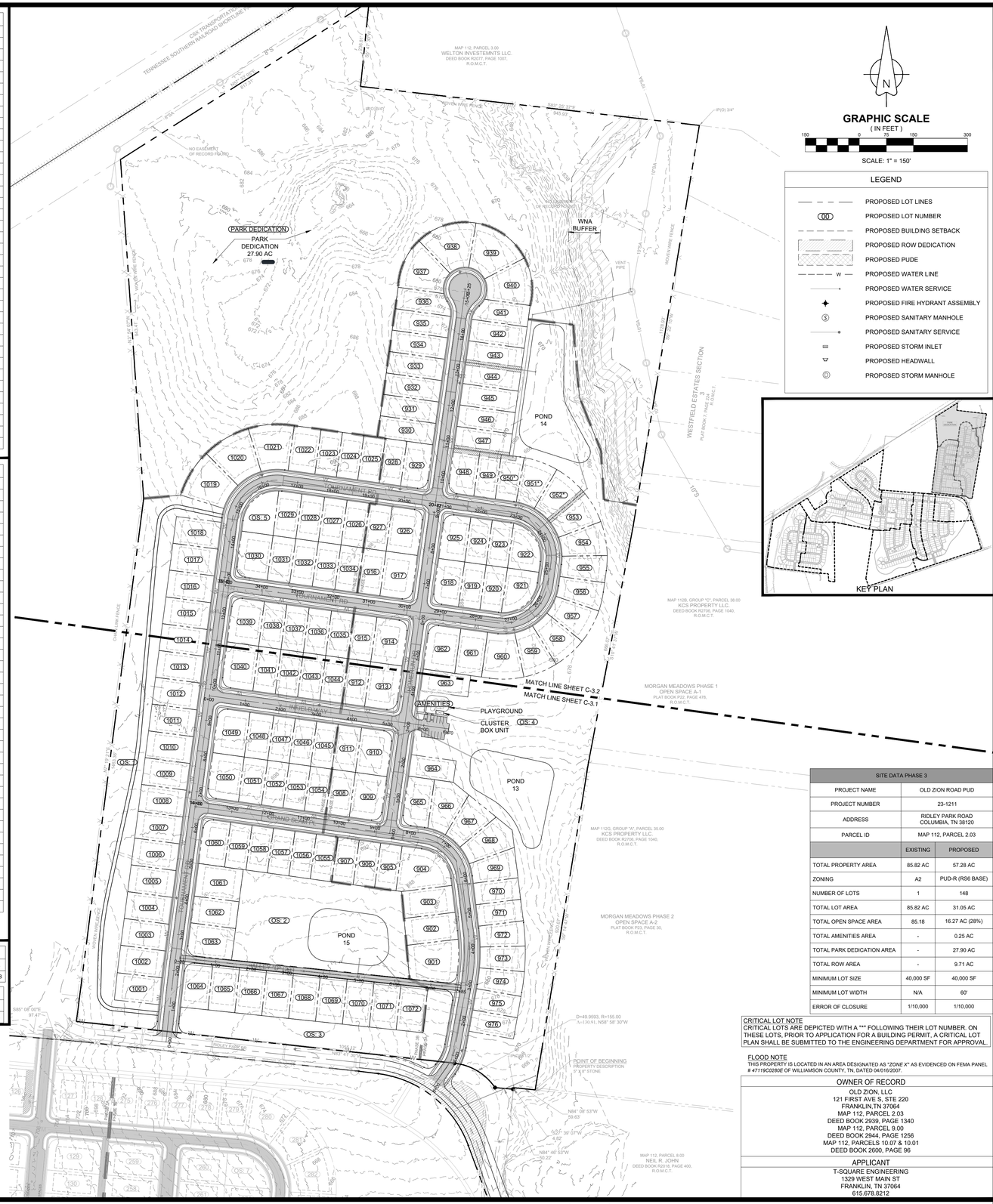
Ph3 Parcel Table	
PARCEL	SQ. FT.
901	14878.62
902	10773.21
903	10592.61
904	14421.23
905	7500.00
906	7500.00
907	7500.00
908	8206.64
909	10803.37
910	10803.37
911	8206.64
912	7875.31
913	10803.37
914	10803.37
915	8008.38
916	7900.00
917	10803.37
918	8928.37
919	7500.00
920	7499.23
921	8988.08
922	8988.08
923	7499.23
924	7500.00
925	8928.37
926	10803.37
927	7900.00
928	7500.00
929	8928.37
930	9292.07
931	9292.07
932	9292.07
933	9292.07
934	9292.07
935	9292.07
936	8648.03
937	12914.87
938	14285.59
939	14285.59

Ph3 Parcel Table	
PARCEL	SQ. FT.
940	12167.75
941	8648.03
942	9292.06
943	9292.06
944	9292.06
945	9292.06
946	9292.07
947	9292.07
948	8928.37
949	7500.00
950	7698.45
951	9362.50
952	9362.49
953	9362.49
954	9368.69
955	8304.60
956	8543.27
957	9362.49
958	9362.49
959	9362.49
960	12138.86
961	9375.00
962	10803.37
963	7951.23
964	7500.00
965	9654.17
966	10749.76
967	9511.48
968	10678.56
969	8870.49
970	7500.00
971	7500.00
972	8033.93
973	8083.56
974	7972.22
975	7500.41
976	7499.59

Ph3 Open Space	
PARCEL	SQ. FT.
OS: 1	156316.75
OS: 2	115231.05
OS: 3	62394.72
OS: 4	366243.89

Amenities	
PARCEL	SQ. FT.
AMENITIES	10689.98

Park Dedication	
PARCEL	SQ. FT.
1	1215173.58



SITE DATA PHASE 3		
PROJECT NAME	OLD ZION ROAD PUD	
PROJECT NUMBER	23-1211	
ADDRESS	RIDLEY PARK ROAD COLUMBIA, TN 38120	
PARCEL ID	MAP 112, PARCEL 2.03	
	EXISTING	PROPOSED
TOTAL PROPERTY AREA	85.82 AC	57.28 AC
ZONING	A2	PUD-R (RS6 BASE)
NUMBER OF LOTS	1	148
TOTAL LOT AREA	85.82 AC	31.05 AC
TOTAL OPEN SPACE AREA	85.18	16.27 AC (28%)
TOTAL AMENITIES AREA	-	0.25 AC
TOTAL PARK DEDICATION AREA	-	27.90 AC
TOTAL ROW AREA	-	9.71 AC
MINIMUM LOT SIZE	40,000 SF	40,000 SF
MINIMUM LOT WIDTH	N/A	60'
ERROR OF CLOSURE	1/10,000	1/10,000

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2938, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

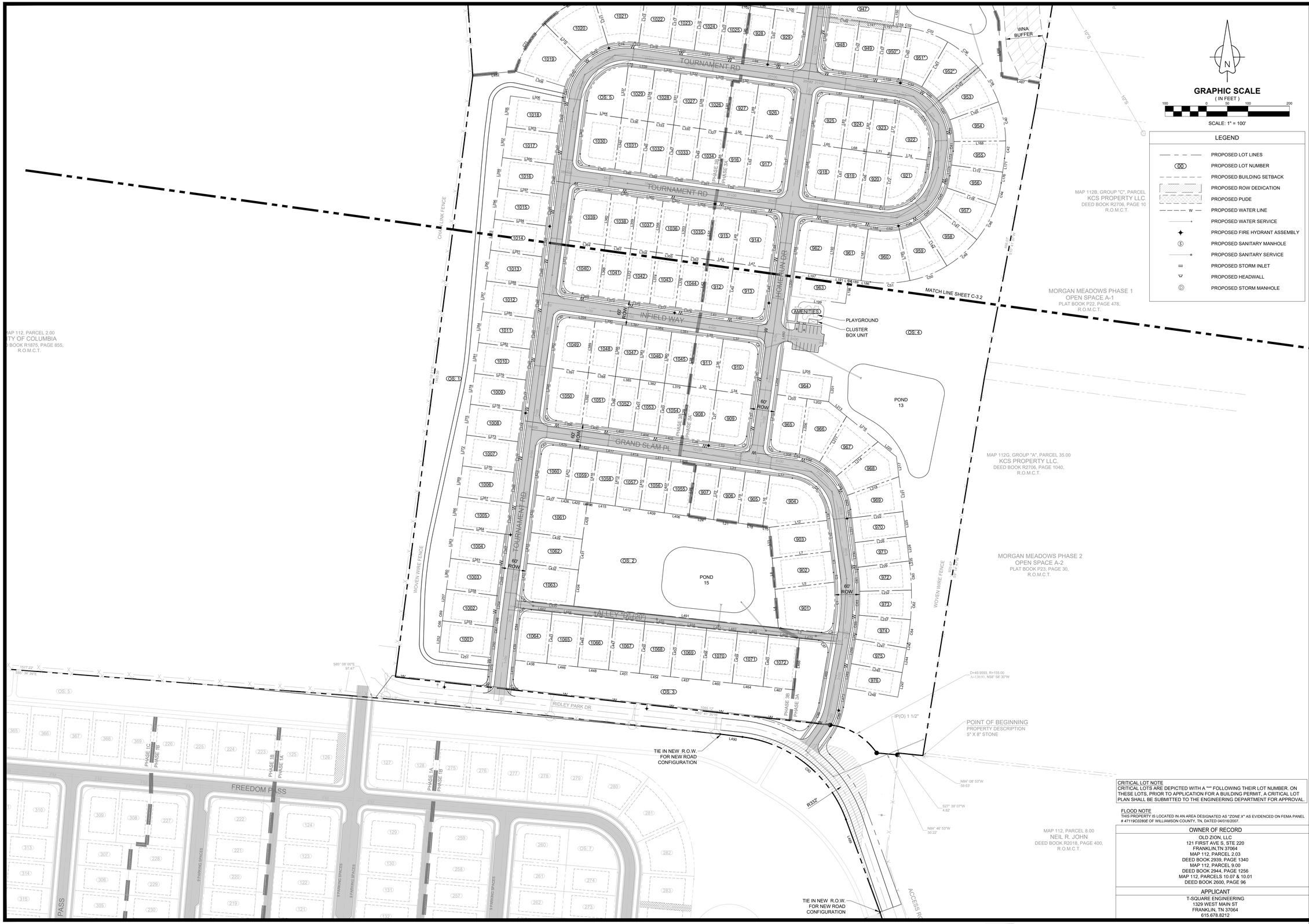
KELSEY H. MAGEE
REGISTERED ENGINEER
MORICTO HUIT
AMERICA
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.0

T-SQUARE ENGINEERING

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:01:44 PM



CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

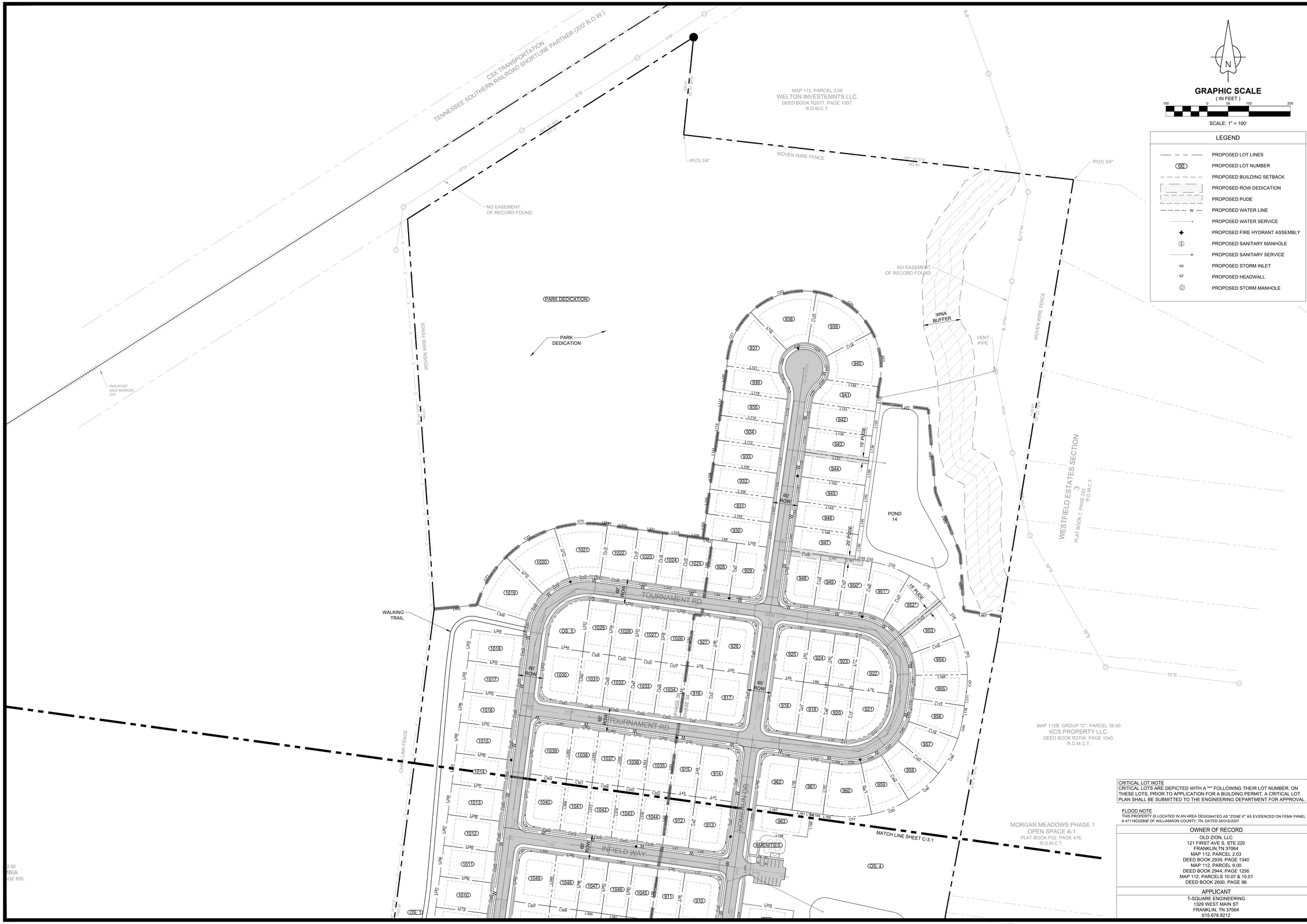
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.1

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:02:29 PM



N

GRAPHIC SCALE
(IN FEET)
100 0 50 100 200
SCALE: 1" = 100'

LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

NO.	DATE

REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.07 & 10.01
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.2

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:02:59 PM

Phase 3 Parcel Line Table		
Line #	Length	Direction
L3	104.77	N83° 55' 40.37"W
L4	93.12	N5° 07' 51.46"W
L5	144.35	N83° 05' 32.06"E
L6	75.04	N5° 07' 51.46"W
L7	142.47	N83° 05' 32.06"E
L8	51.53	S7° 00' 59.93"E
L10	75.00	S7° 00' 59.93"E
L11	75.04	N5° 07' 51.46"W
L12	140.00	N83° 05' 32.06"E
L14	19.34	S7° 00' 59.93"E
L15	16.02	N82° 07' 03.56"W
L16	125.00	N7° 52' 56.44"E
L17	54.59	S82° 07' 03.56"E
L18	60.00	N82° 07' 03.56"W
L19	125.00	N7° 52' 56.44"E
L20	60.00	S82° 07' 03.56"E
L21	60.00	N82° 07' 03.56"W
L22	125.00	N7° 52' 56.44"E
L23	60.00	S82° 07' 03.56"E
L24	60.00	N82° 07' 03.56"W
L25	125.00	N7° 52' 56.44"E
L26	60.00	S82° 07' 03.56"E
L27	125.00	S7° 52' 56.44"W
L28	65.65	N82° 07' 03.56"W
L29	125.00	N7° 52' 56.44"E
L30	65.65	S82° 07' 03.56"E
L31	100.00	S7° 52' 56.44"W
L33	62.50	N82° 07' 03.56"W
L34	87.50	S82° 07' 03.56"E
L35	100.00	S7° 52' 56.44"W
L36	125.00	N7° 52' 56.44"E
L37	62.50	S82° 07' 03.56"E
L38	125.00	N7° 52' 56.44"E
L39	65.65	S82° 07' 03.56"E
L40	125.00	S7° 52' 56.44"W
L41	62.47	N82° 07' 03.56"W
L42	125.00	N7° 23' 39.91"E
L43	63.53	S82° 07' 03.56"E
L44	100.00	S7° 52' 56.44"W
L46	62.50	N82° 07' 03.56"W
L47	87.50	S82° 07' 03.56"E
L48	100.00	S7° 52' 56.44"W
L49	125.00	N7° 52' 56.44"E
L50	62.50	S82° 07' 03.56"E
L51	125.00	N7° 23' 39.91"E
L52	64.60	S82° 07' 03.56"E
L53	125.00	S7° 52' 56.44"W
L54	63.20	N82° 07' 03.56"W
L55	125.00	N7° 52' 56.44"E
L56	63.20	S82° 07' 03.56"E
L57	100.00	S7° 52' 56.44"W
L59	62.50	N82° 07' 03.56"W
L60	87.50	S82° 07' 03.56"E
L61	125.00	S7° 52' 56.44"W
L62	47.47	N82° 07' 03.53"W
L64	100.00	N7° 52' 56.44"E
L65	72.50	S82° 07' 03.56"E
L66	125.00	S7° 52' 56.44"W
L67	60.00	N82° 07' 03.53"W
L68	60.00	S82° 07' 03.56"E
L70	52.39	N82° 07' 03.53"W
L71	60.00	S82° 07' 03.56"E
L72	124.69	S7° 52' 56.44"W
L74	87.39	S82° 07' 03.56"E
L75	30.00	S7° 52' 56.45"W
L76	0.01	N7° 52' 56.44"E
L77	124.68	N7° 52' 56.45"E
L79	30.00	S7° 52' 56.45"W
L80	52.33	S82° 07' 03.54"E
L81	0.01	N7° 52' 56.44"E
L82	124.99	N7° 52' 56.44"E
L83	125.00	N7° 52' 56.44"E
L84	60.00	S82° 07' 03.54"E
L85	100.00	N7° 52' 56.44"E
L87	47.50	S82° 07' 03.54"E
L88	100.00	S7° 52' 56.44"W
L89	125.00	N7° 52' 56.44"E
L90	62.50	S82° 07' 03.56"E
L91	125.00	N7° 52' 56.44"E
L92	63.20	S82° 07' 03.56"E
L93	125.00	S7° 52' 56.44"W
L94	60.00	N82° 07' 03.56"W
L95	125.00	N7° 52' 56.44"E
L96	60.00	S82° 07' 03.55"E
L97	100.00	S7° 52' 56.44"W
L99	47.50	N82° 07' 03.56"W
L100	72.50	S82° 07' 03.55"E
L101	60.00	S7° 52' 56.44"W
L102	22.37	N82° 07' 03.55"W
L103	60.00	N7° 52' 56.45"E
L104	154.87	S82° 07' 03.56"E
L105	60.00	N7° 52' 56.45"E
L106	154.87	S82° 07' 03.56"E
L107	60.00	S7° 52' 56.44"W
L108	60.00	N7° 52' 56.45"E
L109	154.87	S82° 07' 03.56"E
L110	60.00	S7° 52' 56.44"W
L111	60.00	N7° 52' 56.45"E
L112	154.87	S82° 07' 03.56"E
L113	60.00	S7° 52' 56.44"W

Phase 3 Parcel Line Table		
Line #	Length	Direction
L114	60.00	N7° 52' 56.45"E
L115	154.87	S82° 07' 03.56"E
L116	60.00	S7° 52' 56.44"W
L117	60.00	N7° 52' 56.45"E
L118	154.87	S82° 07' 03.56"E
L119	60.00	S7° 52' 56.44"W
L120	60.00	N7° 52' 56.44"E
L121	127.41	S82° 07' 03.56"E
L122	125.00	S43° 45' 06.14"E
L123	125.00	S9° 16' 07.71"W
L124	125.00	S62° 17' 21.56"W
L126	127.41	N82° 07' 03.56"W
L130	60.00	S7° 52' 56.44"W
L131	154.87	N82° 07' 03.56"W
L132	60.00	N7° 52' 56.12"E
L133	60.00	S7° 52' 56.31"W
L134	154.87	N82° 07' 03.56"W
L135	60.00	N7° 52' 56.44"E
L136	60.00	S7° 52' 56.31"W
L137	154.87	N82° 07' 03.56"W
L138	60.00	N7° 52' 56.44"E
L139	60.00	S7° 52' 56.31"W
L140	154.87	N82° 07' 03.56"W
L141	60.00	N7° 52' 56.44"E
L142	60.00	S7° 52' 56.31"W
L143	154.87	N82° 07' 03.56"W
L144	60.00	N7° 52' 56.44"E
L145	60.00	S7° 52' 56.31"W
L146	154.87	N82° 07' 03.56"W
L147	60.00	N82° 07' 03.52"W
L148	72.50	N82° 07' 03.52"W
L149	60.00	N7° 52' 56.44"E
L150	60.00	S7° 52' 56.31"W
L151	22.37	N82° 07' 03.65"W
L152	125.00	S7° 52' 56.44"W
L153	47.47	N82° 07' 03.54"W
L155	100.00	N7° 52' 56.44"E
L156	60.00	N82° 07' 03.54"W
L157	125.00	S7° 52' 56.44"W
L158	52.39	N82° 07' 03.54"W
L159	30.02	S82° 07' 03.69"E
L160	125.00	S10° 18' 16.35"W
L161	125.00	S30° 02' 46.75"W
L162	125.00	S49° 47' 17.16"W
L165	125.00	S69° 31' 47.56"W
L168	125.00	S89° 13' 38.59"W
L171	33.77	S7° 52' 56.45"W
L172	125.00	N82° 07' 03.55"W
L173	33.77	N7° 52' 56.45"E
L175	26.23	N7° 52' 56.45"E
L176	26.23	S7° 52' 56.45"W
L178	125.00	N71° 01' 20.35"W
L181	125.00	N51° 16' 49.94"W
L184	125.00	N31° 32' 19.54"W
L185	125.00	N11° 47' 49.13"W
L186	22.39	N82° 07' 03.54"W
L187	125.00	N7° 52' 56.44"E
L188	28.94	S82° 23' 30.47"E
L189	29.98	N82° 07' 03.56"W
L190	0.02	N82° 07' 03.55"W
L191	45.00	N82° 07' 03.56"W
L192	125.00	N7° 52' 56.44"E
L193	75.00	S82° 07' 03.56"E
L194	100.00	N7° 52' 56.44"E
L196	62.50	S82° 07' 03.56"E
L197	87.50	N82° 07' 03.56"W
L198	60.00	S7° 52' 56.44"W
L199	132.52	N82° 07' 04.14"W
L200	60.00	N7° 52' 55.86"E
L201	60.00	S7° 52' 56.44"W
L202	52.50	N82° 07' 03.56"W
L203	72.50	N82° 07' 03.56"W
L204	60.00	N7° 52' 56.44"E
L205	125.00	S82° 07' 03.56"E
L206	135.27	S7° 52' 56.44"W
L208	38.44	N82° 07' 03.56"W
L210	110.00	N7° 52' 56.44"E
L211	128.08	S30° 35' 31.53"W
L213	55.78	S50° 56' 57.93"E
L214	130.52	S50° 20' 01.93"W
L216	97.50	S50° 56' 57.93"E
L217	48.77	S7° 00' 59.93"E
L218	132.26	S70° 04' 32.34"W
L220	57.07	S50° 56' 57.93"E
L221	84.91	S7° 00' 59.93"E
L222	125.00	S82° 59' 00.07"W
L223	20.75	N7° 00' 59.93"W
L225	60.00	S7° 00' 59.93"E
L226	125.00	S82° 59' 00.07"W
L227	60.00	N7° 00' 59.93"W
L228	60.00	S7° 00' 59.93"E
L229	125.00	S82° 59' 00.07"W
L230	60.00	N7° 00' 59.93"W
L232	125.00	S88° 42' 11.59"W
L234	5.12	N7° 00' 59.93"W
L235	5.12	S7° 00' 59.93"E
L237	125.00	N85° 02' 35.63"W
L240	11.46	S10° 00' 58.57"W
L241	125.00	N79° 59' 01.43"W
L242	11.46	N10° 00' 58.57"E

Phase 3 Parcel Line Table		
Line #	Length	Direction
L244	60.01	S10° 00' 58.57"W
L245	125.00	N79° 58' 50.48"W
L246	60.00	N10° 00' 58.57"E
L247	59.99	S10° 00' 58.57"W
L248	125.00	N79° 59' 01.43"W
L249	60.00	N10° 00' 58.57"E
L250	59.44	S6° 04' 19.63"W
L251	125.00	N83° 55' 40.37"W
L252	59.44	N6° 04' 19.63"E
L253	125.00	S83° 29' 19.28"E
L254	43.71	S7° 23' 39.91"W
L257	43.71	N7° 23' 39.91"E
L258	125.00	S82° 36' 20.09"E
L259	75.00	S7° 23' 39.91"W
L260	75.00	N7° 23' 39.91"E
L261	125.00	S82° 36' 20.09"E
L262	75.00	S7° 23' 39.91"W
L263	75.00	N7° 23' 39.91"E
L264	125.00	S82° 36' 20.09"E
L265	75.00	S7° 23' 39.91"W
L266	75.00	N7° 23' 39.91"E
L267	125.00	S82° 36' 20.09"E
L268	75.00	S7° 23' 39.91"W
L269	75.00	N7° 23' 39.91"E
L270	125.00	S82° 36' 20.09"E
L271	75.00	S7° 23' 39.91"W
L272	75.00	N7° 23' 39.91"E
L273	125.00	S82° 36' 20.09"E
L274	75.00	S7° 23' 39.91"W
L275	75.00	N7° 23' 39.91"E
L276	125.00	S82° 36' 20.09"E
L277	75.00	S7° 23' 39.91"W
L278	75.00	N7° 23' 39.91"E
L279	125.00	S82° 36' 20.09"E
L280	75.00	S7° 23' 39.91"W
L281	75.00	N7° 23' 39.91"E
L282	125.00	S82° 36' 20.09"E
L283	75.00	S7° 23' 39.91"W
L284	75.00	N7° 23' 39.91"E
L285	125.00	S82° 36' 20.09"E
L286	75.00	S7° 23' 39.91"W
L287	75.00	N7° 23' 39.91"E
L288	125.00	S82° 36' 20.09"E
L289	75.00	S7° 23' 39.91"W
L290	75.00	N7° 23' 39.91"E
L291	125.00	S82° 36' 20.09"E
L292	75.00	S7° 23' 39.91"W
L293	75.00	N7° 23' 39.91"E
L294	125.00	S82° 36' 20.09"E
L295	75.00	S7° 23' 39.91"W
L296	75.00	N7° 23' 39.91"E
L297	125.00	S82° 36' 20.09"E
L298	75.00	S7° 23' 39.91"W
L299	75.00	N7° 23' 39.91"E
L300	125.00	S82° 36' 20.09"E
L301	75.00	S7° 23' 39.91"W
L302	75.00	N7° 23' 39.91"E
L303	125.00	S82° 36' 20.09"E
L304	75.00	S7° 23' 39.91"W
L305	75.00	N7° 23' 39.91"E
L306	125.00	S82° 36' 20.09"E
L308	125.00	N72° 38' 54.17"W
L310	125.00	S44° 38' 48.40"E
L311	125.00	S16° 38' 42.62"E
L312	9.34	N82° 07' 03.56"W
L313	125.00	S7° 52' 56.44"W
L314	0.00	S86° 57' 08.67"E
L315	75.00	S82° 07' 03.55"E
L316	9.34	N82° 07' 03.56"W
L317	125.00	S7° 52' 56.44"W
L318	75.00	N82° 07' 03.56"W
L319	125.00	S7° 52' 56.44"W
L320	60.00	N82° 07' 03.56"W
L321	60.00	S82° 07' 03.55"E
L322	125.00	S7° 52' 56.44"W
L323	60.00	N82° 07' 03.56"W
L324	60.00	S82° 07' 03.55"E
L325	60.00	N82° 07' 03.56"W
L326	37.63	S82° 07' 03.55"E
L327	63.20	N82° 07' 03.56"W
L328	125.00	N7° 52' 56.44"E
L329	63.20	S82° 07' 03.56"E
L330	63.20	N82° 07' 03.56"W
L331	125.00	N7° 52' 56.44"E
L332	63.20	S82° 07' 03.56"E
L333	63.20	N82° 07' 03.56"W
L334	125.00	N7° 52' 56.44"E
L335	63.20	S82° 07' 03.56"E
L336	63.78	N82° 07' 03.56"W
L337	124.64	N7° 23' 39.91"E
L339	56.54	S82° 07' 03.56"E
L340	125.00	S7° 23' 39.91"W
L341	62.72	N82° 07' 03.56"W
L343	100.22	N7° 23' 39.91"E
L344	87.50	S82° 07' 03.56"E
L345	125.00	S7° 52' 56.44"W
L346	62.72	N82° 07' 03.56"W
L347	125.00	S7° 52' 56.44"W
L348	63.20	N82° 07' 03.56"W
L349	125.00	S7° 52' 56.44"W

Phase 3 Parcel Line Table		
Line #	Length	Direction
L350	63.20	N82° 07' 03.56"W
L351	63.20	N82° 07' 03.56"W
L352	62.60	N82° 07' 03.56"W
L353	125.00	N7° 23' 39.91"E
L354	62.60	S82° 07' 03.56"E
L355	62.60	N82° 07' 03.56"W
L356	125.00	N7° 23' 39.91"E
L357	62.60	S82° 07' 03.56"E
L358	62.60	N82° 07' 03.56"W
L359	125.00	N7° 23' 39.91"E
L360	62.60	S82° 07' 03.56"E
L361	62.60	N82° 07' 03.56"W
L362	125.00	N7° 23' 39.91"E
L363	62.60	S82° 07' 03.56"E
L364	87.50	N82° 07' 03.56"W
L365	99.79	N7° 23' 39.91"E
L367	62.29	S82° 07' 03.56"E
L368	125.00	S7° 23' 39.91"W
L369	62.72	N82° 07' 03.56"W
L371	100.22	N7° 23' 39.91"E
L372	125.00	S7° 23' 39.91"W
L373	62.60	N82° 07' 03.56"W
L374	125.00	S7° 23' 39.91"W
L375	62.60	N82° 07' 03.56"W
L376	125.00	S7° 23' 39.91"W
L377	62.60	N82° 07' 03.56"W
L378	62.60	N82° 07' 03.56"W
L379	60.00	N82° 07' 03.56"W
L380	125.00	N7° 52' 56.44"E
L381	60.00	S82° 07' 03.56"E
L382	60.00	N82° 07' 03.56"W
L383	125.00	N7° 52' 56.44"E
L384	60.00	S82° 07' 03.56"E
L385	60.00	N82° 07' 03.56"W
L386	125.00	N7° 52' 56.44"E
L387	60.00	S82° 07' 03.56"E
L388	65.65	N82° 07' 03.56"W
L389	125.00	N7° 23' 39.91"E
L390	66.72	S82° 07' 03.56"E
L391	87.50	N82° 07' 03.56"W
L392	99.79	N7° 23' 39.91"E
L394	62.29	S82° 07' 03.56"E
L395	125.00	S7° 23' 39.91"W
L396	62.72	N82° 07' 03.56"W
L398	100.22	N7° 23' 39.91"E
L399	125.00	S7° 52' 56.44"W
L400	64.59	N82° 07' 03.56"W
L401	125.00	S7° 52' 56.44"W
L402	60.00	N82° 07' 03.56"W
L403	125.00	S7° 52' 56.44"W
L404	60.00	N82° 07' 03.56"W
L405	60.00	N82° 07' 03.56"W
L406	60.00	N82° 07' 03.56"W
L407	125.00	N7° 52' 56.44"E
L408	60.00	S82° 07' 03.56"E
L409	60.00	N82° 07' 03.56"W
L410	125.00	N7° 52' 56.44"E
L411	60.00	S82° 07' 03.56"E
L412	60.00	N82° 07' 03.56"W
L413	125.00	N7° 52' 56.44"E
L414	60.00	S82° 07' 03.56"E
L415	60.00	N82° 07' 03.56"W
L416	125.00	N7° 52' 56.44"E
L417	60.00	S82° 07' 03.56"E
L418	6.16	N82° 07' 03.56"W
L419	1.33	N82° 07' 03.56"W
L420	52.50	N82° 07' 03.56"W
L421	125.00	N7° 52' 56.44"E
L422	60.00	S82° 07' 03.56"E
L423	99.79	N7° 23' 39.91"E
L425	48.35	S82° 07' 03.56"E
L426	1.33	N82° 07' 03.56"W
L427	71.17	N82° 07' 03.56"W
L428	90.14	S7° 23' 39.91"W
L429	125.00	N82° 36' 20.09"W
L430	91.20	N7° 23' 39.91"E
L431	75.00	S7° 23' 39.91"W
L432	125.00	N82° 36' 20.09"W
L433	75.00	N7° 23' 39.91"E
L434	87.50	S7° 23' 39.91"W
L435	99.45	N83° 55' 40.37"W
L437	64.80	N7° 23' 39.91"E
L438	76.00	N83° 55' 40.37"W
L439	59.44	N6° 04' 19.63"E
L442	50.58	S83° 55' 40.37"E
L443	125.00	S6° 04' 19.63"W
L444	75.00	S83° 55' 40.37"E
L445	125.00	S6° 04' 19.63"W
L446	75.00	N83° 55' 40.37"W
L447	125.00	S6° 04' 19.63"W
L448	75.00	N83° 55' 40.37"W
L449	75.00	S83° 55' 40.37"E
L450	125.00	S6° 04' 19.63"W
L451	75.00	N83° 55' 40.37"W
L452	75.00	S83° 55' 40.37"E
L453	125.00	S6° 04' 19.63"W
L454	75.00	N83° 55' 40.37"W
L455	75.00	S83° 55' 40.37"E
L456	125.00	S6° 04' 19.63"W
L457	75.00	N83° 55' 40.37"W

Phase 3 Parcel Line Table		
Line #	Length	Direction
L458	75.00	S83° 55' 40.37"E
L459	125.00	S6° 04' 19.63"W
L460	75.00	N83° 55' 40.37"W
L461	49.96	S83° 55' 40.37"E
L462	25.04	S83° 55' 40.37"E
L463	125.00	S6° 04' 19.63"W
L464	75.00	N83° 55' 40.37"W
L465	75.00	S83° 55' 40.37"E
L466	125.00	S6° 04' 19.63"W
L467	75.00	N83° 55' 40.37"W
L468	75.00	S83° 55' 40.37"E
L469	123.55	S10° 00' 58.57"W
L470	47.07	S83° 55' 40.37"E
L471	46.47	S6° 04' 19.63"W
L473	46.94	N10° 00' 58.57"E
L476	46.92	N6° 04' 19.63"E
L478	46.47	S6° 04' 19.63"W
L479	12.21	S7° 23' 39.91"W
L480	180.00	N7° 52' 56.64"E
L481	236.97	N18° 41' 06.37"W
L482	103.37	S84° 31' 09.41"W
L483	125.33	N83° 13' 14.79"W
L484	202.56	N4° 56' 35.37"W
L485	158.67	N22° 00' 43.45"W
L486	137.50	N3° 39' 11.97"W
L487	91.67	N80° 37' 44.70"W
L488	794.90	N83° 55' 40.37"W
L489	238.32	N20° 07' 58.04"W
L490	54.50	N82° 44' 14.52"W
L491	496.38	N83° 55' 40.37"W

Phase 3 Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	100.08	470.00	12.20	S1° 56' 45"W	99.89
C2	38.41	25.00	88.03	S52° 03' 33"W	34.74
C3	23.48	470.00	2.86	S5° 35' 08"E	23.48
C4	124.53	95.00	75.11	S44° 34' 14"E	115.81
C5	39.27	25.00	90.00	S52° 52' 56"W	35.36
C6	39.27	25.00	90.00	S37° 07' 04"E	35.36
C7	39.27	25.00	90.00	S52° 52' 56"W	35.36
C8	39.27	25.00	90.00	S37° 07' 04"E	35.36
C9	39.27	25.00	90.00	S52° 52' 56"W	35.36
C10	39.30	25.00	90.07	N37° 09' 07"W	35.38
C11	7.62	95.00	4.59	N84° 24' 51"W	7.61
C12	141.61	95.00	85.41	S50° 35' 09"W	128.86
C13	141.61	95.00	85.41	S34° 49' 16"E	128.86
C14	7.67	95.00	4.63	S79° 50' 19"E	7.67
C15	39.27	25.00	90.00	N52° 52' 56"E	35.36
C16	39.27	25.00	90.00	S37° 07' 04"E	35.36
C17	39.27	25.00	90.00	S52° 52' 56"W	35.36
C18	23.95	61.00	22.50	S22° 59' 44"E	23.80
C19	43.38	59.00	42.13	S13° 10' 51"E	42.41
C20	61.75	61.00	58.00	S17° 15' 02"W	59.14
C21	145.08	186.00	44.69	N23° 54' 10"E	141.43
C22	56.45	61.00	53.02	S72° 45' 31"W	54.46
C23	172.12	186.00	53.02	N72° 45' 31"E	166.05
C24	56.45	61.00	53.02	N54° 13' 15"W	54.46
C25	172.12	186.00	53.02	S54° 13' 15"E	166.05
C26	136.08	186.00	41.92	S6° 45' 05"E	133.07
C27	58.79	61.00	55.22	N0° 05' 58"W	56.54
C28	43.38	59.00	42.13	N28° 56' 44"E	42.41
C29	23.95	61.00	22.50	N38° 45' 37"E	23.80
C30	39.30	25.00	90.07	N37° 09' 07"W	35.38
C31	6.55	155.00	2.42	N80° 54' 24"W	6.55
C32	11.84	280.00	2.42	S80° 54' 24"E	11.84
C33	96.45	288.00	19.19	S69° 49' 28"E	96.00
C34	53.39	159.43	19.19	N69° 49' 28"W	53.14
C35	53.39	159.43	19.19	N50° 04' 58"W	53.14
C36	96.45	288.00	19.19	S50° 04' 58"E	96.00
C37	53.39	159.43	19.19	N30° 20' 28"W	53.14
C38	96.45	288.00	19.19	S30° 20' 28"E	96.00
C39	53.49	159.71	19.19	N10° 34' 53"W	53.24
C40	96.45	288.00	19.19	S10° 35' 57"E	96.00
C41	23.21	122.85	10.82	N3° 35' 41"E	23.18
C42	42.10	222.85	10.82	S3° 34' 37"W	42.04
C43	30.01	158.68	10.84	N13° 25' 48"E	29.97
C44	54.22	286.65	10.84	S13° 25' 48"W	54.14
C45	53.39	159.43	19.19	N28° 50' 55"E	53.14
C46	96.45	288.00	19.19	S28° 50' 55"W	96.00
C47	53.39	159.43	19.19	N48° 35' 25"E	53.14
C48	96.45	288.00	19.19	S48° 35' 25"W	96.00
C49	53.39	159.43	19.19	N68° 19' 56"E	53.14
C50	96.45	288.00	19.19	S68° 19' 56"W	96.00
C51	96.17	280.00	19.68	S88° 02' 34"W	95.70
C52	46.69	155.00	17.26	N86° 49' 54"E	46.51
C53	39.27	25.00	90.00	N52° 52' 56"E	35.36
C54	9.07	155.00	3.35	N80° 26' 31"W	9.06
C55	39.27	25.00	90.00	N37° 07' 04"W	35.36
C56	52.37	155.00	19.36	N69° 05' 14"W	52.12
C57	53.41	155.00	19.74	N49° 32' 13"W	53.14
C58	53.41	155.00	19.74	N29° 47' 43"W	53.14
C59	34.92	155.00	12.91	N13° 28' 14"W	34.84
C60	65.39	655.00	5.72	S4° 09' 24"E	65.36
C61	52.91	530.00	5.72	N4° 09' 24"W	52.89
C62	71.49	655.00	6.25	S1° 49' 48"W	71.45
C63	57.85	530.00	6.25	N1° 49' 48"E	57.82
C64	57.84	655.00	5.06	S7° 29' 11"W	57.82
C65	46.80	530.00	5.06	N7° 29' 11"E	46.79
C66	16.52	2155.00	0.44	N6° 17' 30"E	16.52
C67	15.56	2030.00	0.44	S6° 17' 30"W	15.56
C68	31.29	2030.00	0.88	S6° 57' 10"W	31.29
C69	33.22	2155.00	0.88	N6° 57' 10"E	33.22
C70	75.75	155.00	28.00	S31° 21' 09"W	75.00
C71	136.84	280.00	28.00	N31° 21' 09"E	135.48
C72	75.75	155.00	28.00	S59° 21' 14"W	75.00
C73	136.84	280.00	28.00	N59° 21' 14"E	135.48
C74	66.35	155.00	24.53	S85° 37' 07"W	65.85
C75	129.21	282.96	26.16	N86° 30' 21"E	128.09
C76	8.32	95.00	5.02	S84° 37' 32"E	8.31
C77	39.06	25.00	89.51	N37° 21' 42"W	35.20
C78	39.48	25.00	90.49	N52° 38' 18"E	35.51
C79	39.06	25.00	89.51	N37° 21' 42"W	35.20
C80	39.48	25.00	90.49	N52° 38' 18"E	35.51

Phase 3 Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C81	39.06	25.00	89.51	N37° 21' 42"W	35.20
C82	39.48	25.00	90.49	N52° 38' 18"E	35.51
C83	39.85	25.00	91.32	N38° 16' 00"W	35.76
C84	41.08	1970.00	1.19	N6° 40' 10"E	41.08
C85	38.75	25.00	88.81	N51° 40' 10"E	34.98
C86	52.37	120.03	25.00	S22° 30' 59"W	51.96
C87	40.99	25.00	93.94	N36° 57' 21"W	36.55
C88	48.05	180.00	15.30	N17° 39' 52"E	47.91
C89	39.17	25.00	89.76	N38° 48' 35"W	35.28
C90	39.37	25.00	90.24	S51° 11' 25"W	35.43
C91	26.94	155.00	9.96	S12° 22' 23"W	26.90
C92	335.45	307.00	62.60	N51° 26' 06"W	319.01
C120	39.37	25.00	90.24	S51° 11' 25"W	35.43

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

CURVE TABLES

PH3PARCEL LINE AND CURVE TABLES
MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

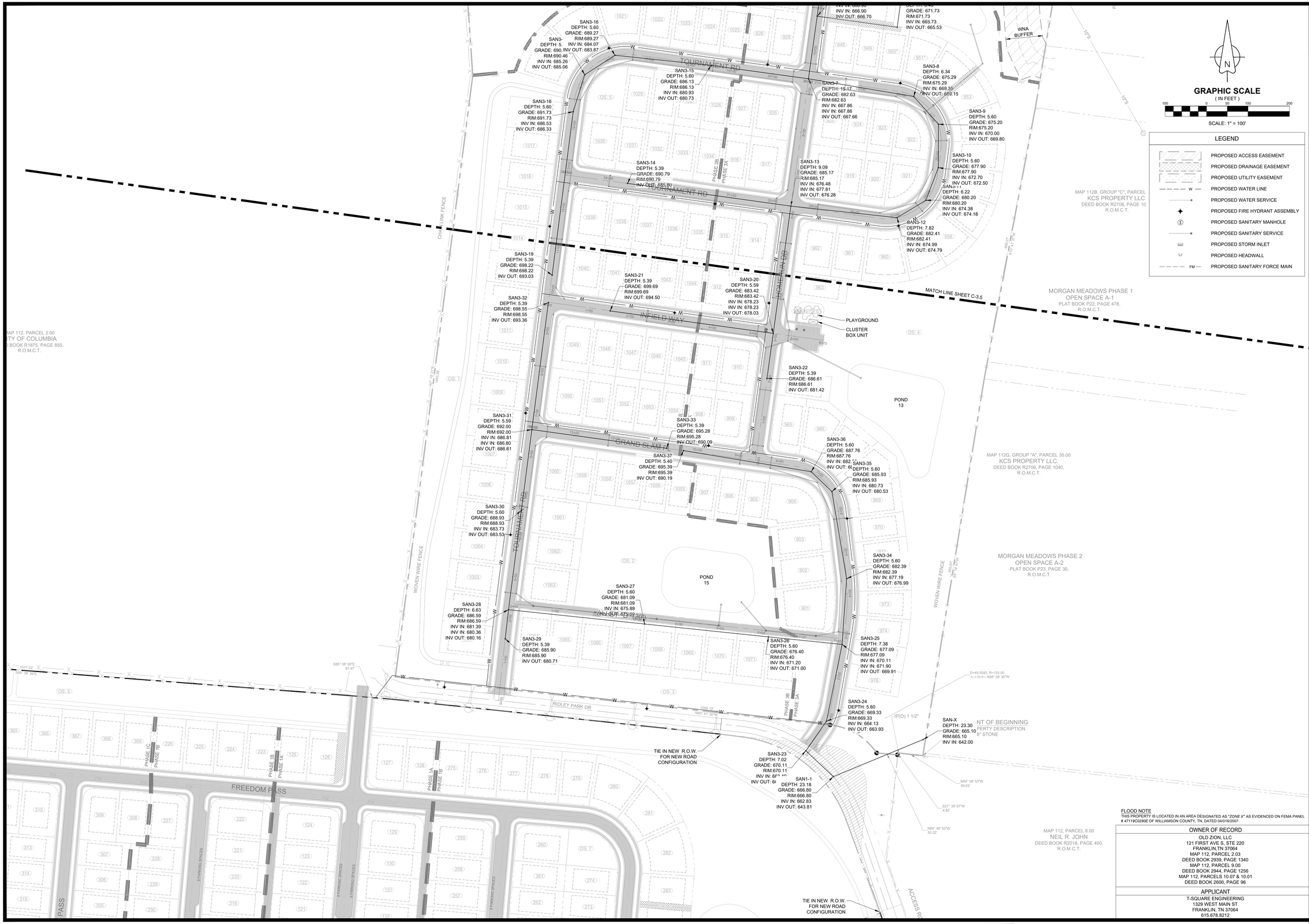
KELSEY H. MACEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.3

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH3 Preliminary Plan.dwg, 3/18/2024 3:03:18 PM



REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

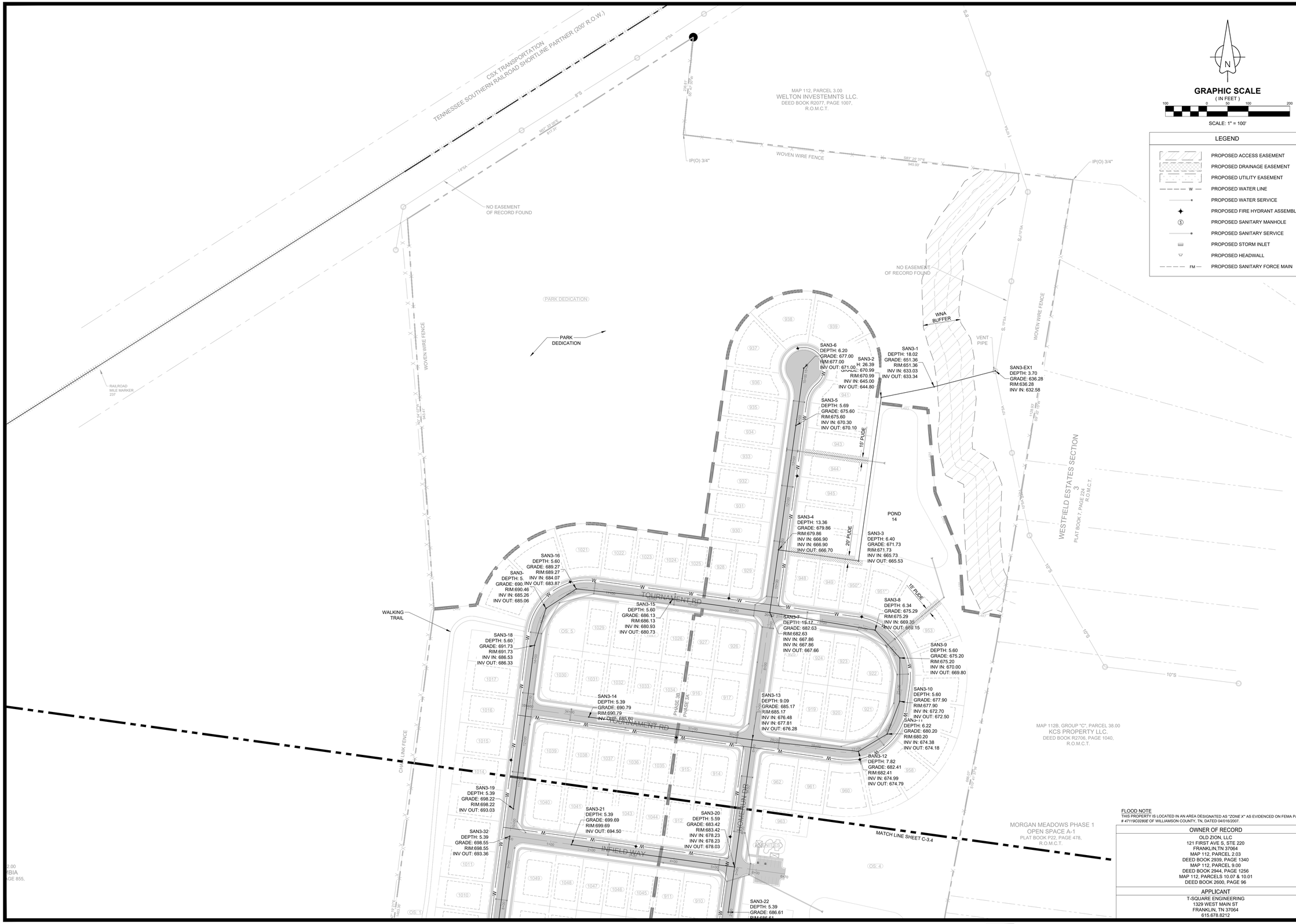
OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

PROJECT
23-1211

SHEET
C-3.4

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:03:39 PM



GRAPHIC SCALE

(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY EASEMENT
- W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- FM — PROPOSED SANITARY FORCE MAIN

FLOOD NOTE

THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.07, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

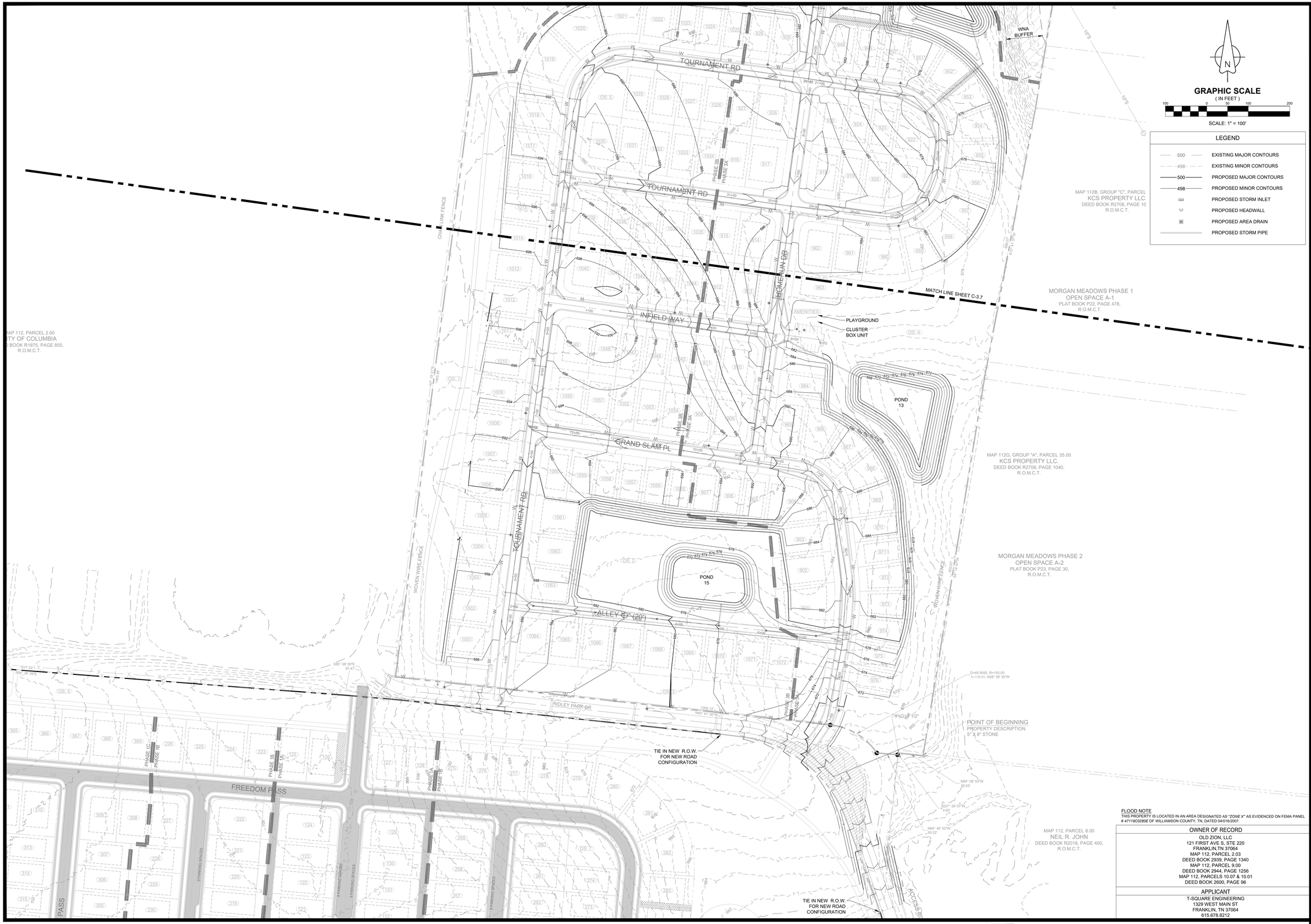
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
ENGINEERING
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.5

T-SQUARE ENGINEERING

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:04:09 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.6

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Eldridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:04:35 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.7

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:05:00 PM

April 22, 2024

Mr. Glenn Harper, P.E.
City Engineer
City of Columbia, TN
700 N. Garden Street
Columbia, TN

RE: Old Zion Addendum to Concurrence Letter to TIS Report Regarding Traffic Improvement Phasing

Dear Mr. Glenn Harper,

Willow Branch Homes (Developer) would like to submit this addendum to the TIS concurrence letter to the City of Columbia. A chronological list of the improvements is included below with phase build-out thresholds to initiate these improvements.

Trotwood Avenue Project Access #1
Build-out Initiation Point: 10% build-out - (± 80 homes)
Corresponding Phase: 1A

- Access to be constructed with:
  - 1-lane traffic entry
  - 2-lane traffic exit (separate left and right turn lanes each with 100 feet storage length and 100 feet of taper.
- Addition to Trotwood Avenue of:
  - Eastbound left turn lane - This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.
  - Westbound right turn lane - This turn lane should include 175 feet of storage and 220 feet of taper.
- Addition of Traffic Signal serving intersection of Old Zion Development at Trotwood Avenue.

Trotwood Avenue Improvements
Build-out Initiation Point: 10% build-out - (± 80 homes)
Corresponding Phase: 1A

- Maintain 150’ buffer along the project frontage so that future roadway improvements will not be constrained by limited right-of-way.
- The northern shoulder of Trotwood Avenue should be scraped and stabilized for the length of the development’s frontage on Trotwood Avenue.

Trotwood Avenue at Cayce Lane/Sunnyside Lane
Build-out Initiation Point: **by 2028**
Corresponding Phase: currently anticipated to be 2A

- Addition of right-turn lanes and elimination of accesses within limits of turn lanes, as outlined in the dimensions below:
  - The eastbound right turn lane can have a storage length of 150 feet and a taper length of 100 feet within the limits of the property on the southwest corner of the intersection.
  - The westbound right turn lane can have a storage length of 100 feet and a taper length of 100 feet within the limits of the property on the northeast corner of the intersection.
- Improvements to traffic signal equipment and hardware replacements

Trotwood Avenue at Old Zion Ext
Build-out Initiation Point: 50% build-out (± 400 homes)
Corresponding Phase: 2A

- Addition of:
  - Eastbound left turn lane - This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.
  - Westbound right turn lane - This turn lane should include 175 feet of storage and 220 feet of taper.
  - Traffic Signal serving intersection of Old Zion Extension at Trotwood Avenue.

Trotwood Avenue at Old Zion Road
Build-out Initiation Point: 80% build-out - (± 620 homes)
Corresponding Phase: 2D

- Addition of:
  - Eastbound left turn lane - This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.
  - Westbound right turn lane - This turn lane should include 175 feet of storage and 220 feet of taper.

Lawrenceburg Highway at Old Zion Road
Build-out Initiation Point: 80% build-out - (± 620 homes)
Corresponding Phase: 2D

- Modification/improvement of intersection at Lawrenceburg Highway and Old Zion Road into J-turn intersection as described in the TDOT Design Guidelines (Section 2-303.00).

OR *(if not approved by TDOT)*

- The following improvements:
  - Reduce the speed limit on Lawrenceburg Highway from 65 mph to 55 mph within the influence area of the intersection with Old Zion Road.

- Extend the eastbound and westbound left turn lanes to a minimum length of 385 feet with 220 of bay taper and offset the left turn lanes to the center of the existing median.
- Addition of traffic signal serving the intersection of Lawrenceburg Highway at Old Zion Road.
  - If a traffic signal is installed, provide railroad-traffic signal preemption.

Old Zion Road at Project Access #2
Build-out Initiation Point: 80% build-out - (± 620 homes)
Corresponding Phase: 2D

- Access to be constructed with:
  - 1-lane traffic entry
  - 2-lane traffic exit (separate left and right turn lanes each with 100 feet storage length and 100 feet of taper.
- Improvement of Old Zion Road to City of Columbia standards.

Old Zion Road at Old Zion Ext
Build-out Initiation Point: 80% build-out - (± 620 homes)
Corresponding Phase: 2D

- Addition of southbound left turn lane on Old Zion Road, with below dimensions:
  - This turn lane should include 115 feet of storage, 140 feet of bay taper, and lane transitions based on TDOT design guidelines
- Dedication of right-of-way (in NE quadrant of intersection) to facilitate future improvements.

Trotwood Avenue at Zion Road
Build-out Initiation Point: 90% build-out - (± 690 homes)
Corresponding Phase: 3A

- Addition of Traffic Signal serving intersection of Zion Road at Trotwood Avenue.

All improvements will be designed and constructed in accordance with appropriate AASHTO, TDOT, and the City of Columbia standards. Should you have any questions, please give me a call on my cell at 615.400.7729.

Respectfully,

Andrew Ethridge
Willow Branch Homes
V.P. of Community Development

April 22, 2024

Mr. Glenn Harper, P.E.
City Engineer
City of Columbia, TN
700 N. Garden Street
Columbia, TN

RE: Old Zion Concurrence Letter to TIS Report with Updates Reflecting City of Columbia City Council Meeting Decisions on July 13, 2023

Dear Mr. Glenn Harper,

Willow Branch Homes (Developer) would like to submit this concurrence letter to the City of Columbia acknowledging our commitment to make the off-site improvements as outlined in the TIS prepared by Ragan Smith dated March 21st, 2022 and as established during the City Council Meeting on July 13, 2023. This agreement includes the recommendations from Neel-Schaffer issued May 9th, 2022, on behalf of the City of Columbia, TN, and as noted in the updated TIS dated July 27th, 2022. A list of the improvements from the July 27th, 2022 TIS and the July 13 2023 City Council Hearing is included below.

Trotwood Avenue at Cayce Lane/Sunnyside Lane

- The recommended roadway project in the City of Columbia's ConnectColumbia Comprehensive Plan for this intersection will provide capacity improvements that mitigate the impact of background traffic growth and traffic from the Old Zion Road Development.

- The recommended roadway project at this intersection consists of adding right turn lanes on Trotwood Avenue and closing the nearest access points within a 10-year timeframe from 2018 when ConnectColumbia was adopted.

- Based on the properties adjacent to the approaches of Trotwood Avenue, the turn lane design dimensions below would keep the number of properties impacted to a minimum.
  - The eastbound right turn lane can have a storage length of 150 feet and a taper length of 100 feet within the limits of the property on the southwest corner of the intersection.
  - The westbound right turn lane can have a storage length of 100 feet and a taper length of 100 feet within the limits of the property on the northeast corner of the intersection.

- Because the recommended City project is already identified in ConnectColumbia and is located miles from the Old Zion Road Development, it is not reasonable to assign full responsibility of the improvement to the Old Zion Road Development. However, the proposed Old Zion Road Development should support the recommended City project in a manner that corresponds to the pro rata share of development traffic at the intersection because the improvements do provide additional capacity to mitigate the development impact. Based on

statements by city staff, there are traffic signal equipment and hardware replacements that can be completed by the Old Zion Road Development at this intersection to fulfill the pro rata share of the development's impact.

Trotwood Avenue at Rutherford Lane

- No intersection control or laneage modifications are recommended at the intersection of Trotwood Avenue and Rutherford Lane due to the impact of the Old Zion Road Development.

Trotwood Avenue at Ridley Park Road

- This access is planned to remain gated and under control of the City of Columbia Parks Department and site traffic from the Old Zion Development has not been distributed to it for the analysis of this report. Therefore, no improvements are recommended at the intersection due to the impact of the Old Zion Development.

Trotwood Avenue at Yeatman Lane

- No connection nor dedication of right-of-way from the existing Ashwood Manor neighborhood to the Old Zion Road Development will be proposed via an extension of Yeatman Lane in accordance with Columbia City Council's decision at the July 13, 2023 City Council Meeting.

Trotwood Avenue at Old Zion Road

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The recommended eastbound left turn lane and westbound right turn lane on Trotwood Avenue should be constructed concurrently with phase 2D when the Old Zion Road Development connects to Old Zion Road.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane and westbound right turn lane.

Trotwood Avenue at Old Zion Ext

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on the TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The traffic signal warrant evaluation in this report indicates that this signal may be a candidate for signalization in the future. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Old Zion Ext.

- The recommended eastbound left turn lane, westbound right turn lane, and traffic signal at the intersection of Trotwood Avenue and Old Zion Ext should be constructed when traffic signal warrants are satisfied by traffic counts at the intersection or at approximately 50% build out (±400 homes) of the Old Zion Road Development. This level of development is anticipated to be concurrent with phase 2A.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Trotwood Avenue at Zion Road

- The traffic signal warrant evaluation in the reports indicates that this signal may be a candidate for signalization. A traffic signal shall be constructed to TDOT standards at the direction of the City Engineering Department with TDOT concurrence during the initial phases of construction of the Old Zion Development.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Old Zion Road at Old Zion Ext

- A southbound left turn lane should be constructed on Old Zion Road concurrently with phase 2E of the Old Zion Road Development. This turn lane should include 115 feet of storage, 140 feet of bay taper, and lane transitions based on TDOT design guidelines.

- Right-of-Way on the Old Zion Road Development property at this intersection (northeast quadrant) should be dedicated so that intersection sight lines per AASHTO guidelines and future improvements by others are possible.

Lawrenceburg Highway at Old Zion Road

- The intersection of Lawrenceburg Highway and Old Zion Road includes an intersection skew of approximately 40 degrees and traffic operations on the minor street approaches will be characterized by level of service F during background traffic conditions. Intersection

improvements will be appropriate to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.

- The intersection of Lawrenceburg Highway and Old Zion Road may qualify for modifications into a J-turn intersections as described in the TDOT Design Guidelines (Section 2-303.00). At a J-turn intersection, direct crossing and left-turn movements from the minor approach roadway are prevented to reduce the exposure to high-speed angle collisions. There are already J-turn intersections located on Lawrenceburg Highway nearby in the City of Mt. Pleasant so this type of intersection should be familiar to many drivers in the area. The Old Zion Road Development should coordinate with the TDOT Region traffic engineering office to consider if TDOT's criteria for a J-turn intersection are met. If approved by TDOT, a J-turn intersection should be constructed concurrently with phase 2D where Old Zion Road intersects Lawrenceburg Highway.

- If a J-turn intersection is not approved by TDOT, the improvements below may be considered as alternative measures to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.
    - Reduce the speed limit on Lawrenceburg Highway from 65 mph to 55 mph within the influence area of the intersection with Old Zion Road.
    - Extend the eastbound and westbound left turn lanes to a minimum length of 385 feet with 220 of bay taper and offset the left turn lanes to the center of the existing median.
    - If warranted, install a traffic signal at the intersection of Lawrenceburg Highway and Old Zion Road. Based on the analysis of this report, the satisfaction of traffic signal warrants at this intersection may be challenging due to the high volume of right turn movements which are often subtracted from the signal warrant consideration.
    - If a traffic signal is installed at this intersection in the future, providing railroad-traffic signal preemption should be considered.

- A TDOT grading permit will be required as part of the construction of any improvements at the intersection of Lawrenceburg Highway and Old Zion Road.

- The at-grade railroad crossing on Old Zion Road south of Lawrenceburg Highway is protected by recently installed active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Old Zion Road with and without the Old Zion Road Development.

<u>Lawrenceburg Highway at Zion Road Connector</u>

- No intersection control or laneage modifications are recommended at the intersection of Lawrenceburg Highway at the Zion Road Connector due to the impact of the Old Zion Road Development.

<u>Zion Road at Lawrenceburg Highway Connector</u>

- No intersection control or laneage modifications are recommended at the intersection of Zion Road at the Lawrenceburg Highway Connector due to the impact of the Old Zion Road Development.

- The at-grade railroad crossing on Zion Road south of Lawrenceburg Highway is protected by active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Zion Road with and without the Old Zion Road Development.

Trotwood Avenue Project Access #1

- The approach of Project Access #1 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- Based on the analysis in this report, this intersection appears to be a candidate for future signalization. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. Traffic counts and signal warrant analysis more frequently than every 12 months should be performed if requested by City of Columbia Engineering Staff based on the continued monitoring of the intersection. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Project Access #1.

- The recommended eastbound left turn lane and westbound right turn lane at the intersection of Trotwood Avenue and Project Access #1 should be constructed as part of Project Access with phase 1A.

- A TDOT entrance and grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

- The shoulder of Trotwood Avenue should be scraped and stabilized for the length of the development's frontage on Trotwood Avenue in accordance with Columbia City Council's decision at the July 13, 2023 City Council Meeting.

Old Zion Road at Project Access #2

- The approach of Project Access #2 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- The portion of Old Zion Road along the project frontage within the City of Columbia should be annexed into the city, if requested by the County Highway Department. The annexed portion of Old Zion Road should be improved as part of phase 2D to meet the requirements of the City of Columbia Engineering Department including pavement markings, signage, along the roadway and at the intersections and curves along the site frontage.

Trotwood Avenue Improvements

- The Old Zion Road Development should plan for the future widening of Trotwood Avenue by the City or TDOT by maintaining a 150' buffer along the project frontage so that future roadway improvements will not be constrained by limited right-of-way.

All improvements will be designed and constructed in accordance with appropriate AASHTO, TDOT, and the City of Columbia standards.

Should you have any questions, please give me a call on my cell at 615.400.7729.

Respectfully,



Andrew Ethridge
Willow Branch Homes
V.P. of Community Development



T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

111 Southeast Pkwy Ct
Franklin, TN 37064
615.678.8212

www.T2-eng.com

City of Columbia Planning and Zoning
700 N Garden St
Columbia, TN 38401

April 22, 2024

RE: Response Letter to Comments Received April 9 & 15, 2024
Old Zion Road Development
24-0137 – FPUD

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he and City Planner Kevin McCarthy will jointly prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments. At least one of the two planners working on this item should be copied on all communication with other city staff.
   Understood
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal.
   As provided
3. The Preliminary PUD Master Plan indicated a total gross acreage of 415.60 acres. The site data table on the proposed Final PUD Master Plan indicates that the total acreage is 413.8 acres with 394.23 to be included in the development. The approximate density calculation is unchanged. Please explain the 21.37-acre difference and how the overall density is calculated.
   While we cannot recreate the 415.6 acres indicated by the PPUD, the FPUD acreage is based on the ALTA surveys received from another surveyor and it has been recalculated to confirm 413.8 acres. The density calculation is based on the total acreage. However, the total acreage included in the development also subtracts the park dedication that the developers are providing to the City, since that will not be a part of the development once that dedication is complete.
4. The proposed Final PUD Master Plan indicates a reduction of two 100’ lots, one 60’ lot, and an increase of one 75’ lot. Please explain the reason for the change.
   Annotated exhibit of changes between PPUD and FPUD is provided.
5. At resubmittal, please provide an exhibit highlighting all changes from the Preliminary PUD Master Plan (e.g. relocated lot in PH 1A around stream buffer and pond 3).
   Annotated exhibit of changes between PPUD and FPUD is provided.
6. Please reconsider using the 44’ wide Harpeth C and Magnolia C home plans on 60-foot wide lots. With 7.5’ setbacks this will leave only 1’ of allowance within the MBSL/PUDEs. This leaves no room for error due to unusual lot conditions or issue which may arise during site construction plan review.
   Developer is aware of the allowances of some of these floorplans and understands staff’s concerns, however the developer would like to retain all available elevations to be used on lots at their discretion.

7. Please reconsider using the 60' wide Avondale A, Hartwell A, and Berkely A home plans on 75-foot wide lots. With 7.5' setbacks this will leave zero allowance within the MBSL/PUDEs. This leaves no room for error due to unusual lot conditions or issue which may arise during site construction plan review.
   Developer is aware of the allowances of some of these floorplans and understands staff's concerns, however the developer would like to retain all available elevations to be used on lots at their discretion.
8. Please reconsider using the 59' Bridgehampton A home plan on 75-foot wide lots. With 7.5' setbacks this will leave only 6-inches of allowance on either side within the MBSL/PUDEs. This leaves no room for error due to unusual lot conditions or issue which may arise during site construction plan review.
   Developer is aware of the allowances of some of these floorplans and understands staff's concerns, however the developer would like to retain all available elevations to be used on lots at their discretion.
9. Please provide elevations for the home types to be used on the 100-foot wide lots.
   Elevations provided for the 75-ft lots will be used on the 100-ft lots. No additional elevations are being proposed for the 100-ft lots.
10. Please provide detail on pump station driveway access.
    Detail added to C-0.4
11. The traffic commitment letter contains incorrect information (i.e. Yeatman Lane connection). Please provide an updated timeline of off-site traffic improvements based on the Preliminary PUD Master Plan approval.
    Updated traffic commitment letter has been provided with this submittal.
12. Please identify purpose of asterisk on some lots (are these critical lots?).
    Yes, the asterisk indicates critical lots in regard to their proximity to buffered water features. See note in bottom right of all site plan sheets.
13. Please identify location and height of all retaining walls.
    No retaining walls are proposed.
14. Please provide details for pump station design.
    Pump station design to be provide in conjunction with construction plans for phase in which pump station is to be constructed. Detail added to the pump station reflects the expected manufacturer. Pump station to be designed by others.
15. Due to the complexity of this request, the item will be reviewed again by the Development Review Committee following resubmittal.
    Understood; thank you for the additional time to resubmit
16. Please include a landscape plan in the resubmittal. (This is in addition to comments previously provided. Please respond to all comments).
    Landscape buffer plan provided in accordance with landscaping items listed on the Planning Commission checklist for Preliminary Plats and PUDs.

Engineering

17. Subject to TIS and Construction Plan
    Understood
18. Provide proposed timing/phasing for traffic improvements identified in the TIS, commitment letter, and reflect the agreement(s) from Council meeting. Should be tied to a number of units or prior to specific plat.
    Addendum to traffic commitment letter outlining phasing to which each improvement is tied has been provided along with the updated traffic commitments letter.
19. Clearly identify all retaining walls and provide TOW/BOW elevations.
    No retaining walls proposed.
20. No retaining wall shall be constructed to support or be within the angle of repose of single-family structures.
    Understood
21. Retaining walls in single-family residential developments shall not exceed fifteen (15) feet in height. Walls may be terraced where walls are stepped back ten (10) feet from face of wall to face of wall
    Understood; all proposed retaining walls are less than 15-ft in height.
22. Provide annotations for existing topo.

Annotations added.

23. Note: Drainage channels within a subdivision providing drainage for the following shall be located on a common or open space lot a minimum of ten (10) feet in width within a dedicated public drainage easement or public right-of-way. 1. Eight (8) or more lots, either in whole or a portion of; 2. Public infrastructure; or 3. An area equivalent to two (2.0) acres.
    Note added to all Site Plan sheets labeling all open space areas as Public Utility, Drainage, and Access Easements.
24. Side lot swales shall meet the provisions of ESS standard detail DD-04
    Understood
25. Advisory Note: The addition of retaining walls 6 feet or taller in height will require Final PUD Master Plan revisions.
    Understood
26. Provide driveway style apron for CBU mail area.
    Entrances to Ph1 amenities center and Ph3 playground/CBU hatched and referred to driveway apron detail to be constructed with concrete. Driveway apron detail added to C-1.2 and C-3.1.
27. Tournament Drive should have two seperate names. One for east side and one for west side of Homerun Dr
    East side of Homerun Dr has been renamed to Knuckleball Pass.
28. Typical 60' ROW Street Section: Adjust parking lane to 8 foot (including gutter) and add 2 foot grass strip where parallel parking is provided.
    The 10-ft parking lane width is proposed for pedestrian safety, as this 2 additional feet provides separation between the car/pedestrian in the parking lane and the vehicles traveling the adjacent roadway. The developer would prefer to retain the 2-ft within the parking lane for this reason. Per discussion with Glenn Harper, we are proposing both the 10-ft parking lane and the 2-ft grass strip between the parking lane and the sidewalk. This leaves an open space strip of 0.5-ft between the sidewalks and the edge of R.O.W.
29. Provide cross section/materials for walking trails.
    Pavement section for walking trail has been added to sheet C-0.4
30. Provide cross section/materials for pump station driveway
    Pump station driveway access to be built to local road pavement section. Cross-section added to C-0.4.
31. Provide cross section/materials for Ridley Park Dr
    Ridley Park Drive cross section and materials to match existing conditions; details to be provided with construction plans for offsite work.
32. Adjust phases for phase 1 to have 1A through 1E to seperate the two 1B phases.
    Phase 1 timeline adjusted to add a phase 1E.
33. Extend ROW dedication for Old Zion Road along all frontages. See C1.5 Preliminary PUD site sheets.
    ROW dedication shown more clearly on Old Zion Road.
34. Provide additional annotation (leader) for ROW dedications
    Additional annotations provided on C-2.2 & C-1.1.
35. Champions Way: Provide 75' ROW to intersection with Timberland Ct
    ROW extended to 75-ft wide minimum on Champions way from Trotwood Ave up to Timerland Ct.
36. Adjust lot grades for 865/866 for minimum pad elevation and add critical lot notation.
    Lot grades adjusted.
37. Provide FFE/FPE for all lots adjacent to watercourses.
    FFE/FPE elevations for all critical lots to be provided with detailed grading plans in construction sets of the relevant phases.

Wastewater

38. Minimum sanitary sewer easement width is 20ft. Easement width goes up to 30ft at 10ft+ depth. Note at lots 284 & 285, possibly elsewhere.
    Sewer easements widened where necessary.
39. Maximum allowable sanitary sewer depth is 20-ft. Pressure sewer will not be allowed other than the single pump station shown in this PUD.
    All sewer proposed at 20-ft or shallower.
40. Pump Station Building Permit will be required, which includes a foundation plan requirement.
    Understood
41. Pump Station wet well depth should be limited to allow for suction lift pumps.
    Understood

ATT

42. PLAN TO SERVE, WILL NEED TO PICK (3) LOCATIONS FOR FIBER CABINETS TO FEED THE DEVELOPMENT. MAY OR MAY NOT NEED EASEMENT DEPENING ON LOCATIONS.
    Understood; thank you.

Columbia Power

43. Columbia Power System has an existing power line near your proposed development.
    We are willing to serve this new development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate or your development.
    Understood; the developer is aware of supply chain concerns. Thank you for the reminder.

Maury County Schools

44. Currently Woodard Elementary, Whitthorne Middle, Central High School. The number of homes will more than likely result in a portion or all of this neighborhood to eventually be zoned to Mt. Pleasant. The development combined with current neighborhood and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.
    Understood; thank you.

Fire

45. Alleys are not designed for emergency apparatus to use. All sides of structures must be within 150' of an approved fire apparatus access road. I don't think this can be accomplished with the lots off of alley D and the center lot on alley C
    Per conversation with Fire Marshal Brad Massey, Alleys C and D have been revised to a 26-ft width which includes a 22-ft pavement section with 1-ft ribbon curbs. The water main to serve the lots on Alley D was also relocated to run adjacent to Alley D so that hydrants would be available for fire safety.
46. Provide details for the pump station driveway, it will need to be at least 20' wide, able to with stand 80,000lbs, and need an approved turn around
    Pump station driveway designed at 20-ft width with hammerhead and to be built to the City of Columbia local road pavement section.

47. Note: Per the water letter, all commerical structures and any other structure that will require over 1,068 GPM of water will have to be sprinkled to be able to reduce the required flow to 1,068 GPM or less
Understood; thank you.

Columbia Water

48. A water availability letter was issued on March 18, 2024, it remains valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All public water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements.
Understood; thank you.

Maury County E911

49. Contact Maury County 911 for any road names to be reserved.
Names were submitted via road name request form to Crystal Gideon on 4/17/24.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0137

DESCRIPTION: 765-lot single family development with accesses onto Old Zion Rd and Trotwood Ave. Lots will be served by CPWS for water and power, and the City of Spring Hill for sewer. The Preliminary PUD was approved in April 2023 by Planning Commission and then subsequently by City Council in May and June 2023.

COMMENTS:

Planning

1. Please include a landscape plan in the resubmittal. (This is in addition to comments previously provided. Please respond to all comments).

Maury County E911

2. Contact Maury County 911 for any road names to be reserved.

Columbia Water

3. A water availability letter was issued on March 18, 2024, it remains valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All public water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0137

DESCRIPTION: 765-lot single family development with accesses onto Old Zion Rd and Trotwood Ave. Lots will be served by CPWS for water and power, and the City of Spring Hill for sewer. The Preliminary PUD was approved in April 2023 by Planning Commission and then subsequently by City Council in May and June 2023.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he and City Planner Kevin McCarthy will jointly prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments. At least one of the two planners working on this item should be copied on all communication with other city staff.
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal.
3. The Preliminary PUD Master Plan indicated a total gross acreage of 415.60 acres. The site data table on the proposed Final PUD Master Plan indicates that the total acreage is 413.8 acres with 394.23 to be included in the development. The approximate density calculation is unchanged. Please explain the 21.37-acre difference and how the overall density is calculated.
4. The proposed Final PUD Master Plan indicates a reduction of two 100' lots, one 60' lot, and an increase of one 75' lot. Please explain the reason for the change.
5. At resubmittal, please provide an exhibit highlighting all changes from the Preliminary PUD Master Plan (e.g. relocated lot in PH 1A around stream buffer and pond 3).
6. Please reconsider using the 44' wide Harpeth C and Magnolia C home plans on 60-foot wide lots. With 7.5' setbacks this will leave only 1' of allowance within the MBSL/PUDEs. This leaves no room for error due to unusual lot conditions or issue which may arise during site construction plan review.
7. Please reconsider using the 60' wide Avondale A, Hartwell A, and Berkely A home plans on 75-foot wide lots. With 7.5' setbacks this will leave zero allowance within the MBSL/PUDEs. This leaves no room for error due to unusual lot conditions or issue which may arise during site construction plan review.
8. Please reconsider using the 59' Bridgehampton A home plan on 75-foot wide lots. With 7.5' setbacks this will leave only 6-inches of allowance on either side within the MBSL/PUDEs. This

final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.

- Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Schools

24. Currently Woodard Elementary, Whitthorne Middle, Central High School *The number of homes will more than likely result in a portion or all of this neighborhood to eventually be zoned to Mt. Pleasant. The development combined with current neighborhood and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Engineering

25. Subject to TIS and Construction Plan
26. Provide proposed timing/phasing for traffic improvements identified in the TIS, commitment letter, and reflect the agreement(s) from Council meeting. Should be tied to a number of units or prior to specific plat.
27. Clearly identify all retaining walls and provide TOW/BOW elevations.
28. No retaining wall shall be constructed to support or be within the angle of repose of single-family structures.
29. Retaining walls in single-family residential developments shall not exceed fifteen (15) feet in height. Walls may be terraced where walls are stepped back ten (10) feet from face of wall to face of wall
30. Provide annotations for existing topo.
31. Note: Drainage channels within a subdivision providing drainage for the following shall be located on a common or open space lot a minimum of ten (10) feet in width within a dedicated public drainage easement or public right-of-way. 1. Eight (8) or more lots, either in whole or a portion of; 2. Public infrastructure; or 3. An area equivalent to two (2.0) acres.
32. Side lot swales shall meet the provisions of ESS standard detail DD-04
33. Advisory Note: The addition of retaining walls 6 feet or taller in height will require Final PUD Master Plan revisions.
34. Provide driveway style apron for CBU mail area.
35. Tournament Drive should have two separate names. One for east side and one for west side of Homerun Dr
36. Typical 60' ROW Street Section: Adjust parking lane to 8 foot (including gutter) and add 2 foot grass strip where parallel parking is provided.
37. Provide cross section/materials for walking trails
38. Provide cross section/materials for pump station driveway
39. Provide cross section/materials for Ridley Park Dr

Duck River Electric Membership Corp

54. No comments.

Maury County Highway Dept.

55. No comments provided.

CPWS BB

56. Plan to Serve

ATTACHMENTS: Final PUD

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity
Elementary	Baker	1960	43,920	12	340
	Battle Creek	2019	90,000	30	700
	Brown	1968	56,720	20	405
	Highland	1986	47,800	4.5	380
	Howell	1999	81,600	17.5	700
	Mt. Pleasant	1978	80,021	22	630
	Riverside	1984	71,150	14	500
	Spring Hill	1984	69,000	10	540
	Woodard	1990	76,200	17	600
	Wright	2005	97,765	18	740
					5535
Middle	Battle Creek	2019	125,000	45	900
	Cox	1997	137,200	25	900
	Mt. Pleasant	2001	113,938	29.2	550
	Spring Hill	2010	158,106	39.49	950
	Whitthorne	1979	175,600	17	1050
					4350
High	Central	2016	296,740	55	1700
	Mt. Pleasant	1969	110,759	31	600
	Spring Hill	1993	181,800	57	1200
					3500
Unit	Culleoka	1969	205,800	34	1020
	Hampshire	1978	83,410	13.12	500
	Santa Fe	1964	94,225	24	650
					2170
Other	Central Office	1960	15,400	1.5	
	College Hill	1958	42,211	2.26	
	Maintenance	1987	9,400	4.7	
	McDowell		46,165	7	
			2,509,930	**550.27**	**15555**

Current Enrollment	Capacity Used
320	94.1%
638	91.1%
366	90.4%
319	83.9%
595	85.0%
571	90.6%
402	80.4%
449	83.1%
565	94.2%
601	81.2%
4826	***87.2%***
732	81.3%
646	71.8%
415	75.5%
523	55.1%
980	93.3%
3296	***75.8%***
1372	80.7%
366	61.0%
1195	99.6%
2933	***83.8%***
873	85.6%
415	83.0%
512	78.8%
1800	***82.9%***
174	
13029	

FINAL PLANNED UNIT DEVELOPMENT MASTER PLAN

FOR

OLD ZION SUBDIVISION

TROTWOOD AVE - STATE ROUTE 243

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07

COLUMBIA, MAURY COUNTY, TENNESSEE

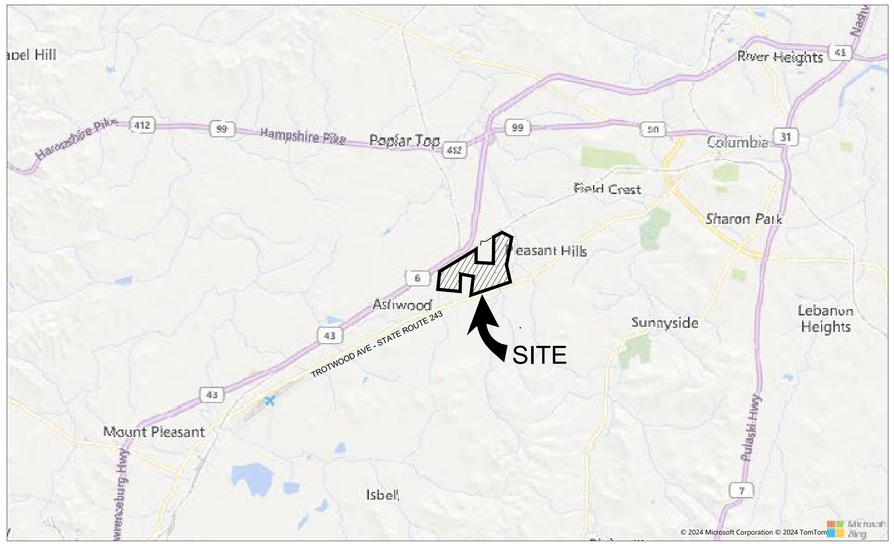
DEVELOPER: OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
615-594-4366

ENGINEER: T-SQUARE ENGINEERING
111 SOUTHEAST PARKWAY CT
FRANKLIN, TN 37064

WATER: COLUMBIA POWER AND WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401

SEWER: CITY OF SPRING HILL
3893 MAHLON MOORE RD
SPRING HILL, TN 37174

POWER: COLUMBIA POWER AND WATER SYSTEM
201 PICKENS LANE
COLUMBIA, TN 38401



LOCATION MAP

N.T.S.

PHASES 1-3

PURPOSE: THIS FINAL PUD MASTER PLAN PROPOSES THE APPROVAL OF 765 SINGLE-FAMILY LOTS ON THE NORTH SIDE PF TROTWOOD AVENUE - STATE ROUTE 243, IN ACCORDANCE WITH THE PREVIOUSLY APPROVED PRELIMINARY PUD MASTER PLAN.

COLUMBIA PUD-R (RS6 BASE) ZONING CODE IN EFFECT FOR THIS DEVELOPMENT.

SITE DATA		
PROJECT NAME	OLD ZION ROAD	
PROJECT NUMBER	23-1211	
ADDRESS	6150 TROTWOOD AVE	
PARCEL ID	MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07	
	EXISTING	PROPOSED
TOTAL PROPERTY ACREAGE	413.68 AC	394.23 AC
TOTAL LOT AREA	11.53 AC	163.09 AC
TOTAL OPEN SPACE	413.00 AC	194.82 AC (49%)
TOTAL ROW AREA	-	36.13 AC
TOTAL ROW DEDICATION	-	0.48 AC
DEDICATED PARK AREA	-	27.9 AC
ZONING	A-2	PUD-R (R-6 BASE)
DENSITY		
ALLOWED DENSITY	1.85 DENSITY UNITS/ACRE	
	765 UNITS	
RESIDENTIAL DENSITY	1 PER DWELLING UNIT	
	765 SINGLE FAMILY HOMES	
PROPOSED DENSITY	765 DENSITY UNITS	
DETAILS		
SINGLE FAMILY LOT WIDTH	60' MIN.	
FRONT SETBACK	20'	
SIDE SETBACK	7.5'	
REAR SETBACK	20'	
REQUIRED PARKING	N/A	
PROPOSED PARKING	248 PARKING SPACES	

OVERALL LOT MIX	
60-FT	443 LOTS
75-FT	308 LOTS
100-FT	14 LOTS

BY-PHASE LOT MIX			
PHASE	60-FT	75-FT	100-FT
PHASE 1	196 LOTS	129 LOTS	1 LOT
PHASE 2	151 LOTS	127 LOTS	13 LOTS
PHASE 3	96 LOTS	52 LOTS	-

Sheet Schedule

C-0.0	Cover Sheet
C-0.1	Overall Existing Conditions
C-0.2	Overall Site Plan
C-0.3	Overall Phasing Plan
C-0.4	Typical Lot Layouts and Roadway Sections
C-1.0	Overall Phase 1
C-1.1	Detailed Phase 1 Preliminary Plat
C-1.2	Detailed Phase 1 Preliminary Plat
C-1.3	Phase 1 Parcel Line and Curve Tables
C-1.4	Detailed Phase 1 Utility Plan
C-1.5	Detailed Phase 1 Utility Plan
C-1.6	Detailed Phase 1 Grading and Drainage Plan
C-1.7	Detailed Phase 1 Grading and Drainage Plan
C-2.0	Overall Phase 2
C-2.1	Detailed Phase 2 Preliminary Plat
C-2.2	Detailed Phase 2 Preliminary Plat
C-2.3	Phase 2 Parcel Line and Curve Tables
C-2.4	Detailed Phase 2 Utility Plan
C-2.5	Detailed Phase 2 Utility Plan
C-2.6	Detailed Phase 2 Grading and Drainage Plan
C-2.7	Detailed Phase 2 Grading and Drainage Plan
C-3.0	Overall Phase 3
C-3.1	Detailed Phase 3 Preliminary Plat
C-3.2	Detailed Phase 3 Preliminary Plat
C-3.3	Phase 3 Parcel Line and Curve Tables
C-3.4	Detailed Phase 3 Utility Plan
C-3.5	Detailed Phase 3 Utility Plan
C-3.6	Detailed Phase 3 Grading and Drainage Plan
C-3.7	Detailed Phase 3 Grading and Drainage Plan
EX-1	Building Elevations Exhibit
EX-2	Building Elevations Exhibit
EX-3	Building Elevations Exhibit
EX-4	Building Elevations Exhibit
EX-5	Amenities Area Exhibit
EX-6	Amenities Area Exhibit
EX-7	Lighting Impact Exhibit

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2690, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

COVER

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

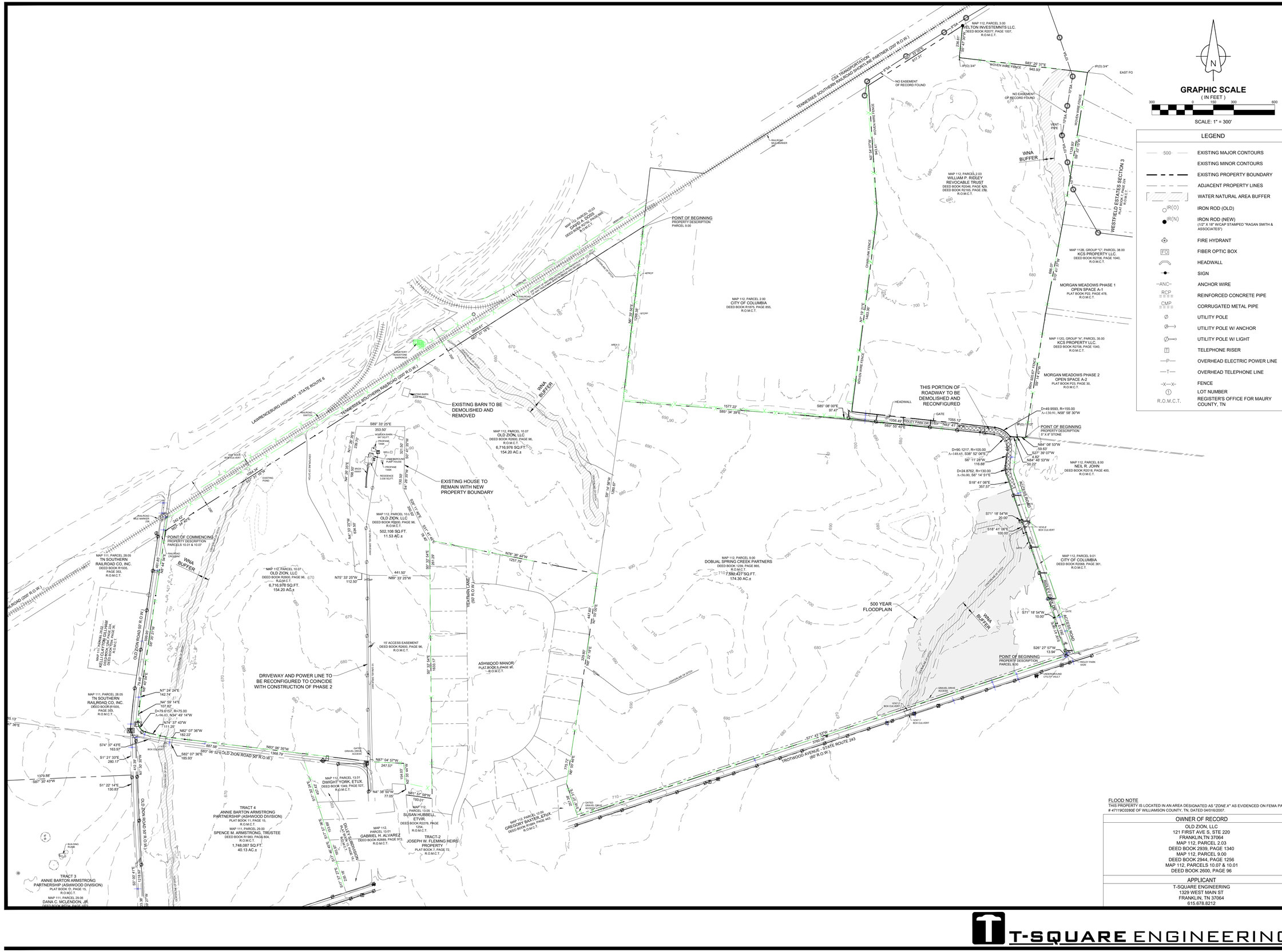
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127138
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-0.0

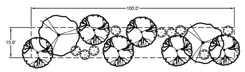
T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:28:17 PM


TENNESSEE SOUTHERN RAILROAD (100' R.O.W.)
CSX TRANSPORTATION
LAWRENCEBURG HIGHWAY - STATE ROUTE 6
OLD ZION ROAD 50' R.O.W.)
FROYWOOD AVENUE - STATE ROUTE 243 (80' R.O.W.)
POINT OF BEGINNING PROPERTY DESCRIPTION PARCEL 9.00
POINT OF COMMENCING PROPERTY DESCRIPTION PARCELS 10.01 & 10.07
POINT OF BEGINNING PROPERTY DESCRIPTION PARCEL 9.00
POINT OF BEGINNING PROPERTY DESCRIPTION 5" X 8" STONE
MAP 112, PARCEL 2.00 CITY OF COLUMBIA DEED BOOK R1875, PAGE 855, R.O.M.C.T.
MAP 112, PARCEL 2.03 WILLIAM P. RIDLEY REVOCABLE TRUST DEED BOOK R2046, PAGE 429, DEED BOOK R2165, PAGE 236, R.O.M.C.T.
MAP 112, PARCEL 3.00 WELTON INVESTEMENTS LLC. DEED BOOK R2077, PAGE 1007, R.O.M.C.T.
MAP 112, PARCEL 10.07 OLD ZION, LLC DEED BOOK R2600, PAGE 96, R.O.M.C.T. 6,716,978 SQ.FT. 154.20 AC.±
MAP 112, PARCEL 10.01 OLD ZION, LLC DEED BOOK R2600, PAGE 96, R.O.M.C.T. 502,108 SQ.FT. 11.53 AC.±
MAP 112, PARCEL 9.00 DOBUAL SPRING CREEK PARTNERS DEED BOOK 1239, PAGE 995, R.O.M.C.T. 7,569,427 SQ.FT. 174.30 AC.±
MAP 112, PARCEL 9.01 CITY OF COLUMBIA DEED BOOK R2068, PAGE 361, R.O.M.C.T.
MAP 112, PARCEL 8.00 NEIL R. JOHN DEED BOOK R2018, PAGE 400, R.O.M.C.T.
MAP 112G, GROUP "C", PARCEL 38.00 KCS PROPERTY LLC. DEED BOOK R2706, PAGE 1040, R.O.M.C.T.
MAP 112G, GROUP "A", PARCEL 35.00 KCS PROPERTY LLC. DEED BOOK R2706, PAGE 1040, R.O.M.C.T.
MAP 112, PARCEL 13.01 DWIGHT YORK, ETUX. DEED BOOK 1349, PAGE 527, R.O.M.C.T.
MAP 112, PARCEL 13.05 SUSAN HUBBELL, ETVIR. DEED BOOK R2276, PAGE 1254, R.O.M.C.T.
MAP 112, PARCEL 12.00 GREGORY BAXTER, ETUX. DEED BOOK R1865, PAGE 443, R.O.M.C.T.
MAP 111, PARCEL 28.05 TN SOUTHERN RAILROAD CO., INC. DEED BOOK R1935, PAGE 353, R.O.M.C.T.
MAP 111, PARCEL 28.03 KELLEY FAMILY TRUST DEED BOOK R1743, PAGE 36, R.O.M.C.T.
MAP 111, PARCEL 29.00 DANA C. MCLENDON, JR. DEED BOOK 955M, PAGE 1972
MAP 112, PARCEL 29.00 SPENCE M. ARMSTRONG, TRUSTEE DEED BOOK R1983, PAGE 604, R.O.M.C.T. 1,748,087 SQ.FT. 40.13 AC.±
TRACT 4 ANNIE BARTON ARMSTRONG PARTNERSHIP (ASHWOOD DIVISION) PLAT BOOK 11, PAGE 15, R.O.M.C.T.
TRACT 3 ANNIE BARTON ARMSTRONG PARTNERSHIP (ASHWOOD DIVISION) PLAT BOOK 11, PAGE 15, R.O.M.C.T.
TRACT-2 JOSEPH W. FLEMING HEIRS PROPERTY PLAT BOOK 7, PAGE 72, R.O.M.C.T.
ASHWOOD MANOR PLAT BOOK 5, PAGE 90, R.O.M.C.T.
WESTFIELD ESTATES SECTION 3 PLAT BOOK 7, PAGE 52, R.O.M.C.T.
MORGAN MEADOWS PHASE 1 OPEN SPACE A-1 PLAT BOOK P22, PAGE 478, R.O.M.C.T.
MORGAN MEADOWS PHASE 2 OPEN SPACE A-2 PLAT BOOK P23, PAGE 30, R.O.M.C.T.
EXISTING BARN TO BE DEMOLISHED AND REMOVED
EXISTING HOUSE TO REMAIN WITH NEW PROPERTY BOUNDARY
DRIVEWAY AND POWER LINE TO BE RECONFIGURED TO COINCIDE WITH CONSTRUCTION OF PHASE 2
THIS PORTION OF ROADWAY TO BE DEMOLISHED AND RECONFIGURED
WNA BUFFER
500 YEAR FLOODPLAIN
ACCESS ROAD
RIDLEY PARK DR.
RIDLEY PARK SIGN
GATED GRAVEL DRIVE ACCESS
NO EASEMENT OF RECORD FOUND
WOVEN WIRE FENCE
CHAIN LINK FENCE
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
GRAVEL DRIVE
HEADWALL
GATE
VENT PIPE
FIRE HYDRANT
RESIDENCE 3,030 SQ.FT.
WELL
UNDERGROUND PUMP HOUSE
PROPANE TANK
BACK SHED
WOODEN BARN 997 SQ.FT.
TANK
EXISTING POND
RAILROAD MILE MARKER 206
RAILROAD SWITCH
CROSSBUCK
DAISYSTORY HEADSTONE MARKINGS
BOX CULVERT
EAST FO
S89° 33' 25"E 353.50'
S89° 33' 25"E 1379.68'
S87° 30' 43"W 1379.68'
S82° 07' 36"E 1368.79'
S87° 06' 52"E OLD ZION ROAD 50' R.O.W.)
N83° 06' 35"W 887.56'
N82° 07' 36"W 182.22'
S82° 07' 36"E 185.93'
S74° 37' 43"E 163.97'
S1° 21' 33"E 280.17'
S1° 22' 14"E 130.83'
N74° 37' 43"W 111.25'
N7° 24' 24"E 142.74'
N4° 59' 14"E 107.82'
D=79.6157, R=75.00 Δ=56.03, N34° 49' 14"W
N° 25' 35"E 186.50'
N° 25' 35"E 634.50'
N° 25' 35"E 441.68'
N° 25' 35"E 1460.30'
N° 18' 21"E 1460.30'
N° 56' 57"W 663.41'
N° 56' 57"W 1056.49'
N° 56' 57"W 1055.12

NOTES:

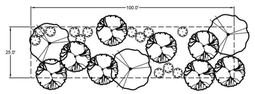
1. ALL BUFFERS SHALL MEET THE REQUIREMENTS OUTLINED IN SECTION 11 OF THE ZONING ORDINANCE INCLUDING TABLES 11.27A AND 11.27B.
2. ALL BUFFER YARDS TO BE MAINTAINED BY HOA.
3. PROPOSED PLANTS SHALL BE RELOCATED AS NECESSARY TO AVOID PLANTING WITHIN EXISTING DRIPLINE



TYPE A BUFFER
0.4 OPACITY
15' DEEP
2 CANOPY TREES, 6 ACCENT TREES, & 9 SHRUBS
(TYPICAL PER 100 LINEAR FEET)



TYPE "A" BUFFER EXAMPLE



TYPE B BUFFER
0.6 OPACITY
25' DEEP
3 CANOPY TREES, 8 ACCENT TREES, & 13 SHRUBS
(TYPICAL PER 100 LINEAR FEET)



TYPE "B" BUFFER EXAMPLE

GRAPHIC SCALE
(IN FEET)
300 0 150 300 600
SCALE: 1" = 300'

LEGEND

- PROPOSED LOT LINES
- PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- PROPOSED STORM MANHOLE

SITE DATA		
PROJECT NAME	OLD ZION ROAD	
PROJECT NUMBER	23-1211	
ADDRESS	6150 TROTWOOD AVE	
PARCEL ID	MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07	
	EXISTING	PROPOSED
TOTAL PROPERTY ACREAGE	413.68 AC	394.23 AC
TOTAL LOT AREA	11.53 AC	163.09 AC
TOTAL OPEN SPACE	413.00 AC	194.82 AC (49%)
TOTAL ROW AREA	-	36.13 AC
TOTAL ROW DEDICATION	-	0.48 AC
DEDICATED PARK AREA	-	27.9 AC
ZONING	A-2	PUD-R (R-6 BASE)
DENSITY		
ALLOWED DENSITY	1.85 DENSITY UNITS/ACRE	
	765 UNITS	
RESIDENTIAL DENSITY	1 PER DWELLING UNIT	
	765 SINGLE FAMILY HOMES	
PROPOSED DENSITY	765 DENSITY UNITS	
DETAILS		
SINGLE FAMILY LOT WIDTH	60' MIN.	
FRONT SETBACK	20'	
SIDE SETBACK	7.5'	
REAR SETBACK	20'	
REQUIRED PARKING	N/A	
PROPOSED PARKING	248 PARKING SPACES	

OVERALL LOT MIX			
60-FT	443 LOTS		
75-FT	308 LOTS		
100-FT	14 LOTS		
BY-PHASE LOT MIX			
PHASE	**60-FT**	**75-FT**	**100-FT**
PHASE 1	196 LOTS	129 LOTS	1 LOT
PHASE 2	151 LOTS	127 LOTS	13 LOTS
PHASE 3	96 LOTS	52 LOTS	-

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

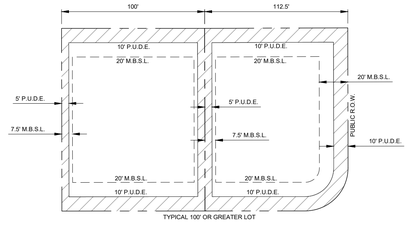
PROJECT
23-1211

SHEET
C-0.2

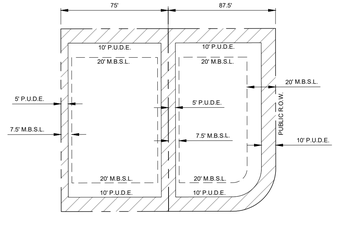
T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:23:06 PM

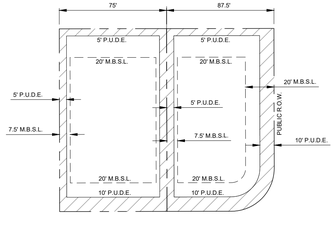

PARK DEDICATION
1A 82 LOTS
1B 37 LOTS
1B 51 LOTS
1C 69 LOTS
1D 87 LOTS
2A 76 LOTS
2B 54 LOTS
2C 84 LOTS
2D 77 LOTS
3A 76 LOTS
3B 72 LOTS
POND 1
POND 2
POND 3
POND 4
POND 5
POND 6
POND 7
POND 8
POND 9
POND 10
POND 11
POND 12
POND 13
POND 14
POND 15
OLD ZION ROAD
FM
FM
FM



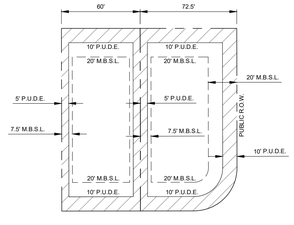
TYPICAL 100' LOT
(NOT TO SCALE)



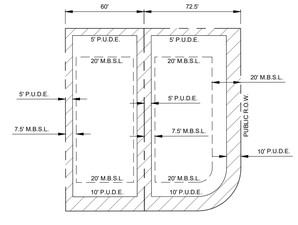
TYPICAL 75' LOT
(NOT TO SCALE)



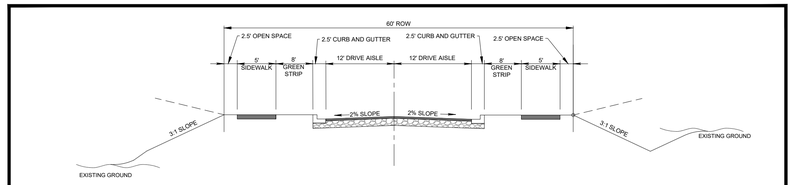
TYPICAL 75' ALLEY LOT
(NOT TO SCALE)



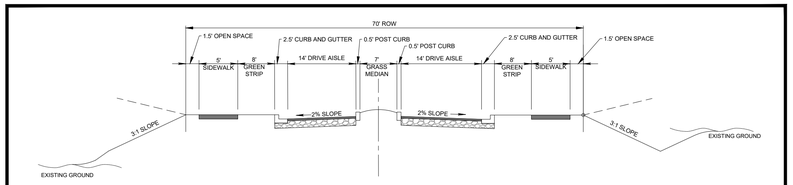
TYPICAL 60' LOT
(NOT TO SCALE)



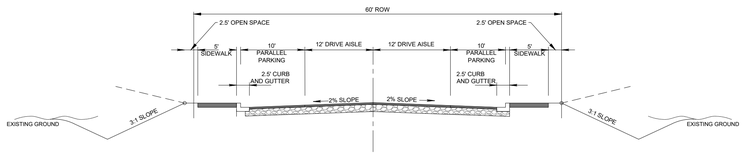
TYPICAL 60' ALLEY LOT
(NOT TO SCALE)



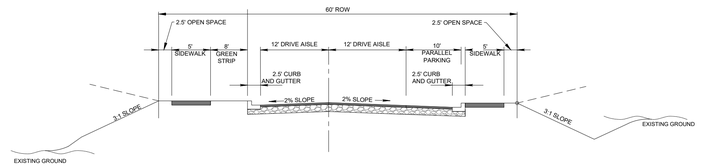
TYPICAL 60' LOCAL R.O.W (PUBLIC)



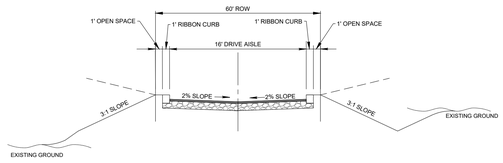
TYPICAL 70' LOCAL R.O.W (PUBLIC)



TYPICAL 60' LOCAL R.O.W PARALLEL PARKING BOTH SIDES (PUBLIC)



TYPICAL 60' LOCAL R.O.W PARALLEL PARKING ON ONE SIDE (PUBLIC)



TYPICAL 20' ALLEY R.O.W (PUBLIC)

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

TYPICAL LOT LAYOUTS AND ROADWAY SECTIONS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127134
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-0.4

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PhD Preliminary Plan.dwg, 3/18/2024 2:23:44 PM

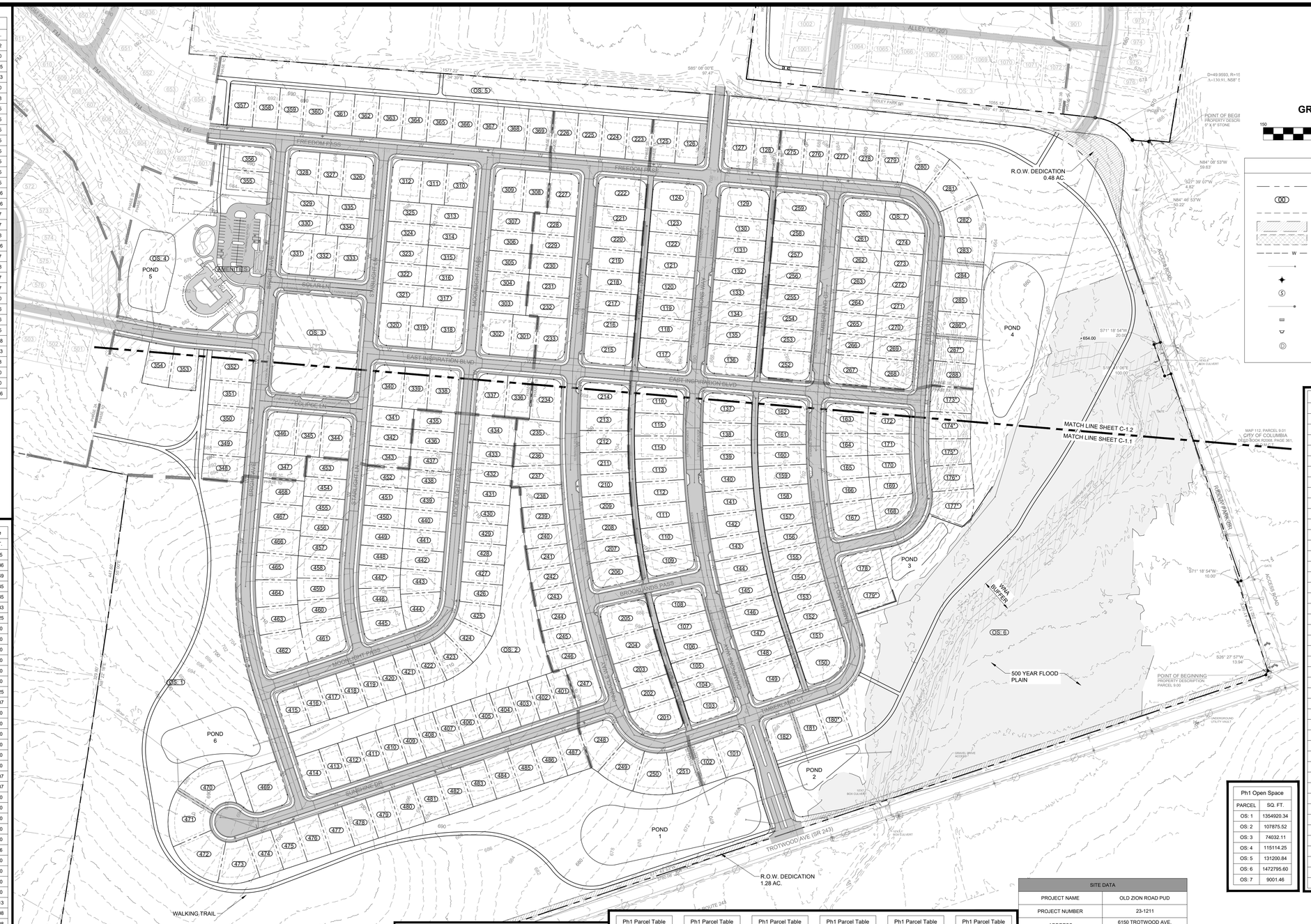
OLD ZION ROAD

PH1 OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET



Ph1 Parcel Table	
PARCEL	SQ. FT.
102	9375.00
103	10292.53
104	8700.00
105	8700.00
106	9018.47
107	9107.39
108	10625.83
109	10625.50
110	9815.51
111	9815.51
112	9815.51
113	9815.51
114	9815.51
115	9815.51
116	10633.75
117	12419.25
118	9280.00
119	9280.00
120	9352.50
121	9352.50
122	9280.00
123	9280.00
124	12419.25
125	9375.00
126	10803.37
127	10803.37
128	9375.00
129	12419.25
130	9280.00
131	9280.00
132	9352.50
133	9352.50
134	9280.00
135	9280.00
136	12419.25
137	12189.07
138	9826.86
139	9826.86
140	9826.86
141	9826.86
142	9826.86
143	9826.86
144	9826.86
145	9826.86
146	9826.86

Ph1 Parcel Table	
PARCEL	SQ. FT.
147	9353.02
148	8700.00
149	15144.95
150	13342.23
151	8700.00
152	8857.78
153	8972.35
155	8972.35
156	8972.35
157	8972.35
158	8972.35
159	8972.35
160	8972.35
161	8972.35
162	10714.36
163	10717.66
164	8542.37
165	8542.37
166	8542.08
167	12183.96
168	9361.27
169	7847.48
170	7847.87
171	7847.87
172	9539.30
174	9879.66
175	9879.66
176	9494.65
177	11553.28
178	11432.23
179	9612.43
180	9404.20
181	9375.00
182	11115.86

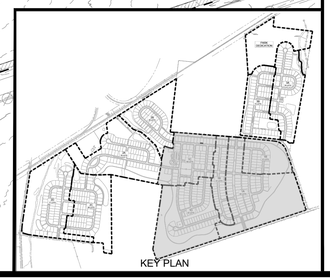
Ph1 Parcel Table	
PARCEL	SQ. FT.
201	11389.45
202	10874.97
203	11051.65
204	11133.29
205	12823.97
206	10597.05
207	9411.21
208	9411.21
209	9411.21
210	9411.21
211	9411.21
212	9411.21
213	9411.21
214	10703.73
215	12419.25
216	9280.00
217	9280.00
218	9352.50
219	9352.50
220	9280.00
221	9280.00
222	12467.53
223	9375.00
224	9375.00
225	9375.00
226	9375.00
227	10803.37
228	7750.00
229	7750.00
230	7750.00
231	7750.00
232	7750.00
233	10803.37
234	11071.37
235	10165.88
236	8543.55
237	8985.19
238	7621.16
239	7620.55
240	7620.56
241	7621.20
242	7622.46
243	7624.34
244	7626.84
245	7629.96

Ph1 Parcel Table	
PARCEL	SQ. FT.
246	7646.75
247	10136.36
248	12548.49
249	11742.85
250	11742.85
251	10301.83
252	12419.25
253	9280.00
254	9280.00
255	9352.50
256	9352.50
257	9280.00
258	9280.00
259	12419.25
260	10803.37
261	8000.00
262	8000.00
263	8062.50
264	8062.50
265	8000.00
266	8000.00
267	10803.37
268	10803.37
269	8000.00
270	8000.00
271	8062.50
272	8062.50
273	8000.00
274	7999.26
275	9375.00
276	9375.00
277	9375.00
278	9375.00
279	10007.13
280	13287.08
281	13287.08
282	13287.08
283	9561.87
284	9374.99
285	9374.98
286	9374.98
287	9374.98
288	9374.97

Ph1 Parcel Table	
PARCEL	SQ. FT.
301	9375.00
302	10803.37
303	7750.00
304	7750.00
305	7750.00
306	7750.00
307	7750.00
308	9375.00
309	10803.37
310	10803.37
311	9375.00
312	10803.37
313	7750.00
314	7750.00
315	7750.00
316	7750.00
317	7752.50
318	10801.62
319	9373.61
320	10802.76
321	7751.25
322	7750.00
323	7750.00
324	7750.00
325	7750.00
326	10803.37
327	9375.00
328	10803.37
329	7500.00
330	7500.00
331	10803.37
332	9375.00
333	10803.37
334	7500.00
335	7500.00
336	9375.00
337	10803.37
338	10803.37
339	9375.00
340	10803.37
341	7500.00
342	7500.00
343	7500.00
344	10803.37
345	9375.00

Ph1 Parcel Table	
PARCEL	SQ. FT.
346	10803.37
347	9375.00
348	9375.00
349	9375.00
350	9375.00
351	9375.00
352	10803.37
353	9843.24
354	9799.21
355	7500.00
356	8928.37
357	9375.00
358	9375.00
359	9375.00
360	9375.00
361	9375.00
362	9375.00
363	9375.00
364	9375.00
365	9375.00
366	9375.00
367	9375.00
368	9375.00
369	9375.00

Ph1 Open Space	
PARCEL	SQ. FT.
OS: 1	1354920.34
OS: 2	107875.52
OS: 3	74032.11
OS: 4	115114.25
OS: 5	131200.84
OS: 6	1472795.60
OS: 7	9001.46



Ph1 Parcel Table	
PARCEL	SQ. FT.
401	7500.00
402	7500.00
403	7500.00
404	7500.00
405	7500.00
406	7500.00
407	7500.00
408	7500.00
409	7500.00
410	7500.00
411	7500.00
412	7500.00
413	7500.00
414	8928.35
415	8928.37

Ph1 Parcel Table	
PARCEL	SQ. FT.
416	7500.00
417	7500.00
418	7500.00
419	7500.00
420	7500.00
421	7500.00
422	8083.81
423	9367.70
424	9367.70
425	9367.70
426	7628.19
427	7500.00
428	7500.00
429	7500.00
430	7500.00

Ph1 Parcel Table	
PARCEL	SQ. FT.
431	7500.00
432	7500.00
433	7500.00
434	10559.38
435	7500.00
436	7500.00
437	7500.00
438	7500.00
439	7500.00
440	7500.00
441	7500.00
442	7500.00
443	8515.14
444	9794.18
445	10107.19

Ph1 Parcel Table	
PARCEL	SQ. FT.
446	8078.16
447	8096.20
448	7500.00
449	7500.00
450	7500.00
451	7500.00
452	7500.00
453	7500.00
454	7500.00
455	7500.00
456	7500.00
457	7500.00
458	7860.57
459	7932.92
460	7932.92

Ph1 Parcel Table	
PARCEL	SQ. FT.
461	13398.60
462	13946.89
463	9838.70
464	9838.70
465	9776.78
466	9375.00
467	9375.00
468	9375.00
469	14635.41
470	15630.56
471	14861.23
472	14861.23
473	12253.02
474	9374.98
475	9374.99

Ph1 Parcel Table	
PARCEL	SQ. FT.
476	9374.99
477	9375.01
478	9375.02
479	9375.03
480	9375.04
481	9375.05
482	9375.06
483	9375.07
484	9375.08
485	9375.10
486	9375.13
487	9375.15

SITE DATA	
PROJECT NAME	OLD ZION ROAD PUD
PROJECT NUMBER	23-1211
ADDRESS	6150 TROTWOOD AVE. COLUMBIA, TN 38120
PARCEL ID	MAP 112, PARCELS 009 & 10.07
	EXISTING / PROPOSED
TOTAL PROPERTY AREA	175.66 AC / 173.88 AC
TOTAL ROW DEDICATION	- / 1.78 AC
ZONING	A2 / PUD-R (RS6 BASE)
NUMBER OF LOTS	1 / 326
TOTAL LOT AREA	- / 69.71 AC
TOTAL OPEN SPACE AREA	175.68 / 74.99 AC (43%)
TOTAL AMENITIES AREA	- / 1.57 AC
TOTAL ROW AREA	- / 27.60 AC
MINIMUM LOT SIZE	40,000 SF / 40,000 SF
MINIMUM LOT WIDTH	N/A / 60'
ERROR OF CLOSURE	1/10,000 / 1/10,000

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A *** FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

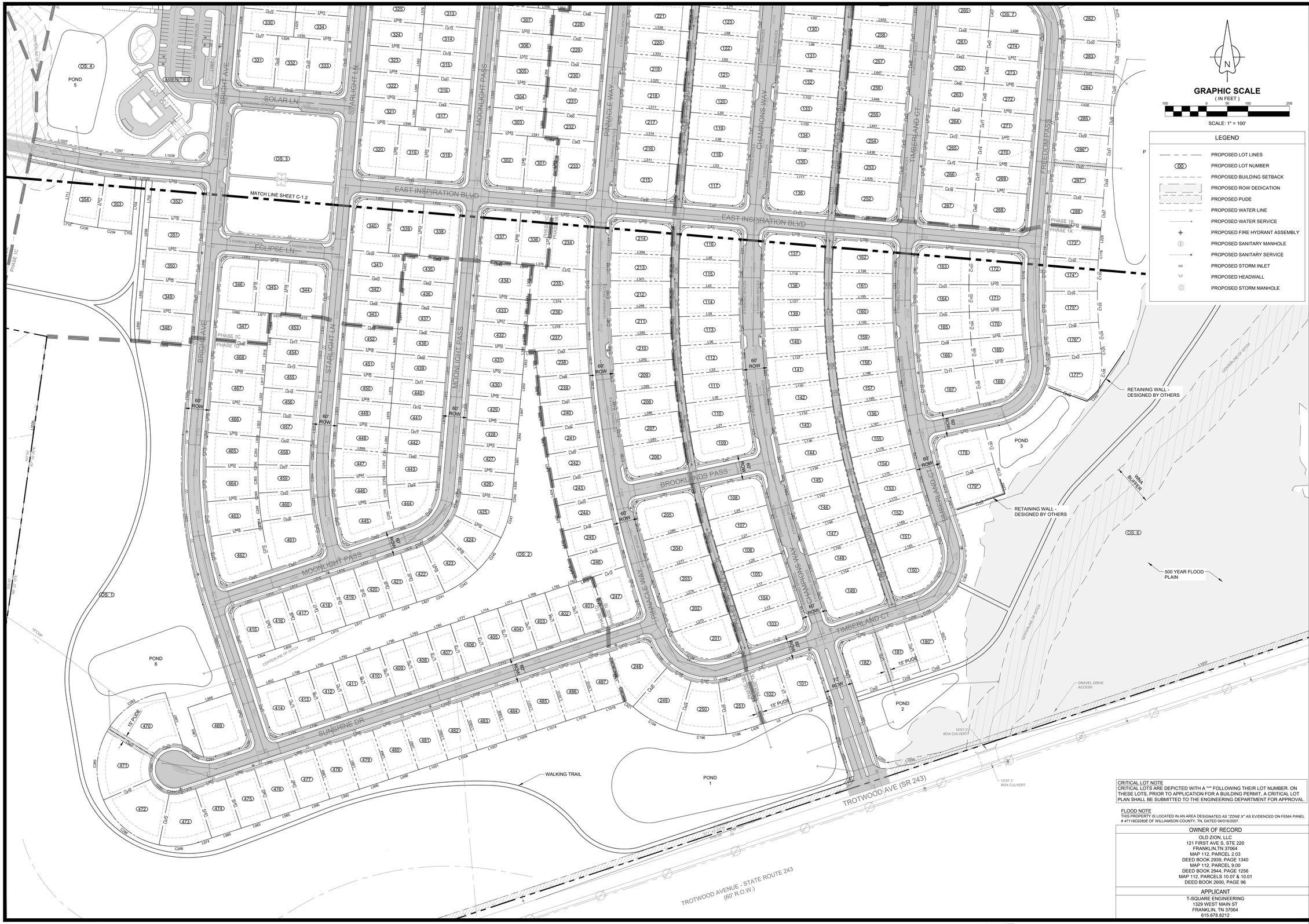
KELSEY H. MAGEE
REGISTERED ENGINEER
MURFREESBORO
101748
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.0

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Eltridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:33:37 PM



GRAPHIC SCALE

(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED LOT LINES
- PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- PROPOSED STORM MANHOLE

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A *** FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

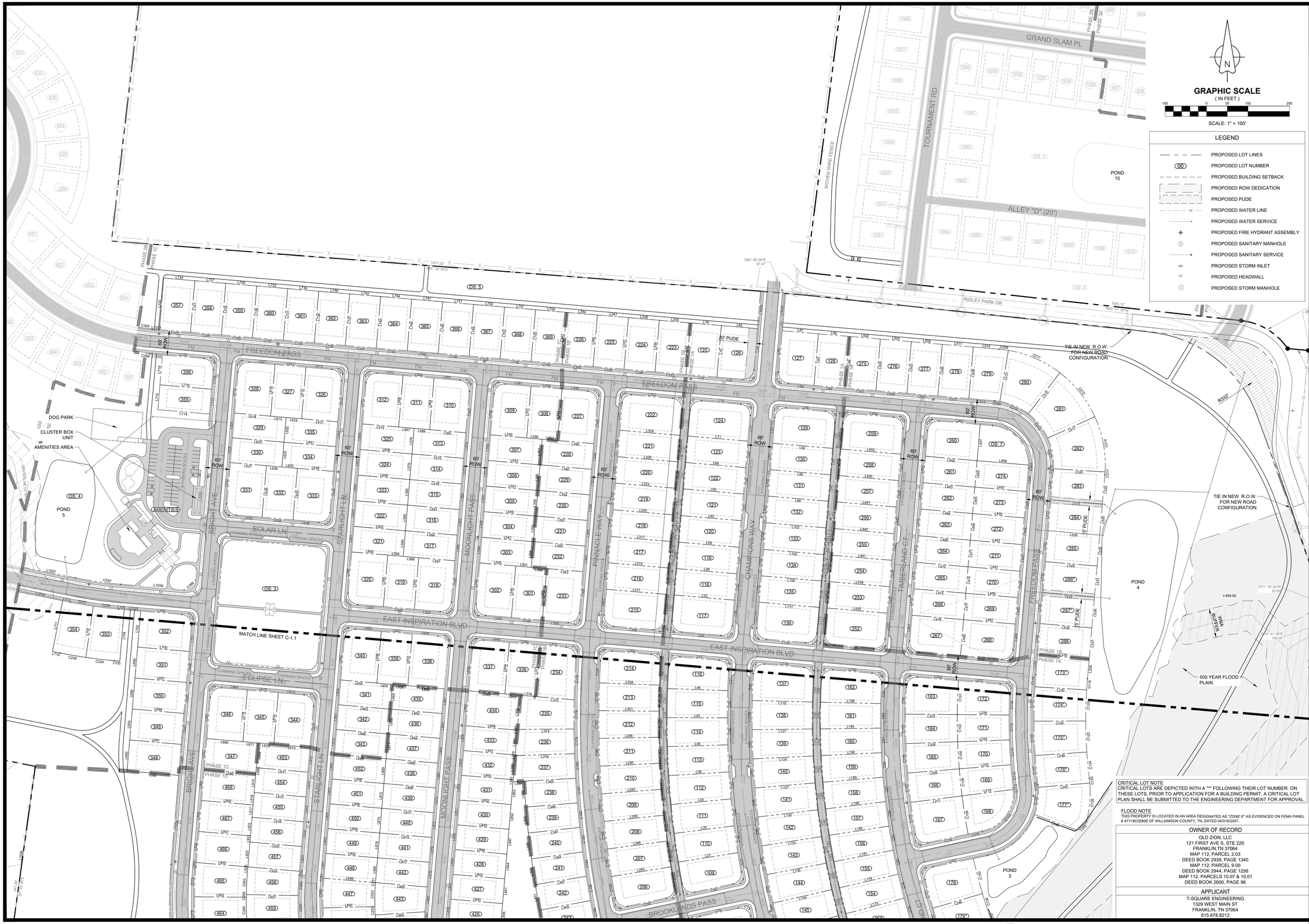
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127740
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.1

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:35:17 PM



CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.2

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:36:01 PM

Phase 1 Parcel Line Table		
Line #	Length	Direction
L1	90.03	N18° 16' 06.29"W
L2	89.73	N71° 43' 53.32"E
L3	125.00	N18° 16' 06.29"E
L4	65.00	S71° 43' 53.46"W
L5	75.00	S71° 43' 53.32"W
L6	75.00	N18° 16' 06.29"W
L7	125.00	N18° 16' 06.29"W
L8	75.00	N71° 43' 53.46"E
L9	100.00	S71° 43' 53.02"W
L10	100.00	S71° 43' 53.71"W
L11	52.50	N18° 16' 06.29"W
L12	52.50	N18° 16' 06.29"E
L13	145.00	N71° 43' 53.02"E
L14	47.50	S18° 16' 06.29"E
L15	60.00	S18° 16' 06.29"E
L16	60.00	N18° 16' 06.29"W
L17	145.00	N71° 43' 53.02"E
L18	58.69	S18° 16' 06.29"E
L19	58.69	N18° 16' 06.29"W
L20	145.00	N71° 43' 53.02"E
L21	145.02	N73° 27' 43.40"E
L24	145.01	N75° 10' 24.69"E
L25	95.03	N78° 02' 18.40"E
L26	95.03	S78° 02' 18.40"W
L27	145.00	N80° 54' 12.13"E
L30	145.00	N82° 44' 53.14"E
L33	145.00	N84° 35' 34.15"E
L36	145.00	N86° 25' 15.15"E
L39	145.00	N88° 16' 56.16"E
L42	145.00	S89° 52' 22.83"E
L46	145.00	S88° 01' 41.82"E
L47	95.03	S85° 08' 00.08"E
L48	62.50	S4° 51' 59.92"W
L50	95.00	N85° 08' 00.08"W
L51	62.50	N4° 51' 59.92"E
L53	145.00	S85° 08' 00.08"E
L54	64.00	S4° 51' 59.92"W
L55	64.00	N4° 51' 59.92"E
L56	145.00	S85° 08' 00.08"E
L57	64.00	S4° 51' 59.92"W
L58	64.00	N4° 51' 59.92"E
L59	145.00	S85° 08' 00.08"E
L60	64.50	S4° 51' 59.92"W
L61	64.50	N4° 51' 59.92"E
L62	145.00	S85° 08' 00.08"E
L63	64.50	S4° 51' 59.92"W
L64	64.50	N4° 51' 59.92"E
L65	145.00	S85° 08' 00.08"E
L66	64.00	S4° 51' 59.92"W
L67	64.00	N4° 51' 59.92"E
L68	145.00	S85° 08' 00.08"E
L69	64.00	S4° 51' 59.92"W
L70	64.00	N4° 51' 59.92"E
L71	145.00	S85° 08' 00.08"E
L72	62.50	S4° 51' 59.92"W
L73	62.50	N4° 51' 59.92"E
L74	95.00	S85° 08' 00.08"E
L75	125.00	S4° 51' 59.92"W
L76	75.00	N85° 08' 00.08"W
L77	125.00	N4° 51' 59.92"E
L78	75.00	S85° 08' 00.08"E
L79	100.00	S4° 51' 59.92"W
L80	75.00	N85° 08' 00.08"W
L81	62.50	N4° 51' 59.92"E
L82	87.50	S85° 08' 00.08"E
L83	125.00	S4° 51' 59.92"W
L84	62.50	N85° 08' 00.08"W
L85	100.00	S4° 51' 59.92"W
L86	100.00	N4° 51' 59.92"E
L87	87.50	S85° 08' 00.08"E
L88	125.00	S4° 51' 59.92"W
L89	75.00	N85° 08' 00.08"W
L90	75.00	N18° 16' 06.29"W
L91	62.50	S4° 51' 59.92"W
L92	145.00	N85° 08' 00.08"W
L93	62.50	N4° 51' 59.92"E
L94	95.00	S85° 08' 00.08"E
L95	64.00	S4° 51' 59.92"W
L96	145.00	N85° 08' 00.08"W
L97	64.00	N4° 51' 59.92"E
L98	64.00	S4° 51' 59.92"W
L99	145.00	N85° 08' 00.08"W
L100	64.00	N4° 51' 59.92"E
L101	64.50	S4° 51' 59.92"W
L102	145.00	N85° 08' 00.08"W
L103	64.50	N4° 51' 59.92"E
L104	64.50	S4° 51' 59.92"W
L105	145.00	N85° 08' 00.08"W
L106	64.50	N4° 51' 59.92"E
L107	64.00	S4° 51' 59.92"W
L108	145.00	N85° 08' 00.08"W
L109	64.00	N4° 51' 59.92"E
L110	64.00	S4° 51' 59.92"W
L111	145.00	N85° 08' 00.08"W
L112	64.00	N4° 51' 59.92"E
L113	62.50	S4° 51' 59.92"W
L115	95.00	N85° 08' 00.08"W
L117	62.50	N4° 51' 59.92"E
L118	145.00	N88° 39' 53.77"W
L119	95.04	S85° 08' 00.08"E
L121	145.00	S89° 17' 19.24"W
L124	145.00	S87° 14' 32.24"W
L127	145.00	S85° 11' 45.25"W
L130	145.00	S83° 08' 58.26"W
L133	145.00	S81° 06' 11.27"W

Phase 1 Parcel Line Table		
Line #	Length	Direction
L136	145.00	S79° 03' 24.28"W
L139	145.00	S77° 00' 37.29"W
L142	145.00	S74° 57' 50.29"W
L146	145.00	S72° 55' 03.30"W
L149	145.00	S70° 52' 16.29"W
L150	145.00	S71° 43' 53.71"W
L153	60.00	S18° 16' 06.29"E
L154	145.00	S71° 43' 53.71"W
L155	60.00	N18° 16' 06.29"W
L158	85.96	S18° 16' 06.29"E
L160	100.00	S71° 43' 53.02"W
L162	80.97	N18° 16' 06.29"W
L163	30.00	S71° 43' 53.02"E
L164	85.96	N18° 16' 06.29"W
L165	145.00	N71° 43' 53.71"E
L166	10.96	S18° 16' 06.29"E
L167	60.00	S18° 16' 06.29"E
L168	60.00	N18° 16' 06.29"W
L169	145.00	N71° 43' 53.71"E
L170	25.23	S18° 16' 06.29"E
L171	25.23	N18° 16' 06.29"W
L172	145.00	N72° 55' 03.30"E
L175	145.00	N74° 57' 50.29"E
L178	145.00	N77° 00' 37.29"E
L181	145.00	N79° 03' 24.28"E
L182	145.00	N81° 06' 11.27"E
L186	145.00	N83° 08' 58.26"E
L189	145.00	N85° 11' 45.25"E
L192	145.00	N87° 14' 32.24"E
L195	145.00	N89° 17' 19.24"E
L198	145.00	S88° 39' 53.77"E
L199	95.05	S85° 08' 00.08"E
L202	99.33	S85° 08' 00.08"E
L203	125.00	N89° 31' 42.18"W
L205	125.00	S85° 22' 29.74"W
L208	125.00	S85° 22' 41.66"W
L211	125.00	S82° 49' 53.89"W
L214	99.34	S78° 02' 18.40"W
L218	35.11	S78° 02' 18.40"W
L219	124.91	N82° 49' 53.89"E
L222	125.00	N85° 22' 41.66"E
L224	125.00	N87° 55' 29.74"E
L226	125.00	S89° 31' 42.18"E
L227	100.82	S85° 08' 00.08"E
L228	47.66	S4° 51' 59.92"W
L230	125.00	N86° 28' 40.57"W
L232	48.71	N4° 51' 59.75"E
L233	125.00	S85° 08' 00.08"E
L235	125.00	S89° 49' 58.28"W
L238	125.00	S86° 08' 37.14"W
L242	125.00	S85° 16' 27.90"W
L245	28.88	S47° 10' 12.29"W
L246	110.64	N69° 58' 42.00"W
L248	125.00	S85° 08' 00.08"E
L251	99.34	N78° 02' 18.40"E
L252	30.27	S18° 16' 06.29"E
L253	125.00	S71° 43' 53.71"W
L254	30.27	N18° 16' 06.29"W
L255	127.93	S18° 16' 06.29"E
L256	75.00	S71° 43' 52.86"W
L257	125.00	S4° 51' 59.92"W
L258	45.00	N71° 43' 52.86"E
L259	75.00	S71° 43' 52.86"W
L260	125.00	N18° 16' 06.29"W
L261	75.00	N71° 43' 52.86"E
L262	90.00	S71° 43' 53.71"W
L263	100.00	N18° 16' 06.29"W
L265	65.00	N71° 43' 52.86"E
L266	72.50	S18° 16' 06.29"E
L268	30.00	N4° 51' 59.92"E
L270	144.97	N71° 43' 53.71"E
L271	75.00	S18° 16' 06.29"E
L273	72.50	N18° 16' 06.29"W
L274	145.00	N71° 43' 53.71"E
L275	23.70	S18° 16' 06.29"E
L276	23.70	N18° 16' 06.29"W
L277	145.00	N73° 03' 31.51"E
L280	145.00	N74° 59' 55.98"E
L281	95.03	N78° 02' 18.40"E
L282	95.03	S78° 02' 18.40"W
L283	145.00	N80° 41' 23.78"E
L286	145.00	N82° 19' 47.90"E
L289	145.00	N83° 58' 12.02"E
L292	145.00	N85° 36' 36.15"E
L295	145.00	N87° 15' 00.27"E
L298	145.00	N88° 53' 24.40"E
L301	145.00	S89° 28' 11.48"E
L304	145.00	S87° 49' 47.35"E
L305	95.03	S85° 08' 00.08"E
L306	62.50	S4° 51' 59.92"W
L308	95.00	N85° 08' 00.08"W
L310	62.50	N4° 51' 59.92"E
L311	145.00	S85° 08' 00.08"E
L312	64.00	S4° 51' 59.92"W
L313	64.00	N4° 51' 59.92"E
L314	145.00	S85° 08' 00.08"E
L315	64.00	S4° 51' 59.92"W
L316	64.00	N4° 51' 59.92"E
L317	145.00	S85° 08' 00.08"E

Phase 1 Parcel Line Table		
Line #	Length	Direction
L318	64.50	S4° 51' 59.92"W
L319	64.50	N4° 51' 59.92"E
L320	145.00	S85° 08' 00.08"E
L321	64.50	S4° 51' 59.92"W
L322	64.50	N4° 51' 59.92"E
L323	145.00	S85° 08' 00.08"E
L324	64.00	S4° 51' 59.92"W
L325	64.00	N4° 51' 59.92"E
L326	145.00	S85° 08' 00.08"E
L327	64.00	S4° 51' 59.92"W
L328	64.00	N4° 51' 59.92"E
L329	145.00	S85° 08' 00.08"E
L330	62.50	S4° 51' 59.92"W
L331	67.50	N4° 51' 59.92"E
L332	100.00	S85° 08' 00.08"E
L333	75.00	N85° 08' 00.08"W
L334	125.00	N4° 51' 59.92"E
L335	75.00	S85° 08' 00.08"E
L336	75.00	N85° 08' 00.08"W
L337	125.00	N4° 51' 59.92"E
L338	75.00	S85° 08' 00.08"E
L339	75.00	N85° 08' 00.08"W
L340	125.00	N4° 51' 59.92"E
L341	75.00	S85° 08' 00.08"E
L342	75.00	N85° 08' 00.08"W
L343	125.00	N4° 51' 59.92"E
L344	75.00	S85° 08' 00.08"E
L345	100.00	S4° 51' 59.92"W
L346	87.50	N85° 08' 00.08"W
L347	125.00	N4° 51' 59.92"E
L348	64.50	S4° 51' 59.92"W
L349	62.00	S4° 51' 59.92"W
L350	125.00	N85° 08' 00.08"W
L351	62.00	N4° 51' 59.92"E
L352	37.50	S85° 08' 00.08"E
L353	62.00	S4° 51' 59.92"W
L354	125.00	N85° 08' 00.08"W
L355	62.00	N4° 51' 59.92"E
L356	62.00	S4° 51' 59.92"W
L357	125.00	N85° 08' 00.08"W
L358	62.00	N4° 51' 59.92"E
L359	64.00	S4° 51' 59.92"W
L360	125.00	N85° 08' 00.08"W
L361	62.00	N4° 51' 59.92"E
L362	62.00	S4° 51' 59.92"W
L363	87.50	N85° 08' 00.08"W
L364	37.50	N85° 08' 00.08"W
L365	62.00	N4° 51' 59.92"E
L366	100.00	S4° 51' 59.92"W
L367	62.00	N4° 51' 59.92"E
L368	62.50	N85° 08' 00.08"W
L369	125.00	N4° 51' 59.92"E
L370	92.58	N85° 08' 00.08"W
L371	125.00	N4° 51' 59.92"E
L372	63.15	S85° 08' 00.08"E
L374	136.28	S89° 27' 40.29"W
L375	82.88	N4° 51' 59.92"E
L376	37.50	S85° 08' 00.08"E
L378	143.03	S88° 02' 26.16"W
L379	1.73	N4° 51' 59.92"E
L380	60.00	N4° 51' 59.92"E
L381	1.59	N4° 51' 59.92"E
L383	124.79	S86° 51' 15.34"W
L384	26.51	S86° 51' 15.34"W
L385	4.89	N4° 51' 59.92"E
L386	58.27	N4° 51' 59.92"E
L388	124.78	S85° 18' 55.03"W
L389	62.81	N4° 05' 46.98"W
L391	124.77	S83° 46' 34.69"W
L392	62.81	N5° 30' 46.28"W
L394	124.78	S82° 14' 14.36"W
L395	62.81	N6° 55' 45.58"W
L397	124.79	S80° 41' 54.02"W
L398	62.81	N8° 20' 44.89"W
L400	124.82	S79° 09' 33.68"W
L401	62.82	N9° 45' 44.21"W
L403	124.86	S77° 37' 13.35"W
L404	62.82	N11° 10' 43.54"W
L406	124.90	S76° 04' 53.01"W
L407	62.82	N12° 35' 42.89"W
L409	124.96	S74° 32' 32.67"W
L410	62.82	N14° 00' 42.28"W
L412	83.42	S71° 43' 53.02"W
L413	38.48	S71° 43' 53.02"W
L414	65.08	N18° 16' 06.98"W
L416	11.19	S18° 16' 06.29"E
L418	56.77	S71° 43' 53.02"W
L419	125.00	N18° 16' 06.68"W
L420	125.00	S41° 04' 55.90"W
L421	22.67	N56° 46' 56.73"W
L422	125.00	N18° 16' 06.29"W
L423	76.74	N71° 43' 52.86"E
L424	125.00	S16° 20' 05.79"W
L425	125.00	S8° 24' 44.31"E
L426	45.00	S71° 43' 53.32"W
L429	45.00	N71° 43' 53.46"E
L430	62.50	S4° 51' 59.92"W
L432	95.00	N85° 08' 00.08"W
L434	62.50	N4° 51' 59.92"E
L435	145.00	S85° 08' 00.08"E
L436	64.00	S4° 51' 59.92"W

Phase 1 Parcel Line Table		
Line #	Length	Direction
L437	64.00	N4° 51' 59.92"E
L438	145.00	S85° 08' 00.08"E
L439	64.00	S4° 51' 59.92"W
L440	64.00	N4° 51' 59.92"E
L441	145.00	S85° 08' 00.08"E
L442	64.50	S4° 51' 59.92"W
L443	64.50	N4° 51' 59.92"E
L444	145.00	S85° 08' 00.08"E
L445	64.50	S4° 51' 59.92"W
L446	64.50	N4° 51' 59.92"E
L447	145.00	S85° 08' 00.08"E
L448	64.00	S4° 51' 59.92"W
L449	64.00	N4° 51' 59.92"E
L450	145.00	S85° 08' 00.08"E
L451	64.00	S4° 51' 59.92"W
L452	64.00	N4° 51' 59.92"E
L453	145.00	S85° 08' 00.08"E
L454	62.50	S4° 51' 59.92"W
L455	62.50	N4° 51' 59.92"E
L456	95.00	S85° 08' 00.08"E
L457	87.50	S4° 51' 59.92"W
L458	125.00	N85° 08' 00.08"W
L459	62.50	N4° 51' 59.92"E
L461	100.00	S85° 08' 00.08"E
L462	64.00	S4° 51' 59.92"W
L463	125.00	N85° 08' 00.08"W
L464	64.00	N4° 51' 59.92"E
L465	64.00	S4° 51' 59.92"W
L466	125.00	N85° 08' 00.08"W
L467	64.00	N4° 51' 59.92"E
L468	64.50	S4° 51' 59.92"W
L469	125.00	N85° 08' 00.08"W
L470	64.50	N4° 51' 59.92"E
L471	64.50	S4° 51' 59.92"W
L472	125.00	N85° 08' 00.08"W
L473	64.50	N4° 51' 59.92"E
L474	64.00	S4° 51' 59.92"W
L475	125.00	N85° 08' 00.08"W
L476	64.00	N4° 51' 59.92"E
L477	64.00	S4° 51' 59.92"W
L478	125.00	N85° 08' 00.08"W
L479	64.00	N4° 51' 59.92"E
L480	87.50	S4° 51' 59.92"W
L481	100.00	N85° 08' 00.08"W
L483	62.50	N4° 51' 59.92"E
L484	62.50	S4° 51' 59.92"W
L486	100.00	N85° 08' 00.08"W
L487	125.00	S85° 08' 00.08"E
L488	64.00	S4° 51' 59.92"W
L489	125.00	S85° 08' 00.08"E
L490	64.00	S4° 51' 59.92"W
L491	125.00	S85° 08' 00.08"E
L492	64.50	S4° 51' 59.92"W
L493	125.00	S85° 08' 00.08"E
L494	64.50	S4° 51' 59.92"W
L495	125.00	S85° 08' 00.08"E
L496	64.00	S4° 51' 59.92"W
L497	125.00	S85° 08' 00.08"E
L498	56.50	S4° 51' 59.92"W
L499	124.70	S85° 08' 00.08"E
L500	125.00	S4° 51' 59.92"W
L501	75.00	N85° 08' 00.08"W
L502	75.00	S85° 08' 00.08"E
L503	125.00	S4° 51' 59.92"W
L504	75.00	N85° 08' 00.08"W
L505	75.00	S85° 08' 00.08"E
L506	125.00	S4° 51' 59.92"W
L507	75.00	N85° 08' 00.08"W
L508	75.00	S85° 08' 00.08"E
L509	125.00	S4° 51' 59.92"W
L510	75.00	N85° 08' 00.08"W
L511	75.00	S85° 08' 00.08"E
L512	125.00	S9° 29' 30.00"W
L513	62.50	N85° 08' 00.08"W
L514	62.50	S85° 08' 00.08"E
L515	125.00	S37° 29' 35.78"W
L517	125.00	S65° 29' 41.55"W
L520	125.00	N86° 30' 12.67"W
L522	71.29	S4° 51' 59.92"W
L523	125.00	N85° 08' 00.08"W
L524	71.29	N4° 51' 59.75"E
L525	75.00	S4° 51' 59.92"W
L526	125.00	N85° 08' 00.08"W
L527	75.00	N4° 51' 59.75"E
L528	75.00	S4° 51' 59.92"W
L529	125.00	N85° 08' 00.08"W
L530	75.00	N4° 51' 59.75"E
L531	75.00	S4° 51' 59.92"W
L532	125.00	N85° 08' 00.08"W
L533	75.00	N4° 51' 59.75"E
L534	75.00	S4° 51' 59.92"W
L535	125.00	N85° 08' 00.08"W
L536	75.00	N4° 51' 59.75"E
L537	75.00	S4° 51' 59.92"W
L538	75.00	N4° 51' 59.75"E
L539	75.00	N85° 08' 00.08"W
L540	125.00	N4° 51' 59.92"E
L541	37.50	S85° 08' 00.08"E
L542	62.50	N85° 08' 00.08"W
L544	100.00	N4° 51' 59.92"E

Phase 1 Parcel Line Table		
Line #	Length	Direction
L545	87.50	S85° 08' 00.08"E
L546	62.00	N4° 51' 59.92"E
L547	125.00	S85° 08' 00.08"E
L548	62.00	N4° 51' 59.92"E
L549	125.00	S85° 08' 00.08"E
L550	62.00	N4° 51' 59.92"E
L551	125.00	S85° 08' 00.08"E
L552	62.00	N4° 51' 59.92"E
L553	125.00	S85° 08' 00.08"E
L554	62.00	N4° 51' 59.92"E
L555	87.50	S85° 08' 00.08"E
L556	37.50	S85° 08' 00.08"E
L557	125.00	N4° 51' 59.92"E
L558	75.00	S85° 08' 00.08"E
L559	100.00	N4° 51' 59.92"E
L561	62.50	S85° 08' 00.08"E
L562	100.00	S4° 51' 59.92"W
L563	87.50	N85° 08' 00.08"W
L564	125.00	N4° 51' 59.92"E
L565	62.50	S85° 08' 00.08"E
L566	37.50	N85° 08' 00.08"W
L567	37.50	N85° 08' 00.08"W
L568	125.00	N4° 51' 59.92"E
L569	75.00	S85° 08' 00.08"E
L570	100.00	N4° 51' 59.92"E
L572	62.50	S85° 08' 00.08"E
L573	87.50	N85° 08' 00.08"W
L574	62.00	S4° 51' 59.92"W
L575	125.00	N85° 08' 00.08"W
L576	62.00	N4° 51' 59.92"E
L577	62.00	S4° 51' 59.92"W
L578	125.00	N85° 08' 00.08"W
L579	62.00	N4° 51' 59.92"E
L580	62.00	S4° 51' 59.92"W
L581	125.00	N85° 08' 00.08"W
L582	62.00	N4° 51' 59.92"E
L583	62.00	S4° 51' 59.92"W
L584	125.00	N85° 08' 00.08"W
L585	62.00	N4° 51' 59.92"E
L586	62.02	S4° 51' 59.92"W
L587	87.50	N85° 08' 00.08"W
L588	37.50	N85° 08' 00.08"W
L589	62.02	N4° 51' 59.92"E
L590	99.98	S4° 51' 59.92"W
L592	62.50	N85° 08' 00.08"W
L593	124.98	N4° 51' 59.92"E
L594	75.00	N85° 08' 00.08"W
L595	124.99	N4° 51' 59.92"E
L596	37.50	S85° 07' 27.07"E
L597	62.50	N85° 08' 00.08"W
L599	100.00	N4° 51' 59.92"E
L600	87.50	S85° 07' 27.07"E
L601	62.00	N4° 51' 59.92"E
L602	125.00	S85° 08' 00.08"E
L603	62.00	N4° 51' 59.92"E
L604	125.00	S85° 08' 00.08"E
L605	62.00	N4° 51' 59.92"E
L606	125.00	S85° 08' 00.08"E
L607	62.00	N4° 51' 59.92"E
L608	125.00	S85° 08' 00.08"E
L609	62.00	N4° 51' 59.92"E
L610	100.00	S4° 51' 59.92"W
L611	87.50	N85° 08' 00.08"W
L612	125.00	N4° 51' 59.92"E
L613	62.50	S85° 08' 00.08"E
L614	37.50	N85° 08' 00.08"W
L615	37.50	N85° 08' 00.08"W
L616	125.00	N4° 51' 59.92"E
L617	75.00	S85° 08' 00.08"E
L618	87.50	N85° 08' 00.08"W
L619	100.00	N4° 51' 59.92"E
L621	62.50	S85° 08' 00.08"E
L622	60.00	S4° 51' 59.92"W
L623	125.00	N85° 08' 00.08"W
L624	60.00	N4° 51' 59.92"E
L625	60.00	S4° 51' 59.92"W
L626	37.50	N85° 08' 00.08"W
L627	87.50	N85° 08' 00.08"W
L628	60.00	N4° 51' 59.92"E
L629	125.00	S4° 51' 59.92"W
L630	62.50	N85° 08' 00.08"W
L632	100.00	N4° 51' 59.92"E
L633	125.00	S4° 51' 59.92"W
L634	75.00	N85° 08' 00.08"W
L635	37.50	S85° 08' 00.08"E
L636	100.00	S4° 51' 59.92"W
L638	62.50	N85° 08' 00.08"W
L639	87.50	S85° 08' 00.08"E
L640	60.00	S4° 51' 59.92"W
L641	125.00	S85° 08' 00.08"E
L642	60.00	S4° 51' 59.92"W
L643	37.50	N85° 08' 00.08"W
L644	125.00	N4° 51' 59.92"E
L645	75.00	S85° 08' 00.08"E
L646	100.00	N4° 51' 59.92"E
L648	62.50	S85° 08' 00.08"E
L649	87.50	N85° 08' 00.08"W
L651	87.50	N85° 08' 00.08"W
L652	87.50	N85° 08' 00.08"W
L653	125.00	N4° 51' 59.92"E

Phase 1 Parcel Line Table		
Line #	Length	Direction
L654	62.50	S85° 08' 00.08"E
L655	37.50	N85° 08' 00.08"W
L656	125.00	N4° 51' 59.92"E
L657	75.00	S85° 08' 00.08"E
L658	37.50	N85° 08' 00.08"W
L659	87.50	N85° 08' 00.08"W
L660	100.00	N4° 51' 59.92"E
L662	62.50	S85° 08' 00.08"E
L663	125.00	N85° 08' 00.08"W
L664	60.00	N4° 51' 59.92"E
L665	60.00	S4° 51' 59.92"W
L666	125.00	N85° 08' 00.08"W
L667	60.00	N4° 51' 59.92"E
L668	60.00	S4° 51' 59.92"W
L669	125.00	N85° 08' 00.08"W
L670	60.00	N4° 51' 59.92"E
L671	60.00	S4° 51' 59.92"W
L672	100.00	S4° 51' 59.92"W
L673	87.50	N85° 08' 00.08"W
L674	125.00	N4° 51' 59.92"E
L675	62.50	S85° 08' 00.08"E
L676	37.50	N85° 08' 00.08"W
L677	37.50	N85° 08' 00.08"W
L678	125.00	N4° 51' 59.92"E
L679	75.00	S85° 08' 00.08"E
L680	87.50	N85° 08' 00.08"W
L681	100.00	N4° 51' 59.92"E
L683	62.50	S85° 08' 00.08"E
L684	60.00	S4° 51' 59.92"W
L685	15.00	S4° 51' 59.92"W
L686	125.00	N85° 08' 00.08"W
L687	75.00	N4° 51' 59.92"E
L688	75.00	S4° 51' 59.92"W
L689	125.00	N85° 08' 00.08"W
L690	75.00	N4° 51' 59.92"E
L691	125.00	S85° 08' 00.08"E
L692	75.00	S4° 51' 59.92"W
L693	75.00	N4° 51' 59.92"E
L694	125.00	S85° 08' 00.08"E
L695	75.00	S4° 51' 59.92"W
L696	75.00	N4° 51' 59.92"E
L697	125.00	S85° 08' 00.08"E
L698	75.00	S4° 51' 59.92"W
L699	75.00	N4° 51' 59.92"E
L700	125.00	S85° 08' 00.08"E
L701	62.50	N4° 51' 59.92"E
L702	87.50	N4° 51' 59.92"E
L703	100.00	S85° 08' 00.08"E
L704	125.00	S4° 51' 59.92"W
L705	13.51	N85° 08' 00.08"W
L707	125.00	N8° 17' 15.97"E
L709	13.51	S85° 08' 00.08"E
L710	19.28	N78° 36' 43.80"W
L711	125.00	N11° 23' 16.20"E
L712	19.28	S78° 36' 43.80"E
L713	60.00	S4° 51' 59.92"W
L714	125.00	N85° 08' 00.08"W
L715	60.00	N4° 51' 59.92"E
L716	125.00	S85° 08' 00.08"E
L718	47.50	S4° 51' 59.92"W
L719	72.50	N4° 51' 59.92"E
L720	100.00	S85° 08' 00.08"E
L721	125.00	S4° 51' 59.92"W
L722	75.00	N85° 08' 00.08"W
L723	125.00	N4° 51' 59.92"E
L724	75.00	S85° 08' 00.08"E
L725	125.00	S4° 51' 59.92"W
L726	75.00	N85° 08' 00.08"W
L727	75.00	S85° 08' 00.08"E
L728	125.00	S4° 51' 59.92"W
L729	75.00	N85° 08' 00.08"W
L730	75.00	S85° 08' 00.08"E
L731	125.00	S4° 51' 59.92"W
L732	75.00	N85° 08' 00.08"W
L733	75.00	S85° 08' 00.08"E
L734	125.00	S4° 51' 59.92"W
L735	75.00	N85° 08' 00.08"W
L736	75.00	S85° 08' 00.08"E
L737	125.00	S4° 51' 59.92"W
L738	75.00	N85° 08' 00.08"W
L739	75.00	S85° 08' 00.08"E
L740	125.00	S4° 51' 59.92"W
L741	75.00	N85° 08' 00.08"W
L742	75.00	S85° 08' 00.08"E
L743	75.00	N85° 08' 00.08"W
L744	75.00	S85° 08' 00.08"E
L745	125.00	S4° 51' 59.92"W
L746	75.00	N85° 08' 00.08"W
L747	75.00	S85° 08' 00.08"E
L748	125.00	S4° 51' 59.92"W
L749	125.00	S4° 51' 59.92"W
L750	75.00	N85° 08' 00.08"W
L751	75.00	S85° 08' 00.08"E
L752	125.00	S4° 51' 59.92"W
L753	75.00	N85° 08' 00.08"W
L754	75.00	S85° 08' 00.08"E
L755	125.00	S4° 51' 59.92"W
L756	75.00	N85° 08' 00.08"W
L757	75.00	S85° 08' 00.08"E
L758	75.00	N85° 08' 00.08"W

Phase 1 Parcel Line Table		
Line #	Length	Direction
L759	75.00	S85° 08' 00.08"E
L760	60.00	S71° 43' 53.02"W
L761	125.00	N18° 16' 06.68"W
L762	21.52	N71° 43' 53.02"E
L763	60.00	S71° 43' 53.32"W
L764	125.00	N18° 16' 06.68"W
L765	60.00	N71° 43' 53.02"E
L766	60.00	S71° 43' 53.02"W
L767	125.00	N18° 16' 06.29"E
L768	60.00	S71° 43' 53.02"W
L769	60.00	N71° 43' 53.02"E
L770	125.00	N18° 16' 06.68"W
L771	60.00	N71° 43' 53.02"E
L772	60.00	S71° 43' 53.02"W
L773	125.00	N18° 16' 06.68"W
L774	60.00	N71° 43' 53.02"E
L775	60.00	S71° 43' 53.02"W
L776	125.00	N18° 16' 06.68"W
L777	60.00	N71° 43' 53.02"E
L778	60.00	S71° 43' 53.02"W
L779	125.00	N18° 16' 06.68"W
L780	60.00	N71° 43' 53.02"E
L781	60.00	S71° 43' 53.02"W
L782	125.00	N18° 16' 06.

OLD ZION ROAD

PH1 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 121749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.4

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:37:00 PM



GRAPHIC SCALE

(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY EASEMENT
- W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- FM — PROPOSED SANITARY FORCE MAIN

FLOOD NOTE

THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.5

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:37:40 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH1 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-1.6

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph1 Preliminary Plan.dwg, 3/18/2024 2:38:22 PM


AREA 3
GRAND SLAM PL
TOURNAMENT RD
WOVEN WIRE FENCE
POND 15
ALLEY "D" (20')
RIDLEY PARK DR
PHASE 3B
PHASE 3A
PHASE 2B
PHASE 2C
PHASE 1C
PHASE 1B
PHASE 1A
20' PUDE
FREEDOM PASS
DOG PARK
CLUSTER BOX UNIT
AMENITIES AREA
POND 5
BRIGHT AVE
SOLAR LN
STARLIGHT LN
MOONLIGHT PASS
RINNACLE WAY
CHAMPIONS WAY
ALLEY "B" (20')
TIMBERLAND CT
EAST INSPIRATION BLVD
ECLIRSE LN
PHASE 1D
PHASE 1E
PHASE 1F
PHASE 1G
PHASE 1H
PHASE 1I
PHASE 1J
PHASE 1K
PHASE 1L
PHASE 1M
PHASE 1N
PHASE 1O
PHASE 1P
PHASE 1Q
PHASE 1R
PHASE 1S
PHASE 1T
PHASE 1U
PHASE 1V
PHASE 1W
PHASE 1X
PHASE 1Y
PHASE 1Z
PHASE 2A
PHASE 2D
PHASE 2E
PHASE 2F
PHASE 2G
PHASE 2H
PHASE 2I
PHASE 2J
PHASE 2K
PHASE 2L
PHASE 2M
PHASE 2N
PHASE 2O
PHASE 2P
PHASE 2Q
PHASE 2R
PHASE 2S
PHASE 2T
PHASE 2U
PHASE 2V
PHASE 2W
PHASE 2X
PHASE 2Y
PHASE 2Z
PHASE 3C
PHASE 3D
PHASE 3E
PHASE 3F
PHASE 3G
PHASE 3H
PHASE 3I
PHASE 3J
PHASE 3K
PHASE 3L
PHASE 3M
PHASE 3N
PHASE 3O
PHASE 3P
PHASE 3Q
PHASE 3R
PHASE 3S
PHASE 3T
PHASE 3U
PHASE 3V
PHASE 3W
PHASE 3X
PHASE 3Y
PHASE 3Z
PHASE 4A
PHASE 4B
PHASE 4C
PHASE 4D
PHASE 4E
PHASE 4F
PHASE 4G
PHASE 4H
PHASE 4I
PHASE 4J
PHASE 4K
PHASE 4L
PHASE 4M
PHASE 4N
PHASE 4O
PHASE 4P
PHASE 4Q
PHASE 4R
PHASE 4S
PHASE 4T
PHASE 4U
PHASE 4V
PHASE 4W
PHASE 4X
PHASE 4Y
PHASE 4Z
PHASE 5A
PHASE 5B
PHASE 5C
PHASE 5D
PHASE 5E
PHASE 5F
PHASE 5G
PHASE 5H
PHASE 5I
PHASE 5J
PHASE 5K
PHASE 5L
PHASE 5M
PHASE 5N
PHASE 5O
PHASE 5P
PHASE 5Q
PHASE 5R
PHASE 5S
PHASE 5T
PHASE 5U
PHASE 5V
PHASE 5W
PHASE 5X
PHASE 5Y
PHASE 5Z
PHASE 6A
PHASE 6B
PHASE 6C
PHASE 6D
PHASE 6E
PHASE 6F
PHASE 6G
PHASE 6H
PHASE 6I
PHASE 6J
PHASE 6K
PHASE 6L
PHASE 6M
PHASE 6N
PHASE 6O
PHASE 6P
PHASE 6Q
PHASE 6R
PHASE 6S
PHASE 6T
PHASE 6U
PHASE 6V
PHASE 6W
PHASE 6X
PHASE 6Y
PHASE 6Z
PHASE 7A
PHASE 7B
PHASE 7C
PHASE 7D
PHASE 7E
PHASE 7F
PHASE 7G
PHASE 7H
PHASE 7I
PHASE 7J
PHASE 7K
PHASE 7L
PHASE 7M
PHASE 7N
PHASE 7O
PHASE 7P
PHASE 7Q
PHASE 7R
PHASE 7S
PHASE 7T
PHASE 7U
PHASE 7V
PHASE 7W
PHASE 7X
PHASE 7Y
PHASE 7Z
PHASE 8A
PHASE 8B
PHASE 8C
PHASE 8D
PHASE 8E
PHASE 8F
PHASE 8G
PHASE 8H
PHASE 8I
PHASE 8J
PHASE 8K
PHASE 8L
PHASE 8M
PHASE 8N
PHASE 8O
PHASE 8P
PHASE 8Q
PHASE 8R
PHASE 8S
PHASE 8T
PHASE 8U
PHASE 8V
PHASE 8W
PHASE 8X
PHASE 8Y
PHASE 8Z
PHASE 9A
PHASE 9B
PHASE 9C
PHASE 9D
PHASE 9E
PHASE 9F
PHASE 9G
PHASE 9H
PHASE 9I
PHASE 9J
PHASE 9K
PHASE 9L
PHASE 9M
PHASE 9N
PHASE 9O
PHASE 9P
PHASE 9Q
PHASE 9R
PHASE 9S
PHASE 9T
PHASE 9U
PHASE 9V
PHASE 9W
PHASE 9X
PHASE 9Y
PHASE 9Z
PHASE 10A
PHASE 10B
PHASE 10C
PHASE 10D
PHASE 10E
PHASE 10F
PHASE 10G
PHASE 10H
PHASE 10I
PHASE 10J
PHASE 10K
PHASE 10L
PHASE 10M
PHASE 10N
PHASE 10O
PHASE 10P
PHASE 10Q
PHASE 10R
PHASE 10S
PHASE 10T
PHASE 10U
PHASE 10V
PHASE 10W
PHASE 10X
PHASE 10Y
PHASE 10Z
PHASE 11A
PHASE 11B
PHASE 11C
PHASE 11D
PHASE 11E
PHASE 11F
PHASE 11G
PHASE 11H
PHASE 11I
PHASE 11J
PHASE 11K
PHASE 11L
PHASE 11M
PHASE 11N
PHASE 11O
PHASE 11P
PHASE 11Q
PHASE 11R
PHASE 11S
PHASE 11T
PHASE 11U
PHASE 11V
PHASE 11W
PHASE 11X
PHASE 11Y
PHASE 11Z
PHASE 12A
PHASE 12B
PHASE 12C
PHASE 12D
PHASE 12E
PHASE 12F
PHASE 12G
PHASE 12H
PHASE 12I
PHASE 12J
PHASE 12K
PHASE 12L
PHASE 12M
PHASE 12N
PHASE 12O
PHASE 12P
PHASE 12Q
PHASE 12R
PHASE 12S
PHASE 12T
PHASE 12U
PHASE 12V
PHASE 12W
PHASE 12X
PHASE 12Y
PHASE 12Z
PHASE 13A
PHASE 13B
PHASE 13C
PHASE 13D
PHASE 13E
PHASE 13F
PHASE 13G
PHASE 13H
PHASE 13I
PHASE 13J
PHASE 13K
PHASE 13L
PHASE 13M
PHASE 13N
PHASE 13O
PHASE 13P
PHASE 13Q
PHASE 13R
PHASE 13S
PHASE 13T
PHASE 13U
PHASE 13V
PHASE 13W
PHASE 13X
PHASE 13Y
PHASE 13Z
PHASE 14A
PHASE 14B
PHASE 14C
PHASE 14D
PHASE 14E
PHASE 14F
PHASE 14G
PHASE 14H
PHASE 14I
PHASE 14J
PHASE 14K
PHASE 14L
PHASE 14M
PHASE 14N
PHASE 14O
PHASE 14P
PHASE 14Q
PHASE 14R
PHASE 14S
PHASE 14T
PHASE 14U
PHASE 14V
PHASE 14W
PHASE 14X
PHASE 14Y
PHASE 14Z
PHASE 15A
PHASE 15B
PHASE 15C
PHASE 15D
PHASE 15E
PHASE 15F
PHASE 15G
PHASE 15H
PHASE 15I
PHASE 15J
PHASE 15K
PHASE 15L
PHASE 15M
PHASE 15N
PHASE 15O
PHASE 15P
PHASE 15Q
PHASE 15R
PHASE 15S
PHASE 15T
PHASE 15U
PHASE 15V
PHASE 15W
PHASE 15X
PHASE 15Y
PHASE 15Z
PHASE 16A
PHASE 16B
PHASE 16C
PHASE 16D
PHASE 16E
PHASE 16F
PHASE 16G
PHASE 16H
PHASE 16I
PHASE 16J
PHASE 16K
PHASE 16L
PHASE 16M
PHASE 16N
PHASE 16O
PHASE 16P
PHASE 16Q
PHASE 16R
PHASE 16S
PHASE 16T
PHASE 16U
PHASE 16V
PHASE 16W
PHASE 16X
PHASE 16Y
PHASE 16Z
PHASE 17A
PHASE 17B
PHASE 17C
PHASE 17D
PHASE 17E
PHASE 17F
PHASE 17G
PHASE 17H
PHASE 17I
PHASE 17J
PHASE 17K
PHASE 17L
PHASE 17M
PHASE 17N
PHASE 17O
PHASE 17P
PHASE 17Q
PHASE 17R
PHASE 17S
PHASE 17T
PHASE 17U
PHASE 17V
PHASE 17W
PHASE 17X
PHASE 17Y
PHASE 17Z
PHASE 18A
PHASE 18B
PHASE 18C
PHASE 18D
PHASE 18E
PHASE 18F
PHASE 18G
PHASE 18H
PHASE 18I
PHASE 18J
PHASE 18K
PHASE 18L
PHASE 18M
PHASE 18N
PHASE 18O
PHASE 18P
PHASE 18Q
PHASE 18R
PHASE 18S
PHASE 18T
PHASE 18U
PHASE 18V
PHASE 18W
PHASE 18X
PHASE 18Y
PHASE 18Z
PHASE 19A
PHASE 19B
PHASE 19C
PHASE 19D
PHASE 19E
PHASE 19F
PHASE 19G
PHASE 19H
PHASE 19I
PHASE 19J
PHASE 19K
PHASE 19L
PHASE 19M
PHASE 19N
PHASE 19O
PHASE 19P
PHASE 19Q
PHASE 19R
PHASE 19S
PHASE 19T
PHASE 19U
PHASE 19V
PHASE 19W
PHASE 19X
PHASE 19Y
PHASE 19Z
PHASE 20A
PHASE 20B
PHASE 20C
PHASE 20D
PHASE 20E
PHASE 20F
PHASE 20G
PHASE 20H
PHASE 20I
PHASE 20J
PHASE 20K
PHASE 20L
PHASE 20M
PHASE 20N
PHASE 20O
PHASE 20P
PHASE 20Q
PHASE 20R
PHASE 20S
PHASE 20T
PHASE 20U
PHASE 20V
PHASE 20W
PHASE 20X
PHASE 20Y
PHASE 20Z
PHASE 21A
PHASE 21B
PHASE 21C
PHASE 21D
PHASE 21E
PHASE 21F
PHASE 21G
PHASE 21H
PHASE 21I
PHASE 21J
PHASE 21K
PHASE 21L
PHASE 21M
PHASE 21N
PHASE 21O
PHASE 21P
PHASE 21Q
PHASE 21R
PHASE 21S
PHASE 21T
PHASE 21U
PHASE 21V
PHASE 21W
PHASE 21X
PHASE 21Y
PHASE 21Z
PHASE 22A
PHASE 22B
PHASE 22C
PHASE 22D
PHASE 22E
PHASE 22F
PHASE 22G
PHASE 22H
PHASE 22I
PHASE 22J
PHASE 22K
PHASE 22L
PHASE 22M
PHASE 22N
PHASE 22O
PHASE 22P
PHASE 22Q
PHASE 22R
PHASE 22S
PHASE 22T
PHASE 22U
PHASE 22V
PHASE 22W
PHASE 22X
PHASE 22Y
PHASE 22Z
PHASE 23A
PHASE 23B
PHASE 23C
PHASE 23D
PHASE 23E
PHASE 23F
PHASE 23G
PHASE 23H
PHASE 23I
PHASE 23J
PHASE 23K
PHASE 23L
PHASE 23M
PHASE 23N
PHASE 23O
PHASE 23P
PHASE 23Q
PHASE 23R
PHASE 23S
PHASE 23T
PHASE 23U
PHASE 23V
PHASE 23W
PHASE 23X
PHASE 23Y
PHASE 23Z
PHASE 24A
PHASE 24B
PHASE 24C
PHASE 24D
PHASE 24E
PHASE 24F
PHASE 24G
PHASE 24H
PHASE 24I
PHASE 24J
PHASE 24K
PHASE 24L
PHASE 24M
PHASE 24N
PHASE 24O
PHASE 24P
PHASE 24Q
PHASE 24R
PHASE 24S
PHASE 24T
PHASE 24U
PHASE 24V
PHASE 24W
PHASE 24X
PHASE 24Y
PHASE 24Z
PHASE 25A
PHASE 25B
PHASE 25C
PHASE 25D
PHASE 25E
PHASE 25F
PHASE 25G
PHASE 25H
PHASE 25I
PHASE 25J
PHASE 25K
PHASE 25L
PHASE 25M
PHASE 25N
PHASE 25O
PHASE 25P
PHASE 25Q
PHASE 25R
PHASE 25S
PHASE 25T
PHASE 25U
PHASE 25V
PHASE 25W
PHASE 25X
PHASE 25Y
PHASE 25Z
PHASE 26A
PHASE 26B
PHASE 26C
PHASE 26D
PHASE 26E
PHASE 26F
PHASE 26G
PHASE 26H
PHASE 26I
PHASE 26J
PHASE 26K
PHASE 26L
PHASE 26M
PHASE 26N
PHASE 26O
PHASE 26P
PHASE 26Q
PHASE 26R
PHASE 26S
PHASE 26T
PHASE 26U
PHASE 26V
PHASE 26W
PHASE 26X
PHASE 26Y
PHASE 26Z
PHASE 27A
PHASE 27B
PHASE 27C
PHASE 27D
PHASE 27E
PHASE 27F
PHASE 27G
PHASE 27H
PHASE 27I
PHASE 27J
PHASE 27K
PHASE 27L
PHASE 27M
PHASE 27N
PHASE 27O
PHASE 27P
PHASE 27Q
PHASE 27R
PHASE 27S
PHASE 27T
PHASE 27U
PHASE 27V
PHASE 27W
PHASE 27X
PHASE 27Y
PHASE 27Z
PHASE 28A
PHASE 28B
PHASE 28C
PHASE 28D
PHASE 28E
PHASE 28F
PHASE 28G
PHASE 28H
PHASE 28I
PHASE 28J
PHASE 28K
PHASE 28L
PHASE 28M
PHASE 28N
PHASE 28O
PHASE 28P
PHASE 28Q
PHASE 28R
PHASE 28S
PHASE 28T
PHASE 28U
PHASE 28V
PHASE 28W
PHASE 28X
PHASE 28Y
PHASE 28Z
PHASE 29A
PHASE 29B
PHASE 29C
PHASE 29D
PHASE 29E
PHASE 29F
PHASE 29G
PHASE 29H
PHASE 29I
PHASE 29J
PHASE 29K
PHASE 29L
PHASE 29M
PHASE 29N
PHASE 29O
PHASE 29P
PHASE 29Q
PHASE 29R
PHASE 29S
PHASE 29T
PHASE 29U
PHASE 29V
PHASE 29W
PHASE 29X
PHASE 29Y
PHASE 29Z
PHASE 30A
PHASE 30B
PHASE 30C
PHASE 30D
PHASE 30E
PHASE 30F
PHASE 30G
PHASE 30H
PHASE 30I
PHASE 30J
PHASE 30K
PHASE 30L
PHASE 30M
PHASE 30N
PHASE 30O
PHASE 30P
PHASE 30Q
PHASE 30R
PHASE 30S
PHASE 30T
PHASE 30U
PHASE 30V
PHASE 30W
PHASE 30X
PHASE 30Y
PHASE 30Z
PHASE 31A
PHASE 31B
PHASE 31C
PHASE 31D
PHASE 31E
PHASE 31F
PHASE 31G
PHASE 31H
PHASE 31I
PHASE 31J
PHASE 31K
PHASE 31L
PHASE 31M
PHASE 31N
PHASE 31O
PHASE 31P
PHASE 31Q
PHASE 31R
PHASE 31S
PHASE 31T
PHASE 31U
PHASE 31V
PHASE 31W
PHASE 31X
PHASE 31Y
PHASE 31Z
PHASE 32A
PHASE 32B
PHASE 32C
PHASE 32D
PHASE 32E
PHASE 32F
PHASE 32G
PHASE 32H
PHASE 32I
PHASE 32J
PHASE 32K
PHASE 32L
PHASE 32M
PHASE 32N
PHASE 32O
PHASE 32P
PHASE 32Q
PHASE 32R
PHASE 32S
PHASE 32T
PHASE 32U
PHASE 32V
PHASE 32W
PHASE 32X
PHASE 32Y
PHASE 32Z
PHASE 33A
PHASE 33B
PHASE 33C
PHASE 33D
PHASE 33E
PHASE 33F
PHASE 33G
PHASE 33H
PHASE 33I
PHASE 33J
PHASE 33K
PHASE 33L
PHASE 33M
PHASE 33N
PHASE 33O
PHASE 33P
PHASE 33Q
PHASE 33R
PHASE 33S
PHASE 33T
PHASE 33U
PHASE 33V
PHASE 33W
PHASE 33X
PHASE 33Y
PHASE 33Z
PHASE 34A
PHASE 34B
PHASE 34C
PHASE 34D
PHASE 34E
PHASE 34F
PHASE 34G
PHASE 34H
PHASE 34I
PHASE 34J
PHASE 34K
PHASE 34L
PHASE 34M
PHASE 34N
PHASE 34O
PHASE 34P
PHASE 34Q
PHASE 34R
PHASE 34S
PHASE 34T
PHASE 34U
PHASE 34V
PHASE 34W
PHASE 34X
PHASE 34Y
PHASE 34Z
PHASE 35A
PHASE 35B
PHASE 35C
PHASE 35D
PHASE 35E
PHASE 35F
PHASE 35G
PHASE 35H
PHASE 35I
PHASE 35J
PHASE 35K
PHASE 35L
PHASE 35M
PHASE 35N
PHASE 35O
PHASE 35P
PHASE 35Q
PHASE 35R
PHASE 35S
PHASE 35T
PHASE 35U
PHASE 35V
PHASE 35W
PHASE 35X
PHASE 35Y
PHASE 35Z
PHASE 36A
PHASE 36B
PHASE 36C
PHASE 36D
PHASE 36E
PHASE 36F
PHASE 36G
PHASE 36H
PHASE 36I
PHASE 36J
PHASE 36K
PHASE 36L
PHASE 36M
PHASE 36N
PHASE 36O
PHASE 36P
PHASE 36Q
PHASE 36R
PHASE 36S
PHASE 36T
PHASE 36U
PHASE 36V
PHASE 36W
PHASE 36X
PHASE 36Y
PHASE 36Z
PHASE 37A
PHASE 37B
PHASE 37C
PHASE 37D
PHASE 37E
PHASE 37F
PHASE 37G
PHASE 37H
PHASE 37I
PHASE 37J
PHASE 37K
PHASE 37L
PHASE 37M
PHASE 37N
PHASE 37O
PHASE 37P
PHASE 37Q
PHASE 37R
PHASE 37S
PHASE 37T
PHASE 37U
PHASE 37V
PHASE 37W
PHASE 37X
PHASE 37Y
PHASE 37Z
PHASE 38A
PHASE 38B
PHASE 38C
PHASE 38D
PHASE 38E
PHASE 38F
PHASE 38G
PHASE 38H
PHASE 38I
PHASE 38J
PHASE 38K
PHASE 38L
PHASE 38M
PHASE 38N
PHASE 38O
PHASE 38P
PHASE 38Q
PHASE 38R
PHASE 38S
PHASE 38T
PHASE 38U
PHASE 38V
PHASE 38W
PHASE 38X
PHASE 38Y
PHASE 38Z
PHASE 39A
PHASE 39B
PHASE 39C
PHASE 39D
PHASE 39E
PHASE 39F
PHASE 39G
PHASE 39H
PHASE 39I
PHASE 39J
PHASE 39K
PHASE 39L
PHASE 39M
PHASE 39N
PHASE 39O
PHASE 39P
PHASE 39Q
PHASE 39R
PHASE 39S
PHASE 39T
PHASE 39U
PHASE 39V
PHASE 39W
PHASE 39X
PHASE 39Y
PHASE 39Z
PHASE 40A
PHASE 40B
PHASE 40C
PHASE 40D
PHASE 40E
PHASE 40F
PHASE 40G
PHASE 40H
PHASE 40I
PHASE 40J
PHASE 40K
PHASE 40L
PHASE 40M
PHASE 40N
PHASE 40O
PHASE 40P
PHASE 40Q
PHASE 40R
PHASE 40S
PHASE 40T
PHASE 40U
PHASE 40V
PHASE 40W
PHASE 40X
PHASE 40Y
PHASE 40Z
PHASE 41A
PHASE 41B
PHASE 41C
PHASE 41D
PHASE 41E
PHASE 41F
PHASE 41G
PHASE 41H
PHASE 41I
PHASE 41J
PHASE 41K
PHASE 41L
PHASE 41M
PHASE 41N
PHASE 41O
PHASE 41P
PHASE 41Q
PHASE 41R
PHASE 41S
PHASE 41T
PHASE 41U
PHASE 41V
PHASE 41W
PHASE 41X
PHASE 41Y
PHASE 41Z
PHASE 42A
PHASE 42B
PHASE 42C
PHASE 42D
PHASE 42E
PHASE 42F
PHASE 42G
PHASE 42H
PHASE 42I
PHASE 42J
PHASE 42K
PHASE 42L
PHASE 42M
PHASE 42N
PHASE 42O
PHASE 42P
PHASE 42Q
PHASE 42R
PHASE 42S
PHASE 42T
PHASE 42U
PHASE 42V
PHASE 42W
PHASE 42X
PHASE 42Y
PHASE 42Z
PHASE 43A
PHASE 43B
PHASE 43C
PHASE 43D
PHASE 43E
PHASE 43F
PHASE 43G
PHASE 43H
PHASE 43I
PHASE 43J
PHASE 43K
PHASE 43L
PHASE 43M
PHASE 43N
PHASE 43O
PHASE 43P
PHASE 43Q
PHASE 43R
PHASE 43S
PHASE 43T
PHASE 43U
PHASE 43V
PHASE 43W
PHASE 43X
PHASE 43Y
PHASE 43Z
PHASE 44A
PHASE 44B
PHASE 44C
PHASE 44D
PHASE 44E
PHASE 44F
PHASE 44G
PHASE 44H
PHASE 44I
PHASE 44J
PHASE 44K
PHASE 44L
PHASE 44M
PHASE 44N
PHASE 44O
PHASE 44P
PHASE 44Q
PHASE 44R
PHASE 44S
PHASE 44T
PHASE 44U
PHASE 44V
PHASE 44W
PHASE 44X
PHASE 44Y
PHASE 44Z
PHASE 45A
PHASE 45B
PHASE 45C
PHASE 45D
PHASE 45E
PHASE 45F
PHASE 45G
PHASE 45H
PHASE 45I
PHASE 45J
PHASE 45K
PHASE 45L
PHASE 45M
PHASE 45N
PHASE 45O
PHASE 45P
PHASE 45Q
PHASE 45R
PHASE 45S
PHASE 45T
PHASE 45U
PHASE 45V
PHASE 45W
PHASE 45X
PHASE 45Y
PHASE 45Z
PHASE 46A
PHASE 46B
PHASE 46C
PHASE 46D
PHASE 46E
PHASE 46F
PHASE 46G
PHASE 46H
PHASE 46I
PHASE 46J
PHASE 46K
PHASE 46L
PHASE 46M
PHASE 46N
PHASE 46O
PHASE 46P
PHASE 46Q
PHASE 46R
PHASE 46S
PHASE 46T
PHASE 46U
PHASE 46V
PHASE 46W
PHASE 46X
PHASE 46Y
PHASE 46Z
PHASE 47A
PHASE 47B
PHASE 47C
PHASE 47D
PHASE 47E
PHASE 47F
PHASE 47G
PHASE 47H
PHASE 47I
PHASE 47J
PHASE 47K
PHASE 47L
PHASE 47M
PHASE 47N
PHASE 47O
PHASE 47P
PHASE 47Q
PHASE 47R
PHASE 47S
PHASE 47T
PHASE 47U
PHASE 47V
PHASE 47W
PHASE 47X
PHASE 47Y
PHASE 47Z
PHASE 48A
PHASE 48B
PHASE 48C
PHASE 48D
PHASE 48E
PHASE 48F
PHASE 48G
PHASE 48H
PHASE 48I
PHASE 48J
PHASE 48K
PHASE 48L
PHASE 48M
PHASE 48N
PHASE 48O
PHASE 48P
PHASE 48Q
PHASE 48R
PHASE 48S
PHASE 48T
PHASE 48U
PHASE 48V
PHASE 48W
PHASE 48X
PHASE 48Y
PHASE 48Z
PHASE 49A
PHASE 49B
PHASE 49C
PHASE 49D
PHASE 49E
PHASE 49F
PHASE 49G
PHASE 49H
PHASE 49I
PHASE 49J
PHASE 49K
PHASE 49L
PHASE 49M
PHASE 49N
PHASE 49O
PHASE 49P
PHASE 49Q
PHASE 49R
PHASE 49S
PHASE 49T
PHASE 49U
PHASE 49V
PHASE 49W
PHASE 49X
PHASE 49Y
PHASE 49Z
PHASE 50A
PHASE 50B
PHASE 50C
PHASE 50D
PHASE 50E
PHASE 50F
PHASE 50G
PHASE 50H
PHASE 50I
PHASE 50J
PHASE 50K
PHASE 50L
PHASE 50M
PHASE 50N
PHASE 50O
PHASE 50P
PHASE 50Q
PHASE 50R
PHASE 50S
PHASE 50T
PHASE 50U
PHASE 50V
PHASE 50W
PHASE 50X
PHASE 50Y
PHASE 50Z
PHASE 51A
PHASE 51B
PHASE 51C
PHASE 51D
PHASE 51E
PHASE 51F
PHASE 51G
PHASE 51H
PHASE 51I
PHASE 51J
PHASE 51K
PHASE 51L
PHASE 51M
PHASE 51N
PHASE 51O
PHASE 51P
PHASE 51Q
PHASE 51R
PHASE 51S
PHASE 51T
PHASE 51U
PHASE 51V
PHASE 51W
PHASE 51X
PHASE 51Y
PHASE 51Z
PHASE 52A
PHASE 52B
PHASE 52C
PHASE 52D
PHASE 52E
PHASE 52F
PHASE 52G
PHASE 52H
PHASE 52I
PHASE 52J
PHASE 52K
PHASE 52L
PHASE 52M
PHASE 52N
PHASE 52O
PHASE 52P
PHASE 52Q
PHASE 52R
PHASE 52S
PHASE 52T
PHASE 52U
PHASE 52V
PHASE 52W
PHASE 52X
PHASE 52Y
PHASE 52Z
PHASE 53A
PHASE 53B
PHASE 53C
PHASE 53D
PHASE 53E
PHASE 53F
PHASE 53G
PHASE 53H
PHASE 53I
PHASE 53J
PHASE 53K
PHASE 53L
PHASE 53M
PHASE 53N
PHASE 53O
PHASE 53P
PHASE 53Q
PHASE 53R
PHASE 53S
PHASE 53T
PHASE 53U
PHASE 53V
PHASE 53W
PHASE 53X
PHASE 53Y
PHASE 53Z
PHASE 54A
PHASE 54B
PHASE 54C
PHASE 54D
PHASE 54E
PHASE 54F
PHASE 54G
PHASE 54H
PHASE 54I
PHASE 54J
PHASE 54K
PHASE 54L
PHASE 54M
PHASE 54N
PHASE 54O
PHASE 54P
PHASE 54Q
PHASE 54R
PHASE 54S
PHASE 54T
PHASE 54U
PHASE 54V
PHASE 54W
PHASE 54X
PHASE 54Y
PHASE 54Z
PHASE 55A
PHASE 55B
PHASE 55C
PHASE 55D
PHASE 55E
PHASE 55F
PHASE 55G
PHASE 55H
PHASE 55I
PHASE 55J
PHASE 55K
PHASE 55L
PHASE 55M
PHASE 55N
PHASE 55O
PHASE 55P
PHASE 55Q
PHASE 55R
PHASE 55S
PHASE 55T
PHASE 55U
PHASE 55V
PHASE 55W
PHASE 55X
PHASE 55Y
PHASE 55Z
PHASE 56A
PHASE 56B
PHASE 56C
PHASE 56D
PHASE 56E
PHASE 56F
PHASE 56G
PHASE 56H
PHASE 56I
PHASE 56J
PHASE 56K
PHASE 56L
PHASE 56M
PHASE 56N
PHASE 56O
PHASE 56P
PHASE 56Q
PHASE 56R
PHASE 56S
PHASE 56T
PHASE 56U
PHASE 56V
PHASE 56W
PHASE 56X
PHASE 56Y
PHASE 56Z
PHASE 57A
PHASE 57B
PHASE 57C
PHASE 57D
PHASE 57E
PHASE 57F
PHASE 57G
PHASE 57H
PHASE 57I
PHASE 57J
PHASE 57K
PHASE 57L
PHASE 57M
PHASE 57N
PHASE 57O
PHASE 57P
PHASE 57Q
PHASE 57R
PHASE 57S
PHASE 57T
PHASE 57U
PHASE 57V
PHASE 57W
PHASE 57X
PHASE 57Y
PHASE 57Z
PHASE 58A
PHASE 58B
PHASE 58C
PHASE 58D
PHASE 58E
PHASE 58F
PHASE 58G
PHASE 58H
PHASE 58I
PHASE 58J
PHASE 58K
PHASE 58L
PHASE 58M
PHASE 58N
PHASE 58O
PHASE 58P
PHASE 58Q
PHASE 58R
PHASE 58S
PHASE 58T
PHASE 58U
PHASE 58V
PHASE 58W
PHASE 58X
PHASE 58Y
PHASE 58Z
PHASE 59A
PHASE 59B
PHASE 59C
PHASE 59D
PHASE 59E
PHASE 59F
PHASE 59G
PHASE 59H
PHASE 59I
PHASE 59J
PHASE 59K
PHASE 59L
PHASE 59M
PHASE 59N
PHASE 59O
PHASE 59P
PHASE 59Q
PHASE 59R
PHASE 59S
PHASE 59T
PHASE 59U
PHASE 59V
PHASE 59W
PHASE 59X
PHASE 59Y
PHASE 59Z
PHASE 60A
PHASE 60B
PHASE 60C
PHASE 60D
PHASE 60E
PHASE 60F
PHASE 60G
PHASE 60H
PHASE 60I
PHASE 60J
PHASE 60K
PHASE 60L
PHASE 60M
PHASE 60N
PHASE 60O
PHASE 60P
PHASE 60Q
PHASE 60R
PHASE 60S
PHASE 60T
PHASE 60U
PHASE 60V
PHASE 60W
PHASE 60X
PHASE 60Y
PHASE 60Z
PHASE 61A
PHASE 61B
PHASE 61C
PHASE 61D
PHASE 61E
PHASE 61F
PHASE 61G
PHASE 61H
PHASE 61I
PHASE 61J
PHASE 61K
PHASE 61L
PHASE 61M
PHASE 61N
PHASE 61O
PHASE 61P
PHASE 61Q
PHASE 61R
PHASE 61S
PHASE 61T
PHASE 61U
PHASE 61V
PHASE 61W
PHASE 61X
PHASE 61Y
PHASE 61Z
PHASE 62A
PHASE 62B
PHASE 62C
PHASE 62D
PHASE 62E
PHASE 62F
PHASE 62G
PHASE 62H
PHASE 62I
PHASE 62J
PHASE 62K
PHASE 62L
PHASE 62M
PHASE 62N
PHASE 62O
PHASE 62P
PHASE 62Q
PHASE 62R
PHASE 62S
PHASE 62T
PHASE 62U
PHASE 62V
PHASE 62W
PHASE 62X
PHASE 62Y
PHASE 62Z
PHASE 63A
PHASE 63B
PHASE 63C
PHASE 63D
PHASE 63E
PHASE 63F
PHASE 63G
PHASE 63H
PHASE 63I
PHASE 63J
PHASE 63K
PHASE 63L
PHASE 63M
PHASE 63N
PHASE 63O
PHASE 63P
PHASE 63Q
PHASE 63R
PHASE 63S
PHASE 63T
PHASE 63U
PHASE 63V
PHASE 63W
PHASE 63X
PHASE 63Y
PHASE 63Z
PHASE 64A
PHASE 64B
PHASE 64C
PHASE 64D
PHASE 64E
PHASE 64F
PHASE 64G
PHASE 64H
PHASE 64I
PHASE 64J
PHASE 64K
PHASE 64L
PHASE 64M
PHASE 64N
PHASE 64O
PHASE 64P
PHASE 64Q
PHASE 64R
PHASE 64S
PHASE 64T
PHASE 64U
PHASE 64V
PHASE 64W
PHASE 64X
PHASE 64Y
PHASE 64Z
PHASE 65A
PHASE 65B
PHASE 65C
PHASE 65D
PHASE 65E
PHASE 65F
PHASE 65G
PHASE 65H
PHASE 65I
PHASE 65J
PHASE 65K
PHASE 65L
PHASE 65M
PHASE 65N
PHASE 65O
PHASE 65P
PHASE 65Q
PHASE 65R
PHASE 65S
PHASE 65T
PHASE 65U
PHASE 65V
PHASE 65W
PHASE 65X
PHASE 65Y
PHASE 65Z
PHASE 66A
PHASE 66B
PHASE 66C
PHASE 66D
PHASE 66E
PHASE 66F
PHASE 66G
PHASE 66H
PHASE 66I
PHASE 66J
PHASE 66K
PHASE 66L
PHASE 66M
PHASE 66N
PHASE 66O
PHASE 66P
PHASE 66Q
PHASE 66R
PHASE 66S
PHASE 66T
PHASE 66U
PHASE 66V
PHASE 66W
PHASE 66X
PHASE 66Y
PHASE 66Z
PHASE 67A
PHASE 67B
PHASE 67C
PHASE 67D
PHASE 67E
PHASE 67F
PHASE 67G
PHASE 67H
PHASE 67I
PHASE 67J
PHASE 67K
PHASE 67L
PHASE 67M
PHASE 67N
PHASE 67O
PHASE 67P
PHASE 67Q
PHASE 67R
PHASE 67S
PHASE 67T
PHASE 67U
PHASE 67V
PHASE 67W
PHASE 67X
PHASE 67Y
PHASE 67Z
PHASE 68A
PHASE 68B
PHASE 68C
PHASE 68D
PHASE 68E
PHASE 68F
PHASE 68G
PHASE 68H
PHASE 68I
PHASE 68J
PHASE 68K
PHASE 68L
PHASE 68M
PHASE 68N
PHASE 68O
PHASE 68P
PHASE 68Q
PHASE 68R
PHASE 68S
PHASE 68T
PHASE 68U
PHASE 68V
PHASE 68W
PHASE 68X
PHASE 68Y
PHASE 68Z
PHASE 69A
PHASE 69B
PHASE 69C
PHASE 69D
PHASE 69E
PHASE 69F
PHASE 69G
PHASE 69H
PHASE 69I
PHASE 69J
PHASE 69K
PHASE 69L
PHASE 69M
PHASE 69N
PHASE 69O
PHASE 69P
PHASE 69Q
PHASE 69R
PHASE 69S
PHASE 69T
PHASE 69U
PHASE 69V
PHASE 69W
PHASE 69X
PHASE 69Y
PHASE 69Z
PHASE 70A
PHASE 70B
PHASE 70C
PHASE 70D
PHASE 70E
PHASE 70F
PHASE 70G
PHASE 70H
PHASE 70I
PHASE 70J
PHASE 70K
PHASE 70L
PHASE 70M
PHASE 70N
PHASE 70O
PHASE 70P
PHASE 70Q
PHASE 70R
PHASE 70S
PHASE 70T
PHASE 70U
PHASE 70V
PHASE 70W
PHASE 70X
PHASE 70Y
PHASE 70Z
PHASE 71A
PHASE 71B
PHASE 71C
PHASE 71D
PHASE 71E
PHASE 71F
PHASE 71G
PHASE 71H
PHASE 71I
PHASE 71J
PHASE 71K
PHASE 71L
PHASE 71M
PHASE 71N
PHASE 71O
PHASE 71P
PHASE 71Q
PHASE 71R
PHASE 71S
PHASE 71T
PHASE 71U
PHASE 71V
PHASE 71W
PHASE 71X
PHASE 71Y
PHASE 71Z
PHASE 72A
PHASE 72B
PHASE 72C
PHASE 72D
PHASE 72E
PHASE 72F
PHASE 72G
PHASE 72H
PHASE 72I
PHASE 72J
PHASE 72K
PHASE 72L
PHASE 72M
PHASE 72N
PHASE 72O
PHASE 72P
PHASE 72Q
PHASE 72R
PHASE 72S
PHASE 72T
PHASE 72U
PHASE 72V
PHASE 72W
PHASE 72X
PHASE 72Y
PHASE 72Z
PHASE 73A
PHASE 73B
PHASE 73C
PHASE 73D
PHASE 73E
PHASE 73F
PHASE 73G
PHASE 73H
PHASE 73I
PHASE 73J
PHASE 73K
PHASE 73L
PHASE 73M
PHASE 73N
PHASE 73O
PHASE 73P
PHASE 73Q
PHASE 73R
PHASE 73S
PHASE 73T
PHASE 73U
PHASE 73V
PHASE 73W
PHASE 73X
PHASE 73Y
PHASE 73Z
PHASE 74A
PHASE 74B
PHASE 74C
PHASE 74D
PHASE 74E
PHASE 74F
PHASE 74G
PHASE 74H
PHASE 74I
PHASE 74J
PHASE 74K
PHASE 74L
PHASE 74M
PHASE 74N
PHASE 74O
PHASE 74P
PHASE 74Q
PHASE 74R
PHASE 74S
PHASE 74T
PHASE 74U
PHASE 74V
PHASE 74W
PHASE 74X
PHASE 74Y
PHASE 74Z
PHASE 75A
PHASE 75B
PHASE 75C
PHASE 75D
PHASE 75E
PHASE 75F
PHASE 75G
PHASE 75H
PHASE 75I
PHASE 75J
PHASE 75K
P

Ph 2 Parcel Table	
PARCEL	SQ. FT.
501	9375.00
502	9375.00
503	9375.00
504	9375.00
505	9375.00
506	9375.00
507	9375.00
508	9375.00
509	9375.00
510	9374.84
511	9375.00
512	9375.00
513	9375.00
514	9375.00
515	9375.00
516	19187.09
517	13109.79
518	12762.92
519	12837.42
520	13634.84
521	14781.10
522	10540.35
523	10751.30
524	10751.30
525	11190.81
526	10537.49
527	9375.00
528	9375.00
529	9375.00
530	9375.00
531	10803.37
532	10803.37
533	9375.00
534	9375.00
535	9375.00
536	9375.00
537	10803.37
538	10875.72

Ph 2 Parcel Table	
PARCEL	SQ. FT.
539	7500.00
540	7500.00
541	7500.00
542	7500.00
543	7500.00
544	8928.37
545	8928.37
546	7500.00
547	7500.00
548	7500.00
549	7500.00
550	7500.00
551	7500.00
552	13246.73
553	15263.93
554	11919.21
555	11714.21
556	9186.41
557	9696.77
558	9114.77
559	7500.00
560	7500.00
561	7500.00
562	7500.00
563	7500.00
564	7500.00
565	7500.00
566	7500.00
567	7500.00
568	7500.00
569	7500.00
570	7978.44
571	10591.03
572	10591.03
573	10591.03
574	10207.72
575	7500.00
576	10803.37

Ph 2 Parcel Table	
PARCEL	SQ. FT.
601	8083.56
602	8083.56
603	8083.56
604	8083.56
605	8083.56
606	7976.97
607	7500.00
608	7500.00
609	7500.00
610	7500.00
611	7500.00
612	7812.50
613	7812.50
614	7500.00
615	7500.00
616	7500.02
617	9478.53
618	9367.70
619	9367.70
620	9367.70
621	8423.68
622	8426.50
623	9330.18
624	9367.70
625	9367.70
626	9367.70
627	7608.12

Ph 2 Parcel Table	
PARCEL	SQ. FT.
628	7500.00
629	7500.00
630	7500.00
631	7967.70
632	8676.36
633	8676.36
634	8676.36
635	8676.36
636	11699.06
637	7395.43
638	7500.00
639	7500.00
640	7500.00
641	7500.00
642	7979.55
643	7979.55
644	7500.00
645	7500.00
646	7500.00
647	7500.00
648	7500.00
649	7500.00
650	11018.94
651	13591.55
652	10543.58
653	11095.29
654	11095.29

Ph2 Open Space	
PARCEL	SQ. FT.
OS: 1	1083157.16
OS: 2	10433.24
OS: 3	9385.19
OS: 4	970554.02
OS: 5	1202487.13
OS: 6	15520.31
OS: 7	29106.75

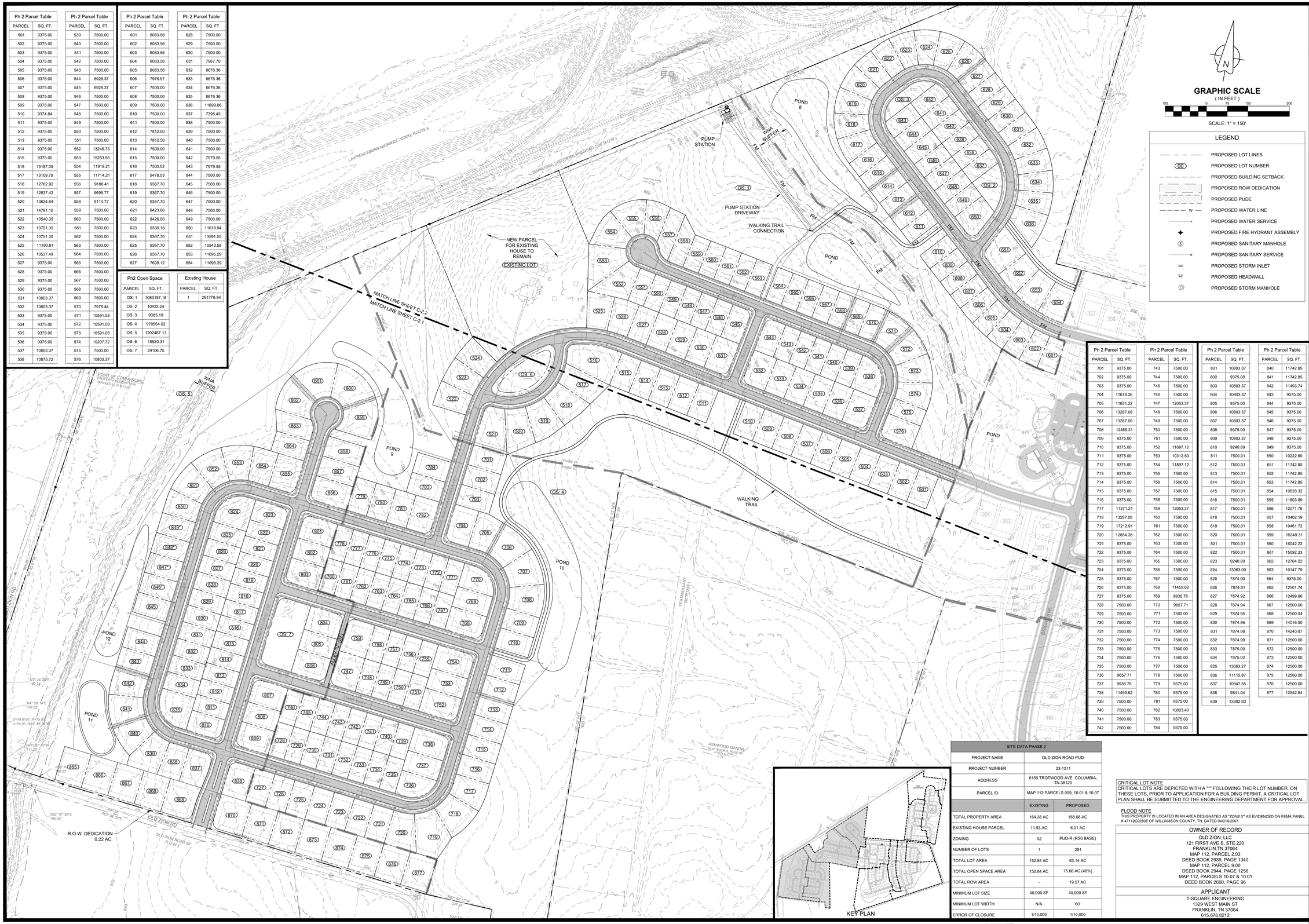
Existing House	
PARCEL	SQ. FT.
1	261778.94

Ph 2 Parcel Table	
PARCEL	SQ. FT.
701	9375.00
702	9375.00
703	9375.00
704	11678.36
705	11631.22
706	13287.08
707	13287.08
708	12465.31
709	9375.00
710	9375.00
711	9375.00
712	9375.00
713	9375.00
714	9375.00
715	9375.00
716	9375.00
717	11371.21
718	13287.08
719	17212.91
720	12654.38
721	9375.00
722	9375.00
723	9375.00
724	9375.00
725	9375.00
726	9375.00
727	9375.00
728	7500.00
729	7500.00
730	7500.00
731	7500.00
732	7500.00
733	7500.00
734	7500.00
735	7500.00
736	9657.71
737	9936.76
738	11459.62
739	7500.00
740	7500.00
741	7500.00
742	7500.00

Ph 2 Parcel Table	
PARCEL	SQ. FT.
743	7500.00
744	7500.00
745	7500.00
746	7500.00
747	12053.37
748	7500.00
749	7500.00
750	7500.00
751	7500.00
752	11897.12
753	10312.50
754	11897.12
755	7500.00
756	7500.00
757	7500.00
758	7500.00
759	12053.37
760	7500.00
761	7500.00
762	7500.00
763	7500.00
764	7500.00
765	7500.00
766	7500.00
767	7500.00
768	11459.62
769	9936.76
770	9657.71
771	7500.00
772	7500.00
773	7500.00
774	7500.00
775	7500.00
776	7500.00
777	7500.00
778	7500.00
779	9375.00
780	9375.00
781	9375.00
782	10803.40
783	9375.03
784	9375.00

Ph 2 Parcel Table	
PARCEL	SQ. FT.
801	10803.37
802	9375.00
803	10803.37
804	10803.37
805	9375.00
806	10803.37
807	10803.37
808	9375.00
809	10803.37
810	9240.89
811	7500.01
812	7500.01
813	7500.01
814	7500.01
815	7500.01
816	7500.01
817	7500.01
818	7500.01
819	7500.01
820	7500.01
821	7500.01
822	7500.01
823	9240.89
824	13063.00
825	7874.90
826	7874.91
827	7874.92
828	7874.94
829	7874.95
830	7874.96
831	7874.98
832	7874.99
833	7875.00
834	7875.02
835	13063.27
836	11115.87
837	10947.55
838	9841.04
839	13382.93

Ph 2 Parcel Table	
PARCEL	SQ. FT.
840	11742.85
841	11742.85
842	11493.74
843	9375.00
844	9375.00
845	9375.00
846	9375.00
847	9375.00
848	9375.00
849	9375.00
850	10222.80
851	11742.85
852	11742.85
853	11742.85
854	10628.32
855	11803.89
856	12071.76
857	10462.19
858	10461.72
859	15349.31
860	16042.22
861	15092.23
862	12764.22
863	10147.79
864	9375.00
865	12501.74
866	12499.96
867	12500.00
868	12500.04
869	14016.50
870	14240.87
871	12500.00
872	12500.00
873	12500.00
874	12500.00
875	12500.00
876	12500.00
877	12542.84



GRAPHIC SCALE

(IN FEET)

150 0 75 150 300

SCALE: 1" = 150'

LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

SITE DATA PHASE 2		
PROJECT NAME	OLD ZION ROAD PUD	
PROJECT NUMBER	23-1211	
ADDRESS	6150 TROTWOOD AVE. COLUMBIA, TN 38120	
PARCEL ID	MAP 112 PARCELS 009, 10.01 & 10.07	
	EXISTING	PROPOSED
TOTAL PROPERTY AREA	164.38 AC	158.08 AC
EXISTING HOUSE PARCEL	11.53 AC	6.01 AC
ZONING	A2	PUD-R (RS6 BASE)
NUMBER OF LOTS	1	291
TOTAL LOT AREA	152.84 AC	63.14 AC
TOTAL OPEN SPACE AREA	152.84 AC	75.66 AC (48%)
TOTAL ROW AREA	-	19.57 AC
MINIMUM LOT SIZE	40,000 SF	40,000 SF
MINIMUM LOT WIDTH	N/A	60'
ERROR OF CLOSURE	1/10,000	1/10,000

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A *** FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

OLD ZION ROAD

PH2 OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

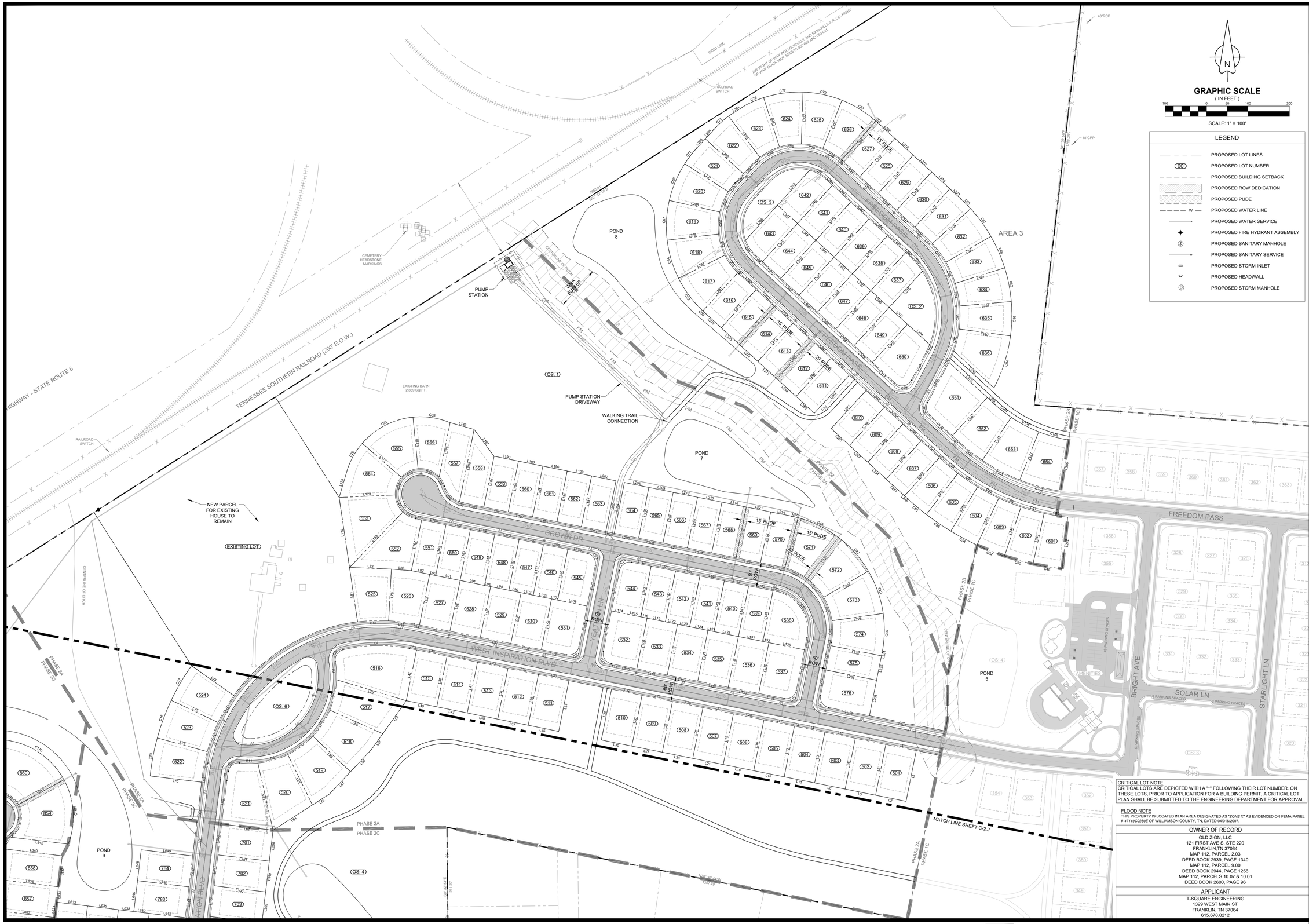
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127748
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.0

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:48:07 PM



REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

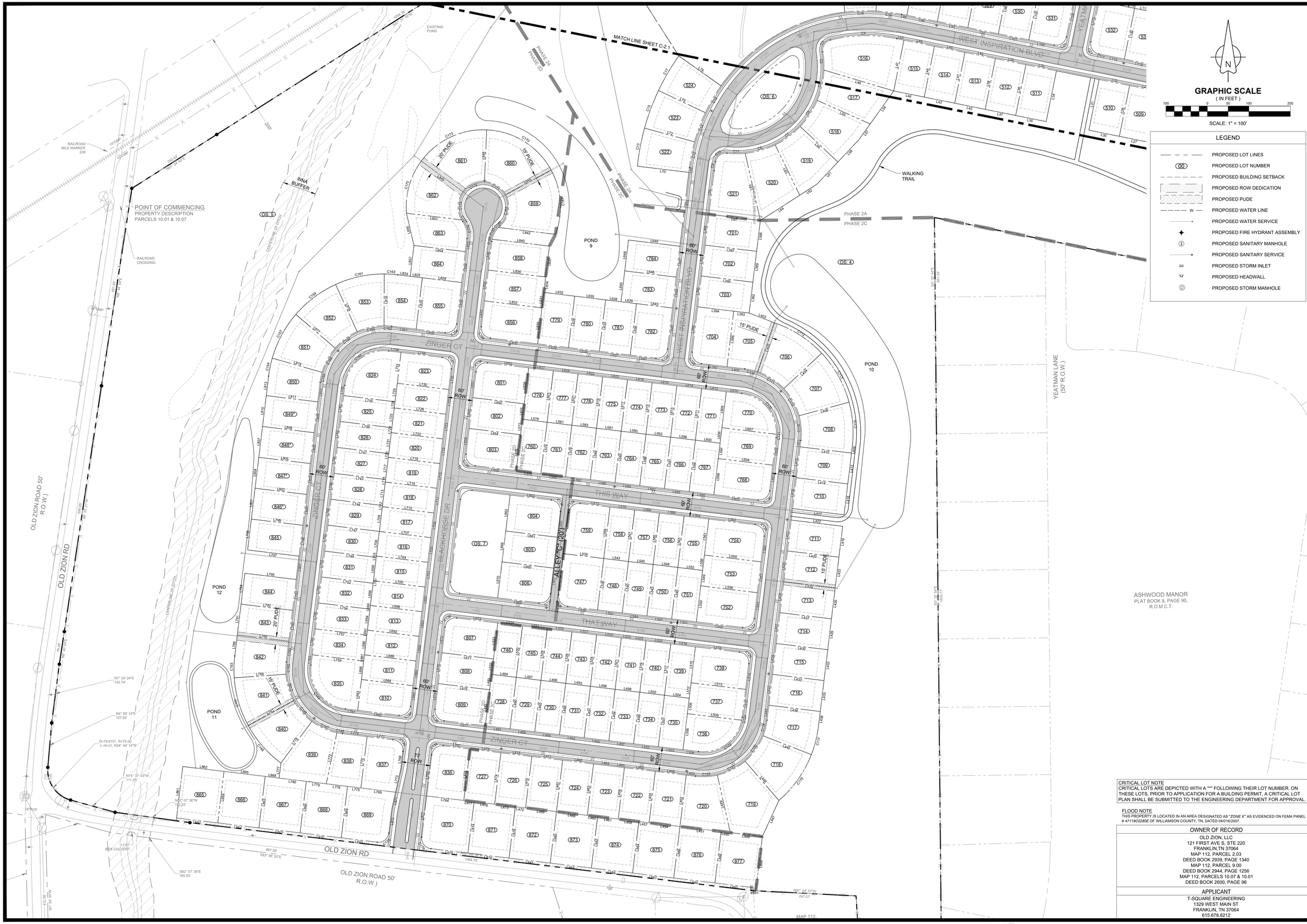
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.1

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph2 Preliminary Plan.dwg, 3/18/2024 2:48:35 PM



GRAPHIC SCALE

(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT 23-1211

SHEET C-2.2

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:50:15 PM

Phase 2 Parcel Line Table		
Line #	Length	Direction
L1	125.00	S11° 23' 16.20"W
L2	75.00	N78° 36' 43.80"W
L3	125.00	N11° 23' 16.20"E
L4	75.00	S78° 36' 43.80"E
L5	75.00	N78° 36' 43.80"W
L6	125.00	N11° 23' 16.20"E
L7	75.00	S78° 36' 43.80"E
L8	75.00	N78° 36' 43.80"W
L9	125.00	N11° 23' 16.20"E
L10	75.00	S78° 36' 43.80"E
L11	75.00	N78° 36' 43.80"W
L12	125.00	N11° 23' 16.20"E
L13	6.91	S78° 36' 43.80"E
L14	68.09	S78° 36' 43.80"E
L15	75.00	N78° 36' 43.80"W
L16	125.00	N11° 23' 16.20"E
L17	75.00	S78° 36' 43.80"E
L18	75.00	N78° 36' 43.80"W
L19	125.00	N11° 23' 16.20"E
L20	75.00	S78° 36' 43.80"E
L21	75.00	N78° 36' 43.80"W
L22	125.00	N11° 23' 16.20"E
L23	75.00	S78° 36' 43.80"E
L24	75.00	N78° 36' 43.80"W
L25	125.00	N11° 23' 16.20"E
L26	75.00	S78° 36' 43.80"E
L27	75.00	N78° 36' 43.80"W
L28	125.00	N11° 23' 16.20"E
L29	75.00	S78° 36' 43.80"E
L30	75.00	N78° 36' 43.80"W
L31	125.00	N11° 23' 16.20"E
L32	75.00	S78° 36' 55.24"E
L33	75.00	S78° 36' 43.80"E
L34	125.00	S11° 23' 16.20"W
L35	75.00	N78° 36' 43.80"W
L36	125.00	N11° 23' 16.20"E
L37	75.00	N78° 36' 43.80"W
L38	125.00	N11° 23' 16.20"E
L39	75.00	S78° 36' 43.80"E
L40	75.00	N78° 36' 43.80"W
L41	125.00	N11° 23' 16.20"E
L42	75.00	S78° 36' 43.80"E
L43	75.00	N78° 36' 43.80"W
L44	125.00	N11° 23' 16.20"E
L45	75.00	S78° 36' 43.80"E
L46	75.00	N78° 36' 43.80"W
L47	125.00	N11° 23' 16.20"E
L48	75.00	S78° 36' 43.80"E
L49	175.76	N73° 20' 04.38"W
L53	17.56	S78° 36' 43.80"E
L54	97.82	S35° 28' 55.61"W
L55	139.90	N66° 01' 40.90"W
L57	46.88	S35° 28' 55.61"W
L58	73.79	S43° 21' 33.04"W
L59	125.00	N46° 38' 26.96"W
L61	73.79	S43° 21' 33.04"W
L62	48.96	S57° 18' 06.30"W
L63	135.22	N26° 04' 03.72"W
L64	112.91	S57° 18' 06.30"W
L65	166.14	N12° 43' 08.48"W
L66	106.03	N6° 53' 25.47"E
L67	125.00	N83° 06' 34.53"W
L69	11.60	S6° 53' 25.47"W
L70	125.00	N83° 06' 34.53"W
L72	125.00	S74° 39' 02.91"E
L75	125.00	S64° 38' 40.74"E
L76	125.00	S54° 38' 18.56"E
L79	125.00	S3° 03' 24.09"W
L81	132.86	N8° 25' 30.85"W
L82	101.17	S87° 42' 16.97"E
L83	125.00	S11° 23' 16.20"W
L84	12.56	N78° 36' 43.80"W
L86	48.33	S85° 34' 21.07"E
L87	45.00	S78° 36' 43.80"E
L88	125.00	S11° 23' 16.20"W
L89	75.00	N78° 36' 43.80"W
L90	15.00	S78° 36' 43.80"E
L91	60.00	S78° 36' 43.80"E
L92	125.00	S11° 23' 16.20"W
L93	75.00	N78° 36' 43.80"W
L94	60.00	S78° 36' 43.80"E
L95	15.00	S78° 36' 43.80"E
L96	125.00	S11° 23' 16.20"W
L97	75.00	N78° 36' 43.80"W
L98	45.00	S78° 36' 43.80"E
L99	30.00	S78° 36' 43.80"E
L100	125.00	S11° 23' 16.20"W
L101	75.00	N78° 36' 43.80"W
L102	30.00	S78° 36' 43.80"E
L103	45.00	S78° 36' 43.80"E
L104	100.00	S11° 23' 16.20"W
L106	62.50	N78° 36' 43.80"W
L107	15.00	S78° 36' 43.80"E
L108	72.50	S78° 36' 43.80"E
L109	125.00	S11° 23' 16.20"W
L110	51.45	N78° 36' 43.80"W
L111	11.05	N78° 36' 43.80"W
L113	100.00	N11° 23' 16.20"E
L114	36.05	S78° 36' 43.80"E
L115	36.45	S78° 36' 43.80"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L116	15.00	S78° 36' 43.80"E
L117	125.00	S11° 23' 16.20"W
L118	75.00	N78° 36' 43.80"W
L119	45.00	S78° 36' 43.80"E
L120	30.00	S78° 36' 43.80"E
L121	125.00	S11° 23' 16.20"W
L122	75.00	N78° 36' 43.80"W
L123	30.00	S78° 36' 43.80"E
L124	45.00	S78° 36' 43.80"E
L125	125.00	S11° 23' 16.20"W
L126	75.00	N78° 36' 43.80"W
L127	15.00	S78° 36' 43.80"E
L128	60.00	S78° 36' 43.80"E
L129	125.00	S11° 23' 16.20"W
L130	75.00	N78° 36' 43.80"W
L131	60.00	S78° 36' 43.80"E
L132	15.00	S78° 36' 43.80"E
L133	100.00	S11° 23' 16.20"W
L135	62.50	N78° 36' 43.80"W
L136	87.50	S78° 36' 43.80"E
L138	30.00	S11° 23' 16.20"W
L139	125.00	N11° 23' 16.20"E
L140	7.50	S78° 36' 43.80"E
L141	125.00	N11° 23' 16.20"E
L142	60.00	S78° 36' 43.80"E
L143	125.00	N11° 23' 16.20"E
L144	60.00	S78° 36' 43.80"E
L145	125.00	N11° 23' 16.20"E
L146	60.00	S78° 36' 43.80"E
L147	125.00	N11° 23' 16.20"E
L148	60.00	S78° 36' 43.80"E
L149	125.00	N11° 23' 16.20"E
L150	60.00	S78° 36' 43.80"E
L151	100.00	N11° 23' 16.20"E
L153	47.50	S78° 36' 43.80"E
L154	100.00	S11° 23' 16.20"W
L155	125.00	N11° 23' 16.20"E
L156	47.50	S78° 36' 43.80"E
L157	125.00	N11° 23' 16.20"E
L158	60.00	S78° 36' 43.80"E
L159	125.00	N11° 23' 16.20"E
L160	60.00	S78° 36' 43.80"E
L161	125.00	N11° 23' 16.20"E
L162	60.00	S78° 36' 43.80"E
L163	125.00	N11° 23' 16.20"E
L164	60.00	S78° 36' 43.80"E
L165	125.00	N11° 23' 16.20"E
L166	60.00	S78° 36' 43.80"E
L167	125.00	N11° 23' 16.20"E
L168	60.00	S78° 36' 43.80"E
L169	185.69	N43° 58' 41.07"E
L171	15.00	S78° 36' 43.80"E
L172	170.63	N8° 25' 30.85"W
L173	135.49	N87° 27' 17.99"E
L175	72.86	N16° 27' 10.50"E
L179	133.31	S11° 23' 16.20"W
L180	178.22	S11° 23' 16.20"W
L183	60.17	S74° 15' 48.49"E
L184	125.00	S11° 23' 16.20"W
L185	51.09	N78° 36' 43.80"W
L187	80.65	S36° 40' 53.98"E
L188	125.00	S11° 23' 16.20"W
L189	60.00	N78° 36' 43.80"W
L190	60.00	S78° 36' 43.80"E
L191	125.00	S11° 23' 16.20"W
L192	60.00	N78° 36' 43.80"W
L193	60.00	S78° 36' 43.80"E
L194	125.00	S11° 23' 16.20"W
L195	60.00	N78° 36' 43.80"W
L196	60.00	S78° 36' 43.80"E
L197	125.00	S11° 23' 16.20"W
L198	60.00	N78° 36' 43.80"W
L199	60.00	S78° 36' 43.80"E
L200	125.00	S11° 23' 16.20"W
L201	60.00	N78° 36' 43.80"W
L202	60.00	S78° 36' 43.80"E
L203	60.00	N78° 36' 43.80"W
L204	125.00	N11° 23' 16.20"E
L205	60.00	S78° 36' 43.80"E
L206	125.00	S11° 23' 16.20"W
L207	125.00	S11° 23' 16.20"W
L208	60.00	N78° 36' 43.80"W
L209	60.00	S78° 36' 43.80"E
L210	125.00	S11° 23' 16.20"W
L211	60.00	N78° 36' 43.80"W
L212	60.00	S78° 36' 43.80"E
L213	125.00	S11° 23' 16.20"W
L214	60.00	N78° 36' 43.80"W
L215	60.00	S78° 36' 43.80"E
L216	125.00	S11° 23' 16.20"W
L217	60.00	N78° 36' 43.80"W
L218	60.00	S78° 36' 43.80"E
L219	125.00	S11° 23' 16.20"W
L220	60.00	N78° 36' 43.80"W
L221	60.00	S78° 36' 43.80"E
L222	125.00	S14° 53' 30.73"W
L223	50.53	N78° 36' 43.80"W
L224	50.53	S78° 36' 43.80"E

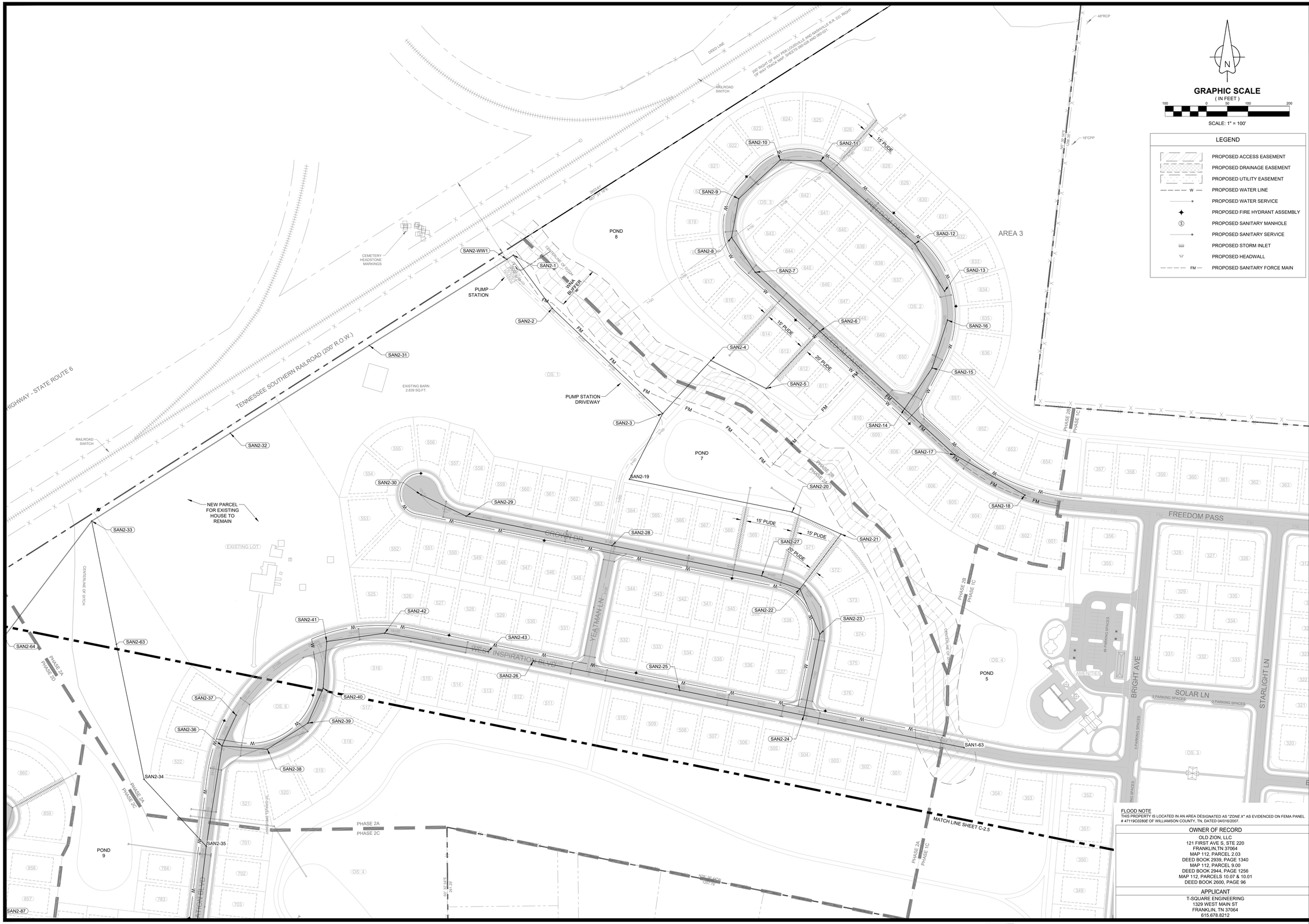
Phase 2 Parcel Line Table		
Line #	Length	Direction
L225	125.00	S37° 12' 42.28"W
L226	125.00	S59° 31' 53.83"W
L228	125.00	S81° 51' 05.37"W
L231	7.50	S11° 23' 16.20"W
L232	125.00	N78° 36' 43.80"W
L233	7.50	N11° 23' 16.20"E
L235	60.00	S11° 23' 16.20"W
L236	125.00	N78° 36' 43.80"W
L237	60.00	N11° 23' 16.20"E
L238	87.50	S11° 23' 16.20"W
L239	100.00	N78° 36' 43.80"W
L241	62.50	N11° 23' 16.20"E
L242	125.00	S6° 08' 35.14"W
L243	125.00	N12° 23' 47.93"E
L244	125.00	N18° 39' 00.72"E
L245	125.00	N24° 54' 13.50"E
L246	125.00	N31° 09' 26.29"E
L247	125.00	N37° 24' 39.08"E
L248	10.97	N47° 28' 44.00"W
L249	125.00	N42° 31' 16.00"E
L250	10.97	S47° 28' 44.00"E
L251	60.00	N47° 28' 44.00"W
L252	125.00	N42° 31' 16.00"E
L253	60.00	S47° 28' 44.00"E
L254	60.00	N47° 28' 44.00"W
L255	125.00	N42° 31' 16.00"E
L256	60.00	S47° 28' 44.00"E
L257	60.00	N47° 28' 44.00"W
L258	125.00	N42° 31' 16.00"E
L259	60.00	S47° 28' 44.00"E
L260	60.00	N47° 28' 44.00"W
L261	125.00	N42° 31' 16.00"E
L262	60.00	S47° 28' 44.00"E
L263	60.00	N47° 28' 44.00"W
L264	125.00	S42° 31' 16.00"W
L265	60.00	N47° 28' 44.00"W
L266	125.00	N42° 31' 16.00"E
L267	62.50	S47° 28' 44.00"E
L268	62.50	N47° 28' 44.00"W
L269	125.00	N42° 31' 16.00"E
L270	62.50	S47° 28' 44.00"E
L271	62.50	N47° 28' 44.00"W
L272	125.00	N42° 31' 16.00"E
L273	60.00	S47° 28' 44.00"E
L274	60.00	N47° 28' 44.00"W
L275	125.00	N42° 31' 16.00"E
L276	60.00	N47° 28' 44.00"W
L277	125.00	N42° 31' 16.00"E
L278	60.00	S47° 28' 44.00"E
L279	56.35	N47° 28' 44.00"W
L281	125.02	N42° 31' 16.00"E
L283	56.35	S47° 28' 44.00"E
L284	125.00	N63° 27' 29.05"E
L285	125.00	N83° 11' 59.46"E
L288	125.00	S77° 03' 30.14"E
L291	125.00	S57° 18' 59.73"E
L292	125.00	S47° 28' 44.00"E
L293	30.04	S42° 31' 16.00"W
L296	30.04	N42° 31' 16.00"E
L297	29.96	S42° 31' 16.00"W
L298	29.96	N42° 31' 16.00"E
L299	125.00	S37° 36' 42.21"E
L300	125.00	S17° 52' 11.80"E
L301	50.10	N57° 31' 16.00"E
L302	125.00	S1° 52' 18.60"W
L303	125.00	S21° 36' 49.01"W
L304	125.00	S41° 21' 19.41"W
L306	56.44	S47° 28' 44.00"E
L307	125.00	S42° 31' 16.00"W
L308	56.44	N47° 28' 44.00"W
L310	125.00	S42° 31' 16.00"W
L311	60.00	N47° 28' 44.00"W
L312	60.00	S47° 28' 44.00"E
L313	125.00	S42° 31' 16.00"W
L314	60.00	N47° 28' 44.00"W
L315	60.00	S47° 28' 44.00"E
L316	125.00	S42° 31' 16.00"W
L317	60.00	N47° 28' 44.00"W
L318	60.00	S47° 28' 44.00"E
L319	125.00	S47° 32' 10.88"W
L320	35.95	N47° 28' 44.00"W
L321	35.95	S47° 28' 44.00"E
L322	125.00	S60° 03' 43.85"W
L324	125.00	S72° 35' 16.83"W
L327	125.00	S85° 06' 49.80"W
L330	125.00	N82° 21' 37.22"W
L333	131.73	N47° 28' 44.00"W
L335	118.62	S42° 31' 16.00"W
L336	60.00	N47° 28' 44.00"W
L337	125.00	N42° 31' 16.00"E
L338	10.52	S47° 28' 44.00"E
L339	60.00	N47° 28' 44.00"W
L340	125.00	N42° 31' 16.00"E
L341	60.00	S47° 28' 44.00"E
L342	60.00	N47° 28' 44.00"W
L343	125.00	N42° 31' 16.00"E
L344	60.00	S47° 28' 44.00"E
L345	60.00	N47° 28' 44.00"W
L346	125.00	N42° 31' 16.00"E
L347	60.00	S47° 28' 44.00"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L348	60.00	N47° 28' 44.00"W
L349	125.00	N42° 31' 16.00"E
L350	60.00	S47° 28' 44.00"E
L351	65.00	N47° 28' 44.00"W
L352	114.65	N42° 31' 16.00"E
L354	21.87	S47° 28' 44.00"E
L355	125.00	S42° 31' 16.00"W
L356	21.87	N47° 28' 44.00"W
L358	114.65	N42° 31' 16.00"E
L359	125.00	S42° 31' 16.00"W
L360	60.00	N47° 28' 44.00"W
L361	125.00	S42° 31' 16.00"W
L362	60.00	N47° 28' 44.00"W
L363	125.00	S42° 31' 16.00"W
L364	60.00	N47° 28' 44.00"W
L365	125.00	S42° 31' 16.00"W
L366	60.00	N47° 28' 44.00"W
L367	125.00	S42° 31' 16.00"W
L368	60.00	N47° 28' 44.00"W
L369	125.00	S42° 31' 16.00"W
L370	60.00	N47° 28' 44.00"W
L371	60.00	S47° 28' 44.00"E
L372	75.53	S27° 50' 47.02"W
L373	74.11	N47° 28' 44.00"W
L374	72.52	S47° 28' 44.00"E
L375	73.64	N47° 28' 44.00"W
L377	104.34	N27° 50' 47.02"E
L379	125.73	S47° 28' 44.00"E
L380	125.00	S42° 31' 16.00"W
L381	125.00	S34° 02' 04.97"W
L382	23.99	N47° 28' 44.00"W
L383	23.99	S47° 28' 44.00"E
L384	125.00	S21° 33' 16.02"W
L385	125.00	S9° 04' 27.08"W
L386	75.00	S6° 53' 25.47"W
L387	125.00	N83° 06' 34.53"W
L388	75.00	N6° 53' 25.47"E
L389	75.00	S6° 53' 25.47"W
L390	125.00	N83° 06' 34.53"W
L391	75.00	N6° 53' 25.47"E
L392	75.00	S6° 53' 25.47"W
L393	37.50	N83° 06' 34.53"W
L394	87.50	N83° 06' 34.53"W
L395	75.00	N6° 53' 25.47"E
L396	135.00	S6° 53' 25.47"W
L397	62.50	N83° 06' 35.22"W
L399	110.00	N6° 53' 25.47"E
L400	125.00	S18° 46' 31.14"W
L402	43.00	N83° 06' 35.22"W
L403	65.16	S68° 53' 40.94"E
L404	125.00	S46° 46' 36.92"W
L406	125.00	S74° 46' 42.70"W
L409	15.78	S6° 53' 24.78"W
L410	125.00	N83° 06' 35.22"W
L411	15.78	N6° 53' 24.78"E
L413	75.00	S6° 53' 24.78"W
L414	125.00	N83° 06' 35.22"W
L415	75.00	N6° 53' 24.78"E
L416	75.00	S6° 53' 24.78"W
L417	125.00	N83° 06' 35.22"W
L418	75.00	N6° 53' 24.78"E
L419	75.00	S6° 53' 24.78"W
L420	125.00	N83° 06' 35.22"W
L421	75.00	N6° 53' 24.78"E
L422	125.00	S83° 06' 35.22"E
L423	75.00	S6° 53' 24.78"W
L424	125.00	N83° 06' 35.22"W
L425	75.00	N6° 53' 24.78"E
L426	75.00	S6° 53' 24.78"W
L427	125.00	N83° 06' 35.22"W
L428	75.00	N6° 53' 24.78"E
L429	75.00	S6° 53' 24.78"W
L430	125.00	N83° 06' 35.22"W
L431	75.00	N6° 53' 24.78"E
L432	75.00	S6° 53' 24.78"W
L433	125.00	N83° 06' 35.22"W
L434	75.00	N6° 53' 24.78"E
L435	75.00	S6° 53' 24.78"W
L436	125.00	N83° 06' 35.22"W
L437	75.00	N6° 53' 24.78"E
L438	36.27	S6° 53' 24.78"W
L440	125.00	N68° 41' 59.82"W
L442	36.27	N6° 53' 24.78"E
L446	125.00	S40° 41' 54.04"E
L447	95.73	S24° 40' 09.76"W
L448	77.87	N83° 06' 35.22"W
L449	142.20	N12° 41' 48.27"W
L450	22.13	N83° 06' 35.22"W
L451	100.00	N83° 06' 35.22"W
L452	125.00	N6° 53' 24.78"E
L453	22.50	S83° 06' 35.22"E
L454	75.00	N83° 06' 35.22"W
L455	125.00	N6° 53' 24.78"E
L456	75.00	S83° 06' 35.22"E
L457	25.00	N83° 06' 35.22"W
L458	50.00	N83° 06' 35.22"W
L459	125.00	N6° 53' 24.78"E
L460	75.00	S83° 06' 35.22"E
L461	50.00	N83° 06' 35.22"W
L462	25.00	N83° 06' 35.22"W

Phase 2 Parcel Line Table		
Line #	Length	Direction
L463	125.00	N6° 53' 24.78"E
L464	57.00	S83° 06' 35.22"E
L465	18.00	S83° 06' 35.22"E
L466	75.00	N83° 06' 35.22"W
L467	125.00	N6° 53' 24.78"E
L468	75.00	S83° 06' 35.22"E
L469	75.00	N83° 06' 35.22"W
L470	125.00	N6° 53' 24.78"E
L471	75.00	S83° 06' 35.22"E
L472	25.00	N83° 06' 35.22"W
L473	50.00	N83° 06' 35.22"W
L474	125.00	N6° 53' 24.78"E
L475	75.00	S83° 06' 35.22"E
L476	50.00	N83° 06' 35.22"W
L477	25.00	N83° 06' 35.22"W
L478	125.00	N6° 53' 24.78"E
L479	75.00	S83° 06' 35.22"E
L480	125.00	S6° 53' 24.78"W
L481	60.00	N83° 06' 35.22"W
L482	87.50	N6° 53' 24.78"E
L483	37.50	N6° 53' 24.78"E
L484	60.00	S83° 06' 35.22"E
L485	125.00	S6° 53' 24.78"W
L486	60.00	N83° 06' 35.22"W
L487	60.00	S83° 06' 35.22"E
L488	125.00	S6° 53' 24.78"W
L489	60.00	N83° 06' 35.22"W
L490	60.00	S83° 06' 35.22"E
L491	125.00	S6° 53' 24.78"W
L492	60.00	N83° 06' 35.22"W
L493	60.00	S83° 06' 35.22"E
L494	125.00	S6° 53' 24.78"W
L495	60.00	N83° 06' 35.22"W
L496	60.00	S83° 06' 35.22"E
L497	60.00	N83° 06' 35.22"W
L498	60.00	S83° 06' 35.22"E
L499	125.00	S6° 53' 24.78"W
L500	60.00	S83° 06' 35.22"E
L501	125.00	S6° 53' 24.78"W
L502	60.00	N83° 06' 35.22"W
L503	60.00	N83° 06' 35.22"W
L504	60.00	S83° 06' 35.22"E
L505	37.50	S6° 53' 24.78"W
L506	87.50	S6° 53' 24.78"W
L508	37.50	N83° 06' 35.22"W
L509	132.20	S83° 06' 35.22"E
L510	67.50	S6° 53' 24.78"W
L512	37.50	N6° 53' 24.78"E
L513	132.50	S83° 06' 35.22"E
L514	62.50	S6° 53' 24.78"W
L515	87.50	N6° 53' 24.78"E
L516	107.50	S83° 06' 35.22"E
L517	125.00	N6° 53' 24.78"E
L518	60.00	S83° 06' 35.22"E
L519	125.00	N6° 53' 24.78"E
L520	60.00	S83° 06' 35.22"E
L521	125.00	N6° 53' 24.78"E
L522	27.00	S83° 06' 35.22"E
L523	33.00	S83° 06' 35.22"E
L524	125.00	N6° 53' 24.78"E
L525	60.00	S83° 06' 35.22"E
L526	125.00	N6° 53' 24.78"E
L527	60.00	S83° 06' 35.22"E
L528	125.00	N6° 53' 24.78"E
L529	60.00	S83° 06' 35.22"E
L530	125.00	N6° 53' 24.78"E
L531	60.00	S83° 06' 35.22"E
L532	37.50	N6° 53' 24.78"E
L533	87.50	N6° 53' 24.78"E
L534	60.00	S83° 06' 35.22"E
L535	125.00	S6° 53' 24.78"W
L536	72.50	N83° 06' 35.22"W
L538	100.00	N6° 53' 24.78"E
L539	97.50	S83° 06' 35.22"E
L540	125.00	S6° 53' 24.78"W
L541	60.00	N83° 06' 35.22"W
L542	60.00	S83° 06' 35.22"E
L543	125.00	S6° 53' 24.78"W
L544	60.00	N83° 06' 35.22"W
L545	60.00	S83° 06' 35.22"E
L546	125.00	S6° 53' 24.78"W
L547	60.00	N83° 06' 35.22"W
L548	60.00	S83° 06' 35.22"E
L549	37.50	S6° 53' 24.78"W
L550	87.50	S6° 53' 24.78"W
L551	60.00	N83° 06' 35.22"W
L552	60.00	S83° 06' 35.22"E
L553	62.50	S6° 53' 24.78"W
L555	112.50	N83° 06' 35.22"W
L556	137.50	S83° 06' 35.22"E
L557	75.00	S6° 53' 24.78"W
L558	37.50	N6° 53' 24.78"E
L559	137.50	S83° 06' 35.22"E
L560	62.50	S6° 53' 24.78"W
L561	87.50	N6° 53' 24.78"E
L562	112.50	S83° 06' 35.22"E
L563	125.00	N6° 53' 24.78"E
L564	60.00	S83° 06' 35.22"E
L565	125.00	N6° 53' 24.78"E
L566	60.00	S83° 06' 35.22"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L567	125.00	N6° 53' 24.78"E
L568	60.00	S83° 06' 35.22"E
L569	125.00	N6° 53' 24.78"E
L570	60.00	S83° 06' 35.22"E
L571	100.00	N6° 53' 24.78"E
L573	72.50	S83° 06' 35.22"E
L574	125.00	S6° 53' 24.78"W
L575	60.00	N83° 06' 35.22"W
L576	87.50	N6° 53' 24.78"E
L577	37.50	N6° 53' 24.78"E
L578	60.00	S83° 06' 35.22"E
L579	125.00	S6° 53' 24.78"W
L580	60.00	N83° 06' 35.22"W
L581	60.00	S83° 06' 35.22"E
L582	60.00	N83° 06' 35.22"W
L583	60.00	S83° 06' 35.22"E
L584	125.00	S6° 53' 24.78"W
L585	125.00	S6° 53' 24.78"W
L586	60.00	N83° 06' 35.22"W
L587	60.00	S83° 06' 35.22"E
L588	125.00	S6° 53' 24.78"W
L589	60.00	N83° 06' 35.22"W
L590	60.00	S83° 06' 35.22"E
L591	125.00	S6° 53' 24.78"W
L592	60.00	N83° 06' 35.22"W
L593	60.00	S83° 06' 35.22"E
L594	125.00	S6° 53' 24.78"W
L595	60.00	N83° 06' 35.22"W
L596	60.00	S83° 06' 35.22"E
L597	37.50	S6° 53' 24.78"W
L598	87.50	S6° 53' 24.78"W
L599	60.00	N83° 06' 35.22"W
L600	60.00	S83° 06' 35.22"E
L601	62.50	S6° 53' 24.78"W
L603	107.50	N83° 06' 35.22"W
L604	132.50	S83° 06' 35.22"E
L605	67.50	S6° 53' 24.78"W
L606	37.50	N6° 53' 24.78"E
L607	132.20	S83° 06' 35.22"E
L609	87.50	N6° 53' 24.78"E
L610	37.50	S83° 06' 35.22"E
L611	125.00	N6° 53' 24.78"E
L612	60.00	S83° 06' 35.22"E
L613	125.00	N6° 53' 24.78"E
L614	60.00	S83° 06' 35.22"E
L615	125.00	N6° 53' 24.78"E
L616	60.00	S83° 06' 35.22"E
L617	125.00	N6° 53' 24.78"E
L618	60.00	S83° 06' 35.22"E
L619	125.00	N6° 53' 24.78"E
L620	60.00	S83° 06' 35.22"E
L621	125.00	N6° 53' 24.78"E
L622	60.00	S83° 06' 35.22"E
L623	125.00	N6° 53' 24.78"E
L624	60.00	S83° 06' 35.22"E
L625	37.50	N6° 53' 24.78"E
L626	87.50	N6° 53' 24.78"E
L627	60.00	S83° 06' 35.22"E
L628	125.00	S6° 53' 24.78"W
L629	75.00	N83° 06' 35.22"W
L630	87.50	N6° 53' 24.78"E
L631	37.50	N6° 53' 24.78"E
L632	75.00	S83° 06' 35.22"E
L633	125.00	S6° 53' 24.78"W
L634	75.00	N83° 06' 35.22"W
L635	75.00	S83° 06' 35.22"E
L636	125.00	S6° 53' 24.78"W
L637	75.00	N83° 06' 35.22"W
L638	37.50	S83° 06' 35.22"E
L639	37.50	S83° 06' 35.22"E
L640	100.00	S6° 53' 25.47"W
L642	62.50	N83° 06' 35.22"W
L643	87.50	S83° 06' 35.22"E
L644	75.00	S6° 53' 25.47"W
L645	75.00	N6° 53' 25.47"E
L646	125.00	S83° 06' 34.53"E
L647	75.00	S6° 53' 25.47"W
L648	75.00	N6° 53' 25.47"E
L649	125.00	S83° 06' 34.53"E
L650	125.00	N83° 06' 35.22"W
L651	62.50	N6° 53' 24.78"E
L653	100.00	S83° 06' 35.22"E
L654	125.00	N83° 06' 35.22"W
L655	75.00	N6° 53' 24.78"E
L656	100.00	N83° 06' 35.22"W
L658	62.50	N6° 53' 24.78"E
L660	62.50	S6° 53' 24.78"W
L661	125.00	N83° 06' 35.22"W
L662	87.50	N6° 53' 24.78"E
L663	100.00	S83° 06' 35.22"E
L664	75.00	S6° 53' 24.78"W
L665	125.00	N83° 06' 35.22"W
L666	75.00	N6° 53' 24.78"E
L667	62.50	S6° 53' 24.78"W
L669	100.00	N83° 06' 35.22"W
L670	87.50	N6° 53' 24.78"E
L671	125.00	N83° 06' 35.22"W
L672	62.50	N6° 53' 24.78"E
L674	100.00	N83° 06' 35.22"W
L675	125.00	S83° 06' 35.22"E

Phase 2 Parcel Line Table		
Line #	Length	Direction
L676	75.00	N6° 53' 24.78"E
L677	100.00	N83° 06' 35.22"W
L679	62.50	N6° 53' 24.78"E
L680	50.00	S6° 53' 24.78"W
L682	100.00	N83° 06' 35.22"W
L683	75.00	N6° 53' 24.78"E
L684	125.00	S83° 06' 35.22"E
L685	60.00	S6° 53' 24.78"W
L686	45.00	N6° 53' 24.78"E
L687	15.00	N6° 53' 24.78"E
L688	125.00	S83° 06' 35.22"E
L689	60.00	S6° 53' 24.78"W
L690	48.00	N6° 53' 24.78"E
L691	12.00	N6° 53' 24.78"E
L692	125.00	S83° 06' 35.22"E
L693	60.00	S6° 53' 24.78"W
L694	51.00	N6° 53' 24.78"E
L695	9.00	N6° 53' 24.78"E
L696	125.00	S83° 06' 35.22"E
L697	60.00	S6° 53' 24.78"W
L698	54.00	N6° 53' 24.78"E
L699	57.00	N6° 53' 24.78"E
L700	125.00	S83° 06' 35.22"E
L701	60.00	S6° 53' 24.78"W
L703	3.00	N6° 53' 24.78"E
L704	125.00	S83° 06' 35.22"E
L705	60.00	S6° 53' 24.78"W
L706	60.00	N6° 53' 24.78"E
L707	125.00	S83° 06' 35.22"E
L708	60.00	S6° 53' 24.78"W
L709	60.00	N6° 53' 24.



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.4

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:51:14 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127740
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.5

T-SQUARE ENGINEERING



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

T-SQUARE ENGINEERING

REVISIONS			
NO.	DATE		

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.6

PH2 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

P:\Projects\2023\23-1211 (Old Zion Rd - Andrew Ethridge)\Production\Preliminary\23-1211 Ph2 Preliminary Plan.dwg, 3/18/2024 2:52:38 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH2 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127734
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-2.7

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH2 Preliminary Plan.dwg, 3/18/2024 2:53:11 PM

Ph3 Parcel Table	
PARCEL	SQ. FT.
1001	9434.90
1002	9495.52
1003	9375.00
1004	9375.00
1005	9375.00
1006	9375.00
1007	9375.00
1008	9375.00
1009	9375.00
1010	9375.00
1011	9375.00
1012	9375.00
1013	9375.00
1014	9375.00
1015	9375.00
1016	9375.00
1017	9375.00
1018	9375.00
1019	13287.08
1020	13287.08
1021	12808.87
1022	9375.00
1023	7500.00
1024	7500.00
1025	7500.00
1026	7900.00
1027	7900.00
1028	7900.00
1029	8038.51
1030	10806.41
1031	7906.45
1032	7900.00
1033	7900.00
1034	7900.00
1035	7825.28
1036	7825.28

Ph3 Parcel Table	
PARCEL	SQ. FT.
1037	7825.28
1038	7825.28
1039	10801.09
1040	10806.41
1041	7825.28
1042	7825.28
1043	7825.28
1044	7825.28
1045	7500.00
1046	7500.00
1047	7500.00
1048	8272.87
1049	10801.09
1050	10806.41
1051	8139.81
1052	7500.00
1053	7500.00
1054	7500.00
1055	7500.00
1056	7500.00
1057	7500.00
1058	7500.00
1059	7500.00
1060	8992.22
1061	11333.92
1062	9375.00
1063	10976.33
1064	9349.61
1065	9375.00
1066	9375.00
1067	9375.00
1068	9375.00
1069	9375.00
1070	9375.00
1071	9375.00
1072	9375.00

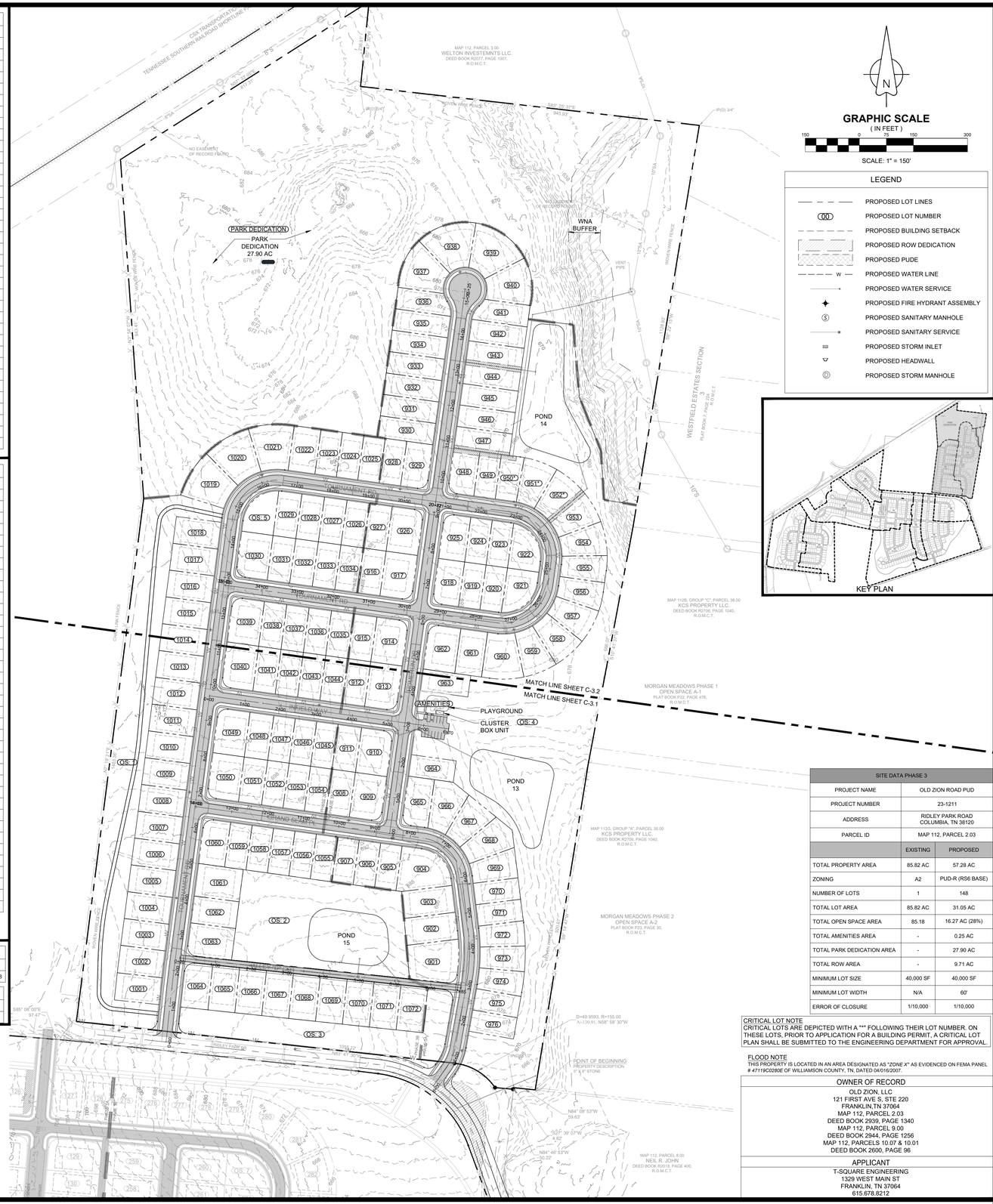
Ph3 Parcel Table	
PARCEL	SQ. FT.
901	14878.62
902	10773.21
903	10592.61
904	14421.23
905	7500.00
906	7500.00
907	7500.00
908	8206.64
909	10803.37
910	10803.37
911	8206.64
912	7875.31
913	10803.37
914	10803.37
915	8008.38
916	7900.00
917	10803.37
918	8928.37
919	7500.00
920	7499.23
921	8988.08
922	8988.08
923	7499.23
924	7500.00
925	8928.37
926	10803.37
927	7900.00
928	7500.00
929	8928.37
930	9292.07
931	9292.07
932	9292.07
933	9292.07
934	9292.07
935	9292.07
936	8648.03
937	12914.87
938	14285.59
939	14285.59

Ph3 Parcel Table	
PARCEL	SQ. FT.
940	12167.75
941	8648.03
942	9292.06
943	9292.06
944	9292.06
945	9292.06
946	9292.07
947	9292.07
948	8928.37
949	7500.00
950	7698.45
951	9362.50
952	9362.49
953	9362.49
954	9368.69
955	8304.60
956	8543.27
957	9362.49
958	9362.49
959	9362.49
960	12138.86
961	9375.00
962	10803.37
963	7951.23
964	7500.00
965	9654.17
966	10749.76
967	9511.48
968	10678.56
969	8870.49
970	7500.00
971	7500.00
972	8033.93
973	8083.56
974	7972.22
975	7500.41
976	7499.59

Ph3 Open Space	
PARCEL	SQ. FT.
OS: 1	156316.75
OS: 2	115231.05
OS: 3	62394.72
OS: 4	366243.89

Amenities	
PARCEL	SQ. FT.
AMENITIES	10689.98

Park Dedication	
PARCEL	SQ. FT.
1	1215173.58



SITE DATA PHASE 3		
PROJECT NAME	OLD ZION ROAD PUD	
PROJECT NUMBER	23-1211	
ADDRESS	RIDLEY PARK ROAD COLUMBIA, TN 38120	
PARCEL ID	MAP 112, PARCEL 2.03	
	EXISTING	PROPOSED
TOTAL PROPERTY AREA	85.82 AC	57.28 AC
ZONING	A2	PUD-R (RS6 BASE)
NUMBER OF LOTS	1	148
TOTAL LOT AREA	85.82 AC	31.05 AC
TOTAL OPEN SPACE AREA	85.18	16.27 AC (28%)
TOTAL AMENITIES AREA	-	0.25 AC
TOTAL PARK DEDICATION AREA	-	27.90 AC
TOTAL ROW AREA	-	9.71 AC
MINIMUM LOT SIZE	40,000 SF	40,000 SF
MINIMUM LOT WIDTH	N/A	60'
ERROR OF CLOSURE	1/10,000	1/10,000

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2938, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 OVERALL SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

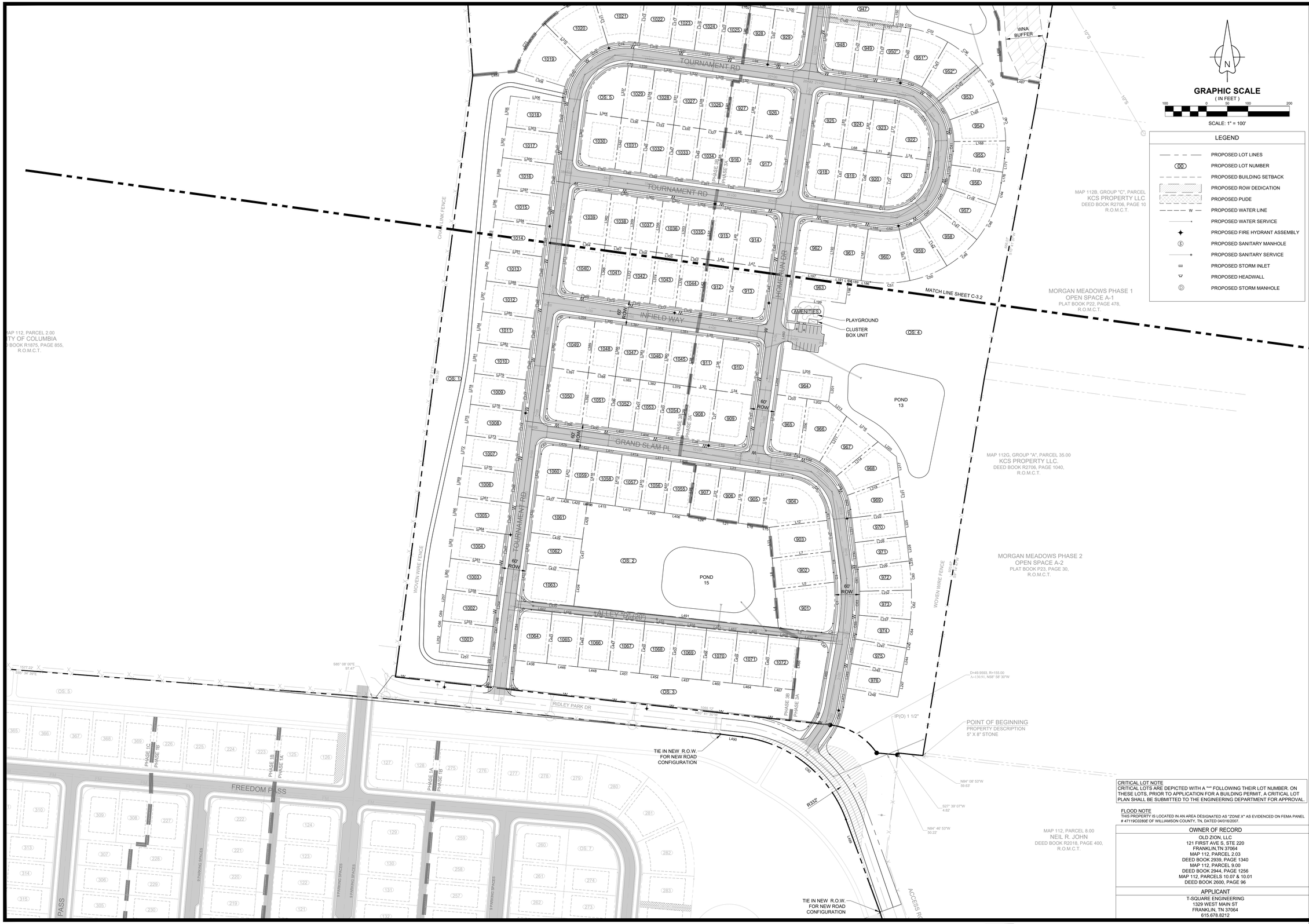
KELSEY H. MAGEE
REGISTERED ENGINEER
MORICTO TUIRE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.0

T-SQUARE ENGINEERING

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:01:44 PM



LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

T-SQUARE ENGINEERING

PROJECT 23-1211

SHEET C-3.1

REVISIONS

NO.	DATE

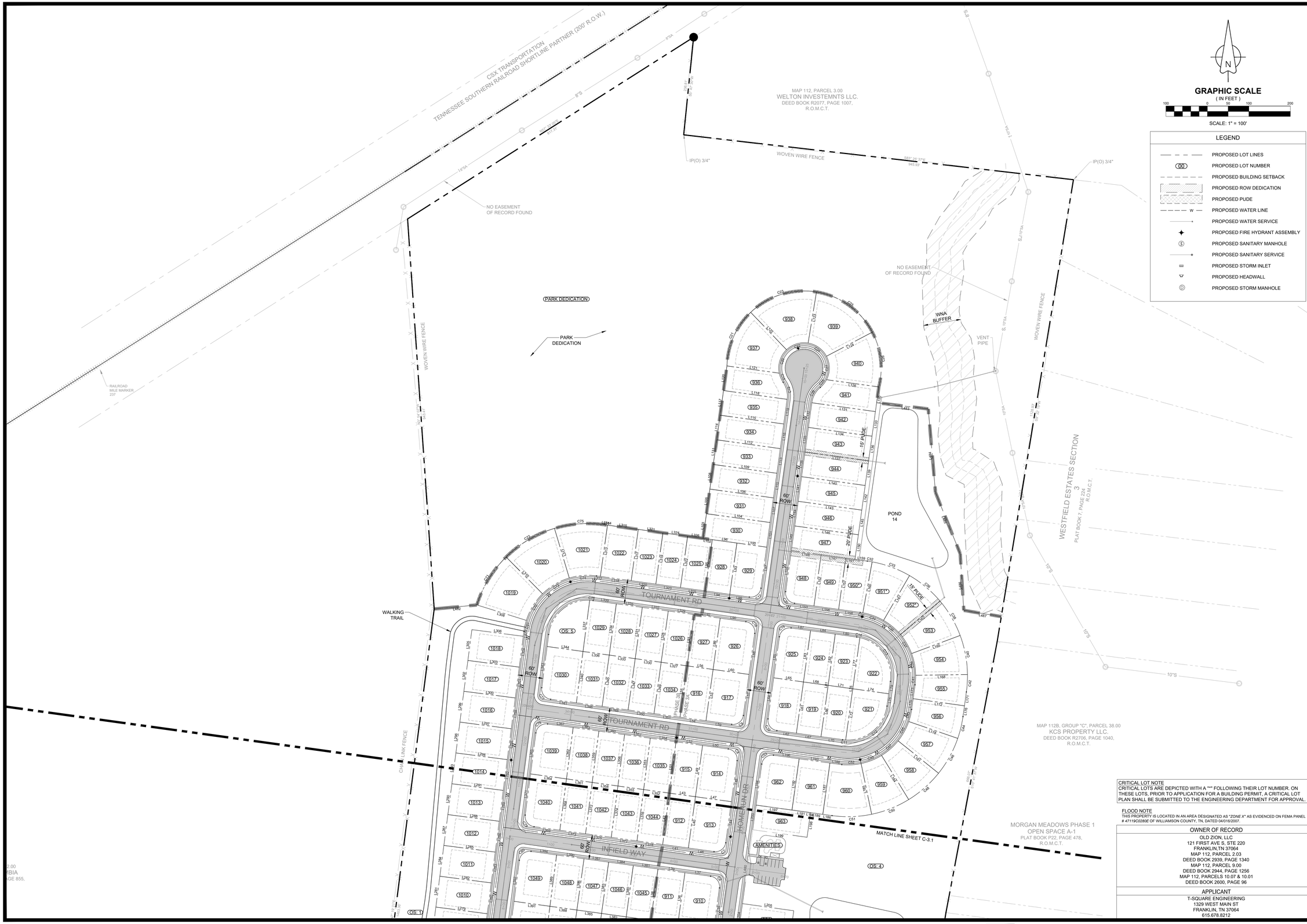
DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:02:29 PM



LEGEND

- PROPOSED LOT LINES
- (00) PROPOSED LOT NUMBER
- PROPOSED BUILDING SETBACK
- PROPOSED ROW DEDICATION
- PROPOSED PUDE
- W PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- (S) PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- (D) PROPOSED STORM MANHOLE

CRITICAL LOT NOTE
CRITICAL LOTS ARE DEPICTED WITH A "*" FOLLOWING THEIR LOT NUMBER. ON THESE LOTS, PRIOR TO APPLICATION FOR A BUILDING PERMIT, A CRITICAL LOT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR APPROVAL.

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN. DATED 04/016/2007.

OWNER OF RECORD

OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

APPLICANT

T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 SITE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.07 & 10.01
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.2

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:02:59 PM

Phase 3 Parcel Line Table		
Line #	Length	Direction
L3	104.77	N83° 55' 40.37"W
L4	93.12	N5° 07' 51.46"W
L5	144.35	N83° 05' 32.06"E
L6	75.04	N5° 07' 51.46"W
L7	142.47	N83° 05' 32.06"E
L8	51.53	S7° 00' 59.93"E
L10	75.00	S7° 00' 59.93"E
L11	75.04	N5° 07' 51.46"W
L12	140.00	N83° 05' 32.06"E
L14	19.34	S7° 00' 59.93"E
L15	16.02	N82° 07' 03.56"W
L16	125.00	N7° 52' 56.44"E
L17	54.59	S82° 07' 03.56"E
L18	60.00	N82° 07' 03.56"W
L19	125.00	N7° 52' 56.44"E
L20	60.00	S82° 07' 03.56"E
L21	60.00	N82° 07' 03.56"W
L22	125.00	N7° 52' 56.44"E
L23	60.00	S82° 07' 03.56"E
L24	60.00	N82° 07' 03.56"W
L25	125.00	N7° 52' 56.44"E
L26	60.00	S82° 07' 03.56"E
L27	125.00	S7° 52' 56.44"W
L28	65.65	N82° 07' 03.56"W
L29	125.00	N7° 52' 56.44"E
L30	65.65	S82° 07' 03.56"E
L31	100.00	S7° 52' 56.44"W
L33	62.50	N82° 07' 03.56"W
L34	87.50	S82° 07' 03.56"E
L35	100.00	S7° 52' 56.44"W
L36	125.00	N7° 52' 56.44"E
L37	62.50	S82° 07' 03.56"E
L38	125.00	N7° 52' 56.44"E
L39	65.65	S82° 07' 03.56"E
L40	125.00	S7° 52' 56.44"W
L41	62.47	N82° 07' 03.56"W
L42	125.00	N7° 23' 39.91"E
L43	63.53	S82° 07' 03.56"E
L44	100.00	S7° 52' 56.44"W
L46	62.50	N82° 07' 03.56"W
L47	87.50	S82° 07' 03.56"E
L48	100.00	S7° 52' 56.44"W
L49	125.00	N7° 52' 56.44"E
L50	62.50	S82° 07' 03.56"E
L51	125.00	N7° 23' 39.91"E
L52	64.60	S82° 07' 03.56"E
L53	125.00	S7° 52' 56.44"W
L54	63.20	N82° 07' 03.56"W
L55	125.00	N7° 52' 56.44"E
L56	63.20	S82° 07' 03.56"E
L57	100.00	S7° 52' 56.44"W
L59	62.50	N82° 07' 03.56"W
L60	87.50	S82° 07' 03.56"E
L61	125.00	S7° 52' 56.44"W
L62	47.47	N82° 07' 03.53"W
L64	100.00	N7° 52' 56.44"E
L65	72.50	S82° 07' 03.56"E
L66	125.00	S7° 52' 56.44"W
L67	60.00	N82° 07' 03.53"W
L68	60.00	S82° 07' 03.56"E
L70	52.39	N82° 07' 03.53"W
L71	60.00	S82° 07' 03.56"E
L72	124.69	S7° 52' 56.44"W
L74	87.39	S82° 07' 03.56"E
L75	30.00	S7° 52' 56.45"W
L76	0.01	N7° 52' 56.44"E
L77	124.68	N7° 52' 56.45"E
L79	30.00	S7° 52' 56.45"W
L80	52.33	S82° 07' 03.54"E
L81	0.01	N7° 52' 56.44"E
L82	124.99	N7° 52' 56.44"E
L83	125.00	N7° 52' 56.44"E
L84	60.00	S82° 07' 03.54"E
L85	100.00	N7° 52' 56.44"E
L87	47.50	S82° 07' 03.54"E
L88	100.00	S7° 52' 56.44"W
L89	125.00	N7° 52' 56.44"E
L90	62.50	S82° 07' 03.56"E
L91	125.00	N7° 52' 56.44"E
L92	63.20	S82° 07' 03.56"E
L93	125.00	S7° 52' 56.44"W
L94	60.00	N82° 07' 03.56"W
L95	125.00	N7° 52' 56.44"E
L96	60.00	S82° 07' 03.55"E
L97	100.00	S7° 52' 56.44"W
L99	47.50	N82° 07' 03.56"W
L100	72.50	S82° 07' 03.55"E
L101	60.00	S7° 52' 56.44"W
L102	22.37	N82° 07' 03.55"W
L103	60.00	N7° 52' 56.45"E
L104	154.87	S82° 07' 03.56"E
L105	60.00	N7° 52' 56.45"E
L106	154.87	S82° 07' 03.56"E
L107	60.00	S7° 52' 56.44"W
L108	60.00	N7° 52' 56.45"E
L109	154.87	S82° 07' 03.56"E
L110	60.00	S7° 52' 56.44"W
L111	60.00	N7° 52' 56.45"E
L112	154.87	S82° 07' 03.56"E
L113	60.00	S7° 52' 56.44"W

Phase 3 Parcel Line Table		
Line #	Length	Direction
L114	60.00	N7° 52' 56.45"E
L115	154.87	S82° 07' 03.56"E
L116	60.00	S7° 52' 56.44"W
L117	60.00	N7° 52' 56.45"E
L118	154.87	S82° 07' 03.56"E
L119	60.00	S7° 52' 56.44"W
L120	60.00	N7° 52' 56.44"E
L121	127.41	S82° 07' 03.56"E
L122	125.00	S43° 45' 06.14"E
L123	125.00	S9° 16' 07.71"W
L124	125.00	S62° 17' 21.56"W
L126	127.41	N82° 07' 03.56"W
L130	60.00	S7° 52' 56.44"W
L131	154.87	N82° 07' 03.56"W
L132	60.00	N7° 52' 56.12"E
L133	60.00	S7° 52' 56.31"W
L134	154.87	N82° 07' 03.56"W
L135	60.00	N7° 52' 56.44"E
L136	60.00	S7° 52' 56.31"W
L137	154.87	N82° 07' 03.56"W
L138	60.00	N7° 52' 56.44"E
L139	60.00	S7° 52' 56.31"W
L140	154.87	N82° 07' 03.56"W
L141	60.00	N7° 52' 56.44"E
L142	60.00	S7° 52' 56.31"W
L143	154.87	N82° 07' 03.56"W
L144	60.00	N7° 52' 56.44"E
L145	60.00	S7° 52' 56.31"W
L146	154.87	N82° 07' 03.56"W
L147	60.00	N82° 07' 03.52"W
L148	72.50	N82° 07' 03.52"W
L149	60.00	N7° 52' 56.44"E
L150	60.00	S7° 52' 56.31"W
L151	22.37	N82° 07' 03.65"W
L152	125.00	S7° 52' 56.44"W
L153	47.47	N82° 07' 03.54"W
L155	100.00	N7° 52' 56.44"E
L156	60.00	N82° 07' 03.54"W
L157	125.00	S7° 52' 56.44"W
L158	52.39	N82° 07' 03.54"W
L159	30.02	S82° 07' 03.69"E
L160	125.00	S10° 18' 16.35"W
L161	125.00	S30° 02' 46.75"W
L162	125.00	S49° 47' 17.16"W
L165	125.00	S69° 31' 47.56"W
L168	125.00	S89° 13' 38.59"W
L171	33.77	S7° 52' 56.45"W
L172	125.00	N82° 07' 03.55"W
L173	33.77	N7° 52' 56.45"E
L175	26.23	N7° 52' 56.45"E
L176	26.23	S7° 52' 56.45"W
L178	125.00	N71° 01' 20.35"W
L181	125.00	N51° 16' 49.94"W
L184	125.00	N31° 32' 19.54"W
L185	125.00	N11° 47' 49.13"W
L186	22.39	N82° 07' 03.54"W
L187	125.00	N7° 52' 56.44"E
L188	28.94	S82° 23' 30.47"E
L189	29.98	N82° 07' 03.56"W
L190	0.02	N82° 07' 03.55"W
L191	45.00	N82° 07' 03.56"W
L192	125.00	N7° 52' 56.44"E
L193	75.00	S82° 07' 03.56"E
L194	100.00	N7° 52' 56.44"E
L196	62.50	S82° 07' 03.56"E
L197	87.50	N82° 07' 03.56"W
L198	60.00	S7° 52' 56.44"W
L199	132.52	N82° 07' 04.14"W
L200	60.00	N7° 52' 55.86"E
L201	60.00	S7° 52' 56.44"W
L202	52.50	N82° 07' 03.56"W
L203	72.50	N82° 07' 03.56"W
L204	60.00	N7° 52' 56.44"E
L205	125.00	S82° 07' 03.56"E
L206	135.27	S7° 52' 56.44"W
L208	38.44	N82° 07' 03.56"W
L210	110.00	N7° 52' 56.44"E
L211	128.08	S30° 35' 31.53"W
L213	55.78	S50° 56' 57.93"E
L214	130.52	S50° 20' 01.93"W
L216	97.50	S50° 56' 57.93"E
L217	48.77	S7° 00' 59.93"E
L218	132.26	S70° 04' 32.34"W
L220	57.07	S50° 56' 57.93"E
L221	84.91	S7° 00' 59.93"E
L222	125.00	S82° 59' 00.07"W
L223	20.75	N7° 00' 59.93"W
L225	60.00	S7° 00' 59.93"E
L226	125.00	S82° 59' 00.07"W
L227	60.00	N7° 00' 59.93"W
L228	60.00	S7° 00' 59.93"E
L229	125.00	S82° 59' 00.07"W
L230	60.00	N7° 00' 59.93"W
L232	125.00	S88° 42' 11.59"W
L234	5.12	N7° 00' 59.93"W
L235	5.12	S7° 00' 59.93"E
L237	125.00	N85° 02' 35.63"W
L240	11.46	S10° 00' 58.57"W
L241	125.00	N79° 59' 01.43"W
L242	11.46	N10° 00' 58.57"E

Phase 3 Parcel Line Table		
Line #	Length	Direction
L244	60.01	S10° 00' 58.57"W
L245	125.00	N79° 58' 50.48"W
L246	60.00	N10° 00' 58.57"E
L247	59.99	S10° 00' 58.57"W
L248	125.00	N79° 59' 01.43"W
L249	60.00	N10° 00' 58.57"E
L250	59.44	S6° 04' 19.63"W
L251	125.00	N83° 55' 40.37"W
L252	59.44	N6° 04' 19.63"E
L253	125.00	S83° 29' 19.28"E
L254	43.71	S7° 23' 39.91"W
L257	43.71	N7° 23' 39.91"E
L258	125.00	S82° 36' 20.09"E
L259	75.00	S7° 23' 39.91"W
L260	75.00	N7° 23' 39.91"E
L261	125.00	S82° 36' 20.09"E
L262	75.00	S7° 23' 39.91"W
L263	75.00	N7° 23' 39.91"E
L264	125.00	S82° 36' 20.09"E
L265	75.00	S7° 23' 39.91"W
L266	75.00	N7° 23' 39.91"E
L267	125.00	S82° 36' 20.09"E
L268	75.00	S7° 23' 39.91"W
L269	75.00	N7° 23' 39.91"E
L270	125.00	S82° 36' 20.09"E
L271	75.00	S7° 23' 39.91"W
L272	75.00	N7° 23' 39.91"E
L273	125.00	S82° 36' 20.09"E
L274	75.00	S7° 23' 39.91"W
L275	75.00	N7° 23' 39.91"E
L276	125.00	S82° 36' 20.09"E
L277	75.00	S7° 23' 39.91"W
L278	75.00	N7° 23' 39.91"E
L279	125.00	S82° 36' 20.09"E
L280	75.00	S7° 23' 39.91"W
L281	75.00	N7° 23' 39.91"E
L282	125.00	S82° 36' 20.09"E
L283	75.00	S7° 23' 39.91"W
L284	75.00	N7° 23' 39.91"E
L285	125.00	S82° 36' 20.09"E
L286	75.00	S7° 23' 39.91"W
L287	75.00	N7° 23' 39.91"E
L288	125.00	S82° 36' 20.09"E
L289	75.00	S7° 23' 39.91"W
L290	75.00	N7° 23' 39.91"E
L291	125.00	S82° 36' 20.09"E
L292	75.00	S7° 23' 39.91"W
L293	75.00	N7° 23' 39.91"E
L294	125.00	S82° 36' 20.09"E
L295	75.00	S7° 23' 39.91"W
L296	75.00	N7° 23' 39.91"E
L297	125.00	S82° 36' 20.09"E
L298	75.00	S7° 23' 39.91"W
L299	75.00	N7° 23' 39.91"E
L300	125.00	S82° 36' 20.09"E
L301	75.00	S7° 23' 39.91"W
L302	75.00	N7° 23' 39.91"E
L303	125.00	S82° 36' 20.09"E
L304	75.00	S7° 23' 39.91"W
L305	75.00	N7° 23' 39.91"E
L306	125.00	S82° 36' 20.09"E
L308	125.00	N72° 38' 54.17"W
L310	125.00	S44° 38' 48.40"E
L311	125.00	S16° 38' 42.62"E
L312	9.34	N82° 07' 03.56"W
L313	125.00	S7° 52' 56.44"W
L314	0.00	S86° 57' 08.67"E
L315	75.00	S82° 07' 03.55"E
L316	9.34	N82° 07' 03.56"W
L317	125.00	S7° 52' 56.44"W
L318	75.00	N82° 07' 03.56"W
L319	125.00	S7° 52' 56.44"W
L320	60.00	N82° 07' 03.56"W
L321	60.00	S82° 07' 03.55"E
L322	125.00	S7° 52' 56.44"W
L323	60.00	N82° 07' 03.56"W
L324	60.00	S82° 07' 03.55"E
L325	60.00	N82° 07' 03.56"W
L326	37.63	S82° 07' 03.55"E
L327	63.20	N82° 07' 03.56"W
L328	125.00	N7° 52' 56.44"E
L329	63.20	S82° 07' 03.56"E
L330	63.20	N82° 07' 03.56"W
L331	125.00	N7° 52' 56.44"E
L332	63.20	S82° 07' 03.56"E
L333	63.20	N82° 07' 03.56"W
L334	125.00	N7° 52' 56.44"E
L335	63.20	S82° 07' 03.56"E
L336	63.78	N82° 07' 03.56"W
L337	124.64	N7° 23' 39.91"E
L339	56.54	S82° 07' 03.56"E
L340	125.00	S7° 23' 39.91"W
L341	62.72	N82° 07' 03.56"W
L343	100.22	N7° 23' 39.91"E
L344	87.50	S82° 07' 03.56"E
L345	125.00	S7° 52' 56.44"W
L346	62.72	N82° 07' 03.56"W
L347	125.00	S7° 52' 56.44"W
L348	63.20	N82° 07' 03.56"W
L349	125.00	S7° 52' 56.44"W

Phase 3 Parcel Line Table		
Line #	Length	Direction
L350	63.20	N82° 07' 03.56"W
L351	63.20	N82° 07' 03.56"W
L352	62.60	N82° 07' 03.56"W
L353	125.00	N7° 23' 39.91"E
L354	62.60	S82° 07' 03.56"E
L355	62.60	N82° 07' 03.56"W
L356	125.00	N7° 23' 39.91"E
L357	62.60	S82° 07' 03.56"E
L358	62.60	N82° 07' 03.56"W
L359	125.00	N7° 23' 39.91"E
L360	62.60	S82° 07' 03.56"E
L361	62.60	N82° 07' 03.56"W
L362	125.00	N7° 23' 39.91"E
L363	62.60	S82° 07' 03.56"E
L364	87.50	N82° 07' 03.56"W
L365	99.79	N7° 23' 39.91"E
L367	62.29	S82° 07' 03.56"E
L368	125.00	S7° 23' 39.91"W
L369	62.72	N82° 07' 03.56"W
L371	100.22	N7° 23' 39.91"E
L372	125.00	S7° 23' 39.91"W
L373	62.60	N82° 07' 03.56"W
L374	125.00	S7° 23' 39.91"W
L375	62.60	N82° 07' 03.56"W
L376	125.00	S7° 23' 39.91"W
L377	62.60	N82° 07' 03.56"W
L378	62.60	N82° 07' 03.56"W
L379	60.00	N82° 07' 03.56"W
L380	125.00	N7° 52' 56.44"E
L381	60.00	S82° 07' 03.56"E
L382	60.00	N82° 07' 03.56"W
L383	125.00	N7° 52' 56.44"E
L384	60.00	S82° 07' 03.56"E
L385	60.00	N82° 07' 03.56"W
L386	125.00	N7° 52' 56.44"E
L387	60.00	S82° 07' 03.56"E
L388	65.65	N82° 07' 03.56"W
L389	125.00	N7° 23' 39.91"E
L390	66.72	S82° 07' 03.56"E
L391	87.50	N82° 07' 03.56"W
L392	99.79	N7° 23' 39.91"E
L394	62.29	S82° 07' 03.56"E
L395	125.00	S7° 23' 39.91"W
L396	62.72	N82° 07' 03.56"W
L398	100.22	N7° 23' 39.91"E
L399	125.00	S7° 52' 56.44"W
L400	64.59	N82° 07' 03.56"W
L401	125.00	S7° 52' 56.44"W
L402	60.00	N82° 07' 03.56"W
L403	125.00	S7° 52' 56.44"W
L404	60.00	N82° 07' 03.56"W
L405	60.00	N82° 07' 03.56"W
L406	60.00	N82° 07' 03.56"W
L407	125.00	N7° 52' 56.44"E
L408	60.00	S82° 07' 03.56"E
L409	60.00	N82° 07' 03.56"W
L410	125.00	N7° 52' 56.44"E
L411	60.00	S82° 07' 03.56"E
L412	60.00	N82° 07' 03.56"W
L413	125.00	N7° 52' 56.44"E
L414	60.00	S82° 07' 03.56"E
L415	60.00	N82° 07' 03.56"W
L416	125.00	N7° 52' 56.44"E
L417	60.00	S82° 07' 03.56"E
L418	6.16	N82° 07' 03.56"W
L419	1.33	N82° 07' 03.56"W
L420	52.50	N82° 07' 03.56"W
L421	125.00	N7° 52' 56.44"E
L422	60.00	S82° 07' 03.56"E
L423	99.79	N7° 23' 39.91"E
L425	48.35	S82° 07' 03.56"E
L426	1.33	N82° 07' 03.56"W
L427	71.17	N82° 07' 03.56"W
L428	90.14	S7° 23' 39.91"W
L429	125.00	N82° 36' 20.09"W
L430	91.20	N7° 23' 39.91"E
L431	75.00	S7° 23' 39.91"W
L432	125.00	N82° 36' 20.09"W
L433	75.00	N7° 23' 39.91"E
L434	87.50	S7° 23' 39.91"W
L435	99.45	N83° 55' 40.37"W
L437	64.80	N7° 23' 39.91"E
L438	76.00	N83° 55' 40.37"W
L439	59.44	N6° 04' 19.63"E
L442	50.58	S83° 55' 40.37"E
L443	125.00	S6° 04' 19.63"W
L444	75.00	S83° 55' 40.37"E
L445	125.00	S6° 04' 19.63"W
L446	75.00	N83° 55' 40.37"W
L447	125.00	S6° 04' 19.63"W
L448	75.00	N83° 55' 40.37"W
L449	75.00	S83° 55' 40.37"E
L450	125.00	S6° 04' 19.63"W
L451	75.00	N83° 55' 40.37"W
L452	75.00	S83° 55' 40.37"E
L453	125.00	S6° 04' 19.63"W
L454	75.00	N83° 55' 40.37"W
L455	75.00	S83° 55' 40.37"E
L456	125.00	S6° 04' 19.63"W
L457	75.00	N83° 55' 40.37"W

Phase 3 Parcel Line Table		
Line #	Length	Direction
L458	75.00	S83° 55' 40.37"E
L459	125.00	S6° 04' 19.63"W
L460	75.00	N83° 55' 40.37"W
L461	49.96	S83° 55' 40.37"E
L462	25.04	S83° 55' 40.37"E
L463	125.00	S6° 04' 19.63"W
L464	75.00	N83° 55' 40.37"W
L465	75.00	S83° 55' 40.37"E
L466	125.00	S6° 04' 19.63"W
L467	75.00	N83° 55' 40.37"W
L468	75.00	S83° 55' 40.37"E
L469	123.55	S10° 00' 58.57"W
L470	47.07	S83° 55' 40.37"E
L471	46.47	S6° 04' 19.63"W
L473	46.94	N10° 00' 58.57"E
L476	46.92	N6° 04' 19.63"E
L478	46.47	S6° 04' 19.63"W
L479	12.21	S7° 23' 39.91"W
L480	180.00	N7° 52' 56.64"E
L481	236.97	N18° 41' 06.37"W
L482	103.37	S84° 31' 09.41"W
L483	125.33	N83° 13' 14.79"W
L484	202.56	N4° 56' 35.37"W
L485	158.67	N22° 00' 43.45"W
L486	137.50	N3° 39' 11.97"W
L487	91.67	N80° 37' 44.70"W
L488	794.90	N83° 55' 40.37"W
L489	238.32	N20° 07' 58.04"W
L490	54.50	N82° 44' 14.52"W
L491	496.38	N83° 55' 40.37"W

Phase 3 Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	100.08	470.00	12.20	S1° 56' 45"W	99.89
C2	38.41	25.00	88.03	S52° 03' 33"W	34.74
C3	23.48	470.00	2.86	S5° 35' 08"E	23.48
C4	124.53	95.00	75.11	S44° 34' 14"E	115.81
C5	39.27	25.00	90.00	S52° 52' 56"W	35.36
C6	39.27	25.00	90.00	S37° 07' 04"E	35.36
C7	39.27	25.00	90.00	S52° 52' 56"W	35.36
C8	39.27	25.00	90.00	S37° 07' 04"E	35.36
C9	39.27	25.00	90.00	S52° 52' 56"W	35.36
C10	39.30	25.00	90.07	N37° 09' 07"W	35.38
C11	7.62	95.00	4.59	N84° 24' 51"W	7.61
C12	141.61	95.00	85.41	S50° 35' 09"W	128.86
C13	141.61	95.00	85.41	S34° 49' 16"E	128.86
C14	7.67	95.00	4.63	S79° 50' 19"E	7.67
C15	39.27	25.00	90.00	N52° 52' 56"E	35.36
C16	39.27	25.00	90.00	S37° 07' 04"E	35.36
C17	39.27	25.00	90.00	S52° 52' 56"W	35.36
C18	23.95	61.00	22.50	S22° 59' 44"E	23.80
C19	43.38	59.00	42.13	S13° 10' 51"E	42.41
C20	61.75	61.00	58.00	S17° 15' 02"W	59.14
C21	145.08	186.00	44.69	N23° 54' 10"E	141.43
C22	56.45	61.00	53.02	S72° 45' 31"W	54.46
C23	172.12	186.00	53.02	N72° 45' 31"E	166.05
C24	56.45	61.00	53.02	N54° 13' 15"W	54.46
C25	172.12	186.00	53.02	S54° 13' 15"E	166.05
C26	136.08	186.00	41.92	S6° 45' 05"E	133.07
C27	58.79	61.00	55.22	N0° 05' 58"W	56.54
C28	43.38	59.00	42.13	N28° 56' 44"E	42.41
C29	23.95	61.00	22.50	N38° 45' 37"E	23.80
C30	39.30	25.00	90.07	N37° 09' 07"W	35.38
C31	6.55	155.00	2.42	N80° 54' 24"W	6.55
C32	11.84	280.00	2.42	S80° 54' 24"E	11.84
C33	96.45	288.00	19.19	S69° 49' 28"E	96.00
C34	53.39	159.43	19.19	N69° 49' 28"W	53.14
C35	53.39	159.43	19.19	N50° 04' 58"W	53.14
C36	96.45	288.00	19.19	S50° 04' 58"E	96.00
C37	53.39	159.43	19.19	N30° 20' 28"W	53.14
C38	96.45	288.00	19.19	S30° 20' 28"E	96.00
C39	53.49	159.71	19.19	N10° 34' 53"W	53.24
C40	96.45	288.00	19.19	S10° 35' 57"E	96.00
C41	23.21	122.85	10.82	N3° 35' 41"E	23.18
C42	42.10	222.85	10.82	S3° 34' 37"W	42.04
C43	30.01	158.68	10.84	N13° 25' 48"E	29.97
C44	54.22	286.65	10.84	S13° 25' 48"W	54.14
C45	53.39	159.43	19.19	N28° 50' 55"E	53.14
C46	96.45	288.00	19.19	S28° 50' 55"W	96.00
C47	53.39	159.43	19.19	N48° 35' 25"E	53.14
C48	96.45	288.00	19.19	S48° 35' 25"W	96.00
C49	53.39	159.43	19.19	N68° 19' 56"E	53.14
C50	96.45	288.00	19.19	S68° 19' 56"W	96.00
C51	96.17	280.00	19.68	S88° 02' 34"W	95.70
C52	46.69	155.00	17.26	N86° 49' 54"E	46.51
C53	39.27	25.00	90.00	N52° 52' 56"E	35.36
C54	9.07	155.00	3.35	N80° 26' 31"W	9.06
C55	39.27	25.00	90.00	N37° 07' 04"W	35.36
C56	52.37	155.00	19.36	N69° 05' 14"W	52.12
C57	53.41	155.00	19.74	N49° 32' 13"W	53.14
C58	53.41	155.00	19.74	N29° 47' 43"W	53.14
C59	34.92	155.00	12.91	N13° 28' 14"W	34.84
C60	65.39	655.00	5.72	S4° 09' 24"E	65.36
C61	52.91	530.00	5.72	N4° 09' 24"W	52.89
C62	71.49	655.00	6.25	S1° 49' 48"W	71.45
C63	57.85	530.00	6.25	N1° 49' 48"E	57.82
C64	57.84	655.00	5.06	S7° 29' 11"W	57.82
C65	46.80	530.00	5.06	N7° 29' 11"E	46.79
C66	16.52	2155.00	0.44	N6° 17' 30"E	16.52
C67	15.56	2030.00	0.44	S6° 17' 30"W	15.56
C68	31.29	2030.00	0.88	S6° 57' 10"W	31.29
C69	33.22	2155.00	0.88	N6° 57' 10"E	33.22
C70	75.75	155.00	28.00	S31° 21' 09"W	75.00
C71	136.84	280.00	28.00	N31° 21' 09"E	135.48
C72	75.75	155.00	28.00	S59° 21' 14"W	75.00
C73	136.84	280.00	28.00	N59° 21' 14"E	135.48
C74	66.35	155.00	24.53	S85° 37' 07"W	65.85
C75	129.21	282.96	26.16	N86° 30' 21"E	128.09
C76	8.32	95.00	5.02	S84° 37' 32"E	8.31
C77	39.06	25.00	89.51	N37° 21' 42"W	35.20
C78	39.48	25.00	90.49	N52° 38' 18"E	35.51
C79	39.06	25.00	89.51	N37° 21' 42"W	35.20
C80	39.48	25.00	90.49	N52° 38' 18"E	35.51

Phase 3 Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C81	39.06	25.00	89.51	N37° 21' 42"W	35.20
C82	39.48	25.00	90.49	N52° 38' 18"E	35.51
C83	39.85	25.00	91.32	N38° 16' 00"W	35.76
C84	41.08	1970.00	1.19	N6° 40' 10"E	41.08
C85	38.75	25.00	88.81	N51° 40' 10"E	34.98
C86	52.37	120.03	25.00	S22° 30' 59"W	51.96
C87	40.99	25.00	93.94	N36° 57' 21"W	36.55
C88	48.05	180.00	15.30	N17° 39' 52"E	47.91
C89	39.17	25.00	89.76	N38° 48' 35"W	35.28
C90	39.37	25.00	90.24	S51° 11' 25"W	35.43
C91	26.94	155.00	9.96	S12° 22' 23"W	26.90
C92	335.45	307.00	62.60	N51° 26' 06"W	319.01
C120	39.37	25.00	90.24	S51° 11' 25"W	35.43

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

CURVE TABLES

PH3PARCEL LINE AND CURVE TABLES

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

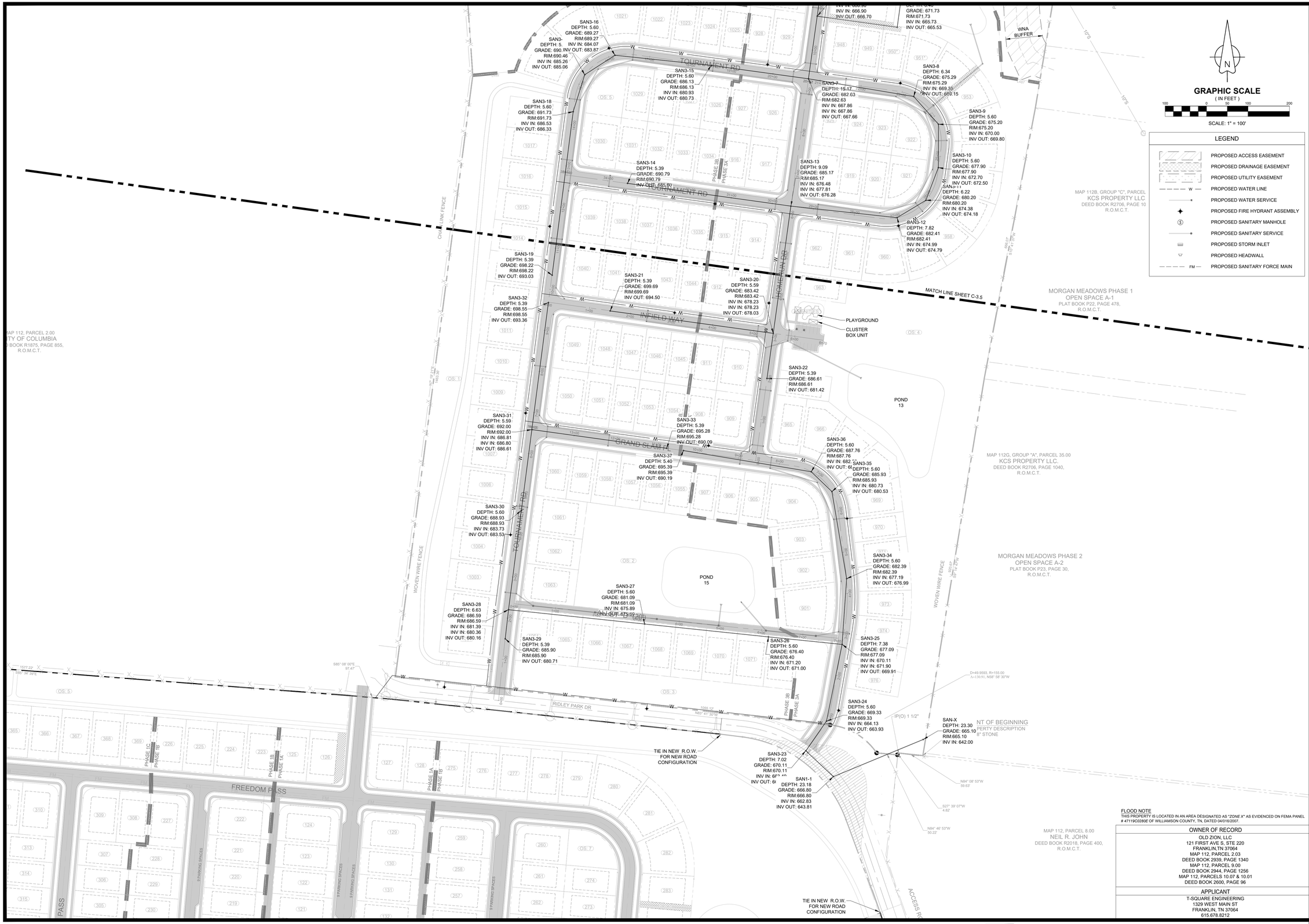
KELSEY H. MACEE
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.3

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 PH3 Preliminary Plan.dwg, 3/18/2024 3:03:18 PM



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/016/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

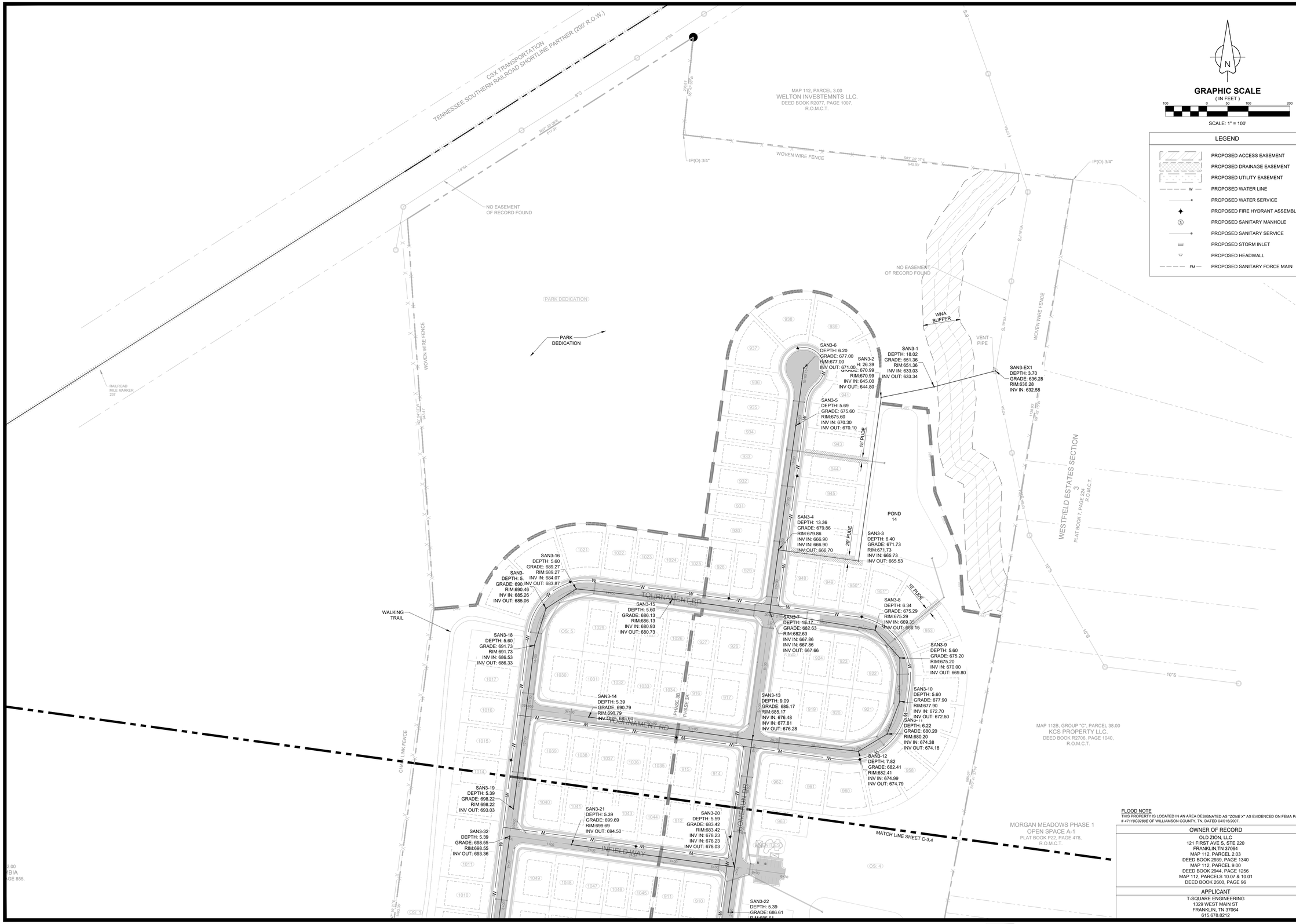
KELSEY H. MAGEE
REGISTERED ENGINEER
AGRICULTURE
No. 127749
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

SHEET
C-3.4

T-SQUARE ENGINEERING

P:\Projects\2023\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:03:39 PM



GRAPHIC SCALE

(IN FEET)

100 0 50 100 200

SCALE: 1" = 100'

LEGEND

- PROPOSED ACCESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY EASEMENT
- W — PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SERVICE
- PROPOSED STORM INLET
- PROPOSED HEADWALL
- FM — PROPOSED SANITARY FORCE MAIN

NO.	DATE

REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 UTILITY PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
STATE OF TENNESSEE
03/18/2024

FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC
121 FIRST AVE S, STE 220
FRANKLIN,TN 37064
MAP 112, PARCEL 2.03
DEED BOOK 2939, PAGE 1340
MAP 112, PARCEL 9.00
DEED BOOK 2944, PAGE 1256
MAP 112, PARCELS 10.07 & 10.01
DEED BOOK 2600, PAGE 96

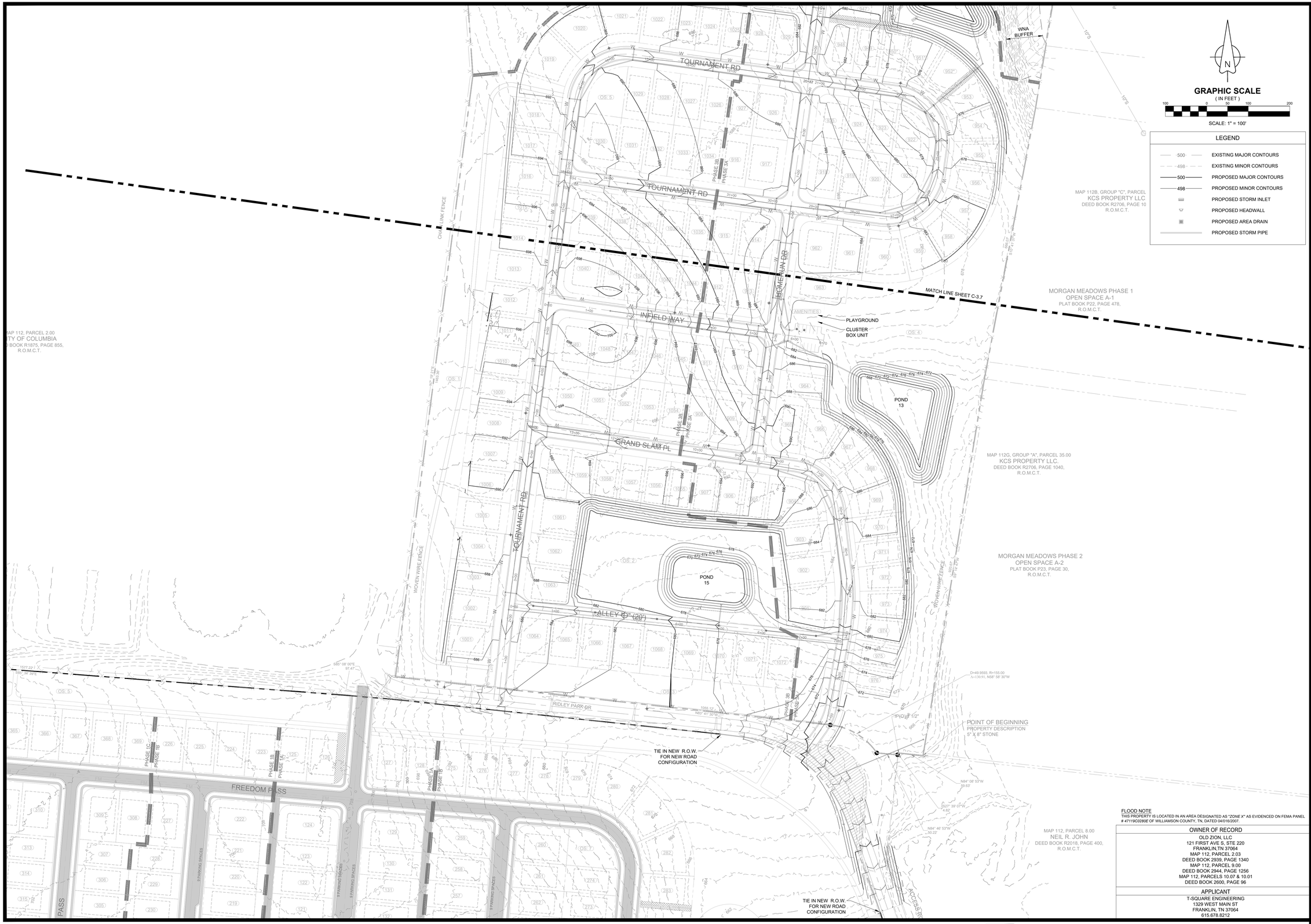
APPLICANT
T-SQUARE ENGINEERING
1329 WEST MAIN ST
FRANKLIN, TN 37064
615.678.8212

PROJECT
23-1211

SHEET
C-3.5

T-SQUARE ENGINEERING

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:04:09 PM


TOURNAMENT RD
TOURNAMENT RD
TOURNAMENT RD
INFIELD WAY
GRAND SLAM PL
ALLEY (20')
RIDLEY PARK DR
FREEDOM PASS
HOMERUN DR
PHASE 3B
PHASE 3A
PHASE 1C
PHASE 1B
PHASE 1A
PHASE 1D
WNA BUFFER
AMENITIES
PLAYGROUND
CLUSTER BOX UNIT
POND 13
POND 15
9 PARKING SPACES
9 PARKING SPACES
9 PARKING SPACES
CHAIN LINK FENCE
WOVEN WIRE FENCE
WOVEN WIRE FENCE
MATCH LINE SHEET C-3.7
TIE IN NEW R.O.W. FOR NEW ROAD CONFIGURATION
TIE IN NEW R.O.W. FOR NEW ROAD CONFIGURATION
POINT OF BEGINNING
PROPERTY DESCRIPTION
5" X 8" STONE
IPO 0.5' I/2"
MAP 112, GROUP "C", PARCEL
KCS PROPERTY LLC
DEED BOOK R2706, PAGE 10
R.O.M.C.T.
MORGAN MEADOWS PHASE 1
OPEN SPACE A-1
PLAT BOOK P22, PAGE 478,
R.O.M.C.T.
MAP 112G, GROUP "A", PARCEL 35.00
KCS PROPERTY LLC.
DEED BOOK R2706, PAGE 1040,
R.O.M.C.T.
MORGAN MEADOWS PHASE 2
OPEN SPACE A-2
PLAT BOOK P23, PAGE 30,
R.O.M.C.T.
MAP 112, PARCEL 8.00
NEIL R. JOHN
DEED BOOK R2018, PAGE 400,
R.O.M.C.T.
AP 112, PARCEL 2.00
TY OF COLUMBIA
BOOK R1875, PAGE 855,
R.O.M.C.T.
S60° 08' 00"E 97.47'
1577.22'
N84° 08' 53"W 39.63'
S27° 39' 07"W 4.50'
N84° 46' 53"W 50.22'
D=49.9593, R=155.00
A=130.91, N58° 58' 30"W
N59° 41' 30"W 1055.12'
N0° 11' 21"W 1463.39'
S0° 11' 21"E 1463.39'
S0° 11' 21"E 1463.39'
S0° 11' 21"E



FLOOD NOTE
THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" AS EVIDENCED ON FEMA PANEL # 47119C0280E OF WILLIAMSON COUNTY, TN, DATED 04/16/2007.

OWNER OF RECORD
OLD ZION, LLC 121 FIRST AVE S, STE 220 FRANKLIN,TN 37064 MAP 112, PARCEL 2.03 DEED BOOK 2939, PAGE 1340 MAP 112, PARCEL 9.00 DEED BOOK 2944, PAGE 1256 MAP 112, PARCELS 10.07 & 10.01 DEED BOOK 2600, PAGE 96
APPLICANT
T-SQUARE ENGINEERING 1329 WEST MAIN ST FRANKLIN, TN 37064 615.678.8212

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PH3 GRADING AND DRAINAGE PLAN

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

KELSEY H. MAGEE
REGISTERED ENGINEER
STATE OF TENNESSEE
03/18/2024

PROJECT
23-1211

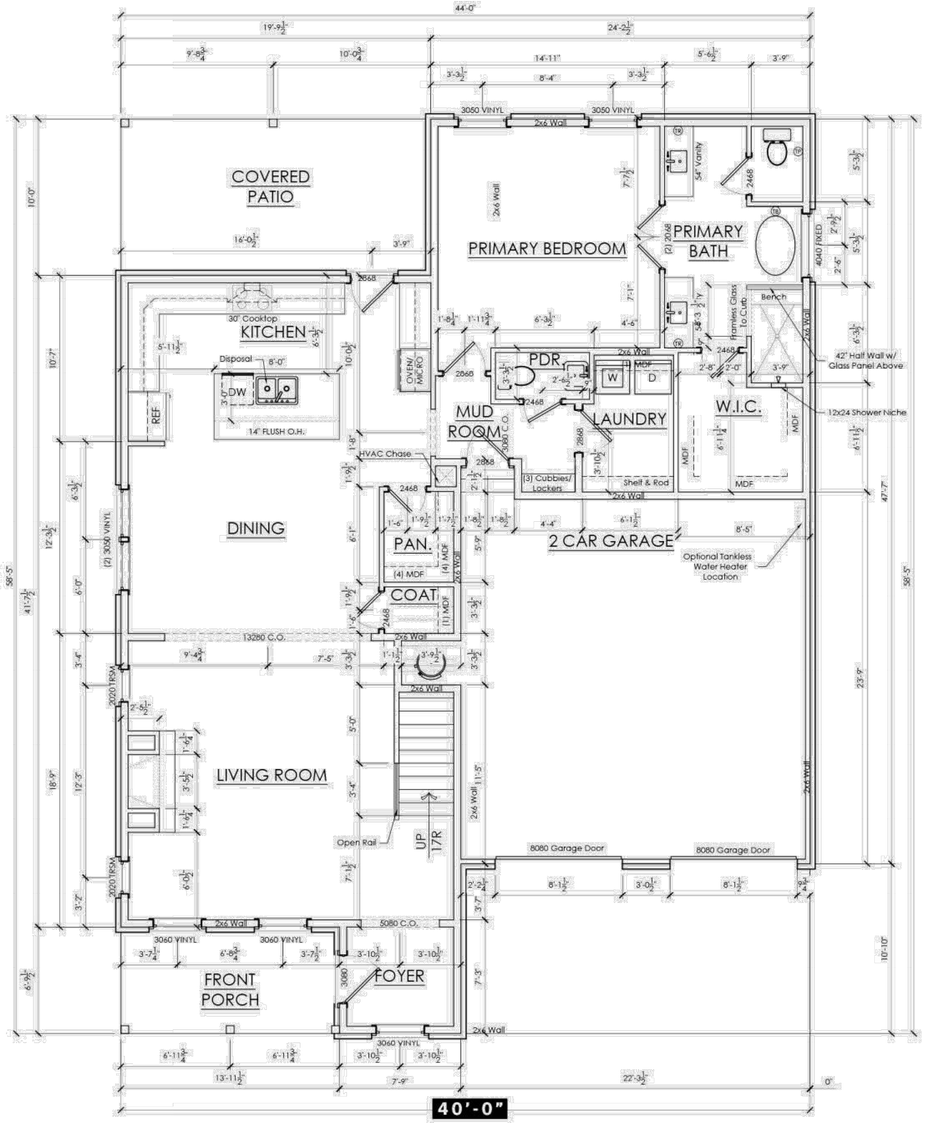
SHEET
C-3.7

T-SQUARE ENGINEERING

P:\Projects\2022\23-1211 (Old Zion Rd. - Andrew Ethridge)\Production\Preliminary\23-1211 Ph3 Preliminary Plan.dwg, 3/18/2024 3:05:00 PM



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



CHATHAM C

60' LOT

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

OLD ZION ROAD

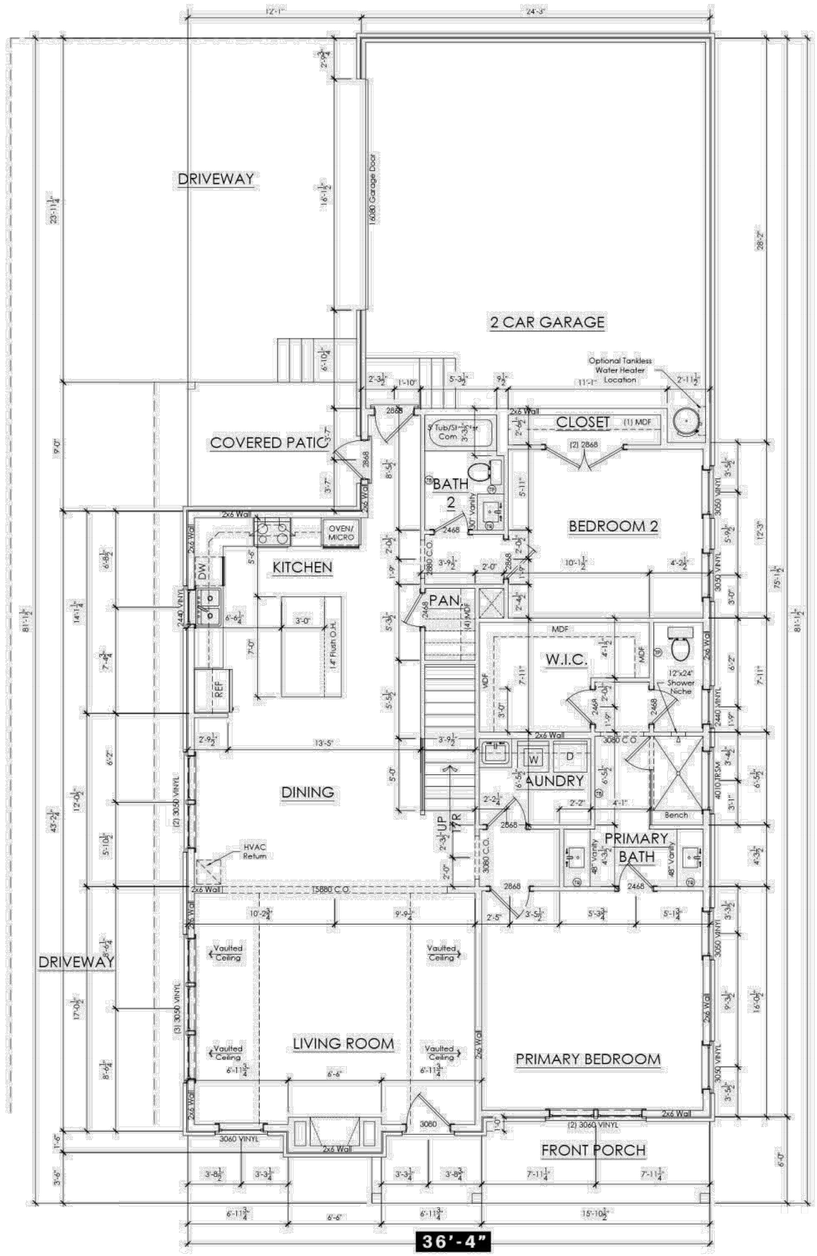
PROJECT
23-1211

SHEET
1

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



EASTON A

60' LOT

REVISIONS			
NO.	DATE		

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

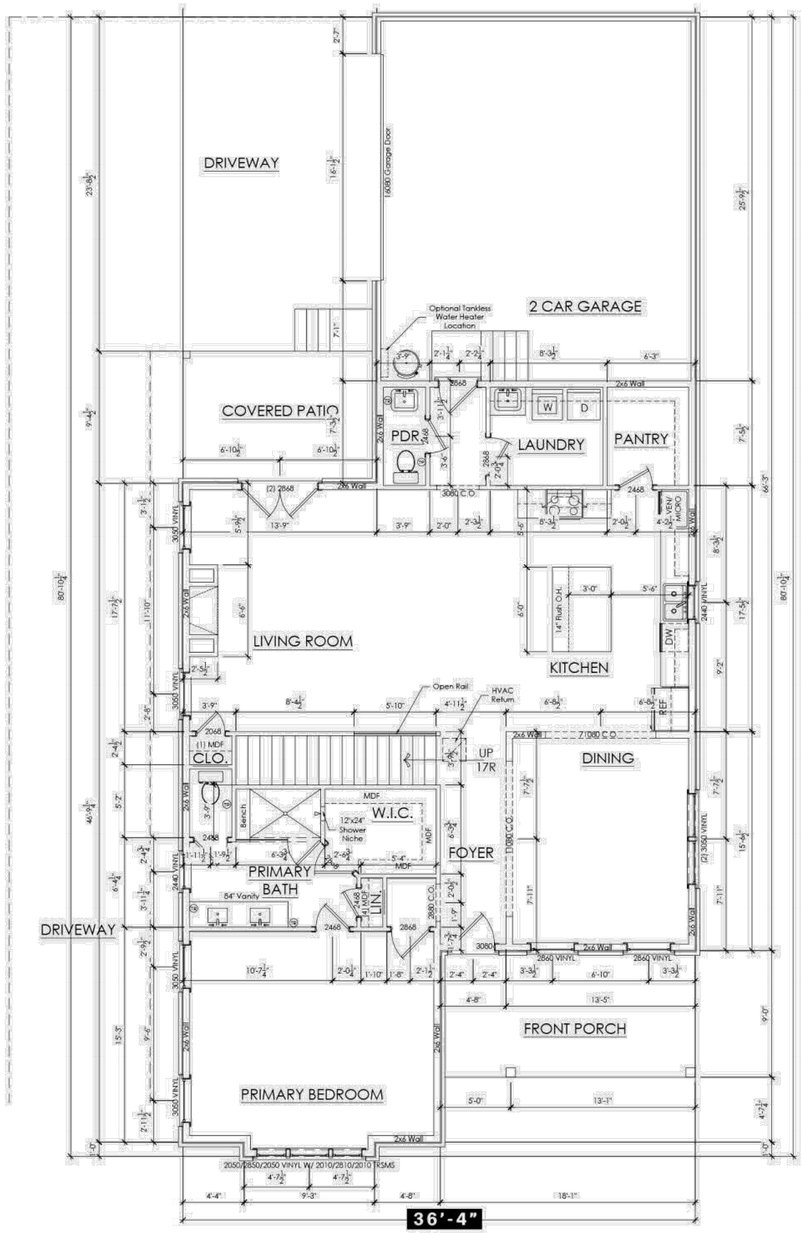
PROJECT
23-1211

SHEET
2

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



FENWICK A

60' LOT

REVISIONS			
NO.	DATE		

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07

COLUMBIA, MAURY COUNTY, TENNESSEE

DATE: 3/18/2024

SCALE: AS SHOWN

DRAWN BY: T-SQUARE

REVIEWER: TET

OLD ZION ROAD

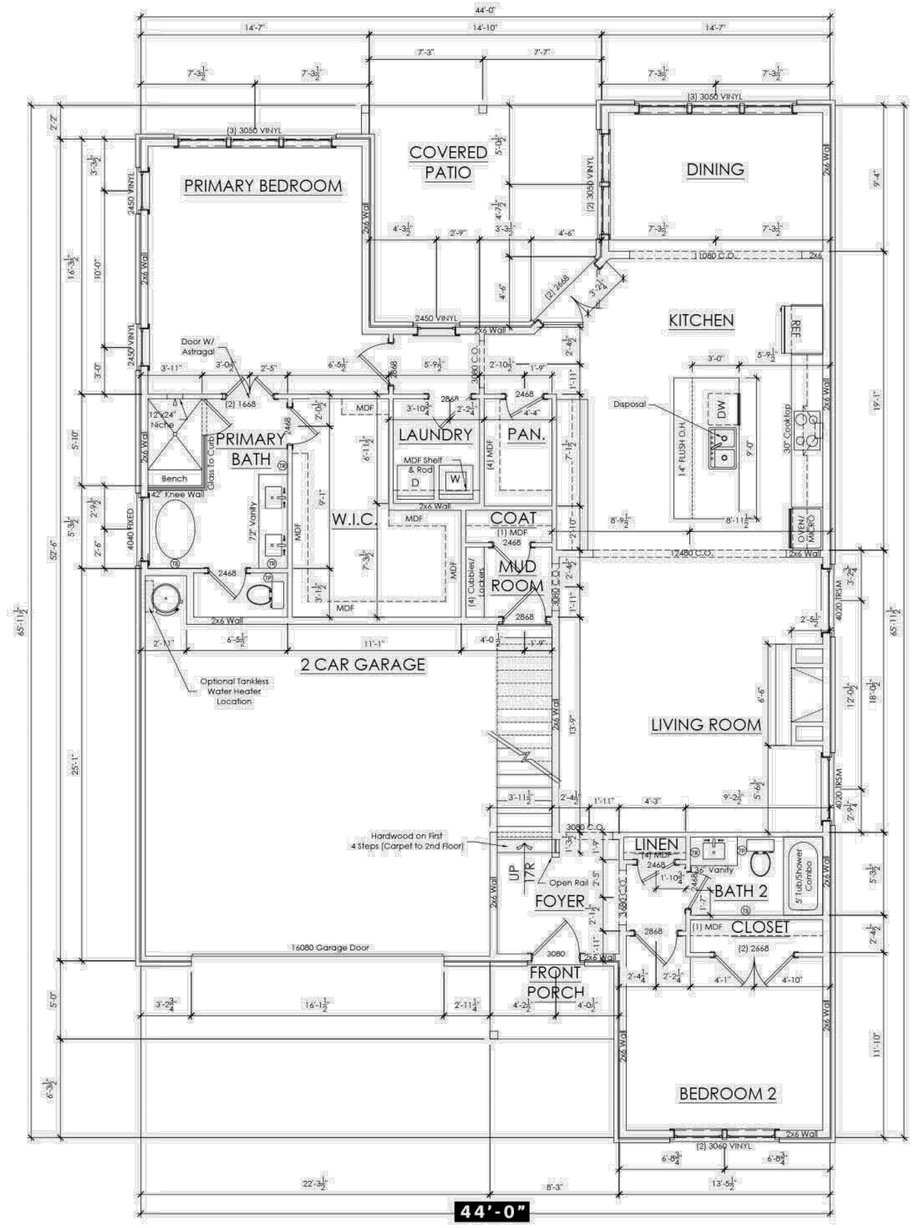
PROJECT 23-1211

SHEET 3

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



HARPETH C

60' LOT

SAMPLE ELEVATION & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

OLD ZION ROAD

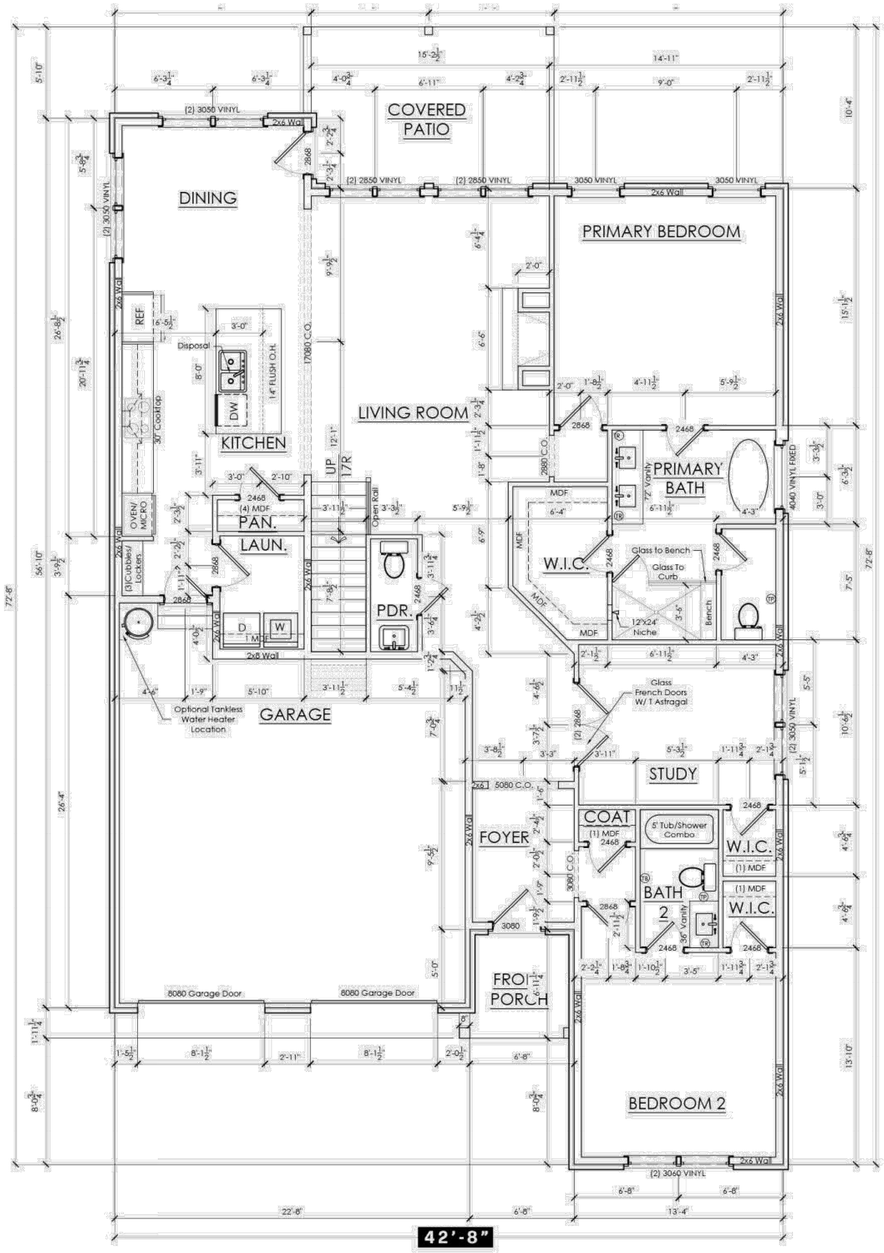
PROJECT
23-1211

SHEET
4

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



IVY D

60' LOT

REVISIONS			
NO.	DATE		

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

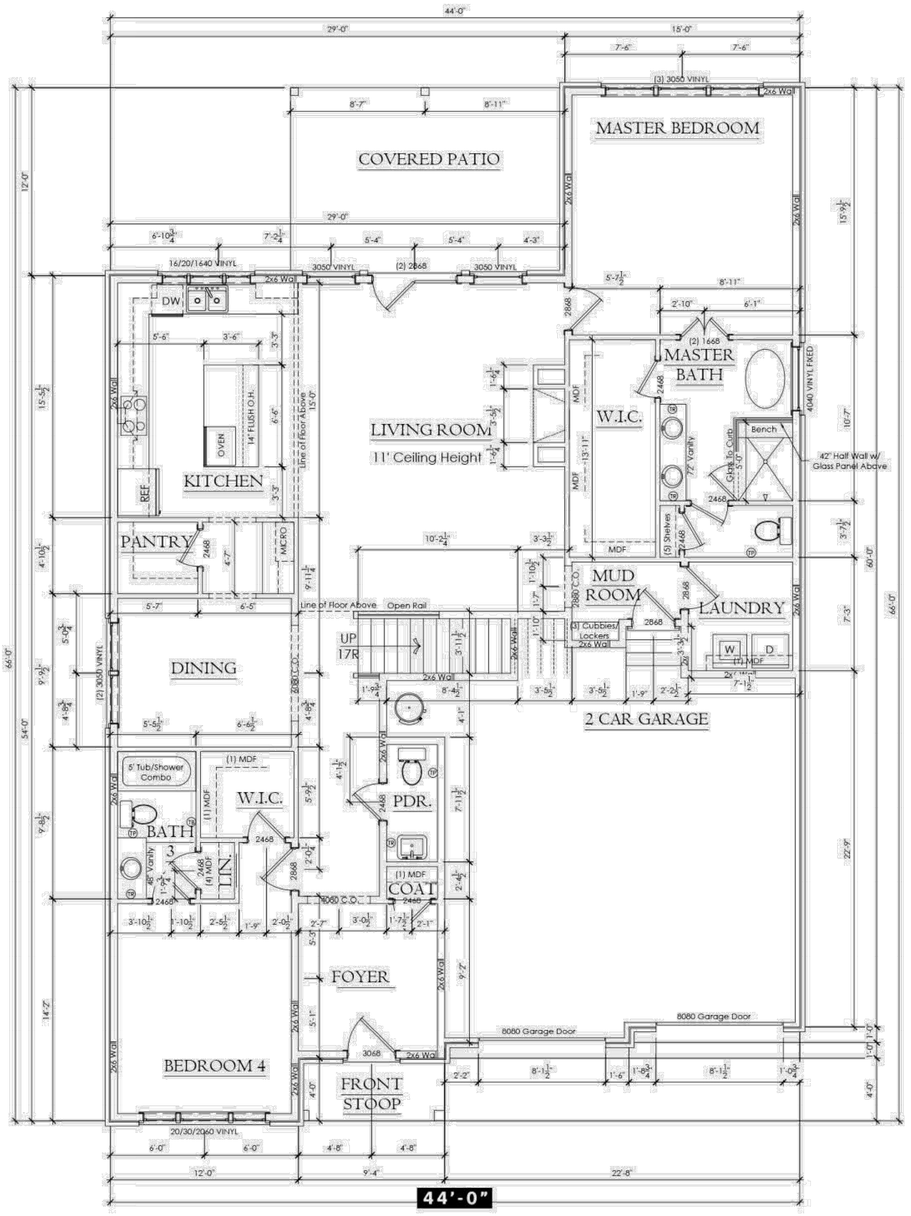
PROJECT
23-1211

SHEET
5

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



MAGNOLIA C

60' LOT

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

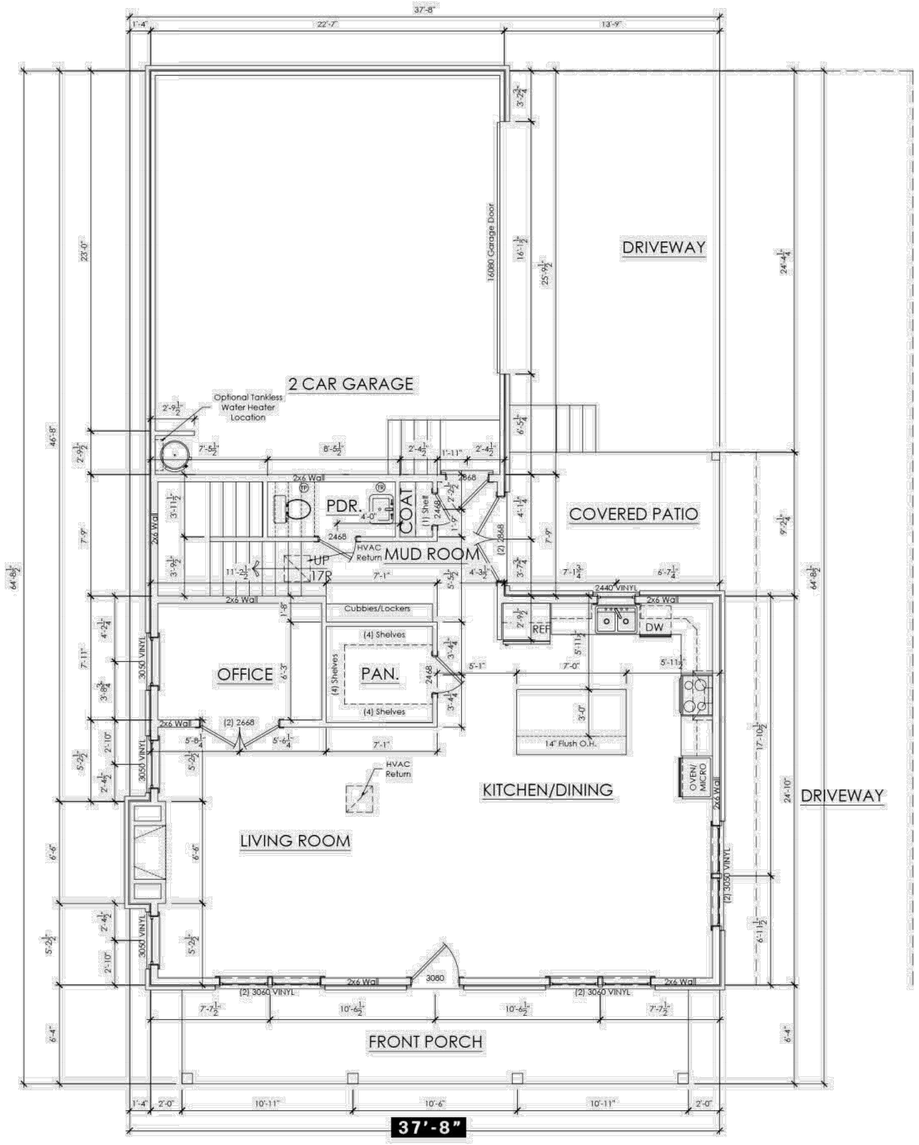
PROJECT
23-1211

SHEET
6

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



ALEXANDER

60' LOT

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

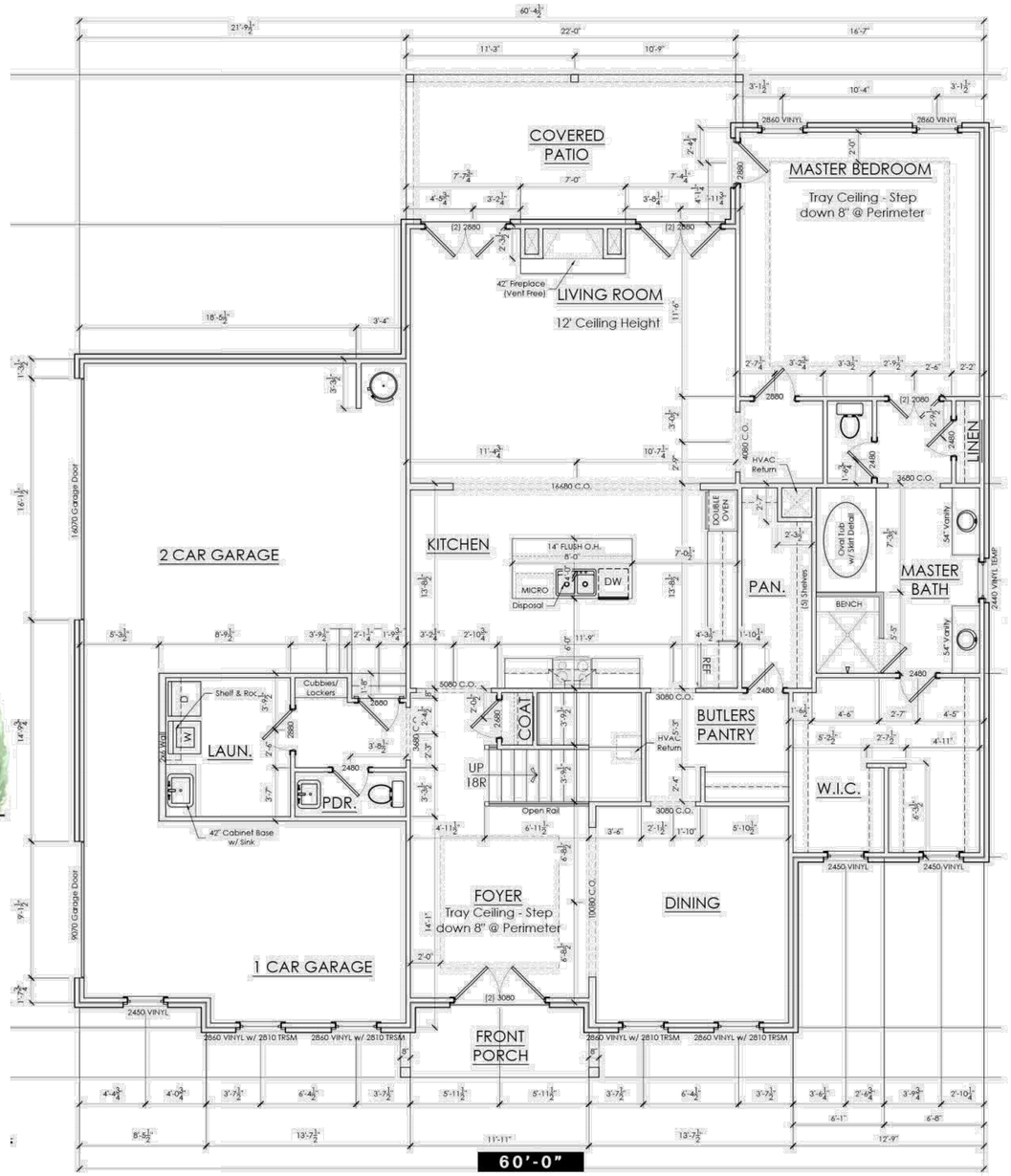
PROJECT
23-1211

SHEET
7

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



AVONDALE A

75' LOT

REVISIONS			
NO.	DATE		

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

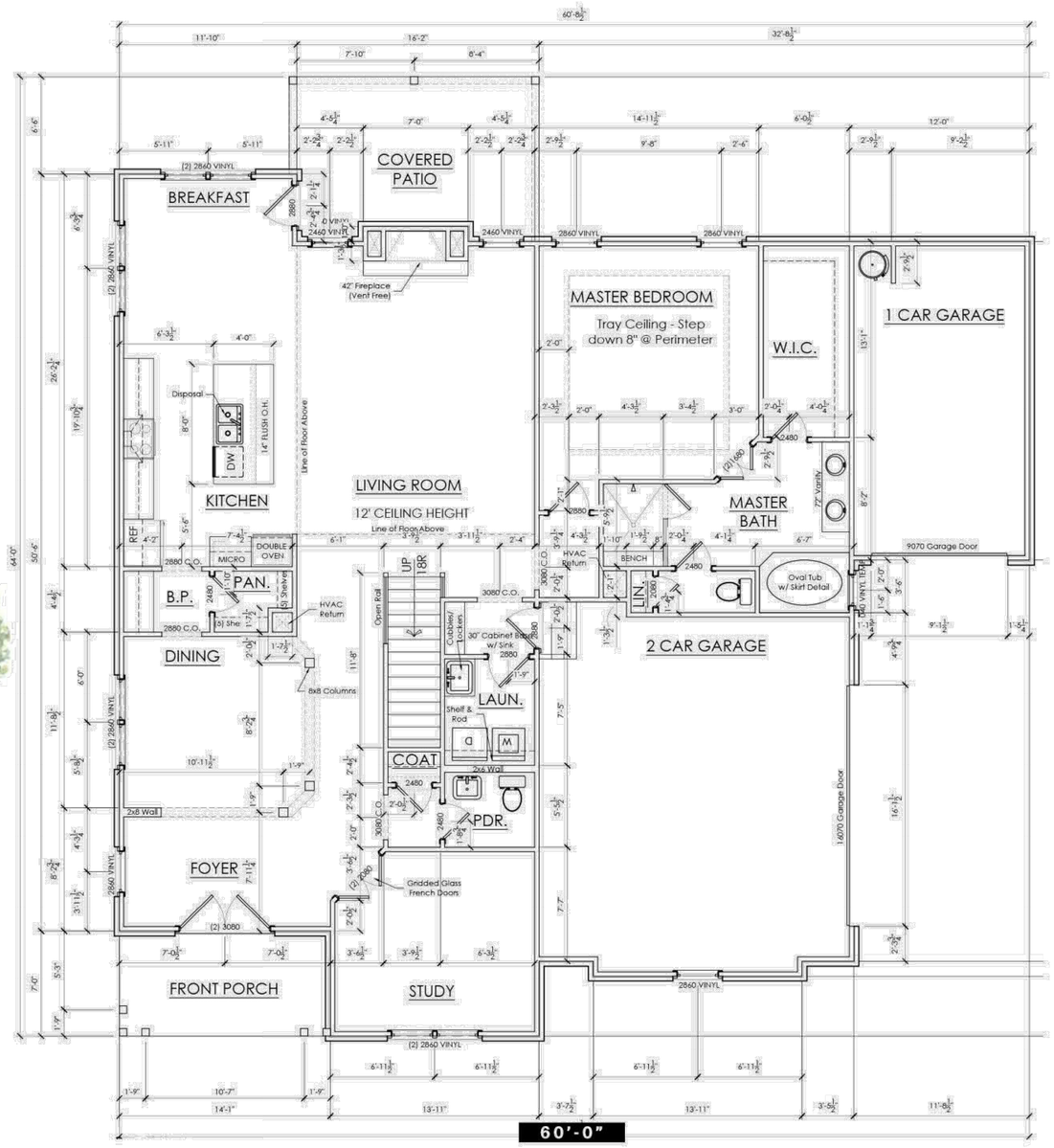
PROJECT
23-1211

SHEET
8

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



BERKELEY A

75' LOT

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07

COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

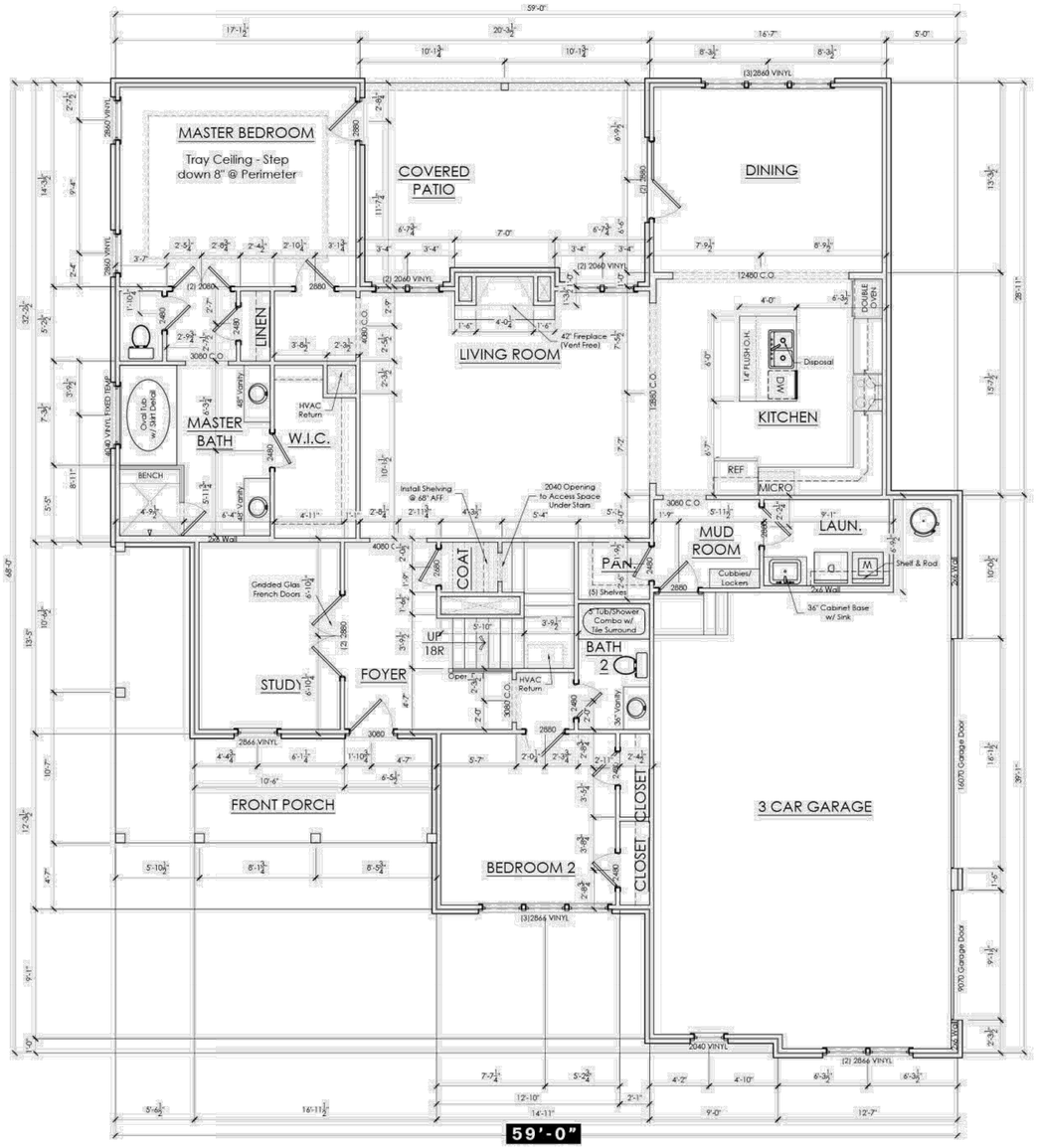
PROJECT
23-1211

SHEET
9

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



BRIDGEHAMPTON A

75' LOT

REVISIONS			
NO.	DATE		

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

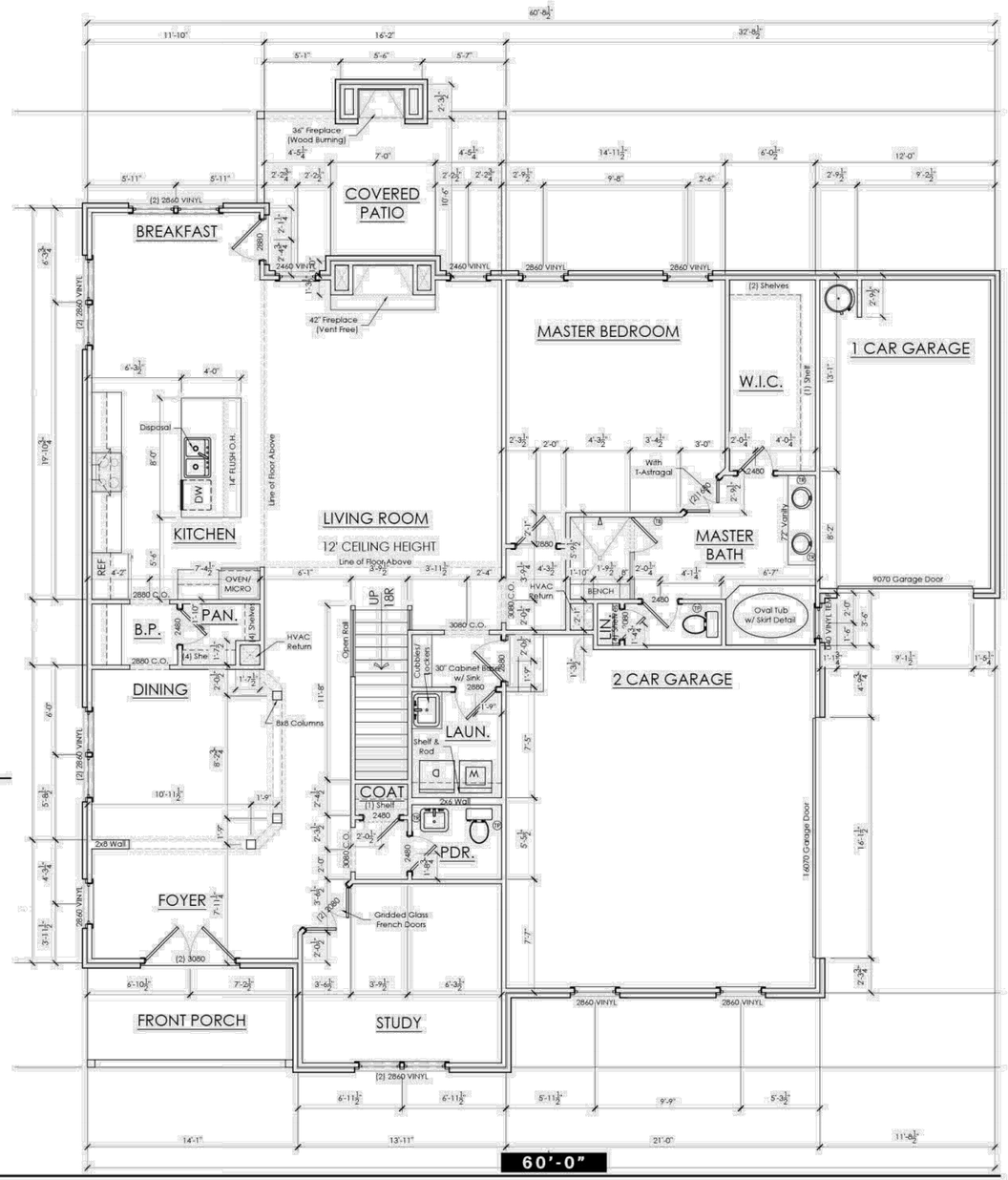
PROJECT
23-1211

SHEET
10

T-SQUARE ENGINEERING



SAMPLE ELEVATION - FACADE VARIATIONS AVAILABLE



HARTWELL A

75' LOT

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07

COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

NO.	DATE	REVISIONS

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

PROJECT 23-1211

SHEET 11

T-SQUARE ENGINEERING



ANNA MARIA "A" | EMILYE "B" | SUSSEX "A" | HARPETH "B" | MILEAH"A" | CHATHAM "A"



NEWPORT "A" | ANNA MARIA "B" | IVY "B" | AMHURST "A" | MAGNOLIA "B" | NEWPORT "B"

DRAWING TITLE: STREETSCAPE CHARACTER (60' LOTS)

NOT TO SCALE

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS
MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

PROJECT
23-1211

SHEET
12

T-SQUARE ENGINEERING



HELENA "A" | LINDEN "B" | PATTERSON "A" | BRIDGEHAMPTON "A" | HIGHLAND "A" | HEALDSBURG "A"



AVONDALE "A" | BERKELEY "B" | HEALDSBURG "B" | DALTON "A" | SARATOGA "A" | SONOMA "A"

DRAWING TITLE: STREETSCAPE CHARACTER (75' LOTS)

NOT TO SCALE

REVISIONS

NO.	DATE

DATE: 3/18/2024
SCALE: AS SHOWN
DRAWN BY: T-SQUARE
REVIEWER: TET

SAMPLE ELEVATIONS & FLOORPLANS

MAP 112, PARCELS 2.03, 9.00, 10.01, & 10.07
COLUMBIA, MAURY COUNTY, TENNESSEE

OLD ZION ROAD

PROJECT
23-1211

SHEET
13

T-SQUARE ENGINEERING

TRAFFIC IMPACT STUDY

for

OLD ZION ROAD DEVELOPMENT

Columbia, Tennessee

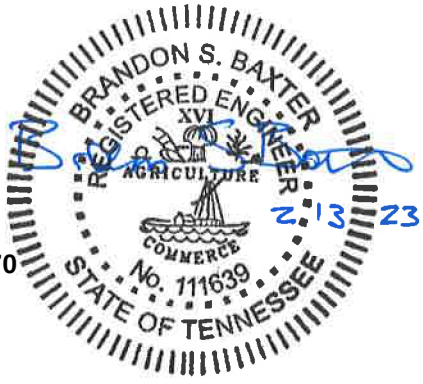
March 21, 2022
Updated May 20, 2022
Updated June 21, 2022
Updated July 27, 2022
Updated September 19, 2022
Updated February 13, 2023

Prepared for:

Willow Branch Homes
1718 General George Patton Dr.
Brentwood, Tennessee, 37027

Prepared by:

RaganSmith



RAGAN-SMITH-ASSOCIATES, INC.
315 Woodland Street, P.O. Box 60070
Nashville, Tennessee 37206-0070
(615) 244-8591

21-0244

OLD ZION ROAD DEVELOPMENT

TRAFFIC IMPACT STUDY

TABLE OF CONTENTS

SECTION			PAGE
EXECUTIVE SUMMARY			- ES-1 -
I.	**INTRODUCTION**		- 1 -
II.	**PROJECT DESCRIPTION**		- 2 -
	A.	Proposed Development	- 2 -
	B.	Site Access	- 2 -
	C.	Phasing and Timing	- 2 -
III.	**EXISTING CONDITIONS**		- 5 -
	A.	Transportation System	- 5 -
	B.	Roadway Improvement Projects	- 5 -
	C.	Traffic Volumes	- 6 -
IV.	**FORECASTED BACKGROUND TRAFFIC**		- 8 -
	A.	Introduction	- 8 -
	B.	Specific Development Growth	- 8 -
	C.	Annual Growth	- 8 -
	D.	Background Traffic	- 8 -
V.	**PROPOSED SITE TRAFFIC**		- 10 -
	A.	Site Trip Generation	- 10 -
	B.	Site Trip Distribution and Assignment	- 10 -
VI.	**TRANSPORTATION ANALYSIS**		- 14 -
	A.	Intersection Capacity Analysis	- 14 -
	B.	Traffic Signal Warrants	- 17 -
VII.	**CONCLUSIONS AND RECOMMENDATIONS**		- 21 -
	A.	Trotwood Avenue at Cayce Lane/Sunnyside Lane	- 21 -
	B.	Trotwood Avenue at Rutherford Lane	- 21 -
	C.	Trotwood Avenue at Ridley Park Road	- 21 -
	D.	Trotwood Avenue at Yeatman Lane	- 22 -
	E.	Trotwood Avenue at Old Zion Road	- 22 -
	F.	Trotwood Avenue at Old Zion Ext	- 22 -
	G.	Trotwood Avenue at Zion Road	- 23 -
	H.	Old Zion Road at Old Zion Ext	- 23 -
	I.	Lawrenceburg Highway at Old Zion Road	- 23 -
	J.	Lawrenceburg Highway at Zion Road Connector	- 24 -
	K.	Zion Road at Lawrenceburg Highway Connector	- 24 -
	L.	Trotwood Avenue at Project Access #1	- 25 -
	M.	Old Zion Road at Project Access #2	- 25 -
	N.	Trotwood Avenue Improvements	- 25 -

APPENDIX

OLD ZION ROAD DEVELOPMENT

TRAFFIC IMPACT STUDY

LIST OF FIGURES

FIGURE	DESCRIPTION	PAGE
1	LOCATION MAP	3
2	OLD ZION ROAD DEVELOPMENT MASTER PLAN	4
3	EXISTING TRAFFIC VOLUMES	7
4	2032 BACKGROUND TRAFFIC VOLUMES	9
5	SITE TRIP DISTRIBUTION	11
6	SITE TRAFFIC VOLUMES	12
7	2032 TOTAL TRAFFIC VOLUMES	13
8	RECOMMENDATIONS SUMMARY	26

LIST OF TABLES

TABLE	DESCRIPTION	PAGE
1	EXISTING ROADWAY CHARACTERISTICS	5
2	TRIP GENERATION: OLD ZION ROAD DEVELOPMENT	10
3	LEVEL OF SERVICE DESCRIPTIONS FOR UNSIGNALIZED INTERSECTIONS	14
4	LEVEL OF SERVICE DESCRIPTIONS FOR SIGNALIZED INTERSECTIONS	14
5	INTERSECTION CAPACITY ANALYSIS RESULTS – A.M. PEAK HOUR	15
6	INTERSECTION CAPACITY ANALYSIS RESULTS – P.M. PEAK HOUR	16
7	TRAFFIC SIGNAL WARRANT SUMMARY TROTWOOD AVENUE AT PROJECT ACCESS #1	17
8	TRAFFIC SIGNAL WARRANT SUMMARY TROTWOOD AVENUE AT OLD ZION EXTENDED	18
9	TRAFFIC SIGNAL WARRANT SUMMARY TROTWOOD AVENUE AT ZION ROAD / POLK LANE	19
10	TRAFFIC SIGNAL WARRANT SUMMARY LAWRENCEBURG HIGHWAY AT OLD ZION ROAD	20

OLD ZION ROAD DEVELOPMENT
TRAFFIC IMPACT STUDY
EXECUTIVE SUMMARY

INTRODUCTION

The Old Zion Road Development is proposed between Trotwood Avenue and Lawrenceburg Highway, east of Old Zion Road in the City of Columbia, Tennessee. When completed, the Old Zion Road Development will consist of 765 single family detached homes. Access to the Old Zion Road Development will be provided by one connection to Trotwood Avenue, one connection to Old Zion Road, and connections to Ridley Park Drive near the Ridley Sports Complex.

BACKGROUND TRAFFIC

Based upon the anticipated development schedule, the year 2032 will be used to analyze the impact of the Old Zion Road Development. Background traffic growth was established by increasing base traffic volumes by ***2 percent annually*** for the period from 2021 to 2032.

SITE TRAFFIC

Proposed site trips were generated according to the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition*. The total estimated trip generation for the Old Zion Road Development is shown in the table below.

TRIP GENERATION: OLD ZION ROAD DEVELOPMENT								
Land Use	**Total Units**	**Daily Trips**	**A.M. Peak Hour**			**P.M. Peak Hour**		
			Enter	**Exit**	**Total**	**Enter**	**Exit**	**Total**
Single Family Detached Housing	765 homes	6,560	119	356	475	424	249	673

CONCLUSIONS AND RECOMMENDATIONS

Trotwood Avenue at Cayce Lane/Sunnyside Lane

- The recommended roadway project in the City of Columbia's *ConnectColumbia* Comprehensive Plan for this intersection will provide capacity improvements that mitigate the impact of background traffic growth and traffic from the Old Zion Road Development.

- The recommended roadway project at this intersection consists of adding right turn lanes on Trotwood Avenue and closing the nearest access points within a 10-year timeframe from 2018 when *ConnectColumbia* was adopted.

- Based on the properties adjacent to the approaches of Trotwood Avenue, the turn lane design dimensions below would keep the number of properties impacted to a minimum.
    - The eastbound right turn lane can have a storage length of 150 feet and a taper length of 100 feet within the limits of the property on the southwest corner of the intersection.
    - The westbound right turn lane can have a storage length of 100 feet and a taper length of 100 feet within the limits of the property on the northeast corner of the intersection.

- Because the recommended City project is already identified in *ConnectColumbia* and is located 1.1 miles from the Old Zion Road Development, it is not reasonable to assign full responsibility of the improvement to the Old Zion Road Development. However, the proposed Old Zion Road Development should support the recommended City project in a manner that corresponds to the pro rata share of development traffic at the intersection because the improvements do provide additional capacity to mitigate the development impact. Based on statements by city staff, there

are traffic signal equipment and hardware replacements that can be completed by the Old Zion Road Development at this intersection to fulfill the pro rata share of the development's impact.

Trotwood Avenue at Rutherford Lane

- No intersection control or laneage modifications are recommended at the intersection of Trotwood Avenue and Rutherford Lane due to the impact of the Old Zion Road Development.

Trotwood Avenue at Ridley Park Road

- This access is planned to remain gated and under control of the City of Columbia Parks Department and site traffic from the Old Zion Development has not been distributed to it for the analysis of this report. Therefore, no improvements are recommended at the intersection due to the impact of the Old Zion Development.

Trotwood Avenue at Yeatman Lane

- A connection from the existing Ashwood Manor neighborhood to the Old Zion Road Development is proposed via an extension of Yeatman Lane but it will be gated by the City of Columbia.

Trotwood Avenue at Old Zion Road

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The recommended eastbound left turn lane and westbound right turn lane on Trotwood Avenue should be constructed concurrently with phase 2D when the Old Zion Road Development connects to Old Zion Road.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane and westbound right turn lane.

Trotwood Avenue at Old Zion Ext

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on the TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The traffic signal warrant evaluation in this report indicates that this signal may be a candidate for signalization in the future. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Old Zion Ext.

- The recommended eastbound left turn lane, westbound right turn lane, and traffic signal at the intersection of Trotwood Avenue and Old Zion Ext should be constructed when traffic signal warrants are satisfied by traffic counts at the intersection or at approximately 50% build out (±400 homes) of the Old Zion Road Development. This level of development is anticipated to be concurrent with phase 2A.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Trotwood Avenue at Zion Road

- The traffic signal warrant evaluation in the reports indicates that this signal may be a candidate for signalization. If signalization is not implemented based on the analysis of this report, this intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed to TDOT standards at the direction of the City Engineering Department with TDOT concurrence.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Old Zion Road at Old Zion Ext

- A southbound left turn lane should be constructed on Old Zion Road concurrently with phase 2E of the Old Zion Road Development. This turn lane should include 115 feet of storage, 140 feet of bay taper, and lane transitions based on TDOT design guidelines.

- Right-of-Way on the Old Zion Road Development property at this intersection (northeast quadrant) should be dedicated so that intersection sight lines per AASHTO guidelines and future improvements by others are possible.

Lawrenceburg Highway at Old Zion Road

- The intersection of Lawrenceburg Highway and Old Zion Road includes an intersection skew of approximately 40 degrees and traffic operations on the minor street approaches will be characterized by level of service F during background traffic conditions. Intersection improvements will be appropriate to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.

- The intersection of Lawrenceburg Highway and Old Zion Road may qualify for modifications into a J-turn intersections as described in the TDOT Design Guidelines (Section 2-303.00). At a J-turn intersection, direct crossing and left-turn movements from the minor approach roadway are prevented to reduce the exposure to high-speed angle collisions. There are already J-turn intersections located on Lawrenceburg Highway nearby in the City of Mt. Pleasant so this type of intersection should be familiar to many drivers in the area. The Old Zion Road Development should coordinate with the TDOT Region traffic engineering office to consider if TDOT's criteria for a J-turn intersection are met. If approved by TDOT, a J-turn intersection should be constructed concurrently with phase 2D where Old Zion Road intersects Lawrenceburg Highway.

- If a J-turn intersection is not approved by TDOT, the improvements below may be considered as alternative measures to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.
    - Reduce the speed limit on Lawrenceburg Highway from 65 mph to 55 mph within the influence area of the intersection with Old Zion Road.
    - Extend the eastbound and westbound left turn lanes to a minimum length of 385 feet with 220 of bay taper and offset the left turn lanes to the center of the existing median.

  - If warranted, install a traffic signal at the intersection of Lawrenceburg Highway and Old Zion Road. Based on the analysis of this report, the satisfaction of traffic signal warrants at this intersection may be challenging due to the high volume of right turn movements which are often subtracted from the signal warrant consideration.
  - If a traffic signal is installed at this intersection in the future, providing railroad-traffic signal preemption should be considered.

- A TDOT grading permit will be required as part of the construction of any improvements at the intersection of Lawrenceburg Highway and Old Zion Road.

- The at-grade railroad crossing on Old Zion Road south of Lawrenceburg Highway is protected by recently installed active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Old Zion Road with and without the Old Zion Road Development.

Lawrenceburg Highway at Zion Road Connector

- No intersection control or laneage modifications are recommended at the intersection of Lawrenceburg Highway at the Zion Road Connector due to the impact of the Old Zion Road Development.

Zion Road at Lawrenceburg Highway Connector

- No intersection control or laneage modifications are recommended at the intersection of Zion Road at the Lawrenceburg Highway Connector due to the impact of the Old Zion Road Development.

- The at-grade railroad crossing on Zion Road south of Lawrenceburg Highway is protected by active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Zion Road with and without the Old Zion Road Development.

Trotwood Avenue Project Access #1

- The approach of Project Access #1 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- Based on the analysis in this report, this intersection appears to be a candidate for future signalization. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. Traffic counts and signal warrant analysis more frequently than every 12 months should be performed if requested by City of Columbia Engineering Staff based on the continued monitoring of the intersection. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Project Access #1.

- The recommended eastbound left turn lane and westbound right turn lane at the intersection of Trotwood Avenue and Project Access #1 should be constructed as part of Project Access #1 with phase 1A.

- A TDOT entrance and grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Old Zion Road at Project Access #2

- The approach of Project Access #2 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- The portion of Old Zion Road along the project frontage within the City of Columbia should be annexed into the city, if requested by the County Highway Department. The annexed portion of Old Zion Road should be improved as part of phase 2D to meet the requirements of the City of Columbia Engineering Department including pavement markings, signage, along the roadway and at the intersections and curves along the site frontage.

Trotwood Avenue Improvements

- The Old Zion Road Development should plan for the future widening of Trotwood Avenue by the City or TDOT by maintaining a 150’ buffer along the project frontage so that future roadway improvements will not be constrained by limited right-of-way.

I. INTRODUCTION

The purpose of this study is to analyze the transportation related impacts due to the proposed Old Zion Road Development in the City of Columbia, Tennessee. The Old Zion Road Development will consist of 765 single family detached homes. This report has been requested by City of Columbia staff as part of the development application review process.

In order to evaluate the Old Zion Road Development, an inventory of the existing transportation system was carried out, along with an assessment of its adequacy. Based on the project schedule, a final build-out horizon year was established and future traffic growth was added to existing traffic volumes. Transportation analyses were performed to assess any site or non-site related impacts on the roadway. Finally, recommendations for roadway improvements and/or transportation system improvements were offered.

The February 2023 update of this report reflects development plan changes that reduce the number of single family homes from 818 homes to 765 homes. Additionally, the existing portion of Ridley Park Drive at the intersection with Trotwood Avenue is proposed to stay gated and under control of the City of Columbia Parks Department instead of being opened full time to development and other traffic. Specific recommendations of the report such as turn lane lengths and phasing milestones for offsite improvements have been updated appropriately based on the development plan changes.

II. PROJECT DESCRIPTION

A. Proposed Development

As shown in Figure 1, the proposed Old Zion Road Development is located between Lawrenceburg Highway and Trotwood Avenue east of Old Zion Road in the City of Columbia, Tennessee. The site property contains 364.29± acres and is comprised of Parcels 9.00, 10.01, 10.07, & 2.03 on Maury County Map 112. The proposed Old Zion Road Development will consist of 765 single family detached homes.

The proposed site is bound by the Tennessee Southern Railroad and Lawrenceburg Highway to the north, Trotwood Avenue to the south, Ridley Park Drive to the east, and Old Zion Road to the west.

Figure 2 shows the Master Plan for the Old Zion Road Development.

B. Site Access

Access to the Old Zion Road Development will be provided at two (2) locations on the existing roadway network described below.

- **Project Access #1** will be located on Trotwood Avenue approximately 1,550 feet west of Ridley Park Drive and approximately 3,100 feet east of Yeatman Lane. The minimum width of this access will be 36 feet to accommodate one lane for traffic entering the site and two lanes for traffic exiting the site.

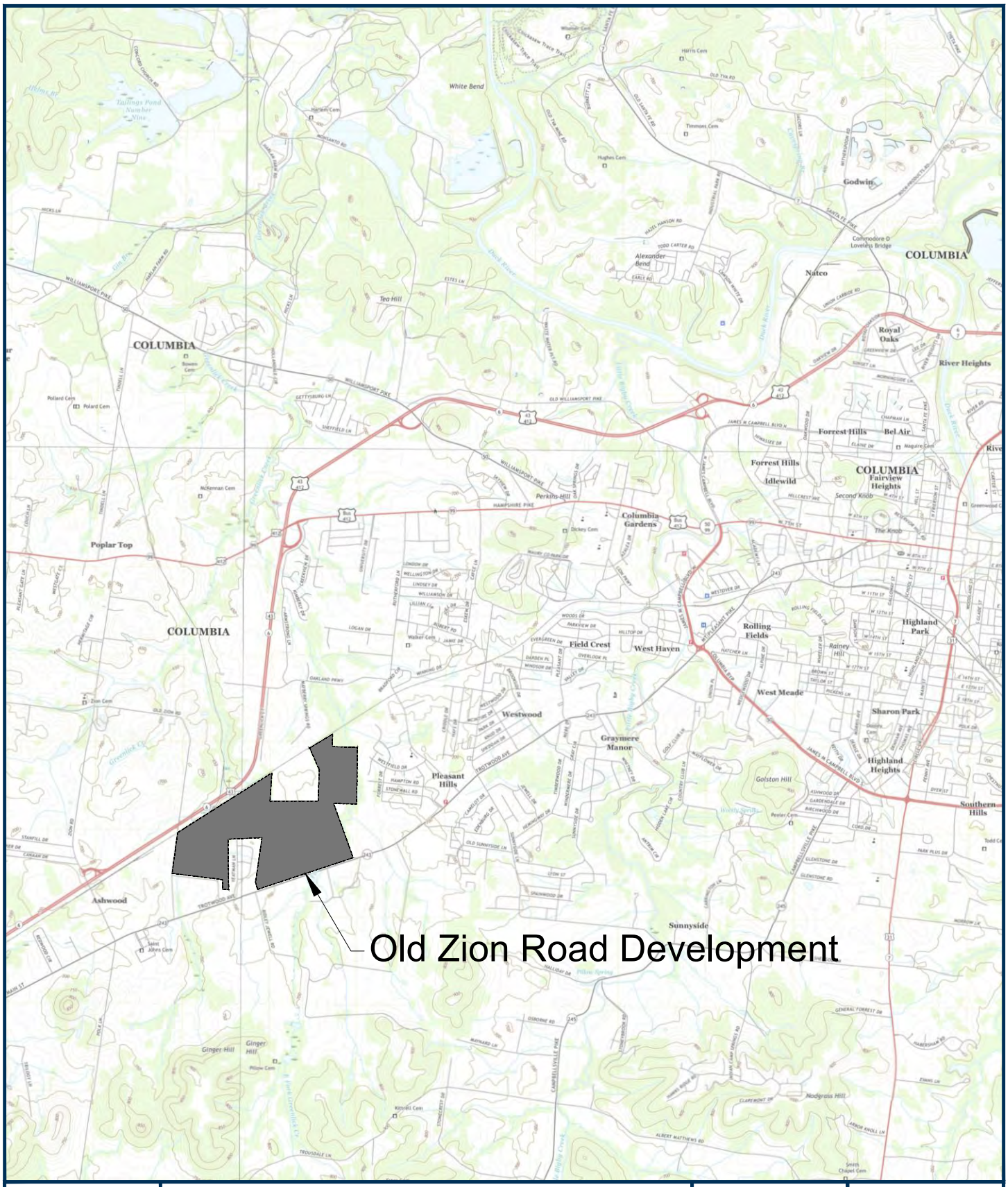
- **Project Access #2** will be located on Old Zion Road approximately 1,400 feet east of Old Zion Ext and approximately 1,200 feet north and west of Trotwood Avenue. The minimum width of this access will be 36 feet to accommodate one lane for traffic entering the site and two lanes for traffic exiting the site.

In addition to the access locations described above, the master plan for the Old Zion Road Development includes connections to Ridley Park Road that will enhance the access to the Ridley Sports Complex. The existing access to Trotwood Avenue via Ridley Park Road is proposed to stay gated as currently controlled by the city parks department.

C. Phasing and Timing

Based on an anticipated development schedule, a total timeline of approximately 10 years will be used for full build-out of the development. For the analysis of this report, the year 2032 will be used for the full build-out of the Old Zion Road Development.

The analysis of this report includes an assessment of the full build-out conditions for the Old Zion Road Development. No interim build-out scenarios were evaluated for the Old Zion Road Development.



RaganSmith

Old Zion Road Development

Location Map

Figure
1

	60' LOT ALLEY	71 LOTS
	60' LOT	370 LOTS
	75' LOT ALLEY	29 LOTS
	75' LOT	278 LOTS
	100' LOT	16 LOTS
	7AC. HISTORIC HOME	1 LOT
	TOTAL	765 LOTS

COLUMBIA URBAN GROWTH BOUNDARY

LAWRENCEBURG HWY

RIDLEY PARK

PARK LAND DEDICATION +/- 31AC

EXISTING HOME TO REMAIN

AMENITY

STORM BASIN

OLD ZION RD

OLD ZION RD EXD

TROTWOOD AVE

COLUMBIA CITY LIMITS

RaganSmith

OLD ZION ROAD
PRELIMINARY PUD MASTERPLAN

DRAWING TITLE: OVERALL MASTERPLAN

DRAWING NUMBER: 2

0 600 1200

SCALE = 1"=300'

III. EXISTING CONDITIONS

A. Transportation System

The existing transportation system in the area that provides access to the Old Zion Road Development consists of arterial, collector, and local streets. The following roadways will comprise the study area for consideration of traffic mitigation measures at the Old Zion Road Development.

TABLE 1

EXISTING ROADWAY CHARACTERISTICS

Name	Designation	Classification	Speed Limit (mph)	Lanes	Multimodal
Lawrenceburg Highway (US 43, State Route 6)	State Route	Freeway [1] Freeway/Expressway [2]	65	4	Designated Bike Route
Trotwood Avenue (State Route 243)	State Route	Arterial [1] Minor Collector [2]	45 / 55	2/3	None
Old Zion Road	City Street	Local Street	35	2	None
Zion Road	City Street	Major Collector [2]	35	2	None
Rutherford Lane	City Street	Collector [1] Major Collector [2]	35	2	None
Cayce Lane / Sunnyside Lane	City Street	Collector [1] Major Collector [2]	35	2	None
Ridley Park Road	City Street	Local Street	20	2	None

[1] Per City of Columbia Roadway Functional Classifications shown in *ConnectColumbia*
[2] Per TDOT functional classification maps

B. Roadway Improvement Projects

The *ConnectColumbia* Comprehensive Plan identifies locations in the general study area where roadway projects are recommended. A description of each of these projects is below.

- **Trotwood Avenue (SR 243) at Cayce Lane**
  - Add right turn lanes on Trotwood Avenue and close nearest access points
  - Identified funding source is federal/state
  - Near term project (0 to 10 years)

- **Trotwood Avenue (SR 243)**
  - Perform a speed study to reduce the speed limit from Ridley Jewell Rd. to west of Ridley Park Road
  - Add a left turn lane from Trotwood Avenue to Ridley Park Road
  - Identified funding source is federal/local
  - Near term project (0 to 10 years)

- **Trotwood Avenue (SR 243)**
  - Widen to 4 or 5 lanes from James Campbell Boulevard to Rutherford Lane
  - Identified funding source is federal/state
  - Mid term project (10 to 20 years)

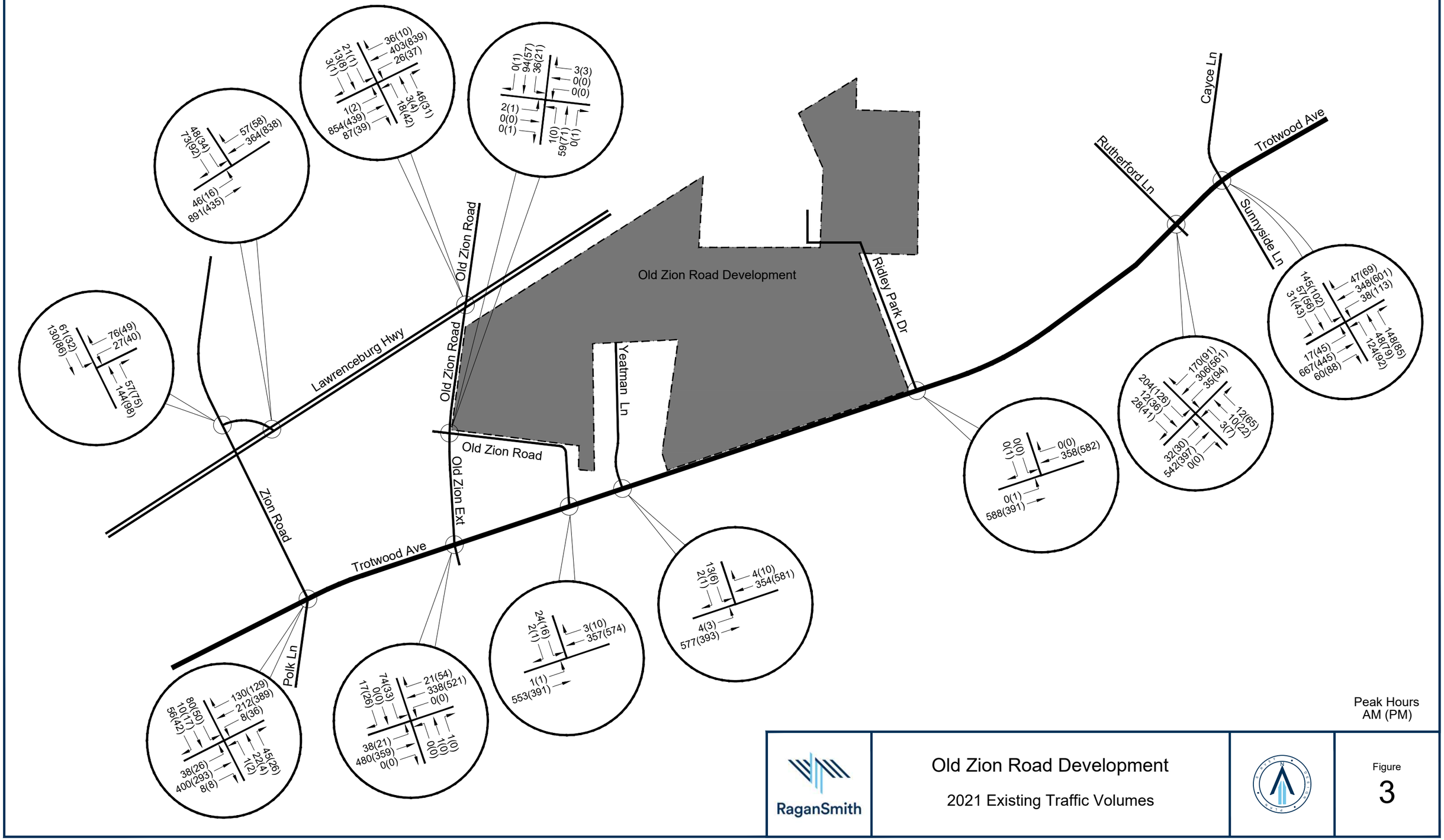
- **Trotwood Avenue (SR 243)**
  - Widen to 4 lanes from Rutherford Lane to Old Zion Ext
  - Identified funding source is federal/state
  - Long term project (20 to 30+ years)

C. Traffic Volumes

The peak hour of the adjacent street traffic between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. was used to determine the impact of the Old Zion Road Development on the existing transportation system. Hourly traffic data was collected in November and December 2021 and in March 2022 at the following intersections and locations to identify the peak periods for analysis.

- Trotwood Avenue at Cayce Lane/Sunnyside Lane
- Trotwood Avenue at Rutherford Lane
- Trotwood Avenue at Ridley Park Road
- Trotwood Avenue at Old Zion Road
- Trotwood Avenue at Old Zion Ext
- Trotwood Avenue at Zion Road
- Old Zion Road at Old Zion Ext
- Lawrenceburg Highway at Old Zion Road
- Lawrenceburg Highway at Zion Road Connector
- Zion Road at Lawrenceburg Highway Connector

Existing peak hour traffic volumes are shown in Figure 3.



Peak Hours
AM (PM)

RaganSmith

Old Zion Road Development

2021 Existing Traffic Volumes

Figure
3

IV. FORECASTED BACKGROUND TRAFFIC

A. Introduction

Based on the anticipated development schedule, the year 2032 will be used to analyze the traffic impact of the Old Zion Road Development.

An estimate of background traffic volumes for the horizon year was established by segregating potential growth into two categories:

- Specific development traffic growth within the immediate study area
- Growth due to small scale development and/or general population growth

B. Specific Development Growth

Based on discussions with City of Columbia staff related to the scope of this traffic impact study, there are no specific developments in the study area that will be individually accounted for in the background growth forecasts. The annual growth method discussed below will capture the traffic increase from any developments outside the immediate study area.

C. Annual Growth

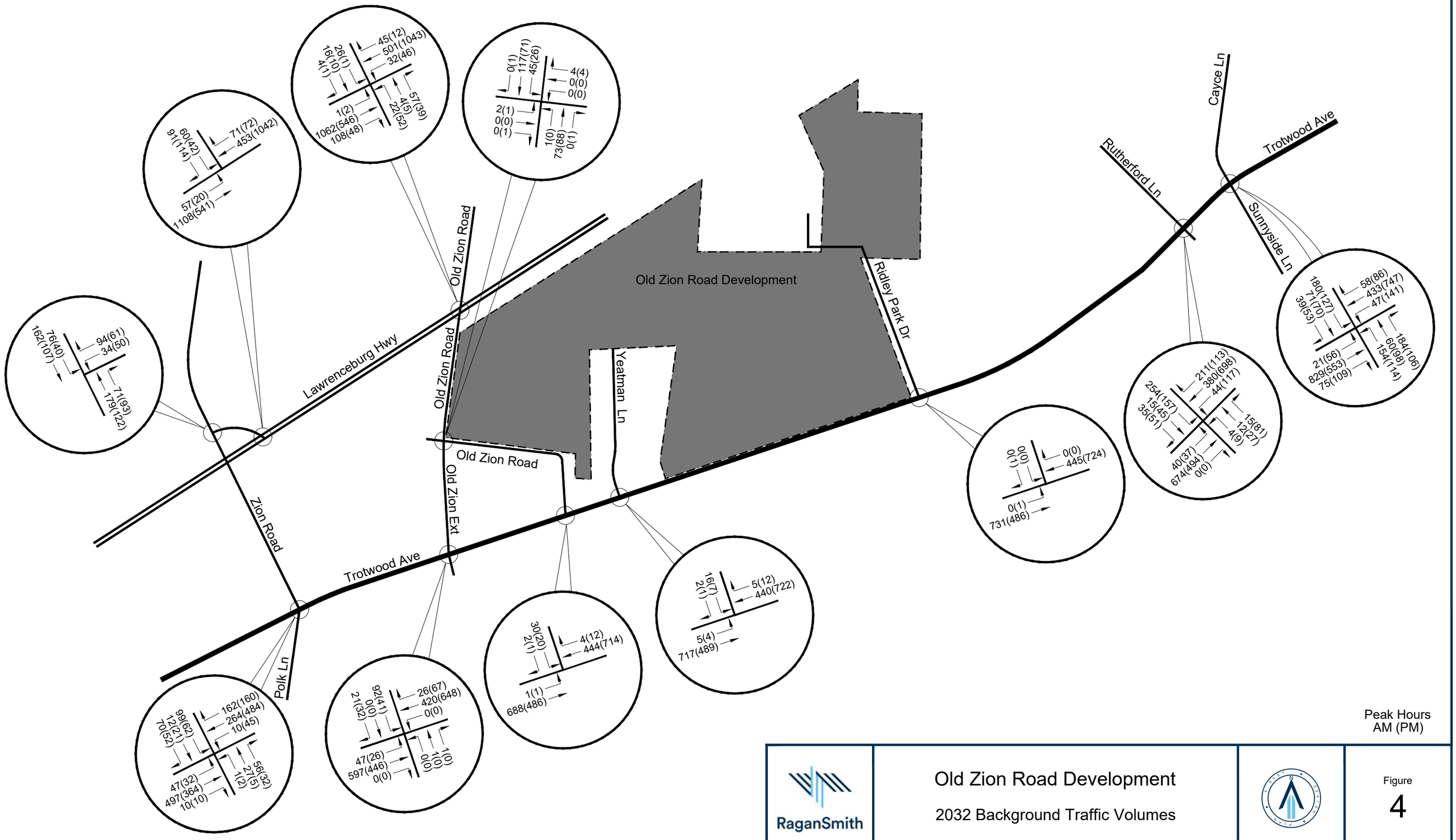
Based upon linear regression analysis of TDOT historical traffic count information, a ***2.0 percent annual growth rate*** has been applied as the base growth for the existing traffic volumes. This growth rate is consistent with the TDOT historical traffic count data along Trotwood Avenue, Zion Road, and Lawrenceburg Highway.

D. Background Traffic

Background traffic for the future traffic forecasts was compiled based on the following:

- 2021 & 2022 existing traffic data
- 2% annual increase of traffic volumes for the period from 2021 to 2032

Background traffic volumes on the future roadway, representing existing traffic volumes plus background growth, for the year 2032 are shown in Figure 4.



Peak Hours
AM (PM)

RaganSmith

Old Zion Road Development

2032 Background Traffic Volumes

Figure
4

V. PROPOSED SITE TRAFFIC

A. Site Trip Generation

In order to quantify site-related impacts within the study area, some estimates of site trip generation and traffic assignment had to be established. Trip generation rates for the Old Zion Road Development were established using information for the weekday a.m. and p.m. peak hour of the adjacent street as shown in the ITE *Trip Generation Manual, 11th Edition*. Trip generation for the Old Zion Road Development is shown in Table 1.

TABLE 2

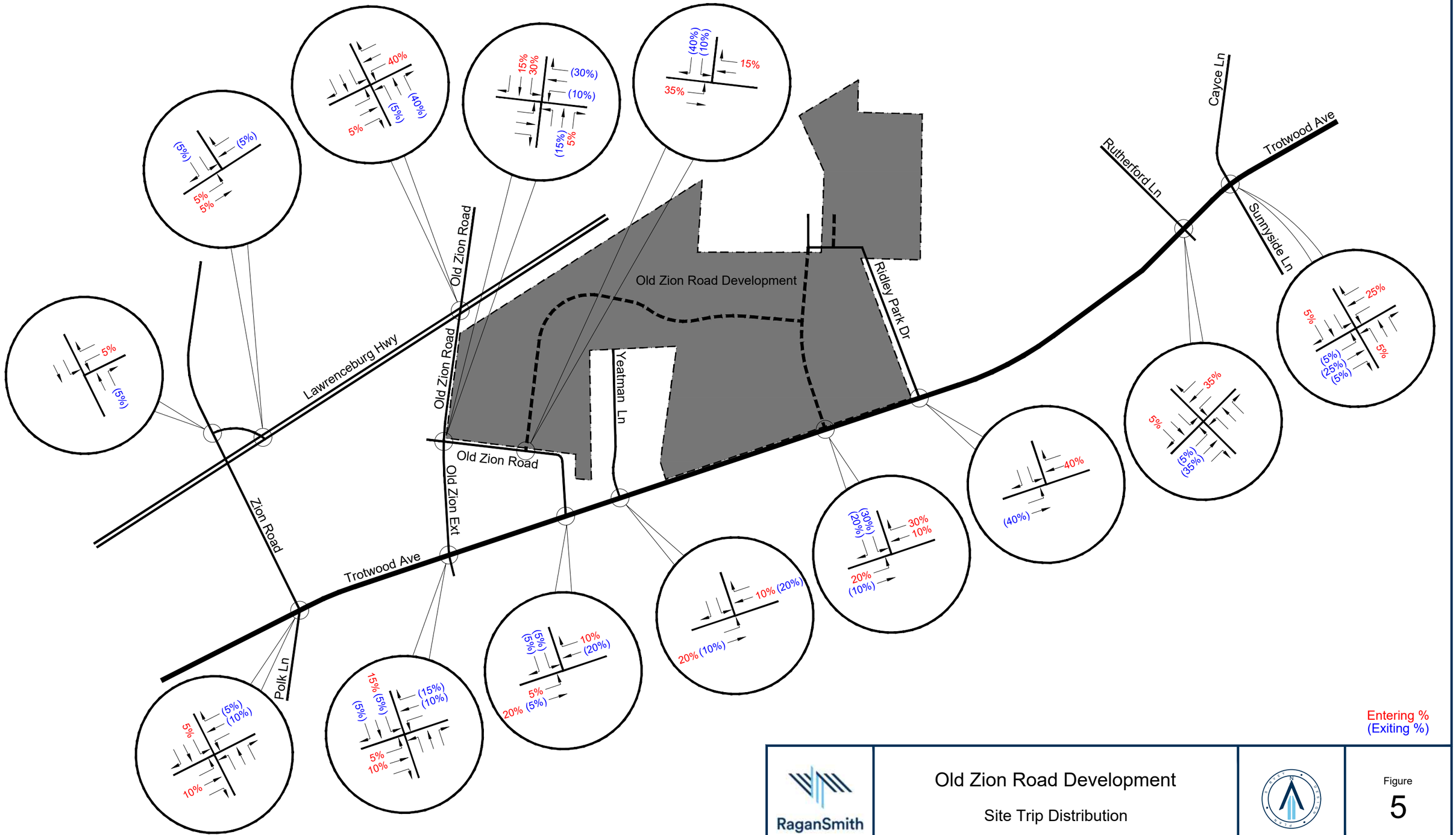
TRIP GENERATION: OLD ZION ROAD DEVELOPMENT

Land Use	Total Units	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Single Family Detached Housing	765 homes	6,560	119	356	475	424	249	673

B. Site Trip Distribution and Assignment

Site trips were distributed based primarily upon the prevalent patterns in the area and the proximity and routes to major transportation facilities. Figure 5 shows the distribution of site trips for the Old Zion Road Development.

Site traffic volumes generated by the Old Zion Road Development in the horizon year 2032 are shown in Figure 6. The accumulation of existing, background growth, and site-generated traffic for the horizon year 2032 is shown in Figure 7.



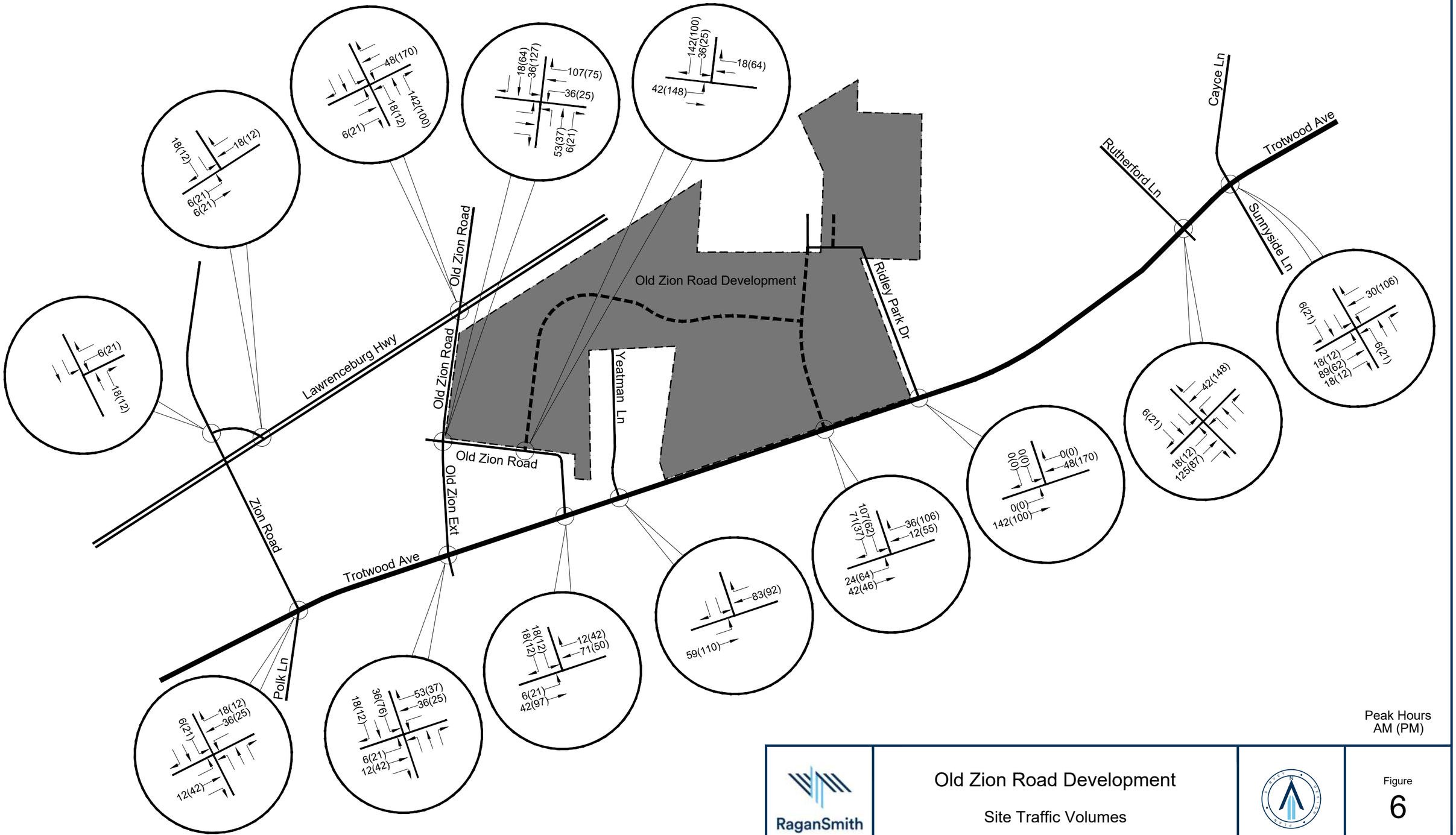
Entering %
(Exiting %)

RaganSmith

Old Zion Road Development

Site Trip Distribution

Figure
5



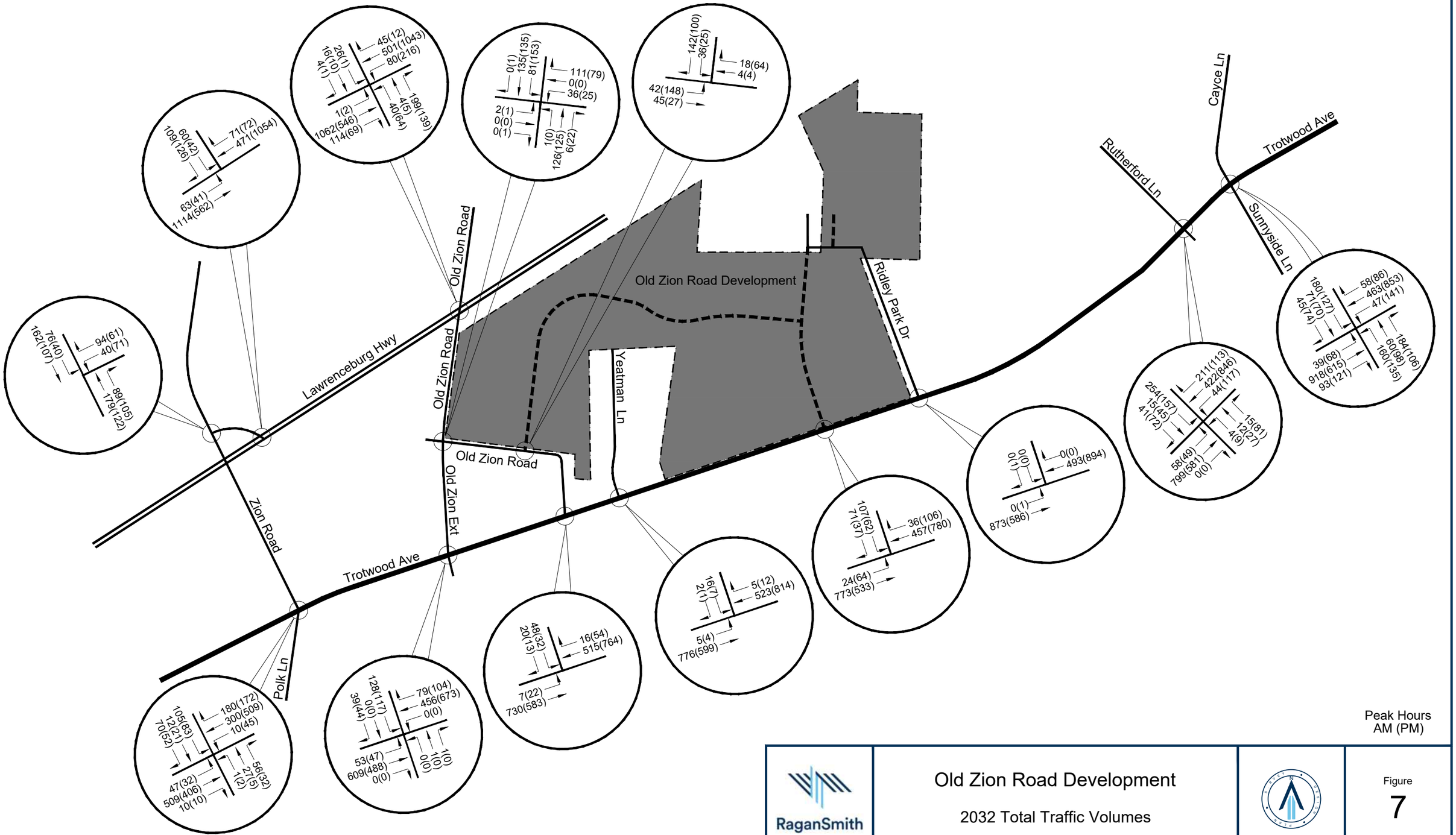
Peak Hours
AM (PM)

RaganSmith

Old Zion Road Development

Site Traffic Volumes

Figure
6



Peak Hours
AM (PM)

RaganSmith

Old Zion Road Development

2032 Total Traffic Volumes

Figure
7

VI. TRANSPORTATION ANALYSIS

A. Intersection Capacity Analysis

In order to determine the quality of existing traffic operations and identify capacity deficiencies, intersection capacity analyses were conducted at the following intersections.

- Trotwood Avenue at Cayce Lane/Sunnyside Lane
- Trotwood Avenue at Rutherford Lane
- Trotwood Avenue at Ridley Park Road
- Trotwood Avenue at Yeatman Lane
- Trotwood Avenue at Old Zion Road
- Trotwood Avenue at Old Zion Ext
- Trotwood Avenue at Zion Road
- Old Zion Road at Old Zion Ext
- Lawrenceburg Highway at Old Zion Road
- Lawrenceburg Highway at Zion Road Connector
- Zion Road at Lawrenceburg Highway Connector
- Project Access Locations

Capacity analyses were conducted according to the methodology and procedures outlined in the *Highway Capacity Manual, 6th Edition*, published by Transportation Research Board. Level of service (LOS) criteria for unsignalized intersections is shown in Table 3.

TABLE 3

LEVEL OF SERVICE DESCRIPTIONS FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Description	Control Delay (sec. /veh.)
A	Usually no conflicting traffic	0 - 10
B	Occasionally some delay due to conflicting traffic	> 10 - 15
C	Delay is noticeable but not inconveniencing	> 15 - 25
D	Delay is noticeable and irritating, increased risk taking	> 25 - 35
E	Delay approaches tolerance level, risk taking likely	> 35 - 50
F	Delay exceeds tolerance level, high likelihood of risk taking	> 50

Source: Highway Capacity Manual, HCM 6th Edition

Level of service (LOS) criteria for signalized intersections is shown in Table 4 below.

TABLE 4

LEVEL OF SERVICE DESCRIPTIONS FOR SIGNALIZED INTERSECTIONS

Level of Service	Description	Control Delay (sec. /veh.)
A	Volume-to-capacity ratio is low, progression is extremely favorable, most vehicles travel through intersection without stopping.	0 - 10
B	Volume-to-capacity ratio is low, progression is good and/or short cycle lengths is present, more vehicles stop than for LOS A.	> 10 – 20
C	Progression is favorable and/or cycle length is moderate, number of vehicles stopping is significant although many still pass through intersection without stopping.	> 20 – 35
D	Volume-to-capacity ratio is high, progression is ineffective, cycle length is long, many vehicles stop.	> 35 – 55
E	Volume-to-capacity ratio is high, progression is unfavorable, cycle length is long, many vehicles stop.	> 55 – 80
F	Volume-to-capacity ratio is very high, progression is very poor, cycle length is long, most cycles fail to clear the queue.	> 80

Source: Highway Capacity Manual, HCM 6th Edition

Capacity analysis results for the a.m. peak hour are shown in Table 5.

TABLE 5
INTERSECTION CAPACITY ANALYSIS RESULTS – A.M. PEAK HOUR

Intersection	Condition [1]	Level of Service (avg. delay/vehicle – sec.)		
		2021 Existing	**2032** Background	**2032 Total**
Trotwood Avenue at Cayce Ln/Sunnyside Ln	Overall Signal	C (26.5)	D (54.2)	D (47.9)
Trotwood Avenue at Rutherford Lane	Overall Signal	B (13.4)	B (17.2)	C (21.6)
Trotwood Avenue at Ridley Park Road	EB Left Turn	A (0.0)	A (0.0)	A (0.0)
	TWSC SB	A (0.0)	A (0.0)	A (0.0)
Trotwood Avenue at Yeatman Lane	EB Left Turn	A (8.1)	A (8.3)	A (8.6)
	TWSC SB	C (18.5)	C (24.9)	D (30.3)
Trotwood Avenue at Old Zion Road	EB Left Turn	A (8.2)	A (8.6)	A (8.9)
	TWSC SB	C (21.0)	D (30.9)	E (42.3)
Trotwood Avenue at Old Zion Ext	EB Left Turn	Stop Control: A (8.3)	Stop Control: A (8.6)	Signal Control: A (7.0)
	EB Thru/Right	-	-	A (6.1)
	WB Approach	-	-	B (10.8)
	NB Approach	C (16.9)	C (21.5)	B (20.0)
	SB Approach	D (33.5)	F (96.8)	C (26.7)
	Overall Intersection	-	-	B (10.5)
Trotwood Avenue at Zion Road/Polk Lane	EB Left Turn	Stop Control: A (8.2)	Stop Control: A (8.5)	Signal Control: A (8.9)
	EB Thru/Right	-	-	B (11.6)
	WB Left Turn	A (8.3)	A (8.6)	A (9.7)
	WB Thru/Right	-	-	B (16.1)
	NB Approach	C (15.7)	C (20.5)	C (21.4)
	SB Approach	D (30.1)	F (108.0)	C (24.9)
	Overall Intersection	-	-	B (15.6)
Old Zion Road at Old Zion Ext	NB Left Turn	A (7.4)	A (7.5)	A (7.5)
	SB Left Turn	A (7.4)	A (7.5)	A (7.7)
	TWSC EB	B (10.5)	B (11.1)	C (15.5)
	TWSC WB	A (8.6)	A (8.7)	B (11.6)
Lawrenceburg Highway at Old Zion Road	EB Left Turn	Stop Control: A (8.2)	Stop Control: A (8.6)	Signal Control: F (85.5)
	EB Thru/Right	-	-	B (15.6)
	WB Left Turn	B (10.2)	B (11.5)	D (38.0)
	WB Thru/Right	-	-	A (9.1)
	NB Approach	D (27.5)	F (73.4)	C (26.8)
	SB Approach	E (36.4)	F (83.2)	C (19.8)
	Overall Intersection	-	-	B (16.4)
Lawrenceburg Highway at Zion Road Connector	EB Left Turn	A (8.3)	A (8.7)	A (8.8)
	TWSC SB	B (14.2)	C (24.6)	C (24.9)
Zion Road at Lawrenceburg Highway Connector	SB Left Turn	A (8.0)	A (8.2)	A (8.3)
	TWSC WB	B (11.0)	B (12.3)	B (12.7)
Trotwood Avenue at Project Access #1	Overall Signal	-	-	B (17.6)
Old Zion Road at Project Access #2	EB Left Turn	-	-	A (7.3)
	TWSC SB	-	-	A (9.1)

[1] TWSC = Two-way Stop Control

Capacity analysis results for the p.m. peak hour are shown in Table 6.

TABLE 6

INTERSECTION CAPACITY ANALYSIS RESULTS – P.M. PEAK HOUR

Intersection	Condition [1]	Level of Service (avg. delay/vehicle – sec.)		
		2021 Existing	**2032** Background	**2032 Total**
Trotwood Avenue at Cayce Ln/Sunnyside Ln	Overall Signal	B (19.8)	C (27.7)	C (26.5)
Trotwood Avenue at Rutherford Lane	Overall Signal	B (13.2)	B (16.9)	C (21.4)
Trotwood Avenue at Ridley Park Road	EB Left Turn	A (8.8)	A (9.3)	A (10.0)
	TWSC SB	B (12.4)	B (14.0)	C (16.5)
Trotwood Avenue at Yeatman Lane	EB Left Turn	A (8.8)	A (9.4)	A (9.8)
	TWSC SB	C (19.2)	D (25.8)	D (34)
Trotwood Avenue at Old Zion Road	EB Left Turn	A (8.8)	A (9.3)	A (9.8)
	TWSC SB	C (19.6)	D (27.0)	E (35.5)
Trotwood Avenue at Old Zion Ext	EB Left Turn	Stop Control: A (8.8)	Stop Control: A (9.4)	Signal Control: B (11.0)
	EB Thru/Right	Stop Control: -	Stop Control: -	Signal Control: A (6.3)
	WB Approach	Stop Control: -	Stop Control: -	Signal Control: C (20.3)
	NB Approach	Stop Control: A (0.0)	Stop Control: A (0.0)	Signal Control: A (0.0)
	SB Approach	Stop Control: C (21.4)	Stop Control: D (34.6)	Signal Control: C (22.0)
	Overall Intersection	-	-	Signal Control: B (15.6)
Trotwood Avenue at Zion Road/Polk Lane	EB Left Turn	Stop Control: A (8.7)	Stop Control: A (9.1)	Signal Control: B (11.6)
	EB Thru/Right	Stop Control: -	Stop Control: -	Signal Control: B (10.6)
	WB Left Turn	Stop Control: A (8.0)	Stop Control: A (8.2)	Signal Control: A (8.8)
	WB Thru/Right	Stop Control: -	Stop Control: -	Signal Control: C (32.5)
	NB Approach	Stop Control: B (12.7)	Stop Control: C (15.0)	Signal Control: C (20.9)
	SB Approach	Stop Control: D (25.5)	Stop Control: F (55.8)	Signal Control: C (23.6)
	Overall Intersection	-	-	Signal Control: C (23.3)
Old Zion Road at Old Zion Ext	NB Left Turn	A (0.0)	A (0.0)	A (0.0)
	SB Left Turn	A (7.4)	A (7.5)	A (8.0)
	TWSC EB	A (9.3)	A (9.5)	B (14.0)
	TWSC WB	A (8.7)	A (8.8)	B (12.3)
Lawrenceburg Highway at Old Zion Road	EB Left Turn	Stop Control: A (9.8)	Stop Control: B (10.8)	Signal Control: E (78.6)
	EB Thru/Right	Stop Control: -	Stop Control: -	Signal Control: B (13.8)
	WB Left Turn	Stop Control: A (8.4)	Stop Control: A (8.9)	Signal Control: D (44.7)
	WB Thru/Right	Stop Control: -	Stop Control: -	Signal Control: A (9.6)
	NB Approach	Stop Control: D (27.7)	Stop Control: F (67.1)	Signal Control: C (32.0)
	SB Approach	Stop Control: D (34.7)	Stop Control: F (60.1)	Signal Control: C (22.4)
	Overall Intersection	-	-	Signal Control: B (16.9)
Lawrenceburg Highway at Zion Road Connector	EB Left Turn	A (9.8)	B (10.9)	B (11.2)
	TWSC SB	B (11.7)	C (18.4)	C (20.7)
Zion Road at Lawrenceburg Highway Connector	SB Left Turn	A (7.6)	A (7.8)	A (7.8)
	TWSC WB	A (9.9)	B (10.4)	B (10.7)
Trotwood Avenue at Project Access #1	Overall Signal	-	-	B (10.4)
Old Zion Road at Project Access #2	EB Left Turn	-	-	A (7.6)
	TWSC SB	-	-	A (9.5)

[1] TWSC = Two-way Stop Control

B. Traffic Signal Warrants

In order to assess the need for traffic signals in the study area, existing conditions for 2021 or future conditions for 2032 were checked against specific warrants found in the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) and TDOT guidance in the *TDOT Traffic Design Manual* related to warrant application for the intersections below.

- Trotwood Avenue at Project Access #1
- Trotwood Avenue at Old Zion Ext
- Trotwood Avenue at Zion Road
- Lawrenceburg Highway at Old Zion Road

The purpose of the signal warrant is to consider factors related to the operation and safety of the intersection and the potential to improve these conditions. The MUTCD provides guidance that a traffic signal should not be installed unless one or more of the signal warrants are satisfied. In addition, the *ITE Trip Generation Manual* provides trip distribution percentages for a 24-hour period, these percentages were used to generate 12 hours of traffic data for the Old Zion Road Development. The three (3) MUTCD traffic signal warrants that were considered for the purposes of this study are listed below:

- Warrant 1: Eight Hour Vehicular Volume
- Warrant 2: Four Hour Vehicular Volume

TABLE 7
TRAFFIC SIGNAL WARRANT SUMMARY:
TROTWOOD AVENUE AT PROJECT ACCESS #1
2032 TRAFFIC CONDITIONS

Time Period	Major Street Volume	Minor Street Volume	Traffic Signal Warrant [1]			
			#1			#2
			Cond. A (70%)	Cond. B (70%)	Combination (56%)	70%
7 a.m. - 8 a.m.	701	98	93%	X		X
8 a.m. - 9 a.m.	605	79		X	X	
9 a.m. – 10 a.m.	665	55		X	94%	
10 a.m. – 11 a.m.	648	47		89%		
11 a.m. – 12 p.m.	719	47		89%		
12 p.m. - 1 p.m.	752	50		94%		
1 p.m. - 2 p.m.	728	51		96%		
2 p.m. - 3 p.m.	761	55		X		92%
3 p.m. - 4 p.m.	857	53		X		88%
4 p.m. - 5 p.m.	898	62		X		X
5 p.m. - 6 p.m.	937	65		X		X
6 p.m. – 7 p.m.	673	54		X		
No. of Hours that Warrant is Satisfied			0	8	1	3
Minimum Hours to Satisfy Warrant			8	8	8	4
Is Warrant Met?			**YES**			**NO**

[1] An "X" indicates that the traffic volume criteria are satisfied, a XX% indicates the percent of the warrant criteria that are met for that hour (only hours with more than 80% of the warrant traffic volume are noted)

TABLE 8

**TRAFFIC SIGNAL WARRANT SUMMARY:
TROTWOOD AVENUE AT OLD ZION EXTENDED
2032 TRAFFIC CONDITIONS**

Time Period	Major Street Volume	Minor Street Volume	Traffic Signal Warrant (1)			
			#1			#2
			Cond. A (70%)	Cond. B (70%)	Combination (56%)	70%
6 a.m. - 7 a.m.	593	82	87%	X	X	82%
7 a.m. - 8 a.m.	1,090	91	85%	X	X	X
8 a.m. - 9 a.m.	712	89		X	86%	X
9 a.m. – 10 a.m.	713	72		X		X
10 a.m. – 11 a.m.	766	65		X	88%	93%
11 a.m. – 12 p.m.	741	74		X		X
12 p.m. - 1 p.m.	798	62		X		X
1 p.m. - 2 p.m.	866	64		X	90%	X
2 p.m. - 3 p.m.	1,002	76	91%	X	X	X
3 p.m. - 4 p.m.	1,131	96	86%	X	X	X
4 p.m. - 5 p.m.	1,112	90	94%	X	X	X
5 p.m. - 6 p.m.	1,088	99		X		X
No. of Hours that Warrant is Satisfied				12		10
Minimum Hours to Satisfy Warrant			8	8	8	4
Is Warrant Met?			**YES**			**YES**

(1) An “X” indicates that the traffic volume criteria are satisfied, a XX% indicates the percent of the warrant criteria that are met for that hour (only hours with more than 80% of the warrant traffic volume are noted)

TABLE 9
TRAFFIC SIGNAL WARRANT SUMMARY:
TROTWOOD AVENUE AT ZION ROAD / POLK LANE
2021 TRAFFIC CONDITIONS

Time Period	Major Street Volume	Minor Street Volume	Traffic Signal Warrant (1)			
			#1			#2
			Cond. A (70%)	Cond. B (70%)	Combination (56%)	70%
6 a.m. - 7 a.m.	441	57		84%		
7 a.m. - 8 a.m.	796	146	X	X	X	X
8 a.m. - 9 a.m.	529	91	87%	X	X	
9 a.m. – 10 a.m.	511	75		97%	89%	
10 a.m. – 11 a.m.	557	76		X	90%	
11 a.m. – 12 p.m.	555	67		X	80%	
12 p.m. - 1 p.m.	603	68		X	81%	
1 p.m. - 2 p.m.	656	71		X	85%	
2 p.m. - 3 p.m.	760	98	93%	X	X	X
3 p.m. - 4 p.m.	845	109	X	X	X	X
4 p.m. - 5 p.m.	854	96	91%	X	X	X
5 p.m. - 6 p.m.	824	103	98%	X	X	X
No. of Hours that Warrant is Satisfied			2	10	6	5
Minimum Hours to Satisfy Warrant			8	8	8	4
Is Warrant Met?			**YES**			**YES**

(1) An “X” indicates that the traffic volume criteria are satisfied, a XX% indicates the percent of the warrant criteria that are met for that hour (only hours with more than 80% of the warrant traffic volume are noted)

TABLE 10

**TRAFFIC SIGNAL WARRANT SUMMARY:
LAWRENCEBURG HIGHWAY AT OLD ZION ROAD
2021 TRAFFIC CONDITIONS**

Time Period	Major Street Volume	Minor Street Volume	Traffic Signal Warrant (1)			
			#1			#2
			Cond. A (70%)	Cond. B (70%)	Combination (56%)	70%
6 a.m. - 7 a.m.	1,078	9				
7 a.m. - 8 a.m.	1,407	34				
8 a.m. - 9 a.m.	1,008	10				
9 a.m. – 10 a.m.	898	26				
10 a.m. – 11 a.m.	846	22				
11 a.m. – 12 p.m.	908	24				
12 p.m. - 1 p.m.	832	21				
1 p.m. - 2 p.m.	879	33				
2 p.m. - 3 p.m.	1,055	41				
3 p.m. - 4 p.m.	1,234	43		81%		
4 p.m. - 5 p.m.	1,366	46		87%		
5 p.m. - 6 p.m.	1,140	44		83%		
No. of Hours that Warrant is Satisfied						
Minimum Hours to Satisfy Warrant			8	8	8	4
Is Warrant Met?			**NO**			**NO**

(1) An “X” indicates that the traffic volume criteria are satisfied, a XX% indicates the percent of the warrant criteria that are met for that hour (only hours with more than 80% of the warrant traffic volume are noted)

VII. CONCLUSIONS AND RECOMMENDATIONS

A. Trotwood Avenue at Cayce Lane/Sunnyside Lane

- The recommended roadway project in the City of Columbia's *ConnectColumbia* Comprehensive Plan for this intersection will provide capacity improvements that mitigate the impact of background traffic growth and traffic from the Old Zion Road Development.

- The recommended roadway project at this intersection consists of adding right turn lanes on Trotwood Avenue and closing the nearest access points within a 10-year timeframe from 2018 when *ConnectColumbia* was adopted.

- Based on the properties adjacent to the approaches of Trotwood Avenue, the turn lane design dimensions below would keep the number of properties impacted to a minimum.
    - The eastbound right turn lane can have a storage length of 150 feet and a taper length of 100 feet within the limits of the property on the southwest corner of the intersection.
    - The westbound right turn lane can have a storage length of 100 feet and a taper length of 100 feet within the limits of the property on the northeast corner of the intersection.

- Because the recommended City project is already identified in *ConnectColumbia* and is located 1.1 miles from the Old Zion Road Development, it is not reasonable to assign full responsibility of the improvement to the Old Zion Road Development. However, the proposed Old Zion Road Development should support the recommended City project in a manner that corresponds to the pro rata share of development traffic at the intersection because the improvements do provide additional capacity to mitigate the development impact. Based on statements by city staff, there are traffic signal equipment and hardware replacements that can be completed by the Old Zion Road Development at this intersection to fulfill the pro rata share of the development's impact.

B. Trotwood Avenue at Rutherford Lane

- No intersection control or laneage modifications are recommended at the intersection of Trotwood Avenue and Rutherford Lane due to the impact of the Old Zion Road Development.

C. Trotwood Avenue at Ridley Park Road

- This access is planned to remain gated and under control of the City of Columbia Parks Department and site traffic from the Old Zion Development has not been distributed to it for the analysis of this report. Therefore, no improvements are recommended at the intersection due to the impact of the Old Zion Development.

D. Trotwood Avenue at Yeatman Lane

- A connection from the existing Ashwood Manor neighborhood to the Old Zion Road Development is proposed via an extension of Yeatman Lane but it will be gated by the City of Columbia.

E. Trotwood Avenue at Old Zion Road

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The recommended eastbound left turn lane and westbound right turn lane on Trotwood Avenue should be constructed concurrently with phase 2D when the Old Zion Road Development connects to Old Zion Road.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane and westbound right turn lane.

F. Trotwood Avenue at Old Zion Ext

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 335 feet of storage, 220 feet of bay taper, and lane transitions based on the TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The traffic signal warrant evaluation in this report indicates that this signal may be a candidate for signalization in the future. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Old Zion Ext.

- The recommended eastbound left turn lane, westbound right turn lane, and traffic signal at the intersection of Trotwood Avenue and Old Zion Ext should be constructed when traffic signal warrants are satisfied by traffic counts at the intersection or at approximately 50% build out (±500 homes) of the Old Zion Road Development. This level of development is anticipated to be concurrent with phase 2A.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

G. Trotwood Avenue at Zion Road

The traffic signal warrant evaluation in the reports indicates that this signal may be a candidate for signalization. If signalization is not implemented based on the analysis of this report, this intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be

constructed to TDOT standards at the direction of the City Engineering Department with TDOT concurrence.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

H. Old Zion Road at Old Zion Ext

- A southbound left turn lane should be constructed on Old Zion Road concurrently with phase 2D of the Old Zion Road Development. This turn lane should include 115 feet of storage, 140 feet of bay taper, and lane transitions based on TDOT design guidelines.

- Right-of-Way on the Old Zion Road Development property at this intersection (northeast quadrant) should be dedicated so that intersection sight lines per AASHTO guidelines and future improvements by others are possible.

I. Lawrenceburg Highway at Old Zion Road

- The intersection of Lawrenceburg Highway and Old Zion Road includes an intersection skew of approximately 40 degrees and traffic operations on the minor street approaches will be characterized by level of service F during background traffic conditions. Intersection improvements will be appropriate to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.

- The intersection of Lawrenceburg Highway and Old Zion Road may qualify for modifications into a J-turn intersections as described in the TDOT Design Guidelines (Section 2-303.00). At a J-turn intersection, direct crossing and left-turn movements from the minor approach roadway are prevented to reduce the exposure to high-speed angle collisions. There are already J-turn intersections located on Lawrenceburg Highway nearby in the City of Mt. Pleasant so this type of intersection should be familiar to many drivers in the area. The Old Zion Road Development should coordinate with the TDOT Region traffic engineering office to consider if TDOT's criteria for a J-turn intersection are met. If approved by TDOT, a J-turn intersection should be constructed concurrently with phase 2D where Old Zion Road intersects Lawrenceburg Highway.

- If a J-turn intersection is not approved by TDOT, the improvements below may be considered as alternative measures to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.
    - Reduce the speed limit on Lawrenceburg Highway from 65 mph to 55 mph within the influence area of the intersection with Old Zion Road.
    - Extend the eastbound and westbound left turn lanes to a minimum length of 385 feet with 220 of bay taper and offset the left turn lanes to the center of the existing median.
    - If warranted, install a traffic signal at the intersection of Lawrenceburg Highway and Old Zion Road. Based on the analysis of this report, the satisfaction of traffic signal warrants at this intersection may be challenging due to the high volume of right turn movements which are often subtracted from the signal warrant consideration.
    - If a traffic signal is installed at this intersection in the future, providing railroad-traffic signal preemption should be considered.

- A TDOT grading permit will be required as part of the construction of any improvements at the intersection of Lawrenceburg Highway and Old Zion Road.

- The at-grade railroad crossing on Old Zion Road south of Lawrenceburg Highway is protected by recently installed active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Old Zion Road with and without the Old Zion Road Development.

J. Lawrenceburg Highway at Zion Road Connector

- No intersection control or laneage modifications are recommended at the intersection of Lawrenceburg Highway at the Zion Road Connector due to the impact of the Old Zion Road Development.

K. Zion Road at Lawrenceburg Highway Connector

- No intersection control or laneage modifications are recommended at the intersection of Zion Road at the Lawrenceburg Highway Connector due to the impact of the Old Zion Road Development.

- The at-grade railroad crossing on Zion Road south of Lawrenceburg Highway is protected by active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Zion Road with and without the Old Zion Road Development.

L. Trotwood Avenue Project Access #1

- The approach of Project Access #1 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- Based on the analysis in this report, this intersection appears to be a candidate for future signalization. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. Traffic counts and signal warrant analysis more frequently than every 12 months should be performed if requested by City of Columbia Engineering Staff based on the continued monitoring of the intersection. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Project Access #1.

- The recommended eastbound left turn lane and westbound right turn lane at the intersection of Trotwood Avenue and Project Access #1 should be constructed as part of Project Access #1 with phase 1A.

- A TDOT entrance and grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

M. Old Zion Road at Project Access #2

- The approach of Project Access #2 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- The portion of Old Zion Road along the project frontage within the City of Columbia should be annexed into the city, if requested by the County Highway Department. The annexed portion of Old Zion Road should be improved as part of phase 2D to meet the requirements of the City of Columbia Engineering Department including pavement markings, signage, along the roadway and at the intersections and curves along the site frontage.

N. Trotwood Avenue Improvements

- The Old Zion Road Development should plan for the future widening of Trotwood Avenue by the City or TDOT by maintaining a 150’ buffer along the project frontage so that future roadway improvements will not be constrained by limited right-of-way.

	60' LOT ALLEY	71 LOTS
	60' LOT	370 LOTS
	75' LOT ALLEY	29 LOTS
	75' LOT	278 LOTS
	100' LOT	16 LOTS
	7AC. HISTORIC HOME	1 LOT
	TOTAL	765 LOTS

Lawrenceburg Highway at Old Zion Road (Phase 2D)

- The intersection of Lawrenceburg Highway and Old Zion Road includes an intersection skew of approximately 40 degrees and traffic operations on the minor street approaches will be characterized by level of service F during background traffic conditions. Intersection improvements will be appropriate to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.
- The intersection of Lawrenceburg Highway and Old Zion Road may qualify for modifications into a J-turn intersections as described in the TDOT Design Guidelines (Section 2-303.00). At a J-turn intersection, direct crossing and left-turn movements from the minor approach roadway are prevented to reduce the exposure to high-speed angle collisions. There are already J-turn intersections located on Lawrenceburg Highway nearby in the City of Mt. Pleasant so this type of intersection should be familiar to many drivers in the area. The Old Zion Road Development should coordinate with the TDOT Region traffic engineering office to consider if TDOT's criteria for a J-turn intersection are met. If approved by TDOT, a J-turn intersection should be constructed concurrently with phase 2E where Old Zion Road intersects Lawrenceburg Highway.
- If a J-turn intersection is not approved by TDOT, the improvements below may be considered as alternative measures to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.
  - o Reduce the speed limit on Lawrenceburg Highway from 65 mph to 55 mph withing the influence area of the intersection with Old Zion Road.
  - o Extend the eastbound and westbound left turn lanes to a minimum length of 385 feet with 220 of bay taper and offset the left turn lanes to the center of the existing median.
  - o If warranted, install a traffic signal at the intersection of Lawrenceburg Highway and Old Zion Road. Based on the analysis of this report, the satisfaction of traffic signal warrants at this intersection may be challenging due to the high volume of right turn movements which are often subtracted from the signal warrant consideration.
  - o If a traffic signal is installed at this intersection in the future, providing railroad-traffic signal preemption should be considered.
- A TDOT grading permit will be required as part of the construction of any improvements at the intersection of Lawrenceburg Highway and Old Zion Road.
- The at-grade railroad crossing on Old Zion Road south of Lawrenceburg Highway is protected by recently installed active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Old Zion Road with and without the Old Zion Road Development.

Lawrenceburg Highway at Zion Road Connector

- No intersection control or laneage modifications are recommended at the intersection of Lawrenceburg Highway at the Zion Road Connector due to the impact of the Old Zion Road Development.

Zion Road at Lawrenceburg Highway Connector

- No intersection control or laneage modifications are recommended at the intersection of Zion Road at the Lawrenceburg Highway Connector due to the impact of the Old Zion Road Development.
- The at-grade railroad crossing on Zion Road south of Lawrenceburg Highway is protected by active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Zion Road with and without the Old Zion Road Development.

Old Zion Road at Old Zion Ext (Phase 2D)

- A southbound left turn lane should be constructed on Old Zion Road concurrently with phase 2E of the Old Zion Road Development. This turn lane should include 115 feet of storage, 140 feet of bay taper, and lane transitions based on TDOT Guidelines.
- Right-of-Way on the Old Zion Road Development property at this intersection (northeast quadrant) should be dedicated so that intersection sight lines per AASHTO guidelines and future improvements by others are possible.

Trotwood Avenue at Old Zion Ext (Phase 2A)

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on the TDOT Highway System Access Manual.
- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper based on the TDOT Highway System Access Manual.
- The traffic signal warrant evaluation in this report indicates that this signal may be a candidate for signalization in the future. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Old Zion Ext.
- The recommended eastbound left turn lane, westbound right turn lane, and traffic signal at the intersection of Trotwood Avenue and Old Zion Ext should be constructed when traffic signal warrants are satisfied by traffic counts at the intersection or at approximately 50% build out (±400 homes) of the Old Zion Road Development. This level of development is anticipated to be concurrent with phase 2A.
- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Trotwood Avenue at Old Zion Road (Phase 2D)

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on the TDOT Highway System Access Manual.
- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper based on the TDOT Highway System Access Manual.
- The recommended eastbound left turn lane and westbound right turn lane on Trotwood Avenue should be constructed concurrently with phase 2D when the Old Zion Road Development connects to Old Zion Road.
- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane and westbound right turn lane.

Trotwood Avenue at Zion Road

- The traffic signal warrant evaluation in the reports indicates that this signal may be a candidate for signalization. If signalization is not implemented based on the analysis of this report, this intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed to TDOT standards at the direction of the City Engineering Department with TDOT concurrence.
- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Old Zion Road at Project Access #2 (Phase 2D)

- The approach of Project Access #2 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.
- The portion of Old Zion Road along the project frontage within the City of Columbia should be annexed into the city, if requested by the County Highway Department. The annexed portion of Old Zion Road should be improved as part of phase 2D to meet the requirements of the City of Columbia Engineering Department including pavement markings, signage, along the roadway and at the intersections and curves along the site frontage.

Trotwood Avenue at Cayce Lane/Sunnyside Lane

- The recommended roadway project in the City of Columbia's ConnectColumbia Comprehensive Plan for this intersection will provide capacity improvements that mitigate the impact of background traffic growth and traffic from the Old Zion Road Development.
- The recommended roadway project at this intersection consists of adding right turn lanes on Trotwood Avenue and closing the nearest access points within a 10-year timeframe from 2018 when ConnectColumbia was adopted.
- Based on the properties adjacent to the approaches of Trotwood Avenue, the turn lane design dimensions below would keep the number of properties impacted to a minimum.
  - o The eastbound right turn lane can have a storage length of 150 feet and a taper length of 100 feet within the limits of the property on the southwest corner of the intersection.
  - o The westbound right turn lane can have a storage length of 100 feet and a taper length of 100 feet within the limits of the property on the northeast corner of the intersection.
- Because the recommended City project is already identified in ConnectColumbia and is located 1.1 miles from the Old Zion Road Development, it is not reasonable to assign full responsibility of the improvement to the Old Zion Road Development. However, the proposed Old Zion Road Development should support the recommended City project in a manner that corresponds to the pro rata share of development traffic at the intersection because the improvements do provide additional capacity to mitigate the development impact. Based on statements by city staff, there traffic signal equipment and hardware replacements that can be completed by the Old Zion Road Development at this intersection to fulfill the pro rata share of the development's impact.

Trotwood Avenue at Rutherford Lane

- No intersection control or laneage modifications are recommended at the intersection of Trotwood Avenue and Rutherford Lane due to the impact of the Old Zion Road Development.

Trotwood Avenue Project Access #1 (Phase 1A)

- The approach of Project Access #1 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.
- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.
- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.
- Based on the analysis in this report, this intersection appears to be a candidate for future signalization. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. Traffic counts and signal warrant analysis more frequently than every 12 months should be performed if requested by City of Columbia Engineering Staff based on the continued monitoring of the intersection. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Project Access #1.
- The recommended eastbound left turn lane and westbound right turn lane at the intersection of Trotwood Avenue and Project Access #1 should be constructed as part of Project Access #1 with phase 1A.
- A TDOT entrance and grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

RaganSmith

OLD ZION ROAD PRELIMINARY PUD MASTERPLAN

DRAWING TITLE: RECOMMENDATIONS SUMMARY

DRAWING NUMBER: 8

0 600 1200

SCALE = 1"=300'

APPENDIX

A. TRAFFIC COUNT DATA

B. TRIP GENERATION & FUTURE TRAFFIC DERIVATION

C. EXISTING CONDITIONS CAPACITY ANALYSIS WORKSHEETS

D. 2032 BACKGROUND CONDITIONS CAPACITY ANALYSIS WORKSHEETS

E. 2032 TOTAL CONDITIONS CAPACITY ANALYSIS WORKSHEETS

F. TRAFFIC SIGNAL WARRANT WORKSHEETS

APPENDIX A

TRAFFIC COUNT DATA

Peak Hour Turning Movement Count

Click here for Map

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0715 - 0815

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	16	18	26	0	60	20	9	6	0	35	5	148	19	0	172	5	94	12	0	111	378
0730 - 0745	35	11	35	0	81	38	6	7	0	51	7	179	16	0	202	9	81	10	0	100	434
0745 - 0800	46	9	51	0	106	40	18	12	0	70	1	166	12	0	179	11	90	12	0	113	468
0800 - 0815	27	10	36	0	73	47	24	6	0	77	4	174	13	0	191	13	83	13	0	109	450
Total	124	48	148	0	320	145	57	31	0	233	17	667	60	0	744	38	348	47	0	433	1730
Approach %	38.75	15.00	46.25	0.00	-	62.23	24.46	13.30	0.00	-	2.28	89.65	8.06	0.00	-	8.78	80.37	10.85	0.00	-	
PHF	0.67	0.67	0.73	0.00	**0.75**	0.77	0.59	0.65	0.00	**0.76**	0.61	0.93	0.79	0.00	**0.92**	0.73	0.93	0.90	0.00	**0.96**	**0.92**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	16	17	25	0	58	20	9	6	0	35	5	144	19	0	168	5	90	12	0	107	368
0730 - 0745	35	11	35	0	81	38	6	7	0	51	7	175	16	0	198	9	76	9	0	94	424
0745 - 0800	46	8	51	0	105	39	18	11	0	68	1	163	11	0	175	11	85	12	0	108	456
0800 - 0815	25	10	36	0	71	47	23	6	0	76	4	169	13	0	186	12	78	13	0	103	436
Total	122	46	147	0	315	144	56	30	0	230	17	651	59	0	727	37	329	46	0	412	1684
Approach %	38.73	14.60	46.67	0.00	-	62.61	24.35	13.04	0.00	-	2.34	89.55	8.12	0.00	-	8.98	79.85	11.17	0.00	-	
PHF	0.66	0.68	0.72	0.00	**0.75**	0.77	0.61	0.68	0.00	**0.76**	0.61	0.93	0.78	0.00	**0.92**	0.77	0.91	0.88	0.00	**0.95**	**0.92**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	0	1	1	0	2	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	8
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	1	0	5	7
0745 - 0800	0	0	0	0	0	1	0	1	0	2	0	2	1	0	3	0	4	0	0	4	9
0800 - 0815	1	0	0	0	1	0	1	0	0	1	0	4	0	0	4	1	3	0	0	4	10
Total	1	1	1	0	3	1	1	1	0	3	0	11	1	0	12	1	14	1	0	16	34
Approach %	33.33	33.33	33.33	0.00	-	33.33	33.33	33.33	0.00	-	0.00	91.67	8.33	0.00	-	6.25	87.50	6.25	0.00	-	
PHF	0.25	0.25	0.25	0.00	**0.38**	0.25	0.25	0.25	0.00	**0.38**	0.00	0.69	0.25	0.00	**0.75**	0.25	0.88	0.25	0.00	**0.80**	**0.85**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
0745 - 0800	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
0800 - 0815	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
Total	1	1	0	0	2	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	12
Approach %	50.00	50.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.25	0.25	0.00	0.00	**0.50**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.63	0.00	0.00	**0.63**	0.00	0.63	0.00	0.00	**0.63**	**0.75**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	1a	1b			Total	1c	1d			Total	1e	1f			Total	1g	1h			Total	Total
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0800 - 0815	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1515 - 1615

Session Parameters

(Drop Down Menu)

1430 - 1800

Volume

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1515 - 1530	26	18	17	0	61	24	16	8	0	48	7	174	13	0	194	23	127	17	0	167	470
1530 - 1545	25	8	20	0	53	25	16	11	0	52	12	150	23	0	185	32	137	16	0	185	475
1545 - 1600	14	22	18	0	54	31	21	7	0	59	20	104	18	0	142	25	155	24	0	204	459
1600 - 1615	20	18	15	0	53	30	14	10	0	54	15	120	22	0	157	32	142	18	0	192	456
Total	85	66	70	0	221	110	67	36	0	213	54	548	76	0	678	112	561	75	0	748	1860
Approach %	38.46	29.86	31.67	0.00	-	51.64	31.46	16.90	0.00	-	7.96	80.83	11.21	0.00	-	14.97	75.00	10.03	0.00	-	
PHF	0.82	0.75	0.88	0.00	**0.91**	0.89	0.80	0.82	0.00	**0.90**	0.68	0.79	0.83	0.00	**0.87**	0.88	0.90	0.78	0.00	**0.92**	**0.98**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1515 - 1530	26	18	16	0	60	24	16	8	0	48	7	170	13	0	190	22	126	17	0	165	463
1530 - 1545	24	8	18	0	50	24	16	11	0	51	12	147	21	0	180	31	135	16	0	182	463
1545 - 1600	14	20	18	0	52	31	21	7	0	59	19	100	18	0	137	25	150	24	0	199	447
1600 - 1615	20	18	15	0	53	29	14	10	0	53	14	116	22	0	152	32	140	18	0	190	448
Total	84	64	67	0	215	108	67	36	0	211	52	533	74	0	659	110	551	75	0	736	1821
Approach %	39.07	29.77	31.16	0.00	-	51.18	31.75	17.06	0.00	-	7.89	80.88	11.23	0.00	-	14.95	74.86	10.19	0.00	-	
PHF	0.81	0.80	0.93	0.00	**0.90**	0.87	0.80	0.82	0.00	**0.89**	0.68	0.78	0.84	0.00	**0.87**	0.86	0.92	0.78	0.00	**0.92**	**0.98**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1515 - 1530	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	1	1	0	0	2	6
1530 - 1545	1	0	2	0	3	1	0	0	0	1	0	0	2	0	2	1	2	0	0	3	9
1545 - 1600	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	6
1600 - 1615	0	0	0	0	0	1	0	0	0	1	1	2	0	0	3	0	2	0	0	2	6
Total	1	2	3	0	6	2	0	0	0	2	2	6	2	0	10	2	7	0	0	9	27
Approach %	16.67	33.33	50.00	0.00	-	100.00	0.00	0.00	0.00	-	20.00	60.00	20.00	0.00	-	22.22	77.78	0.00	0.00	-	
PHF	0.25	0.25	0.38	0.00	**0.50**	0.50	0.00	0.00	0.00	**0.50**	0.50	0.50	0.25	0.00	**0.83**	0.50	0.88	0.00	0.00	**0.75**	**0.75**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	3	0	0	3	12
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.75	0.00	0.00	**0.75**	0.00	0.25	0.00	0.00	**0.25**	**0.50**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	1a	1b			Total	1c	1d			Total	1e	1f			Total	1g	1h			Total	Total
1515 - 1530	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1530 - 1545	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1545 - 1600	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1600 - 1615	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Marr Traffic DATA COLLECTION

Columbia, TN

www.marrtraffic.com

Site 1 of 13
Sunnyside Ln
Cayce Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.591446°, -87.095207°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0600 - 0615	2	14	7	0	23	4	0	1	0	5	13	46	3	0	62	1	42	11	0	54	144
0615 - 0630	10	17	13	0	40	10	1	3	0	14	4	81	6	0	91	2	41	16	0	59	204
0630 - 0645	4	12	11	0	27	9	7	3	0	19	11	104	6	0	121	1	59	14	0	74	241
0645 - 0700	12	9	10	0	31	12	5	2	0	19	5	115	7	0	127	1	63	7	0	71	248
Hourly Total	28	52	41	0	**121**	35	13	9	0	**57**	33	346	22	0	**401**	5	205	48	0	**258**	**837**
0700 - 0715	9	13	31	0	53	15	13	7	0	35	4	120	12	0	136	11	68	4	0	83	307
0715 - 0730	16	18	26	0	60	20	9	6	0	35	5	148	19	0	172	5	94	12	0	111	378
0730 - 0745	35	11	35	0	81	38	6	7	0	51	7	179	16	0	202	9	81	10	0	100	434
0745 - 0800	46	9	51	0	106	40	18	12	0	70	1	166	12	0	179	11	90	12	0	113	468
Hourly Total	106	51	143	0	**300**	113	46	32	0	**191**	17	613	59	0	**689**	36	333	38	0	**407**	**1587**
0800 - 0815	27	10	36	0	73	47	24	6	0	77	4	174	13	0	191	13	83	13	0	109	450
0815 - 0830	26	8	25	0	59	38	12	9	0	59	6	123	18	0	147	14	59	5	0	78	343
0830 - 0845	29	9	22	0	60	23	6	8	0	37	6	110	15	0	131	14	52	13	0	79	307
0845 - 0900	19	9	15	0	43	19	9	7	0	35	1	112	15	0	128	28	51	11	0	90	296
Hourly Total	101	36	98	0	**235**	127	51	30	0	**208**	17	519	61	0	**597**	69	245	42	0	**356**	**1396**
0900 - 0915	14	6	20	0	40	24	8	7	0	39	5	115	10	0	130	8	65	7	0	80	289
0915 - 0930	11	15	27	0	53	29	15	4	0	48	8	96	18	0	122	13	69	10	0	92	315
0930 - 0945	20	3	22	0	45	22	9	9	0	40	6	97	19	0	122	16	70	9	0	95	302
0945 - 1000	15	7	21	0	43	18	9	5	0	32	7	99	13	0	119	13	79	13	0	105	299
Hourly Total	60	31	90	0	**181**	93	41	25	0	**159**	26	407	60	0	**493**	50	283	39	0	**372**	**1205**
1000 - 1015	12	8	20	0	40	28	5	3	0	36	4	105	12	0	121	20	78	14	0	112	309
1015 - 1030	10	12	15	0	37	13	8	5	0	26	7	99	11	0	117	18	99	11	0	128	308
1030 - 1045	11	5	12	0	28	22	6	3	0	31	4	112	11	0	127	9	86	22	0	117	303
1045 - 1100	15	12	14	0	41	13	6	9	0	28	0	113	12	0	125	10	75	10	0	95	289
Hourly Total	48	37	61	0	**146**	76	25	20	0	**121**	15	429	46	0	**490**	57	338	57	0	**452**	**1209**
1100 - 1115	9	6	21	0	36	10	13	9	0	32	5	103	15	0	123	20	87	17	0	124	315
1115 - 1130	14	15	25	0	54	24	13	9	0	46	9	102	10	0	121	13	84	18	0	115	336
1130 - 1145	15	6	16	0	37	19	8	4	0	31	4	106	14	0	124	13	86	12	0	111	303
1145 - 1200	14	8	19	0	41	16	7	0	0	23	6	112	7	0	125	15	112	13	0	140	329
Hourly Total	52	35	81	0	**168**	69	41	22	0	**132**	24	423	46	0	**493**	61	369	60	0	**490**	**1283**
1200 - 1215	15	6	17	0	38	17	0	5	0	22	10	105	10	0	125	10	121	14	0	145	330
1215 - 1230	13	11	23	0	47	22	8	4	0	34	7	89	9	0	105	23	113	11	0	147	333
1230 - 1245	12	6	13	0	31	22	5	5	0	32	4	102	12	0	118	12	122	21	0	155	336
1245 - 1300	17	12	18	0	47	27	7	5	0	39	0	114	13	0	127	18	106	10	0	134	347
Hourly Total	57	35	71	0	**163**	88	20	19	0	**127**	21	410	44	0	**475**	63	462	56	0	**581**	**1346**
1300 - 1315	22	7	15	0	44	26	6	12	0	44	5	93	12	0	110	22	102	17	0	141	339
1315 - 1330	14	8	24	0	46	20	11	5	0	36	9	98	15	0	122	25	112	18	0	155	359
1330 - 1345	16	6	15	0	37	20	10	3	0	33	4	128	7	0	139	16	130	12	0	158	367
1345 - 1400	15	14	19	0	48	26	4	5	0	35	3	105	9	0	117	29	128	5	0	162	362
Hourly Total	67	35	73	0	**175**	92	31	25	0	**148**	21	424	43	0	**488**	92	472	52	0	**616**	**1427**
1400 - 1415	17	6	22	0	45	23	13	8	0	44	10	93	14	0	117	22	126	14	0	162	368
1415 - 1430	26	10	17	0	53	18	6	7	0	31	4	97	14	0	115	17	129	11	0	157	356
1430 - 1445	24	5	18	0	47	14	10	7	0	31	4	105	14	0	123	23	122	18	0	163	364
1445 - 1500	23	14	14	0	51	24	10	8	0	42	5	91	12	0	108	20	143	12	0	175	376
Hourly Total	90	35	71	0	**196**	79	39	30	0	**148**	23	386	54	0	**463**	82	520	55	0	**657**	**1464**
1500 - 1515	32	14	14	0	60	27	7	5	0	39	13	146	12	0	171	15	118	14	0	147	417
1515 - 1530	26	18	17	0	61	24	16	8	0	48	7	174	13	0	194	23	127	17	0	167	470
1530 - 1545	25	8	20	0	53	25	16	11	0	52	12	150	23	0	185	32	137	16	0	185	475
1545 - 1600	14	22	18	0	54	31	21	7	0	59	20	104	18	0	142	25	155	24	0	204	459
Hourly Total	97	62	69	0	**228**	107	60	31	0	**198**	52	574	66	0	**692**	95	537	71	0	**703**	**1821**
1600 - 1615	20	18	15	0	53	30	14	10	0	54	15	120	22	0	157	32	142	18	0	192	456
1615 - 1630	26	23	29	0	78	19	17	13	0	49	7	110	23	0	140	30	146	18	0	194	461
1630 - 1645	18	18	15	0	51	28	13	8	0	49	12	114	22	0	148	32	145	20	0	197	445
1645 - 1700	28	20	26	0	74	25	12	12	0	49	11	101	21	0	133	19	168	13	0	200	456
Hourly Total	92	79	85	0	**256**	102	56	43	0	**201**	45	445	88	0	**578**	113	601	69	0	**783**	**1818**
1700 - 1715	16	14	18	0	48	22	12	8	0	42	12	110	26	0	148	28	153	14	0	195	433
1715 - 1730	36	9	26	0	71	21	17	16	0	54	6	131	21	0	158	35	144	13	0	192	475
1730 - 1745	21	13	17	0	51	25	11	13	0	49	7	116	21	0	144	26	128	13	0	167	411
1745 - 1800	22	20	20	0	62	19	16	14	0	49	10	109	23	0	142	26	137	14	0	177	430
Hourly Total	95	56	81	0	**232**	87	56	51	0	**194**	35	466	91	0	**592**	115	562	54	0	**731**	**1749**
Grand Total	893	544	964	0	**2401**	1068	479	337	0	**1884**	329	5442	680	0	**6451**	838	4927	641	0	**6406**	**17142**
Approach %	37.19	22.66	40.15	0.00	-	56.69	25.42	17.89	0.00	-	5.10	84.36	10.54	0.00	-	13.08	76.91	10.01	0.00	-	
Intersection %	5.21	3.17	5.62	0.00	14.01	6.23	2.79	1.97	0.00	10.99	1.92	31.75	3.97	0.00	37.63	4.89	28.74	3.74	0.00	37.37	
PHF	0.82	0.75	0.88	0.00	**0.91**	0.89	0.80	0.82	0.00	**0.90**	0.68	0.79	0.83	0.00	**0.87**	0.88	0.90	0.78	0.00	**0.92**	**0.98**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 1 of 13
Sunnyside Ln
Cayce Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.591446°, -87.095207°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**1**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Grand Total	0	0	0	0	**0**	0	0	1	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**1**
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1 of 13
Sunnyside Ln
Cayce Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Weather
Mostly Cloudy
58°F

Lat/Long
35.591446°, -87.095207°

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0600 - 0615	2	13	7	0	22	4	0	1	0	5	13	42	3	0	58	1	42	11	0	54	139
0615 - 0630	10	17	13	0	40	10	1	3	0	14	3	74	6	0	83	2	40	16	0	58	195
0630 - 0645	4	12	11	0	27	7	7	2	0	16	11	100	6	0	117	1	57	14	0	72	232
0645 - 0700	12	9	10	0	31	12	5	2	0	19	5	110	7	0	122	1	60	7	0	68	240
Hourly Total	28	51	41	0	**120**	33	13	8	0	**54**	32	326	22	0	**380**	5	199	48	0	**252**	**806**
0700 - 0715	8	12	30	0	50	15	13	7	0	35	4	115	12	0	131	9	62	4	0	75	291
0715 - 0730	16	17	25	0	58	20	9	6	0	35	5	144	19	0	168	5	90	12	0	107	368
0730 - 0745	35	11	35	0	81	38	6	7	0	51	7	175	16	0	198	9	76	9	0	94	424
0745 - 0800	46	8	51	0	105	39	18	11	0	68	1	163	11	0	175	11	85	12	0	108	456
Hourly Total	105	48	141	0	**294**	112	46	31	0	**189**	17	597	58	0	**672**	34	313	37	0	**384**	**1539**
0800 - 0815	25	10	36	0	71	47	23	6	0	76	4	169	13	0	186	12	78	13	0	103	436
0815 - 0830	25	7	25	0	57	38	12	8	0	58	5	120	18	0	143	14	55	5	0	74	332
0830 - 0845	28	8	22	0	58	23	6	8	0	37	6	107	15	0	128	14	49	13	0	76	299
0845 - 0900	19	8	15	0	42	19	9	7	0	35	1	106	15	0	122	27	46	11	0	84	283
Hourly Total	97	33	98	0	**228**	127	50	29	0	**206**	16	502	61	0	**579**	67	228	42	0	**337**	**1350**
0900 - 0915	14	6	19	0	39	24	7	7	0	38	5	110	10	0	125	8	58	7	0	73	275
0915 - 0930	11	15	27	0	53	29	15	4	0	48	8	89	18	0	115	12	65	10	0	87	303
0930 - 0945	19	3	22	0	44	22	9	8	0	39	6	91	16	0	113	16	65	9	0	90	286
0945 - 1000	13	7	21	0	41	18	9	5	0	32	7	96	13	0	116	13	76	12	0	101	290
Hourly Total	57	31	89	0	**177**	93	40	24	0	**157**	26	386	57	0	**469**	49	264	38	0	**351**	**1154**
1000 - 1015	12	8	19	0	39	27	3	2	0	32	4	100	11	0	115	20	73	14	0	107	293
1015 - 1030	9	10	15	0	34	12	8	5	0	25	6	93	11	0	110	18	89	10	0	117	286
1030 - 1045	9	5	12	0	26	22	6	3	0	31	4	105	11	0	120	9	80	21	0	110	287
1045 - 1100	14	12	14	0	40	13	6	9	0	28	0	107	12	0	119	9	70	10	0	89	276
Hourly Total	44	35	60	0	**139**	74	23	19	0	**116**	14	405	45	0	**464**	56	312	55	0	**423**	**1142**
1100 - 1115	9	6	21	0	36	10	13	9	0	32	5	102	12	0	119	20	82	17	0	119	306
1115 - 1130	13	15	24	0	52	24	13	9	0	46	9	101	10	0	120	13	79	17	0	109	327
1130 - 1145	14	6	16	0	36	19	7	4	0	30	4	100	14	0	118	12	80	12	0	104	288
1145 - 1200	11	8	19	0	38	16	7	0	0	23	6	109	7	0	122	13	107	12	0	132	315
Hourly Total	47	35	80	0	**162**	69	40	22	0	**131**	24	412	43	0	**479**	58	348	58	0	**464**	**1236**
1200 - 1215	14	6	17	0	37	16	0	5	0	21	10	102	9	0	121	9	118	14	0	141	320
1215 - 1230	13	9	23	0	45	20	8	3	0	31	6	88	9	0	103	23	109	10	0	142	321
1230 - 1245	12	6	13	0	31	22	5	5	0	32	4	97	11	0	112	12	114	20	0	146	321
1245 - 1300	17	12	18	0	47	27	7	5	0	39	0	109	11	0	120	18	104	10	0	132	338
Hourly Total	56	33	71	0	**160**	85	20	18	0	**123**	20	396	40	0	**456**	62	445	54	0	**561**	**1300**
1300 - 1315	22	7	15	0	44	25	6	11	0	42	5	90	12	0	107	22	98	17	0	137	330
1315 - 1330	14	8	24	0	46	20	11	5	0	36	9	93	15	0	117	25	107	17	0	149	348
1330 - 1345	16	6	15	0	37	19	10	3	0	32	4	121	6	0	131	16	128	12	0	156	356
1345 - 1400	15	14	18	0	47	26	4	5	0	35	3	101	9	0	113	29	121	5	0	155	350
Hourly Total	67	35	72	0	**174**	90	31	24	0	**145**	21	405	42	0	**468**	92	454	51	0	**597**	**1384**
1400 - 1415	17	6	20	0	43	23	13	8	0	44	10	88	14	0	112	22	124	14	0	160	359
1415 - 1430	26	10	17	0	53	18	6	6	0	30	4	96	14	0	114	17	126	11	0	154	351
1430 - 1445	24	5	18	0	47	14	10	7	0	31	4	102	14	0	120	23	120	18	0	161	359
1445 - 1500	23	14	14	0	51	24	10	8	0	42	5	88	12	0	105	20	140	12	0	172	370
Hourly Total	90	35	69	0	**194**	79	39	29	0	**147**	23	374	54	0	**451**	82	510	55	0	**647**	**1439**
1500 - 1515	32	14	13	0	59	27	7	5	0	39	13	142	12	0	167	15	114	14	0	143	408
1515 - 1530	26	18	16	0	60	24	16	8	0	48	7	170	13	0	190	22	126	17	0	165	463
1530 - 1545	24	8	18	0	50	24	16	11	0	51	12	147	21	0	180	31	135	16	0	182	463
1545 - 1600	14	20	18	0	52	31	21	7	0	59	19	100	18	0	137	25	150	24	0	199	447
Hourly Total	96	60	65	0	**221**	106	60	31	0	**197**	51	559	64	0	**674**	93	525	71	0	**689**	**1781**
1600 - 1615	20	18	15	0	53	29	14	10	0	53	14	116	22	0	152	32	140	18	0	190	448
1615 - 1630	25	23	28	0	76	18	16	13	0	47	7	109	23	0	139	30	143	17	0	190	452
1630 - 1645	17	18	15	0	50	28	13	8	0	49	12	113	22	0	147	31	143	20	0	194	440
1645 - 1700	26	20	26	0	72	25	12	12	0	49	11	99	21	0	131	19	165	13	0	197	449
Hourly Total	88	79	84	0	**251**	100	55	43	0	**198**	44	437	88	0	**569**	112	591	68	0	**771**	**1789**
1700 - 1715	15	14	18	0	47	22	12	8	0	42	12	108	26	0	146	28	151	14	0	193	428
1715 - 1730	35	9	26	0	70	21	17	16	0	54	6	128	21	0	155	35	144	13	0	192	471
1730 - 1745	21	13	17	0	51	25	11	13	0	49	7	115	21	0	143	26	128	13	0	167	410
1745 - 1800	22	20	19	0	61	19	16	14	0	49	9	108	23	0	140	25	135	14	0	174	424
Hourly Total	93	56	80	0	**229**	87	56	51	0	**194**	34	459	91	0	**584**	114	558	54	0	**726**	**1733**
Grand Total	868	531	950	0	**2349**	1055	473	329	0	**1857**	322	5258	665	0	**6245**	824	4747	631	0	**6202**	**16653**
Approach %	36.95	22.61	40.44	0.00	-	56.81	25.47	17.72	0.00	-	5.16	84.20	10.65	0.00	-	13.29	76.54	10.17	0.00	-	
Intersection %	5.21	3.19	5.70	0.00	14.11	6.34	2.84	1.98	0.00	11.15	1.93	31.57	3.99	0.00	37.50	4.95	28.51	3.79	0.00	37.24	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1 of 13
Sunnyside Ln
Cayce Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.591446°, -87.095207°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	Int Total
0600 - 0615	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
0630 - 0645	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	0	2	0	0	2	6
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
Hourly Total	0	1	0	0	**1**	2	0	0	0	**2**	0	13	0	0	**13**	0	4	0	0	**4**	**20**
0700 - 0715	1	1	1	0	3	0	0	0	0	0	0	4	0	0	4	2	4	0	0	6	13
0715 - 0730	0	1	1	0	2	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	8
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	1	0	5	7
0745 - 0800	0	0	0	0	0	1	0	1	0	2	0	2	1	0	3	0	4	0	0	4	9
Hourly Total	1	2	2	0	**5**	1	0	1	0	**2**	0	11	1	0	**12**	2	15	1	0	**18**	**37**
0800 - 0815	1	0	0	0	1	0	1	0	0	1	0	4	0	0	4	1	3	0	0	4	10
0815 - 0830	1	1	0	0	2	0	0	1	0	1	1	2	0	0	3	0	4	0	0	4	10
0830 - 0845	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	4
0845 - 0900	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	1	5	0	0	6	11
Hourly Total	2	3	0	0	**5**	0	1	1	0	**2**	1	12	0	0	**13**	2	13	0	0	**15**	**35**
0900 - 0915	0	0	0	0	0	0	1	0	0	1	0	4	0	0	4	0	5	0	0	5	10
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	1	3	0	0	4	9
0930 - 0945	1	0	0	0	1	0	0	1	0	1	0	3	2	0	5	0	2	0	0	2	9
0945 - 1000	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	0	2	1	0	3	7
Hourly Total	3	0	0	0	**3**	0	1	1	0	**2**	0	14	2	0	**16**	1	12	1	0	**14**	**35**
1000 - 1015	0	0	1	0	1	1	2	1	0	4	0	3	1	0	4	0	4	0	0	4	13
1015 - 1030	1	2	0	0	3	1	0	0	0	1	1	4	0	0	5	0	7	1	0	8	17
1030 - 1045	2	0	0	0	2	0	0	0	0	0	0	6	0	0	6	0	4	1	0	5	13
1045 - 1100	1	0	0	0	1	0	0	0	0	0	0	6	0	0	6	1	5	0	0	6	13
Hourly Total	4	2	1	0	**7**	2	2	1	0	**5**	1	19	1	0	**21**	1	20	2	0	**23**	**56**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	4	0	0	4	7
1115 - 1130	1	0	1	0	2	0	0	0	0	0	0	1	0	0	1	0	3	1	0	4	7
1130 - 1145	1	0	0	0	1	0	1	0	0	1	0	5	0	0	5	1	3	0	0	4	11
1145 - 1200	3	0	0	0	3	0	0	0	0	0	0	2	0	0	2	2	2	1	0	5	10
Hourly Total	5	0	1	0	**6**	0	1	0	0	**1**	0	9	2	0	**11**	3	12	2	0	**17**	**35**
1200 - 1215	0	0	0	0	0	1	0	0	0	1	0	2	1	0	3	1	3	0	0	4	8
1215 - 1230	0	2	0	0	2	2	0	1	0	3	1	1	0	0	2	0	2	1	0	3	10
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	4	1	0	5	8
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
Hourly Total	0	2	0	0	**2**	3	0	1	0	**4**	1	9	2	0	**12**	1	10	2	0	**13**	**31**
1300 - 1315	0	0	0	0	0	1	0	1	0	2	0	2	0	0	2	0	2	0	0	2	6
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	3	1	0	4	8
1330 - 1345	0	0	0	0	0	1	0	0	0	1	0	3	1	0	4	0	0	0	0	0	5
1345 - 1400	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	7
Hourly Total	0	0	1	0	**1**	2	0	1	0	**3**	0	11	1	0	**12**	0	9	1	0	**10**	**26**
1400 - 1415	0	0	2	0	2	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	7
1415 - 1430	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2	4
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
Hourly Total	0	0	2	0	**2**	0	0	1	0	**1**	0	10	0	0	**10**	0	6	0	0	**6**	**19**
1500 - 1515	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	6
1515 - 1530	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	1	1	0	0	2	6
1530 - 1545	1	0	2	0	3	1	0	0	0	1	0	0	2	0	2	1	2	0	0	3	9
1545 - 1600	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	6
Hourly Total	1	2	4	0	**7**	1	0	0	0	**1**	1	6	2	0	**9**	2	8	0	0	**10**	**27**
1600 - 1615	0	0	0	0	0	1	0	0	0	1	1	2	0	0	3	0	2	0	0	2	6
1615 - 1630	1	0	1	0	2	1	1	0	0	2	0	1	0	0	1	0	1	1	0	2	7
1630 - 1645	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	2	0	0	3	5
1645 - 1700	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	4
Hourly Total	4	0	1	0	**5**	2	1	0	0	**3**	1	5	0	0	**6**	1	6	1	0	**8**	**22**
1700 - 1715	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
1715 - 1730	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2	1	1	0	0	2	5
Hourly Total	2	0	1	0	**3**	0	0	0	0	**0**	1	4	0	0	**5**	1	3	0	0	**4**	**12**
Grand Total	22	12	13	0	**47**	13	6	7	0	**26**	6	123	11	0	**140**	14	118	10	0	**142**	**355**
Approach %	46.81	25.53	27.66	0.00	-	50.00	23.08	26.92	0.00	-	4.29	87.86	7.86	0.00	-	9.86	83.10	7.04	0.00	-	
Intersection %	6.20	3.38	3.66	0.00	13.24	3.66	1.69	1.97	0.00	7.32	1.69	34.65	3.10	0.00	39.44	3.94	33.24	2.82	0.00	40.00	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1 of 13
Sunnyside Ln
Cayce Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.591446°, -87.095207°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Sunnyside Ln					Cayce Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
0615 - 0630	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	4
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	1	7	0	0	**8**	0	2	0	0	**2**	**10**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
0745 - 0800	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
Hourly Total	0	1	0	0	**1**	0	0	0	0	**0**	0	5	0	0	**5**	0	5	0	0	**5**	**11**
0800 - 0815	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
0830 - 0845	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Hourly Total	2	0	0	0	**2**	0	0	0	0	**0**	0	5	0	0	**5**	0	4	0	0	**4**	**11**
0900 - 0915	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	3	0	0	3	7
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	7	1	0	**8**	0	7	0	0	**7**	**16**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	5	0	0	**5**	0	6	0	0	**6**	**11**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	2	1	0	**3**	0	9	0	0	**9**	**12**
1200 - 1215	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	7
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	1	0	0	1	4
Hourly Total	1	0	0	0	**1**	0	0	0	0	**0**	0	5	2	0	**7**	0	7	0	0	**7**	**15**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	2	0	0	2	6
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	8	0	0	**8**	0	9	0	0	**9**	**17**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	2	0	0	**2**	0	4	0	0	**4**	**6**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	9	0	0	**9**	0	4	0	0	**4**	**13**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	3	0	0	**3**	0	4	0	0	**4**	**7**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	3	0	0	**3**	0	1	0	0	**1**	**4**
Grand Total	3	1	1	0	**5**	0	0	0	0	**0**	1	61	4	0	**66**	0	62	0	0	**62**	**133**
Approach %	60.00	20.00	20.00	0.00	-	0.00	0.00	0.00	0.00	-	1.52	92.42	6.06	0.00	-	0.00	100.00	0.00	0.00	-	
Intersection %	2.26	0.75	0.75	0.00	3.76	0.00	0.00	0.00	0.00	0.00	0.75	45.86	3.01	0.00	49.62	0.00	46.62	0.00	0.00	46.62	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 1 of 13
Sunnyside Ln
Cayce Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Weather
Mostly Cloudy
58°F

Lat/Long
35.591446°, -87.095207°

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Sunnyside Ln			Cayce Ln			TN-243 Trotwood Ave (West)			TN-243 Trotwood Ave (East)			
TIME	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	1	1	2	2
0830 - 0845	0	0	0	0	0	0	0	0	0	0	4	4	4
0845 - 0900	0	1	1	0	0	0	0	0	0	2	1	3	4
Hourly Total	0	1	**1**	0	0	**0**	0	0	**0**	3	6	**9**	**10**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	1	1	0	0	0	0	0	0	0	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	**1**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	2	**2**	0	0	**0**	0	0	**0**	3	6	**9**	**11**
Approach %	0.00	100.00	-	0.00	0.00	-	0.00	0.00	-	33.33	66.67	-	
Intersection %	0.00	18.18	18.18	0.00	0.00	0.00	0.00	0.00	0.00	27.27	54.55	81.82	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0715 - 0815

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
0715 - 0730	0	1	1	0	2	26	2	3	0	31	11	153	0	0	164	4	87	29	0	120	317
0730 - 0745	0	3	2	0	5	59	3	7	0	69	9	144	0	0	153	14	76	39	0	129	356
0745 - 0800	2	4	2	0	8	45	3	10	0	58	3	130	0	0	133	8	90	56	0	154	353
0800 - 0815	1	2	7	0	10	74	4	8	0	86	9	115	0	0	124	9	53	47	0	109	329
Total	3	10	12	0	25	204	12	28	0	244	32	542	0	0	574	35	306	171	0	512	1355
Approach %	12.00	40.00	48.00	0.00	-	83.61	4.92	11.48	0.00	-	5.57	94.43	0.00	0.00	-	6.84	59.77	33.40	0.00	-	
PHF	0.38	0.63	0.43	0.00	**0.63**	0.69	0.75	0.70	0.00	**0.71**	0.73	0.89	0.00	0.00	**0.88**	0.63	0.85	0.76	0.00	**0.83**	**0.95**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	**0.25**	**0.25**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
0715 - 0730	0	1	1	0	2	24	2	2	0	28	11	152	0	0	163	4	81	26	0	111	304
0730 - 0745	0	2	2	0	4	59	2	7	0	68	9	141	0	0	150	14	72	37	0	123	345
0745 - 0800	2	4	2	0	8	43	3	10	0	56	3	125	0	0	128	8	86	55	0	149	341
0800 - 0815	1	2	7	0	10	72	4	8	0	84	9	113	0	0	122	9	49	47	0	105	321
Total	3	9	12	0	24	198	11	27	0	236	32	531	0	0	563	35	288	165	0	488	1311
Approach %	12.50	37.50	50.00	0.00	-	83.90	4.66	11.44	0.00	-	5.68	94.32	0.00	0.00	-	7.17	59.02	33.81	0.00	-	
PHF	0.38	0.56	0.43	0.00	**0.60**	0.69	0.69	0.68	0.00	**0.70**	0.73	0.87	0.00	0.00	**0.86**	0.63	0.84	0.75	0.00	**0.82**	**0.95**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
0715 - 0730	0	0	0	0	0	2	0	1	0	3	0	1	0	0	1	0	4	1	0	5	9
0730 - 0745	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	3	1	0	4	8
0745 - 0800	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	0	4	1	0	5	10
0800 - 0815	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	0	2	0	0	2	6
Total	0	1	0	0	1	6	1	1	0	8	0	8	0	0	8	0	13	3	0	16	33
Approach %	0.00	100.00	0.00	0.00	-	75.00	12.50	12.50	0.00	-	0.00	100.00	0.00	0.00	-	0.00	81.25	18.75	0.00	-	
PHF	0.00	0.25	0.00	0.00	**0.25**	0.75	0.25	0.25	0.00	**0.67**	0.00	0.67	0.00	0.00	**0.67**	0.00	0.81	0.75	0.00	**0.80**	**0.83**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	3
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	5	2	0	7	10
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	71.43	28.57	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.38	0.00	0.00	**0.38**	0.00	0.63	0.50	0.00	**0.58**	**0.83**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	2a	2b			Total	2c	2d			Total	2e	2f			Total	2g	2h			Total	Total
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0800 - 0815	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
1500 - 1515	1	5	19	0	25	51	3	13	0	67	9	106	1	0	116	17	116	23	0	156	364
1515 - 1530	1	3	12	0	16	72	6	17	0	95	7	120	0	0	127	16	120	22	0	158	396
1530 - 1545	2	5	20	0	27	62	7	17	0	86	2	113	0	0	115	19	133	17	0	169	397
1545 - 1600	1	7	16	0	24	25	2	11	0	38	5	87	0	0	92	27	139	15	0	181	335
Total	5	20	67	0	92	210	18	58	0	286	23	426	1	0	450	79	508	77	0	664	1492
Approach %	5.43	21.74	72.83	0.00	-	73.43	6.29	20.28	0.00	-	5.11	94.67	0.22	0.00	-	11.90	76.51	11.60	0.00	-	
PHF	0.63	0.71	0.84	0.00	**0.85**	0.73	0.64	0.85	0.00	**0.75**	0.64	0.89	0.25	0.00	**0.89**	0.73	0.91	0.84	0.00	**0.92**	**0.94**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
1500 - 1515	1	4	19	0	24	49	3	13	0	65	9	104	1	0	114	17	113	23	0	153	356
1515 - 1530	1	3	12	0	16	69	5	17	0	91	7	116	0	0	123	16	118	22	0	156	386
1530 - 1545	2	5	20	0	27	61	7	16	0	84	2	110	0	0	112	19	131	17	0	167	390
1545 - 1600	1	7	16	0	24	25	2	11	0	38	5	84	0	0	89	27	135	13	0	175	326
Total	5	19	67	0	91	204	17	57	0	278	23	414	1	0	438	79	497	75	0	651	1458
Approach %	5.49	20.88	73.63	0.00	-	73.38	6.12	20.50	0.00	-	5.25	94.52	0.23	0.00	-	12.14	76.34	11.52	0.00	-	
PHF	0.63	0.68	0.84	0.00	**0.84**	0.74	0.61	0.84	0.00	**0.76**	0.64	0.89	0.25	0.00	**0.89**	0.73	0.92	0.82	0.00	**0.93**	**0.93**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
1500 - 1515	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	2	0	0	2	4
1515 - 1530	0	0	0	0	0	3	0	0	0	3	0	1	0	0	1	0	2	0	0	2	6
1530 - 1545	0	0	0	0	0	1	0	1	0	2	0	2	0	0	2	0	2	0	0	2	6
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
Total	0	0	0	0	0	5	0	1	0	6	0	4	0	0	4	0	7	2	0	9	19
Approach %	0.00	0.00	0.00	0.00	-	83.33	0.00	16.67	0.00	-	0.00	100.00	0.00	0.00	-	0.00	77.78	22.22	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.42	0.00	0.25	0.00	**0.50**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.88	0.25	0.00	**0.75**	**0.79**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
1500 - 1515	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	4
1515 - 1530	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	4
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
Total	0	1	0	0	1	1	1	0	0	2	0	8	0	0	8	0	4	0	0	4	15
Approach %	0.00	100.00	0.00	0.00	-	50.00	50.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	**0.25**	0.25	0.25	0.00	0.00	**0.50**	0.00	0.67	0.00	0.00	**0.67**	0.00	0.33	0.00	0.00	**0.33**	**0.63**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	2a	2b			Total	2c	2d			Total	2e	2f			Total	2g	2h			Total	Total
1500 - 1515	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1515 - 1530	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1530 - 1545	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1545 - 1600	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 2 of 13
Driveway
Rutherford Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.589637°, -87.097476°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	11	0	1	0	12	4	52	0	0	56	1	30	15	0	46	114
0615 - 0630	1	0	1	0	2	11	0	0	0	11	0	80	0	0	80	1	34	22	0	57	150
0630 - 0645	0	0	2	0	2	24	1	2	0	27	5	102	0	0	107	3	52	13	0	68	204
0645 - 0700	0	0	4	0	4	14	1	4	0	19	4	106	0	0	110	5	53	19	0	77	210
Hourly Total	1	0	7	0	**8**	60	2	7	0	**69**	13	340	0	0	**353**	10	169	69	0	**248**	**678**
0700 - 0715	0	2	1	0	3	15	0	6	0	21	8	118	0	0	126	4	62	25	0	91	241
0715 - 0730	0	1	1	0	2	26	2	3	0	31	11	153	0	0	164	4	87	29	0	120	317
0730 - 0745	0	3	2	0	5	59	3	7	0	69	9	144	0	0	153	14	76	39	0	129	356
0745 - 0800	2	4	2	0	8	45	3	10	0	58	3	130	0	0	133	8	90	56	0	154	353
Hourly Total	2	10	6	0	**18**	145	8	26	0	**179**	31	545	0	0	**576**	30	315	149	0	**494**	**1267**
0800 - 0815	1	2	7	0	10	74	4	8	0	86	9	115	0	0	124	9	53	47	0	109	329
0815 - 0830	1	2	7	0	10	22	0	3	0	25	3	107	0	0	110	8	50	12	0	70	215
0830 - 0845	0	1	4	0	5	15	1	5	0	21	5	105	0	0	110	6	71	8	0	85	221
0845 - 0900	1	1	7	0	9	15	2	5	0	22	3	99	0	0	102	9	53	12	0	74	207
Hourly Total	3	6	25	0	**34**	126	7	21	0	**154**	20	426	0	0	**446**	32	227	79	0	**338**	**972**
0900 - 0915	0	2	7	0	9	27	2	4	0	33	4	103	0	0	107	12	64	15	0	91	240
0915 - 0930	2	2	5	0	9	11	3	6	0	20	6	101	2	0	109	16	58	16	0	90	228
0930 - 0945	1	3	8	0	12	15	3	3	0	21	4	94	1	0	99	9	75	11	0	95	227
0945 - 1000	0	3	5	0	8	14	0	6	0	20	4	99	0	0	103	16	83	3	0	102	233
Hourly Total	3	10	25	0	**38**	67	8	19	0	**94**	18	397	3	0	**418**	53	280	45	0	**378**	**928**
1000 - 1015	0	0	10	0	10	16	5	6	0	27	9	99	1	0	109	13	81	8	0	102	248
1015 - 1030	1	2	7	0	10	9	2	3	0	14	6	89	0	0	95	15	68	13	0	96	215
1030 - 1045	2	7	8	0	17	19	2	7	0	28	2	91	0	0	93	15	70	17	0	102	240
1045 - 1100	2	2	5	0	9	17	7	10	0	34	2	103	0	0	105	13	68	15	0	96	244
Hourly Total	5	11	30	0	**46**	61	16	26	0	**103**	19	382	1	0	**402**	56	287	53	0	**396**	**947**
1100 - 1115	1	6	7	0	14	21	5	2	0	28	9	93	0	0	102	10	76	21	0	107	251
1115 - 1130	2	5	11	0	18	26	5	4	0	35	5	88	0	0	93	15	82	11	0	108	254
1130 - 1145	0	5	13	0	18	19	10	4	0	33	4	88	1	0	93	12	78	12	0	102	246
1145 - 1200	1	4	11	0	16	18	1	5	0	24	5	93	1	0	99	10	88	25	0	123	262
Hourly Total	4	20	42	0	**66**	84	21	15	0	**120**	23	362	2	0	**387**	47	324	69	0	**440**	**1013**
1200 - 1215	0	3	9	0	12	32	5	6	0	43	8	79	1	0	88	7	112	28	0	147	290
1215 - 1230	2	7	5	0	14	17	3	6	0	26	6	76	1	0	83	18	87	31	0	136	259
1230 - 1245	2	5	10	0	17	25	3	4	0	32	8	82	1	0	91	11	79	40	0	130	270
1245 - 1300	0	4	9	0	13	41	1	6	0	48	4	78	0	0	82	8	101	25	0	134	277
Hourly Total	4	19	33	0	**56**	115	12	22	0	**149**	26	315	3	0	**344**	44	379	124	0	**547**	**1096**
1300 - 1315	0	2	9	0	11	16	1	7	0	24	4	78	0	0	82	13	96	19	0	128	245
1315 - 1330	2	3	7	0	12	26	2	1	0	29	4	79	2	0	85	16	91	15	0	122	248
1330 - 1345	0	3	12	0	15	26	4	2	0	32	5	107	0	0	112	18	109	31	0	158	317
1345 - 1400	1	7	12	0	20	22	4	1	0	27	3	84	1	0	88	15	113	30	1	159	294
Hourly Total	3	15	40	0	**58**	90	11	11	0	**112**	16	348	3	0	**367**	62	409	95	1	**567**	**1104**
1400 - 1415	1	6	8	0	15	18	1	4	0	23	3	75	1	0	79	11	102	25	0	138	255
1415 - 1430	1	4	10	0	15	23	5	6	0	34	7	77	0	0	84	13	115	16	0	144	277
1430 - 1445	0	4	11	0	15	14	3	2	0	19	7	104	0	0	111	14	118	15	0	147	292
1445 - 1500	1	2	5	0	8	22	7	5	0	34	2	84	0	0	86	12	140	32	0	184	312
Hourly Total	3	16	34	0	**53**	77	16	17	0	**110**	19	340	1	0	**360**	50	475	88	0	**613**	**1136**
1500 - 1515	1	5	19	0	25	51	3	13	0	67	9	106	1	0	116	17	116	23	0	156	364
1515 - 1530	1	3	12	0	16	72	6	17	0	95	7	120	0	0	127	16	120	22	0	158	396
1530 - 1545	2	5	20	0	27	62	7	17	0	86	2	113	0	0	115	19	133	17	0	169	397
1545 - 1600	1	7	16	0	24	25	2	11	0	38	5	87	0	0	92	27	139	15	0	181	335
Hourly Total	5	20	67	0	**92**	210	18	58	0	**286**	23	426	1	0	**450**	79	508	77	0	**664**	**1492**
1600 - 1615	1	8	20	0	29	36	14	4	0	54	3	90	0	0	93	15	129	18	0	162	338
1615 - 1630	3	6	17	0	26	34	6	11	0	51	7	89	2	0	98	16	146	22	0	184	359
1630 - 1645	3	9	16	0	28	43	6	12	0	61	4	94	0	0	98	19	132	19	0	170	357
1645 - 1700	0	5	9	0	14	28	12	13	0	53	10	87	0	0	97	32	147	30	0	209	373
Hourly Total	7	28	62	0	**97**	141	38	40	0	**219**	24	360	2	0	**386**	82	554	89	0	**725**	**1427**
1700 - 1715	3	1	14	0	18	28	12	9	0	49	7	110	0	0	117	19	139	19	0	177	361
1715 - 1730	1	7	26	0	34	27	6	7	0	40	9	106	0	0	115	24	143	23	0	190	379
1730 - 1745	1	8	27	0	36	20	13	11	0	44	9	90	0	0	99	18	114	19	0	151	330
1745 - 1800	3	5	24	0	32	21	10	6	0	37	3	85	0	0	88	19	121	22	0	162	319
Hourly Total	8	21	91	0	**120**	96	41	33	0	**170**	28	391	0	0	**419**	80	517	83	0	**680**	**1389**
Grand Total	48	176	462	0	**686**	1272	198	295	0	**1765**	260	4632	16	0	**4908**	625	4444	1020	1	**6090**	**13449**
Approach %	7.00	25.66	67.35	0.00	-	72.07	11.22	16.71	0.00	-	5.30	94.38	0.33	0.00	-	10.26	72.97	16.75	0.02	-	
Intersection %	0.36	1.31	3.44	0.00	5.10	9.46	1.47	2.19	0.00	13.12	1.93	34.44	0.12	0.00	36.49	4.65	33.04	7.58	0.01	45.28	
PHF	0.63	0.71	0.84	0.00	**0.85**	0.73	0.64	0.85	0.00	**0.75**	0.64	0.89	0.25	0.00	**0.89**	0.73	0.91	0.84	0.00	**0.92**	**0.94**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 2 of 13
Driveway
Rutherford Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.589637°, -87.097476°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	1	0	0	**1**	**1**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	1	0	**1**	**1**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Grand Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	1	1	0	**2**	**2**
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	50.00	50.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	50.00	0.00	100.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 2 of 13
Driveway
Rutherford Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Weather
Mostly Cloudy
58°F

Lat/Long
35.589637°, -87.097476°

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	9	0	1	0	10	4	49	0	0	53	1	28	15	0	44	107
0615 - 0630	0	0	1	0	1	10	0	0	0	10	0	76	0	0	76	0	33	22	0	55	142
0630 - 0645	0	0	2	0	2	23	1	2	0	26	5	98	0	0	103	3	51	12	0	66	197
0645 - 0700	0	0	3	0	3	11	1	4	0	16	4	104	0	0	108	5	52	19	0	76	203
Hourly Total	0	0	6	0	**6**	53	2	7	0	**62**	13	327	0	0	**340**	9	164	68	0	**241**	**649**
0700 - 0715	0	1	1	0	2	14	0	6	0	20	7	115	0	0	122	4	59	25	0	88	232
0715 - 0730	0	1	1	0	2	24	2	2	0	28	11	152	0	0	163	4	81	26	0	111	304
0730 - 0745	0	2	2	0	4	59	2	7	0	68	9	141	0	0	150	14	72	37	0	123	345
0745 - 0800	2	4	2	0	8	43	3	10	0	56	3	125	0	0	128	8	86	55	0	149	341
Hourly Total	2	8	6	0	**16**	140	7	25	0	**172**	30	533	0	0	**563**	30	298	143	0	**471**	**1222**
0800 - 0815	1	2	7	0	10	72	4	8	0	84	9	113	0	0	122	9	49	47	0	105	321
0815 - 0830	1	2	6	0	9	22	0	3	0	25	3	102	0	0	105	7	47	11	0	65	204
0830 - 0845	0	1	4	0	5	15	1	5	0	21	5	101	0	0	106	6	63	8	0	77	209
0845 - 0900	1	1	7	0	9	15	2	5	0	22	3	95	0	0	98	9	49	12	0	70	199
Hourly Total	3	6	24	0	**33**	124	7	21	0	**152**	20	411	0	0	**431**	31	208	78	0	**317**	**933**
0900 - 0915	0	2	7	0	9	26	2	4	0	32	4	98	0	0	102	12	61	12	0	85	228
0915 - 0930	2	2	5	0	9	11	3	6	0	20	5	98	2	0	105	16	56	16	0	88	222
0930 - 0945	1	3	7	0	11	13	3	2	0	18	3	88	1	0	92	8	73	10	0	91	212
0945 - 1000	0	3	5	0	8	12	0	5	0	17	4	95	0	0	99	13	75	3	0	91	215
Hourly Total	3	10	24	0	**37**	62	8	17	0	**87**	16	379	3	0	**398**	49	265	41	0	**355**	**877**
1000 - 1015	0	0	10	0	10	16	5	6	0	27	9	92	1	0	102	13	75	8	0	96	235
1015 - 1030	1	1	7	0	9	9	2	3	0	14	6	83	0	0	89	15	62	13	0	90	202
1030 - 1045	2	4	8	0	14	19	2	7	0	28	2	87	0	0	89	14	61	17	0	92	223
1045 - 1100	2	2	5	0	9	17	7	9	0	33	2	94	0	0	96	11	62	14	0	87	225
Hourly Total	5	7	30	0	**42**	61	16	25	0	**102**	19	356	1	0	**376**	53	260	52	0	**365**	**885**
1100 - 1115	1	6	7	0	14	21	5	2	0	28	9	90	0	0	99	10	72	19	0	101	242
1115 - 1130	2	5	11	0	18	26	5	4	0	35	5	86	0	0	91	12	77	10	0	99	243
1130 - 1145	0	5	13	0	18	18	10	4	0	32	4	81	1	0	86	12	73	12	0	97	233
1145 - 1200	1	4	10	0	15	18	1	5	0	24	5	93	1	0	99	10	82	25	0	117	255
Hourly Total	4	20	41	0	**65**	83	21	15	0	**119**	23	350	2	0	**375**	44	304	66	0	**414**	**973**
1200 - 1215	0	3	9	0	12	32	5	6	0	43	8	74	1	0	83	7	109	26	0	142	280
1215 - 1230	2	7	4	0	13	17	3	6	0	26	6	71	1	0	78	17	84	31	0	132	249
1230 - 1245	2	5	9	0	16	25	3	4	0	32	8	79	1	0	88	11	76	39	0	126	262
1245 - 1300	0	4	9	0	13	41	1	6	0	48	4	74	0	0	78	8	95	25	0	128	267
Hourly Total	4	19	31	0	**54**	115	12	22	0	**149**	26	298	3	0	**327**	43	364	121	0	**528**	**1058**
1300 - 1315	0	2	9	0	11	15	1	7	0	23	4	76	0	0	80	12	96	18	0	126	240
1315 - 1330	2	3	7	0	12	26	2	1	0	29	3	75	2	0	80	16	91	15	0	122	243
1330 - 1345	0	3	12	0	15	23	4	2	0	29	5	100	0	0	105	18	107	29	0	154	303
1345 - 1400	1	6	12	0	19	21	2	1	0	24	3	82	1	0	86	15	101	29	1	146	275
Hourly Total	3	14	40	0	**57**	85	9	11	0	**105**	15	333	3	0	**351**	61	395	91	1	**548**	**1061**
1400 - 1415	1	6	8	0	15	18	1	4	0	23	3	74	1	0	78	11	100	25	0	136	252
1415 - 1430	1	4	10	0	15	21	5	6	0	32	6	75	0	0	81	13	113	16	0	142	270
1430 - 1445	0	4	11	0	15	14	3	2	0	19	7	99	0	0	106	14	116	14	0	144	284
1445 - 1500	0	2	5	0	7	21	6	5	0	32	2	83	0	0	85	12	138	31	0	181	305
Hourly Total	2	16	34	0	**52**	74	15	17	0	**106**	18	331	1	0	**350**	50	467	86	0	**603**	**1111**
1500 - 1515	1	4	19	0	24	49	3	13	0	65	9	104	1	0	114	17	113	23	0	153	356
1515 - 1530	1	3	12	0	16	69	5	17	0	91	7	116	0	0	123	16	118	22	0	156	386
1530 - 1545	2	5	20	0	27	61	7	16	0	84	2	110	0	0	112	19	131	17	0	167	390
1545 - 1600	1	7	16	0	24	25	2	11	0	38	5	84	0	0	89	27	135	13	0	175	326
Hourly Total	5	19	67	0	**91**	204	17	57	0	**278**	23	414	1	0	**438**	79	497	75	0	**651**	**1458**
1600 - 1615	1	8	20	0	29	36	14	4	0	54	3	89	0	0	92	15	128	18	0	161	336
1615 - 1630	3	6	17	0	26	34	6	11	0	51	7	86	2	0	95	16	142	21	0	179	351
1630 - 1645	3	8	16	0	27	43	6	12	0	61	4	92	0	0	96	19	128	19	0	166	350
1645 - 1700	0	5	9	0	14	25	12	13	0	50	10	87	0	0	97	32	143	30	0	205	366
Hourly Total	7	27	62	0	**96**	138	38	40	0	**216**	24	354	2	0	**380**	82	541	88	0	**711**	**1403**
1700 - 1715	3	1	14	0	18	28	12	9	0	49	7	109	0	0	116	19	137	19	0	175	358
1715 - 1730	1	7	26	0	34	27	6	7	0	40	9	103	0	0	112	24	141	23	0	188	374
1730 - 1745	1	8	27	0	36	20	13	11	0	44	9	88	0	0	97	18	113	19	0	150	327
1745 - 1800	3	5	24	0	32	21	10	6	0	37	3	83	0	0	86	19	121	22	0	162	317
Hourly Total	8	21	91	0	**120**	96	41	33	0	**170**	28	383	0	0	**411**	80	512	83	0	**675**	**1376**
Grand Total	46	167	456	0	**669**	1235	193	290	0	**1718**	255	4469	16	0	**4740**	611	4275	992	1	**5879**	**13006**
Approach %	6.88	24.96	68.16	0.00	-	71.89	11.23	16.88	0.00	-	5.38	94.28	0.34	0.00	-	10.39	72.72	16.87	0.02	-	
Intersection %	0.35	1.28	3.51	0.00	5.14	9.50	1.48	2.23	0.00	13.21	1.96	34.36	0.12	0.00	36.44	4.70	32.87	7.63	0.01	45.20	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 2 of 13
Driveway
Rutherford Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.589637°, -87.097476°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	3
0615 - 0630	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	1	0	0	1	5
0630 - 0645	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	0	1	0	1	5
0645 - 0700	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	1	0	0	1	4
Hourly Total	0	0	0	0	**0**	5	0	0	0	**5**	0	8	0	0	**8**	0	3	1	0	**4**	**17**
0700 - 0715	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	3	0	0	3	6
0715 - 0730	0	0	0	0	0	2	0	1	0	3	0	1	0	0	1	0	4	1	0	5	9
0730 - 0745	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	3	1	0	4	8
0745 - 0800	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	0	4	1	0	5	10
Hourly Total	0	2	0	0	**2**	5	1	1	0	**7**	0	7	0	0	**7**	0	14	3	0	**17**	**33**
0800 - 0815	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	0	2	0	0	2	6
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	3	1	0	5	9
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
Hourly Total	0	0	0	0	**0**	2	0	0	0	**2**	0	11	0	0	**11**	1	13	1	0	**15**	**28**
0900 - 0915	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	1	2	0	3	7
0915 - 0930	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	5
0930 - 0945	0	0	1	0	1	1	0	0	0	1	0	4	0	0	4	1	2	1	0	4	10
0945 - 1000	0	0	0	0	0	1	0	1	0	2	0	3	0	0	3	1	6	0	0	7	12
Hourly Total	0	0	1	0	**1**	3	0	1	0	**4**	1	12	0	0	**13**	2	11	3	0	**16**	**34**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	6	0	0	6	12
1030 - 1045	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	1	7	0	0	8	14
1045 - 1100	0	0	0	0	0	0	0	1	0	1	0	7	0	0	7	1	5	1	0	7	15
Hourly Total	0	2	0	0	**2**	0	0	1	0	**1**	0	21	0	0	**21**	2	22	1	0	**25**	**49**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	1	0	4	6
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	3	1	0	6	7
1130 - 1145	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	2	0	0	2	9
1145 - 1200	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	6
Hourly Total	0	0	1	0	**1**	1	0	0	0	**1**	0	9	0	0	**9**	2	13	2	0	**17**	**28**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1215 - 1230	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	1	2	0	0	3	8
1230 - 1245	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	2	1	0	3	5
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
Hourly Total	0	0	2	0	**2**	0	0	0	0	**0**	0	10	0	0	**10**	1	8	2	0	**11**	**23**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1315 - 1330	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	4
1330 - 1345	0	0	0	0	0	1	0	0	0	1	0	4	0	0	4	0	1	1	0	2	7
1345 - 1400	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	0	7	1	0	8	12
Hourly Total	0	1	0	0	**1**	2	0	0	0	**2**	1	10	0	0	**11**	0	8	2	0	**10**	**24**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1415 - 1430	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	4
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	2	0	0	2	6
1445 - 1500	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	1	0	2	5
Hourly Total	1	0	0	0	**1**	2	1	0	0	**3**	0	8	0	0	**8**	0	5	1	0	**6**	**18**
1500 - 1515	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	2	0	0	2	4
1515 - 1530	0	0	0	0	0	3	0	0	0	3	0	1	0	0	1	0	2	0	0	2	6
1530 - 1545	0	0	0	0	0	1	0	1	0	2	0	2	0	0	2	0	2	0	0	2	6
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
Hourly Total	0	0	0	0	**0**	5	0	1	0	**6**	0	4	0	0	**4**	0	7	2	0	**9**	**19**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	1	0	3	5
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1645 - 1700	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Hourly Total	0	0	0	0	**0**	2	0	0	0	**2**	0	4	0	0	**4**	0	9	1	0	**10**	**16**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	5	0	0	**5**	0	4	0	0	**4**	**9**
Grand Total	1	5	4	0	**10**	27	2	4	0	**33**	2	109	0	0	**111**	8	117	19	0	**144**	**298**
Approach %	10.00	50.00	40.00	0.00	-	81.82	6.06	12.12	0.00	-	1.80	98.20	0.00	0.00	-	5.56	81.25	13.19	0.00	-	
Intersection %	0.34	1.68	1.34	0.00	3.36	9.06	0.67	1.34	0.00	11.07	0.67	36.58	0.00	0.00	37.25	2.68	39.26	6.38	0.00	48.32	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 2 of 13
Driveway
Rutherford Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.589637°, -87.097476°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Rutherford Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	3
0615 - 0630	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0645 - 0700	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
Hourly Total	1	0	1	0	**2**	2	0	0	0	**2**	0	5	0	0	**5**	1	1	0	0	**2**	**11**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	3
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	3
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	1	5	0	0	**6**	0	3	2	0	**5**	**11**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
0815 - 0830	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	4	0	0	**4**	0	6	0	0	**6**	**11**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	1	0	3	5
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
0930 - 0945	0	0	0	0	0	1	0	1	0	2	1	2	0	0	3	0	0	0	0	0	5
0945 - 1000	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2	2	0	0	4	6
Hourly Total	0	0	0	0	**0**	2	0	1	0	**3**	1	6	0	0	**7**	2	4	1	0	**7**	**17**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
1015 - 1030	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1030 - 1045	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2	4
Hourly Total	0	2	0	0	**2**	0	0	0	0	**0**	0	5	0	0	**5**	1	5	0	0	**6**	**13**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	3
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2	0	0	3	4
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	3	0	0	**3**	1	7	1	0	**9**	**12**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	3	1	0	4	8
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	7	0	0	**7**	0	7	1	0	**8**	**15**
1300 - 1315	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	1	0	1	0	2	4
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1330 - 1345	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	0	1	1	0	2	7
1345 - 1400	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
Hourly Total	0	0	0	0	**0**	3	2	0	0	**5**	0	5	0	0	**5**	1	6	2	0	**9**	**19**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	3
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1445 - 1500	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Hourly Total	0	0	0	0	**0**	1	0	0	0	**1**	1	1	0	0	**2**	0	3	1	0	**4**	**7**
1500 - 1515	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	4
1515 - 1530	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	4
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
Hourly Total	0	1	0	0	**1**	1	1	0	0	**2**	0	8	0	0	**8**	0	4	0	0	**4**	**15**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1630 - 1645	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
1645 - 1700	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Hourly Total	0	1	0	0	**1**	1	0	0	0	**1**	0	2	0	0	**2**	0	4	0	0	**4**	**8**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	3	0	0	**3**	0	1	0	0	**1**	**4**
Grand Total	1	4	2	0	**7**	10	3	1	0	**14**	3	54	0	0	**57**	6	51	8	0	**65**	**143**
Approach %	14.29	57.14	28.57	0.00	-	71.43	21.43	7.14	0.00	-	5.26	94.74	0.00	0.00	-	9.23	78.46	12.31	0.00	-	
Intersection %	0.70	2.80	1.40	0.00	4.90	6.99	2.10	0.70	0.00	9.79	2.10	37.76	0.00	0.00	39.86	4.20	35.66	5.59	0.00	45.45	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 2 of 13
Driveway
Rutherford Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.589637°, -87.097476°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Driveway			Rutherford Ln			TN-243 Trotwood Ave (West)			TN-243 Trotwood Ave (East)			
TIME	EB 2a	WB 2b	App Total	EB 2c	WB 2d	App Total	NB 2e	SB 2f	App Total	NB 2g	SB 2h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

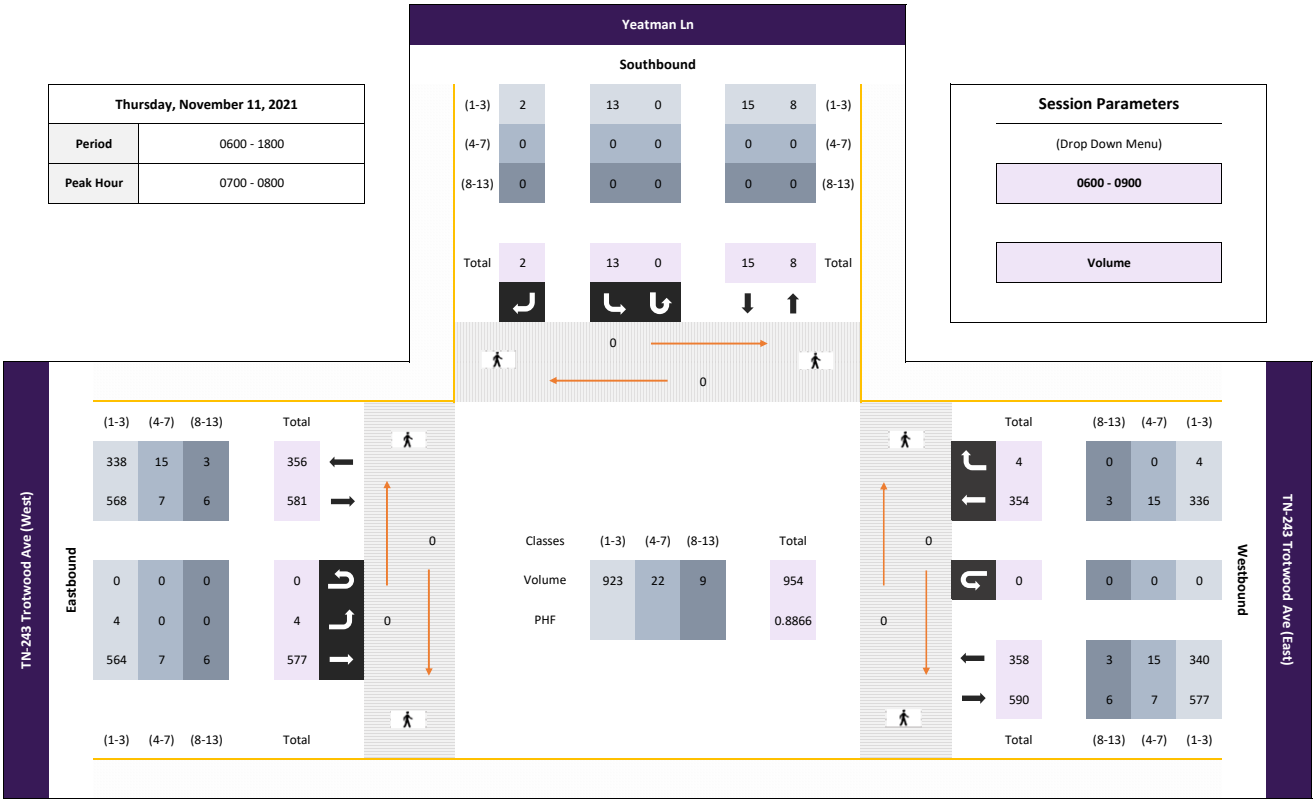
Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume



All vehicles

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
0700 - 0715	-	-	-	-	0	2	-	0	0	2	2	107	-	0	109	-	71	0	0	71	182
0715 - 0730	-	-	-	-	0	7	-	0	0	7	0	157	-	0	157	-	104	1	0	105	269
0730 - 0745	-	-	-	-	0	2	-	2	0	4	0	168	-	0	168	-	91	1	0	92	264
0745 - 0800	-	-	-	-	0	2	-	0	0	2	2	145	-	0	147	-	88	2	0	90	239
Total	0	0	0	0	0	13	0	2	0	15	4	577	0	0	581	0	354	4	0	358	954
Approach %	0.00	0.00	0.00	0.00	-	86.67	0.00	13.33	0.00	-	0.69	99.31	0.00	0.00	-	0.00	98.88	1.12	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.46	0.00	0.25	0.00	**0.54**	0.50	0.86	0.00	0.00	**0.86**	0.00	0.85	0.50	0.00	**0.85**	**0.89**

Bikes

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
0700 - 0715	-	-	-	-	0	2	-	0	0	2	2	104	-	0	106	-	68	0	0	68	176
0715 - 0730	-	-	-	-	0	7	-	0	0	7	0	155	-	0	155	-	99	1	0	100	262
0730 - 0745	-	-	-	-	0	2	-	2	0	4	0	163	-	0	163	-	87	1	0	88	255
0745 - 0800	-	-	-	-	0	2	-	0	0	2	2	142	-	0	144	-	82	2	0	84	230
Total	0	0	0	0	0	13	0	2	0	15	4	564	0	0	568	0	336	4	0	340	923
Approach %	0.00	0.00	0.00	0.00	-	86.67	0.00	13.33	0.00	-	0.70	99.30	0.00	0.00	-	0.00	98.82	1.18	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.46	0.00	0.25	0.00	**0.54**	0.50	0.87	0.00	0.00	**0.87**	0.00	0.85	0.50	0.00	**0.85**	**0.88**

Single Unit Trucks (4-7)

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	3	0	0	3	4
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	2	-	0	2	-	4	0	0	4	6
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	4	-	0	4	-	2	0	0	2	6
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	6	0	0	6	6
Total	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	15	0	0	15	22
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.44	0.00	0.00	**0.44**	0.00	0.63	0.00	0.00	**0.63**	**0.92**

Combination Trucks (8-13)

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	2	-	0	2	-	0	0	0	0	2
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	1	0	0	1	1
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	2	0	0	2	3
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	3	-	0	3	-	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	3	0	0	3	9
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.38	0.00	0.00	**0.38**	**0.75**

Pedestrians

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time					Total	3c	3d			Total	3e	3f			Total	3g	3h			Total	Total
0700 - 0715	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

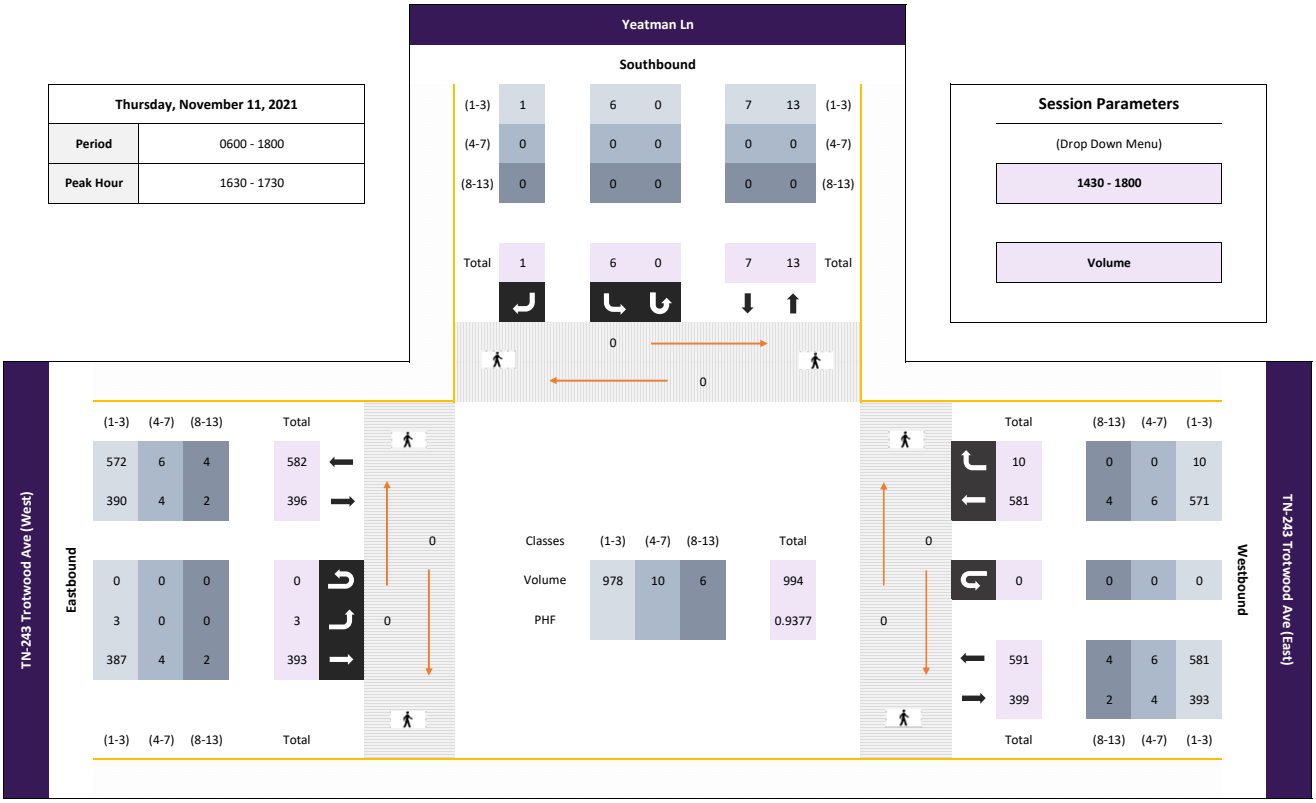
Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1630 - 1730

Session Parameters

(Drop Down Menu)

1430 - 1800

Volume



All vehicles

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
1630 - 1645	-	-	-	-	0	0	-	0	0	0	1	84	-	0	85	-	133	3	0	136	221
1645 - 1700	-	-	-	-	0	3	-	0	0	3	0	90	-	0	90	-	153	1	0	154	247
1700 - 1715	-	-	-	-	0	2	-	1	0	3	2	109	-	0	111	-	145	2	0	147	261
1715 - 1730	-	-	-	-	0	1	-	0	0	1	0	110	-	0	110	-	150	4	0	154	265
Total	0	0	0	0	0	6	0	1	0	7	3	393	0	0	396	0	581	10	0	591	994
Approach %	0.00	0.00	0.00	0.00	-	85.71	0.00	14.29	0.00	-	0.76	99.24	0.00	0.00	-	0.00	98.31	1.69	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.50	0.00	0.25	0.00	**0.58**	0.38	0.89	0.00	0.00	**0.89**	0.00	0.95	0.63	0.00	**0.96**	**0.94**

Bikes

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
1630 - 1645	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1645 - 1700	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1700 - 1715	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1715 - 1730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
1630 - 1645	-	-	-	-	0	0	-	0	0	0	1	82	-	0	83	-	129	3	0	132	215
1645 - 1700	-	-	-	-	0	3	-	0	0	3	0	89	-	0	89	-	151	1	0	152	244
1700 - 1715	-	-	-	-	0	2	-	1	0	3	2	107	-	0	109	-	143	2	0	145	257
1715 - 1730	-	-	-	-	0	1	-	0	0	1	0	109	-	0	109	-	148	4	0	152	262
Total	0	0	0	0	0	6	0	1	0	7	3	387	0	0	390	0	571	10	0	581	978
Approach %	0.00	0.00	0.00	0.00	-	85.71	0.00	14.29	0.00	-	0.77	99.23	0.00	0.00	-	0.00	98.28	1.72	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.50	0.00	0.25	0.00	**0.58**	0.38	0.89	0.00	0.00	**0.89**	0.00	0.95	0.63	0.00	**0.96**	**0.93**

Single Unit Trucks (4-7)

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
1630 - 1645	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	2	0	0	2	3
1645 - 1700	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	1	0	0	1	2
1700 - 1715	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	2	0	0	2	3
1715 - 1730	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	6	0	0	6	10
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	1.00	0.00	0.00	**1.00**	0.00	0.75	0.00	0.00	**0.75**	**0.83**

Combination Trucks (8-13)

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	3.1		3.2	3.3	Total	3.4	3.5		3.6	Total		3.7	3.8	3.9	Total	Total
1630 - 1645	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	2	0	0	2	3
1645 - 1700	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	1	0	0	1	1
1700 - 1715	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	0	0	0	0	1
1715 - 1730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	6
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.50	0.00	0.00	**0.50**	**0.50**

Pedestrians

						Southbound					Eastbound					Westbound					
						Yeatman Ln					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
					App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time					Total	3c	3d			Total	3e	3f			Total	3g	3h			Total	Total
1630 - 1645	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1645 - 1700	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1700 - 1715	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1715 - 1730	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 3 of 13

Yeatman Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.578484°, -87.125697°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)

All vehicles

	Southbound				Eastbound				Westbound				
	Yeatman Ln				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 3.1	Right 3.2	U-Turn 3.3	App Total	Left 3.4	Thru 3.5	U-Turn 3.6	App Total	Thru 3.7	Right 3.8	U-Turn 3.9	App Total	Int Total
0600 - 0615	1	0	0	1	0	57	0	57	29	0	0	29	87
0615 - 0630	2	1	0	3	0	83	0	83	28	0	0	28	114
0630 - 0645	2	1	0	3	2	89	0	91	48	0	0	48	142
0645 - 0700	2	4	0	6	0	123	0	123	55	1	0	56	185
Hourly Total	7	6	0	**13**	2	352	0	**354**	160	1	0	**161**	**528**
0700 - 0715	2	0	0	2	2	107	0	109	71	0	0	71	182
0715 - 0730	7	0	0	7	0	157	0	157	104	1	0	105	269
0730 - 0745	2	2	0	4	0	168	0	168	91	1	0	92	264
0745 - 0800	2	0	0	2	2	145	0	147	88	2	0	90	239
Hourly Total	13	2	0	**15**	4	577	0	**581**	354	4	0	**358**	**954**
0800 - 0815	1	0	0	1	1	109	0	110	59	2	0	61	172
0815 - 0830	1	1	0	2	0	96	0	96	58	0	0	58	156
0830 - 0845	2	0	0	2	1	92	0	93	63	2	0	65	160
0845 - 0900	4	0	0	4	0	95	0	95	54	0	0	54	153
Hourly Total	8	1	0	**9**	2	392	0	**394**	234	4	0	**238**	**641**
0900 - 0915	2	0	0	2	3	102	0	105	53	0	0	53	160
0915 - 0930	3	1	0	4	0	85	0	85	64	0	0	64	153
0930 - 0945	1	0	0	1	0	87	0	87	67	3	0	70	158
0945 - 1000	0	1	0	1	0	86	0	86	76	0	0	76	163
Hourly Total	6	2	0	**8**	3	360	0	**363**	260	3	0	**263**	**634**
1000 - 1015	3	0	0	3	1	87	0	88	75	0	0	75	166
1015 - 1030	2	1	0	3	2	90	0	92	59	1	0	60	155
1030 - 1045	1	2	0	3	0	96	0	96	68	1	0	69	168
1045 - 1100	1	0	0	1	0	86	0	86	85	3	0	88	175
Hourly Total	7	3	0	**10**	3	359	0	**362**	287	5	0	**292**	**664**
1100 - 1115	2	1	0	3	1	93	0	94	72	3	0	75	172
1115 - 1130	4	0	0	4	1	86	0	87	85	2	0	87	178
1130 - 1145	2	1	0	3	1	74	0	75	70	1	0	71	149
1145 - 1200	2	0	0	2	1	86	0	87	72	2	0	74	163
Hourly Total	10	2	0	**12**	4	339	0	**343**	299	8	0	**307**	**662**
1200 - 1215	1	1	0	2	0	68	0	68	110	1	0	111	181
1215 - 1230	0	1	0	1	0	80	0	80	76	1	0	77	158
1230 - 1245	0	0	0	0	0	83	0	83	85	3	0	88	171
1245 - 1300	1	0	0	1	0	68	0	68	94	2	0	96	165
Hourly Total	2	2	0	**4**	0	299	0	**299**	365	7	0	**372**	**675**
1300 - 1315	0	1	0	1	1	75	0	76	95	2	0	97	174
1315 - 1330	2	0	0	2	0	76	0	76	88	0	0	88	166
1330 - 1345	2	1	0	3	1	102	0	103	100	1	1	102	208
1345 - 1400	0	1	0	1	1	86	0	87	107	1	0	108	196
Hourly Total	4	3	0	**7**	3	339	0	**342**	390	4	1	**395**	**744**
1400 - 1415	1	2	0	3	0	75	0	75	95	2	1	98	176
1415 - 1430	0	0	0	0	1	68	0	69	119	0	0	119	188
1430 - 1445	4	2	0	6	1	100	0	101	129	3	0	132	239
1445 - 1500	1	0	0	1	0	94	0	94	146	3	0	149	244
Hourly Total	6	4	0	**10**	2	337	0	**339**	489	8	1	**498**	**847**
1500 - 1515	2	3	0	5	2	129	0	131	105	3	0	108	244
1515 - 1530	0	1	0	1	1	122	0	123	109	2	1	112	236
1530 - 1545	0	1	0	1	1	109	0	110	152	2	0	154	265
1545 - 1600	2	0	0	2	1	76	0	77	148	1	0	149	228
Hourly Total	4	5	0	**9**	5	436	0	**441**	514	8	1	**523**	**973**
1600 - 1615	0	1	0	1	1	100	0	101	141	3	0	144	246
1615 - 1630	2	0	0	2	3	83	0	86	142	2	0	144	232
1630 - 1645	0	0	0	0	1	84	0	85	133	3	0	136	221
1645 - 1700	3	0	0	3	0	90	0	90	153	1	0	154	247
Hourly Total	5	1	0	**6**	5	357	0	**362**	569	9	0	**578**	**946**
1700 - 1715	2	1	0	3	2	109	0	111	145	2	0	147	261
1715 - 1730	1	0	0	1	0	110	0	110	150	4	0	154	265
1730 - 1745	1	0	0	1	0	84	0	84	123	5	0	128	213
1745 - 1800	2	3	0	5	1	71	0	72	115	2	0	117	194
Hourly Total	6	4	0	**10**	3	374	0	**377**	533	13	0	**546**	**933**
Grand Total	78	35	0	**113**	36	4521	0	**4557**	4454	74	3	**4531**	**9201**
Approach %	69.03	30.97	0.00	-	0.79	99.21	0.00	-	98.30	1.63	0.07	-	
Intersection %	0.85	0.38	0.00	1.23	0.39	49.14	0.00	49.53	48.41	0.80	0.03	49.24	
PHF	0.50	0.25	0.00	**0.58**	0.38	0.89	0.00	**0.89**	0.95	0.63	0.00	**0.96**	**0.94**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 3 of 13

Yeatman Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.578484°, -87.125697°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)

Bikes

	Southbound				Eastbound				Westbound				
	Yeatman Ln				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 3.1	Right 3.2	U-Turn 3.3	App Total	Left 3.4	Thru 3.5	U-Turn 3.6	App Total	Thru 3.7	Right 3.8	U-Turn 3.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Grand Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 3 of 13

Yeatman Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.578484°, -87.125697°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)

Passenger Vehicles (1-3)

	Southbound				Eastbound				Westbound				
	Yeatman Ln				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 3.1	Right 3.2	U-Turn 3.3	App Total	Left 3.4	Thru 3.5	U-Turn 3.6	App Total	Thru 3.7	Right 3.8	U-Turn 3.9	App Total	Int Total
0600 - 0615	1	0	0	1	0	54	0	54	29	0	0	29	84
0615 - 0630	2	1	0	3	0	80	0	80	28	0	0	28	111
0630 - 0645	2	1	0	3	2	86	0	88	45	0	0	45	136
0645 - 0700	2	4	0	6	0	119	0	119	53	1	0	54	179
Hourly Total	7	6	0	**13**	2	339	0	**341**	155	1	0	**156**	**510**
0700 - 0715	2	0	0	2	2	104	0	106	68	0	0	68	176
0715 - 0730	7	0	0	7	0	155	0	155	99	1	0	100	262
0730 - 0745	2	2	0	4	0	163	0	163	87	1	0	88	255
0745 - 0800	2	0	0	2	2	142	0	144	82	2	0	84	230
Hourly Total	13	2	0	**15**	4	564	0	**568**	336	4	0	**340**	**923**
0800 - 0815	1	0	0	1	1	106	0	107	54	2	0	56	164
0815 - 0830	1	1	0	2	0	93	0	93	55	0	0	55	150
0830 - 0845	2	0	0	2	1	87	0	88	56	2	0	58	148
0845 - 0900	4	0	0	4	0	92	0	92	50	0	0	50	146
Hourly Total	8	1	0	**9**	2	378	0	**380**	215	4	0	**219**	**608**
0900 - 0915	2	0	0	2	3	97	0	100	49	0	0	49	151
0915 - 0930	3	1	0	4	0	82	0	82	61	0	0	61	147
0930 - 0945	1	0	0	1	0	82	0	82	65	3	0	68	151
0945 - 1000	0	1	0	1	0	80	0	80	69	0	0	69	150
Hourly Total	6	2	0	**8**	3	341	0	**344**	244	3	0	**247**	**599**
1000 - 1015	3	0	0	3	1	79	0	80	67	0	0	67	150
1015 - 1030	2	1	0	3	1	82	0	83	54	1	0	55	141
1030 - 1045	1	1	0	2	0	92	0	92	60	1	0	61	155
1045 - 1100	1	0	0	1	0	81	0	81	79	3	0	82	164
Hourly Total	7	2	0	**9**	2	334	0	**336**	260	5	0	**265**	**610**
1100 - 1115	2	1	0	3	1	90	0	91	65	3	0	68	162
1115 - 1130	4	0	0	4	1	83	0	84	81	2	0	83	171
1130 - 1145	2	1	0	3	1	70	0	71	66	1	0	67	141
1145 - 1200	2	0	0	2	1	85	0	86	68	2	0	70	158
Hourly Total	10	2	0	**12**	4	328	0	**332**	280	8	0	**288**	**632**
1200 - 1215	1	1	0	2	0	64	0	64	107	1	0	108	174
1215 - 1230	0	1	0	1	0	75	0	75	74	1	0	75	151
1230 - 1245	0	0	0	0	0	80	0	80	81	3	0	84	164
1245 - 1300	1	0	0	1	0	64	0	64	89	2	0	91	156
Hourly Total	2	2	0	**4**	0	283	0	**283**	351	7	0	**358**	**645**
1300 - 1315	0	1	0	1	1	73	0	74	94	2	0	96	171
1315 - 1330	2	0	0	2	0	71	0	71	86	0	0	86	159
1330 - 1345	2	1	0	3	1	97	0	98	97	1	1	99	200
1345 - 1400	0	1	0	1	1	82	0	83	99	1	0	100	184
Hourly Total	4	3	0	**7**	3	323	0	**326**	376	4	1	**381**	**714**
1400 - 1415	1	2	0	3	0	72	0	72	93	2	1	96	171
1415 - 1430	0	0	0	0	1	66	0	67	116	0	0	116	183
1430 - 1445	4	2	0	6	1	97	0	98	127	3	0	130	234
1445 - 1500	1	0	0	1	0	92	0	92	144	3	0	147	240
Hourly Total	6	4	0	**10**	2	327	0	**329**	480	8	1	**489**	**828**
1500 - 1515	2	3	0	5	2	128	0	130	103	3	0	106	241
1515 - 1530	0	1	0	1	1	118	0	119	109	2	1	112	232
1530 - 1545	0	0	0	0	1	105	0	106	148	1	0	149	255
1545 - 1600	2	0	0	2	1	73	0	74	144	1	0	145	221
Hourly Total	4	4	0	**8**	5	424	0	**429**	504	7	1	**512**	**949**
1600 - 1615	0	1	0	1	1	99	0	100	138	3	0	141	242
1615 - 1630	2	0	0	2	3	81	0	84	139	2	0	141	227
1630 - 1645	0	0	0	0	1	82	0	83	129	3	0	132	215
1645 - 1700	3	0	0	3	0	89	0	89	151	1	0	152	244
Hourly Total	5	1	0	**6**	5	351	0	**356**	557	9	0	**566**	**928**
1700 - 1715	2	1	0	3	2	107	0	109	143	2	0	145	257
1715 - 1730	1	0	0	1	0	109	0	109	148	4	0	152	262
1730 - 1745	1	0	0	1	0	83	0	83	122	5	0	127	211
1745 - 1800	2	3	0	5	1	68	0	69	115	2	0	117	191
Hourly Total	6	4	0	**10**	3	367	0	**370**	528	13	0	**541**	**921**
Grand Total	78	33	0	**111**	35	4359	0	**4394**	4286	73	3	**4362**	**8867**
Approach %	70.27	29.73	0.00	-	0.80	99.20	0.00	-	98.26	1.67	0.07	-	
Intersection %	0.88	0.37	0.00	1.25	0.39	49.16	0.00	49.55	48.34	0.82	0.03	49.19	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 3 of 13

Yeatman Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.578484°, -87.125697°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Southbound				Eastbound				Westbound				
	Yeatman Ln				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 3.1	Right 3.2	U-Turn 3.3	App Total	Left 3.4	Thru 3.5	U-Turn 3.6	App Total	Thru 3.7	Right 3.8	U-Turn 3.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	1	0	1	0	0	0	0	1
0615 - 0630	0	0	0	0	0	3	0	3	0	0	0	0	3
0630 - 0645	0	0	0	0	0	2	0	2	1	0	0	1	3
0645 - 0700	0	0	0	0	0	2	0	2	2	0	0	2	4
Hourly Total	0	0	0	**0**	0	8	0	**8**	3	0	0	**3**	**11**
0700 - 0715	0	0	0	0	0	1	0	1	3	0	0	3	4
0715 - 0730	0	0	0	0	0	2	0	2	4	0	0	4	6
0730 - 0745	0	0	0	0	0	4	0	4	2	0	0	2	6
0745 - 0800	0	0	0	0	0	0	0	0	6	0	0	6	6
Hourly Total	0	0	0	**0**	0	7	0	**7**	15	0	0	**15**	**22**
0800 - 0815	0	0	0	0	0	2	0	2	3	0	0	3	5
0815 - 0830	0	0	0	0	0	2	0	2	2	0	0	2	4
0830 - 0845	0	0	0	0	0	4	0	4	5	0	0	5	9
0845 - 0900	0	0	0	0	0	2	0	2	3	0	0	3	5
Hourly Total	0	0	0	**0**	0	10	0	**10**	13	0	0	**13**	**23**
0900 - 0915	0	0	0	0	0	4	0	4	2	0	0	2	6
0915 - 0930	0	0	0	0	0	2	0	2	2	0	0	2	4
0930 - 0945	0	0	0	0	0	2	0	2	2	0	0	2	4
0945 - 1000	0	0	0	0	0	4	0	4	5	0	0	5	9
Hourly Total	0	0	0	**0**	0	12	0	**12**	11	0	0	**11**	**23**
1000 - 1015	0	0	0	0	0	5	0	5	6	0	0	6	11
1015 - 1030	0	0	0	0	1	6	0	7	5	0	0	5	12
1030 - 1045	0	1	0	1	0	4	0	4	6	0	0	6	11
1045 - 1100	0	0	0	0	0	5	0	5	5	0	0	5	10
Hourly Total	0	1	0	**1**	1	20	0	**21**	22	0	0	**22**	**44**
1100 - 1115	0	0	0	0	0	2	0	2	5	0	0	5	7
1115 - 1130	0	0	0	0	0	1	0	1	2	0	0	2	3
1130 - 1145	0	0	0	0	0	4	0	4	2	0	0	2	6
1145 - 1200	0	0	0	0	0	1	0	1	3	0	0	3	4
Hourly Total	0	0	0	**0**	0	8	0	**8**	12	0	0	**12**	**20**
1200 - 1215	0	0	0	0	0	1	0	1	1	0	0	1	2
1215 - 1230	0	0	0	0	0	3	0	3	1	0	0	1	4
1230 - 1245	0	0	0	0	0	2	0	2	2	0	0	2	4
1245 - 1300	0	0	0	0	0	3	0	3	3	0	0	3	6
Hourly Total	0	0	0	**0**	0	9	0	**9**	7	0	0	**7**	**16**
1300 - 1315	0	0	0	0	0	1	0	1	1	0	0	1	2
1315 - 1330	0	0	0	0	0	4	0	4	2	0	0	2	6
1330 - 1345	0	0	0	0	0	2	0	2	0	0	0	0	2
1345 - 1400	0	0	0	0	0	4	0	4	5	0	0	5	9
Hourly Total	0	0	0	**0**	0	11	0	**11**	8	0	0	**8**	**19**
1400 - 1415	0	0	0	0	0	3	0	3	2	0	0	2	5
1415 - 1430	0	0	0	0	0	2	0	2	1	0	0	1	3
1430 - 1445	0	0	0	0	0	1	0	1	1	0	0	1	2
1445 - 1500	0	0	0	0	0	2	0	2	2	0	0	2	4
Hourly Total	0	0	0	**0**	0	8	0	**8**	6	0	0	**6**	**14**
1500 - 1515	0	0	0	0	0	0	0	0	1	0	0	1	1
1515 - 1530	0	0	0	0	0	2	0	2	0	0	0	0	2
1530 - 1545	0	1	0	1	0	2	0	2	4	1	0	5	8
1545 - 1600	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	1	0	**1**	0	4	0	**4**	6	1	0	**7**	**12**
1600 - 1615	0	0	0	0	0	1	0	1	3	0	0	3	4
1615 - 1630	0	0	0	0	0	1	0	1	2	0	0	2	3
1630 - 1645	0	0	0	0	0	1	0	1	2	0	0	2	3
1645 - 1700	0	0	0	0	0	1	0	1	1	0	0	1	2
Hourly Total	0	0	0	**0**	0	4	0	**4**	8	0	0	**8**	**12**
1700 - 1715	0	0	0	0	0	1	0	1	2	0	0	2	3
1715 - 1730	0	0	0	0	0	1	0	1	1	0	0	1	2
1730 - 1745	0	0	0	0	0	1	0	1	1	0	0	1	2
1745 - 1800	0	0	0	0	0	1	0	1	0	0	0	0	1
Hourly Total	0	0	0	**0**	0	4	0	**4**	4	0	0	**4**	**8**
Grand Total	0	2	0	**2**	1	105	0	**106**	115	1	0	**116**	**224**
Approach %	0.00	100.00	0.00	-	0.94	99.06	0.00	-	99.14	0.86	0.00	-	
Intersection %	0.00	0.89	0.00	0.89	0.45	46.88	0.00	47.32	51.34	0.45	0.00	51.79	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 3 of 13

Yeatman Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.578484°, -87.125697°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)

Combination Trucks (8-13)

	Southbound				Eastbound				Westbound				
	Yeatman Ln				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 3.1	Right 3.2	U-Turn 3.3	App Total	Left 3.4	Thru 3.5	U-Turn 3.6	App Total	Thru 3.7	Right 3.8	U-Turn 3.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	2	0	2	0	0	0	0	2
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	1	0	1	2	0	0	2	3
0645 - 0700	0	0	0	0	0	2	0	2	0	0	0	0	2
Hourly Total	0	0	0	**0**	0	5	0	**5**	2	0	0	**2**	**7**
0700 - 0715	0	0	0	0	0	2	0	2	0	0	0	0	2
0715 - 0730	0	0	0	0	0	0	0	0	1	0	0	1	1
0730 - 0745	0	0	0	0	0	1	0	1	2	0	0	2	3
0745 - 0800	0	0	0	0	0	3	0	3	0	0	0	0	3
Hourly Total	0	0	0	**0**	0	6	0	**6**	3	0	0	**3**	**9**
0800 - 0815	0	0	0	0	0	1	0	1	2	0	0	2	3
0815 - 0830	0	0	0	0	0	1	0	1	1	0	0	1	2
0830 - 0845	0	0	0	0	0	1	0	1	2	0	0	2	3
0845 - 0900	0	0	0	0	0	1	0	1	1	0	0	1	2
Hourly Total	0	0	0	**0**	0	4	0	**4**	6	0	0	**6**	**10**
0900 - 0915	0	0	0	0	0	1	0	1	2	0	0	2	3
0915 - 0930	0	0	0	0	0	1	0	1	1	0	0	1	2
0930 - 0945	0	0	0	0	0	3	0	3	0	0	0	0	3
0945 - 1000	0	0	0	0	0	2	0	2	2	0	0	2	4
Hourly Total	0	0	0	**0**	0	7	0	**7**	5	0	0	**5**	**12**
1000 - 1015	0	0	0	0	0	3	0	3	2	0	0	2	5
1015 - 1030	0	0	0	0	0	2	0	2	0	0	0	0	2
1030 - 1045	0	0	0	0	0	0	0	0	2	0	0	2	2
1045 - 1100	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	**0**	0	5	0	**5**	5	0	0	**5**	**10**
1100 - 1115	0	0	0	0	0	1	0	1	2	0	0	2	3
1115 - 1130	0	0	0	0	0	2	0	2	2	0	0	2	4
1130 - 1145	0	0	0	0	0	0	0	0	2	0	0	2	2
1145 - 1200	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	**0**	0	3	0	**3**	7	0	0	**7**	**10**
1200 - 1215	0	0	0	0	0	3	0	3	2	0	0	2	5
1215 - 1230	0	0	0	0	0	2	0	2	1	0	0	1	3
1230 - 1245	0	0	0	0	0	1	0	1	2	0	0	2	3
1245 - 1300	0	0	0	0	0	1	0	1	2	0	0	2	3
Hourly Total	0	0	0	**0**	0	7	0	**7**	7	0	0	**7**	**14**
1300 - 1315	0	0	0	0	0	1	0	1	0	0	0	0	1
1315 - 1330	0	0	0	0	0	1	0	1	0	0	0	0	1
1330 - 1345	0	0	0	0	0	3	0	3	3	0	0	3	6
1345 - 1400	0	0	0	0	0	0	0	0	3	0	0	3	3
Hourly Total	0	0	0	**0**	0	5	0	**5**	6	0	0	**6**	**11**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	2	0	0	2	2
1430 - 1445	0	0	0	0	0	2	0	2	1	0	0	1	3
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	2	0	**2**	3	0	0	**3**	**5**
1500 - 1515	0	0	0	0	0	1	0	1	1	0	0	1	2
1515 - 1530	0	0	0	0	0	2	0	2	0	0	0	0	2
1530 - 1545	0	0	0	0	0	2	0	2	0	0	0	0	2
1545 - 1600	0	0	0	0	0	3	0	3	3	0	0	3	6
Hourly Total	0	0	0	**0**	0	8	0	**8**	4	0	0	**4**	**12**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	1	0	1	1	0	0	1	2
1630 - 1645	0	0	0	0	0	1	0	1	2	0	0	2	3
1645 - 1700	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	**0**	0	2	0	**2**	4	0	0	**4**	**6**
1700 - 1715	0	0	0	0	0	1	0	1	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	0	1	0	0	1	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	2	0	2	0	0	0	0	2
Hourly Total	0	0	0	**0**	0	3	0	**3**	1	0	0	**1**	**4**
Grand Total	0	0	0	**0**	0	57	0	**57**	53	0	0	**53**	**110**
Approach %	0.00	0.00	0.00	-	0.00	100.00	0.00	-	100.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	51.82	0.00	51.82	48.18	0.00	0.00	48.18	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 3 of 13

Yeatman Ln
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.578484°, -87.125697°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Southbound			Eastbound			Westbound			
	Yeatman Ln			TN-243 Trotwood Ave (West)			TN-243 Trotwood Ave (East)			
TIME	EB 3c	WB 3d	App Total	NB 3e	SB 3f	App Total	NB 3g	SB 3h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0645 - 0700	1	18	0	0	19	6	29	1	0	36	0	0	0	0	0	0	0	1	0	1	56
0700 - 0715	0	14	0	0	14	9	17	0	0	26	0	0	0	0	0	0	0	0	0	0	40
0715 - 0730	0	20	0	0	20	7	29	0	0	36	0	0	0	0	0	0	0	2	0	2	58
0730 - 0745	0	11	0	0	11	8	23	0	0	31	1	0	0	0	1	0	0	1	0	1	44
Total	1	63	0	0	64	30	98	1	0	129	1	0	0	0	1	0	0	4	0	4	198
Approach %	1.56	98.44	0.00	0.00	-	23.26	75.97	0.78	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF	0.25	0.79	0.00	0.00	**0.80**	0.83	0.84	0.25	0.00	**0.90**	0.25	0.00	0.00	0.00	**0.25**	0.00	0.00	0.50	0.00	**0.50**	**0.85**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0645 - 0700	1	17	0	0	18	6	29	1	0	36	0	0	0	0	0	0	0	1	0	1	55
0700 - 0715	0	14	0	0	14	9	17	0	0	26	0	0	0	0	0	0	0	0	0	0	40
0715 - 0730	0	20	0	0	20	7	29	0	0	36	0	0	0	0	0	0	0	2	0	2	58
0730 - 0745	0	11	0	0	11	8	21	0	0	29	0	0	0	0	0	0	0	1	0	1	41
Total	1	62	0	0	63	30	96	1	0	127	0	0	0	0	0	0	0	4	0	4	194
Approach %	1.59	98.41	0.00	0.00	-	23.62	75.59	0.79	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF	0.25	0.78	0.00	0.00	**0.79**	0.83	0.83	0.25	0.00	**0.88**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.50	0.00	**0.50**	**0.84**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0645 - 0700	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Approach %	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	**0.25**	0.00	0.25	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.38**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	**0.25**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	4a	4b			Total	4c	4d			Total	4e	4f			Total	4g	4h			Total	Total
0645 - 0700	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0700 - 0715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
1430 - 1445	3	24	0	0	27	3	15	0	0	18	0	0	0	0	0	0	0	1	0	1	46
1445 - 1500	0	20	0	0	20	1	16	0	0	17	0	0	0	0	0	0	0	1	0	1	38
1500 - 1515	0	20	0	0	20	9	24	0	0	33	0	0	1	0	1	0	0	1	0	1	55
1515 - 1530	0	15	0	0	15	4	14	0	0	18	0	0	0	0	0	1	0	0	0	1	34
Total	3	79	0	0	82	17	69	0	0	86	0	0	1	0	1	1	0	3	0	4	173
Approach %	3.66	96.34	0.00	0.00	-	19.77	80.23	0.00	0.00	-	0.00	0.00	100.00	0.00	-	25.00	0.00	75.00	0.00	-	
PHF	0.25	0.82	0.00	0.00	**0.76**	0.47	0.72	0.00	0.00	**0.65**	0.00	0.00	0.25	0.00	**0.25**	0.25	0.00	0.75	0.00	**1.00**	**0.79**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
1430 - 1445	3	21	0	0	24	3	14	0	0	17	0	0	0	0	0	0	0	1	0	1	42
1445 - 1500	0	20	0	0	20	1	16	0	0	17	0	0	0	0	0	0	0	1	0	1	38
1500 - 1515	0	20	0	0	20	9	24	0	0	33	0	0	0	0	0	0	0	1	0	1	54
1515 - 1530	0	15	0	0	15	4	13	0	0	17	0	0	0	0	0	1	0	0	0	1	33
Total	3	76	0	0	79	17	67	0	0	84	0	0	0	0	0	1	0	3	0	4	167
Approach %	3.80	96.20	0.00	0.00	-	20.24	79.76	0.00	0.00	-	0.00	0.00	0.00	0.00	-	25.00	0.00	75.00	0.00	-	
PHF	0.25	0.90	0.00	0.00	**0.82**	0.47	0.70	0.00	0.00	**0.64**	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.75	0.00	**1.00**	**0.77**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
1430 - 1445	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	**0.25**	0.00	0.25	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.50**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
1430 - 1445	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	4
Approach %	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	**0.25**	0.00	0.25	0.00	0.00	**0.25**	0.00	0.00	0.25	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	**0.33**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	4a	4b			Total	4c	4d			Total	4e	4f			Total	4g	4h			Total	Total
1430 - 1445	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1445 - 1500	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1500 - 1515	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1515 - 1530	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Marr Traffic DATA COLLECTION

Columbia, TN

www.marrtraffic.com

Site 4 of 13
Old Zion Rd Exd
Old Zion Rd (North)
Driveway
Old Zion Rd (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580930°, -87.133829°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0600 - 0615	0	15	0	0	15	3	15	1	0	19	0	0	0	0	0	0	1	1	0	2	36
0615 - 0630	1	8	0	0	9	2	19	0	0	21	0	0	0	0	0	0	0	0	0	0	30
0630 - 0645	0	8	0	0	8	6	22	0	0	28	0	0	0	0	0	0	0	2	0	2	38
0645 - 0700	1	18	0	0	19	6	29	1	0	36	0	0	0	0	0	0	0	1	0	1	56
Hourly Total	2	49	0	0	**51**	17	85	2	0	**104**	0	0	0	0	**0**	0	1	4	0	**5**	**160**
0700 - 0715	0	14	0	0	14	9	17	0	0	26	0	0	0	0	0	0	0	0	0	0	40
0715 - 0730	0	20	0	0	20	7	29	0	0	36	0	0	0	0	0	0	0	2	0	2	58
0730 - 0745	0	11	0	0	11	8	23	0	0	31	1	0	0	0	1	0	0	1	0	1	44
0745 - 0800	1	14	0	0	15	12	25	0	0	37	1	0	0	0	1	0	0	0	0	0	53
Hourly Total	1	59	0	0	**60**	36	94	0	0	**130**	2	0	0	0	**2**	0	0	3	0	**3**	**195**
0800 - 0815	0	14	0	0	14	2	18	0	0	20	0	0	0	0	0	0	0	1	0	1	35
0815 - 0830	0	7	0	0	7	4	21	0	0	25	1	0	0	0	1	0	0	1	0	1	34
0830 - 0845	2	10	0	0	12	0	20	0	0	20	1	0	1	0	2	0	0	1	0	1	35
0845 - 0900	1	5	0	0	6	4	22	0	0	26	1	0	0	0	1	0	0	0	0	0	33
Hourly Total	3	36	0	0	**39**	10	81	0	0	**91**	3	0	1	0	**4**	0	0	3	0	**3**	**137**
0900 - 0915	0	3	0	0	3	1	15	0	0	16	0	0	0	0	0	0	0	0	0	0	19
0915 - 0930	0	13	0	0	13	3	17	1	0	21	0	0	0	0	0	0	0	2	0	2	36
0930 - 0945	1	16	0	0	17	4	19	0	0	23	1	1	0	0	2	0	0	1	0	1	43
0945 - 1000	0	11	0	1	12	3	14	0	0	17	0	0	0	0	0	0	0	1	0	1	30
Hourly Total	1	43	0	1	**45**	11	65	1	0	**77**	1	1	0	0	**2**	0	0	4	0	**4**	**128**
1000 - 1015	0	2	0	0	2	4	14	0	0	18	0	0	1	0	1	0	0	2	0	2	23
1015 - 1030	0	12	1	0	13	2	11	0	0	13	0	0	1	0	1	0	0	0	0	0	27
1030 - 1045	0	12	0	0	12	0	10	0	0	10	0	0	0	0	0	0	0	1	0	1	23
1045 - 1100	0	12	0	0	12	6	17	0	0	23	1	0	0	0	1	0	0	0	0	0	36
Hourly Total	0	38	1	0	**39**	12	52	0	0	**64**	1	0	2	0	**3**	0	0	3	0	**3**	**109**
1100 - 1115	0	4	1	0	5	3	16	0	0	19	0	0	1	0	1	0	0	0	0	0	25
1115 - 1130	1	6	0	0	7	4	18	0	0	22	0	0	0	0	0	0	0	3	0	3	32
1130 - 1145	0	9	0	0	9	5	8	0	0	13	0	0	0	0	0	0	0	1	0	1	23
1145 - 1200	0	10	0	0	10	4	16	0	0	20	0	0	0	0	0	0	0	1	0	1	31
Hourly Total	1	29	1	0	**31**	16	58	0	0	**74**	0	0	1	0	**1**	0	0	5	0	**5**	**111**
1200 - 1215	0	8	0	0	8	2	9	0	0	11	1	0	0	0	1	0	0	1	0	1	21
1215 - 1230	0	8	0	0	8	0	7	0	0	7	2	0	0	0	2	0	0	0	0	0	17
1230 - 1245	0	6	0	0	6	3	14	0	0	17	0	0	0	0	0	0	0	1	0	1	24
1245 - 1300	0	11	0	0	11	3	12	0	0	15	0	0	0	0	0	0	0	1	0	1	27
Hourly Total	0	33	0	0	**33**	8	42	0	0	**50**	3	0	0	0	**3**	0	0	3	0	**3**	**89**
1300 - 1315	0	10	0	0	10	1	8	0	0	9	0	0	0	0	0	0	0	1	0	1	20
1315 - 1330	1	10	0	0	11	4	14	0	0	18	0	0	0	0	0	0	0	0	0	0	29
1330 - 1345	1	11	0	0	12	2	8	0	0	10	0	0	0	0	0	0	0	1	0	1	23
1345 - 1400	0	16	0	0	16	3	16	0	0	19	1	0	0	0	1	0	0	1	0	1	37
Hourly Total	2	47	0	0	**49**	10	46	0	0	**56**	1	0	0	0	**1**	0	0	3	0	**3**	**109**
1400 - 1415	0	11	0	0	11	4	11	0	0	15	0	0	0	0	0	0	0	1	0	1	27
1415 - 1430	0	10	1	0	11	2	19	0	0	21	0	0	0	0	0	1	0	2	0	3	35
1430 - 1445	3	24	0	0	27	3	15	0	0	18	0	0	0	0	0	0	0	1	0	1	46
1445 - 1500	0	20	0	0	20	1	16	0	0	17	0	0	0	0	0	0	0	1	0	1	38
Hourly Total	3	65	1	0	**69**	10	61	0	0	**71**	0	0	0	0	**0**	1	0	5	0	**6**	**146**
1500 - 1515	0	20	0	0	20	9	24	0	0	33	0	0	1	0	1	0	0	1	0	1	55
1515 - 1530	0	15	0	0	15	4	14	0	0	18	0	0	0	0	0	1	0	0	0	1	34
1530 - 1545	0	19	0	0	19	2	16	0	0	18	0	1	0	0	1	0	0	2	0	2	40
1545 - 1600	0	12	0	0	12	4	17	0	0	21	1	0	0	0	1	0	0	0	0	0	34
Hourly Total	0	66	0	0	**66**	19	71	0	0	**90**	1	1	1	0	**3**	1	0	3	0	**4**	**163**
1600 - 1615	0	21	0	0	21	3	19	1	0	23	0	0	1	0	1	0	0	2	0	2	47
1615 - 1630	0	13	1	0	14	9	14	0	0	23	0	0	0	0	0	0	0	0	0	0	37
1630 - 1645	0	16	0	0	16	4	14	0	1	19	1	0	0	0	1	0	0	0	0	0	36
1645 - 1700	0	21	0	0	21	4	10	0	0	14	0	0	0	0	0	0	0	1	0	1	36
Hourly Total	0	71	1	0	**72**	20	57	1	1	**79**	1	0	1	0	**2**	0	0	3	0	**3**	**156**
1700 - 1715	0	17	1	0	18	3	13	0	0	16	0	0	0	0	0	0	0	1	0	1	35
1715 - 1730	0	20	0	0	20	3	22	0	0	25	0	0	0	0	0	0	0	2	0	2	47
1730 - 1745	0	12	0	0	12	2	15	0	0	17	0	0	0	0	0	0	0	1	0	1	30
1745 - 1800	0	14	0	0	14	3	15	0	0	18	0	0	0	0	0	0	0	2	0	2	34
Hourly Total	0	63	1	0	**64**	11	65	0	0	**76**	0	0	0	0	**0**	0	0	6	0	**6**	**146**
Grand Total	13	599	5	1	**618**	180	777	4	1	**962**	13	2	6	0	**21**	2	1	45	0	**48**	**1649**
Approach %	2.10	96.93	0.81	0.16	-	18.71	80.77	0.42	0.10	-	61.90	9.52	28.57	0.00	-	4.17	2.08	93.75	0.00	-	
Intersection %	0.79	36.33	0.30	0.06	37.48	10.92	47.12	0.24	0.06	58.34	0.79	0.12	0.36	0.00	1.27	0.12	0.06	2.73	0.00	2.91	
PHF	0.25	0.79	0.00	0.00	**0.80**	0.83	0.84	0.25	0.00	**0.90**	0.25	0.00	0.00	0.00	**0.25**	0.00	0.00	0.50	0.00	**0.50**	**0.85**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 4 of 13
Old Zion Rd Exd
Old Zion Rd (North)
Driveway
Old Zion Rd (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580930°, -87.133829°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
TIME	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Grand Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 4 of 13
Old Zion Rd Exd
Old Zion Rd (North)
Driveway
Old Zion Rd (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580930°, -87.133829°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0600 - 0615	0	15	0	0	15	3	14	1	0	18	0	0	0	0	0	0	1	1	0	2	35
0615 - 0630	1	8	0	0	9	2	17	0	0	19	0	0	0	0	0	0	0	0	0	0	28
0630 - 0645	0	8	0	0	8	6	22	0	0	28	0	0	0	0	0	0	0	2	0	2	38
0645 - 0700	1	17	0	0	18	6	29	1	0	36	0	0	0	0	0	0	0	1	0	1	55
Hourly Total	2	48	0	0	**50**	17	82	2	0	**101**	0	0	0	0	**0**	0	1	4	0	**5**	**156**
0700 - 0715	0	14	0	0	14	9	17	0	0	26	0	0	0	0	0	0	0	0	0	0	40
0715 - 0730	0	20	0	0	20	7	29	0	0	36	0	0	0	0	0	0	0	2	0	2	58
0730 - 0745	0	11	0	0	11	8	21	0	0	29	0	0	0	0	0	0	0	1	0	1	41
0745 - 0800	1	12	0	0	13	12	25	0	0	37	0	0	0	0	0	0	0	0	0	0	50
Hourly Total	1	57	0	0	**58**	36	92	0	0	**128**	0	0	0	0	**0**	0	0	3	0	**3**	**189**
0800 - 0815	0	12	0	0	12	2	18	0	0	20	0	0	0	0	0	0	0	1	0	1	33
0815 - 0830	0	7	0	0	7	2	21	0	0	23	0	0	0	0	0	0	0	1	0	1	31
0830 - 0845	2	9	0	0	11	0	18	0	0	18	1	0	0	0	1	0	0	1	0	1	31
0845 - 0900	0	5	0	0	5	2	21	0	0	23	1	0	0	0	1	0	0	0	0	0	29
Hourly Total	2	33	0	0	**35**	6	78	0	0	**84**	2	0	0	0	**2**	0	0	3	0	**3**	**124**
0900 - 0915	0	2	0	0	2	1	15	0	0	16	0	0	0	0	0	0	0	0	0	0	18
0915 - 0930	0	12	0	0	12	3	17	1	0	21	0	0	0	0	0	0	0	2	0	2	35
0930 - 0945	1	16	0	0	17	2	17	0	0	19	0	1	0	0	1	0	0	1	0	1	38
0945 - 1000	0	11	0	1	12	2	11	0	0	13	0	0	0	0	0	0	0	1	0	1	26
Hourly Total	1	41	0	1	**43**	8	60	1	0	**69**	0	1	0	0	**1**	0	0	4	0	**4**	**117**
1000 - 1015	0	1	0	0	1	3	12	0	0	15	0	0	1	0	1	0	0	2	0	2	19
1015 - 1030	0	11	1	0	12	2	11	0	0	13	0	0	0	0	0	0	0	0	0	0	25
1030 - 1045	0	11	0	0	11	0	8	0	0	8	0	0	0	0	0	0	0	1	0	1	20
1045 - 1100	0	11	0	0	11	6	17	0	0	23	0	0	0	0	0	0	0	0	0	0	34
Hourly Total	0	34	1	0	**35**	11	48	0	0	**59**	0	0	1	0	**1**	0	0	3	0	**3**	**98**
1100 - 1115	0	4	1	0	5	3	16	0	0	19	0	0	1	0	1	0	0	0	0	0	25
1115 - 1130	1	6	0	0	7	3	18	0	0	21	0	0	0	0	0	0	0	3	0	3	31
1130 - 1145	0	9	0	0	9	4	8	0	0	12	0	0	0	0	0	0	0	1	0	1	22
1145 - 1200	0	10	0	0	10	4	15	0	0	19	0	0	0	0	0	0	0	1	0	1	30
Hourly Total	1	29	1	0	**31**	14	57	0	0	**71**	0	0	1	0	**1**	0	0	5	0	**5**	**108**
1200 - 1215	0	8	0	0	8	2	9	0	0	11	0	0	0	0	0	0	0	1	0	1	20
1215 - 1230	0	7	0	0	7	0	6	0	0	6	1	0	0	0	1	0	0	0	0	0	14
1230 - 1245	0	6	0	0	6	3	13	0	0	16	0	0	0	0	0	0	0	1	0	1	23
1245 - 1300	0	10	0	0	10	3	11	0	0	14	0	0	0	0	0	0	0	1	0	1	25
Hourly Total	0	31	0	0	**31**	8	39	0	0	**47**	1	0	0	0	**1**	0	0	3	0	**3**	**82**
1300 - 1315	0	7	0	0	7	1	8	0	0	9	0	0	0	0	0	0	0	1	0	1	17
1315 - 1330	1	10	0	0	11	4	11	0	0	15	0	0	0	0	0	0	0	0	0	0	26
1330 - 1345	1	11	0	0	12	2	8	0	0	10	0	0	0	0	0	0	0	1	0	1	23
1345 - 1400	0	14	0	0	14	3	16	0	0	19	0	0	0	0	0	0	0	1	0	1	34
Hourly Total	2	42	0	0	**44**	10	43	0	0	**53**	0	0	0	0	**0**	0	0	3	0	**3**	**100**
1400 - 1415	0	11	0	0	11	4	11	0	0	15	0	0	0	0	0	0	0	1	0	1	27
1415 - 1430	0	10	1	0	11	2	19	0	0	21	0	0	0	0	0	1	0	2	0	3	35
1430 - 1445	3	21	0	0	24	3	14	0	0	17	0	0	0	0	0	0	0	1	0	1	42
1445 - 1500	0	20	0	0	20	1	16	0	0	17	0	0	0	0	0	0	0	1	0	1	38
Hourly Total	3	62	1	0	**66**	10	60	0	0	**70**	0	0	0	0	**0**	1	0	5	0	**6**	**142**
1500 - 1515	0	20	0	0	20	9	24	0	0	33	0	0	0	0	0	0	0	1	0	1	54
1515 - 1530	0	15	0	0	15	4	13	0	0	17	0	0	0	0	0	1	0	0	0	1	33
1530 - 1545	0	18	0	0	18	2	16	0	0	18	0	1	0	0	1	0	0	1	0	1	38
1545 - 1600	0	12	0	0	12	4	17	0	0	21	0	0	0	0	0	0	0	0	0	0	33
Hourly Total	0	65	0	0	**65**	19	70	0	0	**89**	0	1	0	0	**1**	1	0	2	0	**3**	**158**
1600 - 1615	0	20	0	0	20	2	19	1	0	22	0	0	1	0	1	0	0	2	0	2	45
1615 - 1630	0	13	1	0	14	9	13	0	0	22	0	0	0	0	0	0	0	0	0	0	36
1630 - 1645	0	16	0	0	16	4	14	0	1	19	1	0	0	0	1	0	0	0	0	0	36
1645 - 1700	0	21	0	0	21	4	10	0	0	14	0	0	0	0	0	0	0	1	0	1	36
Hourly Total	0	70	1	0	**71**	19	56	1	1	**77**	1	0	1	0	**2**	0	0	3	0	**3**	**153**
1700 - 1715	0	17	1	0	18	3	13	0	0	16	0	0	0	0	0	0	0	1	0	1	35
1715 - 1730	0	20	0	0	20	3	19	0	0	22	0	0	0	0	0	0	0	2	0	2	44
1730 - 1745	0	12	0	0	12	2	15	0	0	17	0	0	0	0	0	0	0	1	0	1	30
1745 - 1800	0	13	0	0	13	3	15	0	0	18	0	0	0	0	0	0	0	2	0	2	33
Hourly Total	0	62	1	0	**63**	11	62	0	0	**73**	0	0	0	0	**0**	0	0	6	0	**6**	**142**
Grand Total	12	574	5	1	**592**	169	747	4	1	**921**	4	2	3	0	**9**	2	1	44	0	**47**	**1569**
Approach %	2.03	96.96	0.84	0.17	-	18.35	81.11	0.43	0.11	-	44.44	22.22	33.33	0.00	-	4.26	2.13	93.62	0.00	-	
Intersection %	0.76	36.58	0.32	0.06	37.73	10.77	47.61	0.25	0.06	58.70	0.25	0.13	0.19	0.00	0.57	0.13	0.06	2.80	0.00	3.00	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 4 of 13
Old Zion Rd Exd
Old Zion Rd (North)
Driveway
Old Zion Rd (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580930°, -87.133829°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
TIME	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0615 - 0630	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	0	2	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	**3**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
0745 - 0800	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Hourly Total	0	2	0	0	**2**	0	2	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	**4**
0800 - 0815	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0815 - 0830	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0830 - 0845	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	3
0845 - 0900	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	2	0	0	**2**	1	3	0	0	**4**	0	0	1	0	**1**	0	0	0	0	**0**	**7**
0900 - 0915	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	1	0	0	**1**	0	3	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**	**4**
1000 - 1015	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1015 - 1030	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1030 - 1045	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1045 - 1100	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	3	0	0	**3**	0	4	0	0	**4**	0	0	0	0	**0**	0	0	0	0	**0**	**7**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1245 - 1300	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**2**
1300 - 1315	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1315 - 1330	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	4	0	0	**4**	0	2	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	**6**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**1**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	1	0	**1**	**2**
1600 - 1615	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	**1**	1	0	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**2**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	2	0	0	**2**	0	0	0	0	**0**	0	0	0	0	**0**	**2**
Grand Total	0	16	0	0	**16**	2	20	0	0	**22**	0	0	1	0	**1**	0	0	1	0	**1**	**40**
Approach %	0.00	100.00	0.00	0.00	-	9.09	90.91	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	100.00	0.00	-	
Intersection %	0.00	40.00	0.00	0.00	40.00	5.00	50.00	0.00	0.00	55.00	0.00	0.00	2.50	0.00	2.50	0.00	0.00	2.50	0.00	2.50	

Classified Turn Movement Count || Combination Trucks (8-13)

Marr Traffic DATA COLLECTION

Columbia, TN

www.marrtraffic.com

Site 4 of 13
Old Zion Rd Exd
Old Zion Rd (North)
Driveway
Old Zion Rd (East)

Date
Thursday, November 11, 2021

Weather
Mostly Cloudy
58°F

Lat/Long
35.580930°, -87.133829°

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd Exd					Old Zion Rd (North)					Driveway					Old Zion Rd (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	4.1	4.2	4.3	4.4	Total	4.5	4.6	4.7	4.8	Total	4.9	4.10	4.11	4.12	Total	4.13	4.14	4.15	4.16	Total	Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**1**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
0745 - 0800	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	2	0	0	0	**2**	0	0	0	0	**0**	**2**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
0830 - 0845	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0845 - 0900	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	1	1	0	0	**2**	3	0	0	0	**3**	1	0	0	0	**1**	0	0	0	0	**0**	**6**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0930 - 0945	0	0	0	0	0	2	2	0	0	4	1	0	0	0	1	0	0	0	0	0	5
0945 - 1000	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	3	2	0	0	**5**	1	0	0	0	**1**	0	0	0	0	**0**	**7**
1000 - 1015	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
1030 - 1045	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1045 - 1100	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	1	0	0	0	**1**	1	0	1	0	**2**	0	0	0	0	**0**	**4**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1130 - 1145	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1145 - 1200	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	**0**	2	1	0	0	**3**	0	0	0	0	**0**	0	0	0	0	**0**	**3**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
1215 - 1230	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	3
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	0	2	0	0	**2**	2	0	0	0	**2**	0	0	0	0	**0**	**5**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
Hourly Total	0	1	0	0	**1**	0	1	0	0	**1**	1	0	0	0	**1**	0	0	0	0	**0**	**3**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	2	0	0	**2**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**3**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1545 - 1600	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	0	0	0	0	**0**	1	0	1	0	**2**	0	0	0	0	**0**	**3**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**1**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	1	0	0	**1**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	**2**
Grand Total	1	9	0	0	**10**	9	10	0	0	**19**	9	0	2	0	**11**	0	0	0	0	**0**	**40**
Approach %	10.00	90.00	0.00	0.00	-	47.37	52.63	0.00	0.00	-	81.82	0.00	18.18	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	2.50	22.50	0.00	0.00	25.00	22.50	25.00	0.00	0.00	47.50	22.50	0.00	5.00	0.00	27.50	0.00	0.00	0.00	0.00	0.00	

Pedestrian Count || All vehicles

Marr Traffic DATA COLLECTION

Columbia, TN

www.marrtraffic.com

Site 4 of 13
Old Zion Rd Exd
Old Zion Rd (North)
Driveway
Old Zion Rd (East)

Date
Thursday, November 11, 2021

Weather
Mostly Cloudy
58°F

Lat/Long
35.580930°, -87.133829°

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Old Zion Rd Exd			Old Zion Rd (North)			Driveway			Old Zion Rd (East)			
TIME	EB 4a	WB 4b	App Total	EB 4c	WB 4d	App Total	NB 4e	SB 4f	App Total	NB 4g	SB 4h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0700 - 0715	0	0	0	0	0	12	0	3	0	15	12	97	0	0	109	0	66	1	0	67	191
0715 - 0730	0	1	0	0	1	20	0	8	0	28	14	133	0	0	147	0	96	8	0	104	280
0730 - 0745	0	0	1	0	1	26	0	0	0	26	6	131	0	0	137	0	91	3	0	94	258
0745 - 0800	0	0	0	0	0	16	0	6	0	22	6	119	0	0	125	0	85	9	0	94	241
Total	0	1	1	0	2	74	0	17	0	91	38	480	0	0	518	0	338	21	0	359	970
Approach %	0.00	50.00	50.00	0.00	-	81.32	0.00	18.68	0.00	-	7.34	92.66	0.00	0.00	-	0.00	94.15	5.85	0.00	-	
PHF	0.00	0.25	0.25	0.00	**0.50**	0.71	0.00	0.53	0.00	**0.81**	0.68	0.90	0.00	0.00	**0.88**	0.00	0.88	0.58	0.00	**0.86**	**0.87**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0700 - 0715	0	0	0	0	0	12	0	3	0	15	12	94	0	0	106	0	65	1	0	66	187
0715 - 0730	0	1	0	0	1	20	0	7	0	27	14	132	0	0	146	0	90	8	0	98	272
0730 - 0745	0	0	1	0	1	25	0	0	0	25	6	128	0	0	134	0	87	3	0	90	250
0745 - 0800	0	0	0	0	0	16	0	6	0	22	6	115	0	0	121	0	80	7	0	87	230
Total	0	1	1	0	2	73	0	16	0	89	38	469	0	0	507	0	322	19	0	341	939
Approach %	0.00	50.00	50.00	0.00	-	82.02	0.00	17.98	0.00	-	7.50	92.50	0.00	0.00	-	0.00	94.43	5.57	0.00	-	
PHF	0.00	0.25	0.25	0.00	**0.50**	0.73	0.00	0.57	0.00	**0.82**	0.68	0.89	0.00	0.00	**0.87**	0.00	0.89	0.59	0.00	**0.87**	**0.86**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0715 - 0730	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	4	0	0	4	6
0730 - 0745	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	3	0	0	3	6
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	2	0	7	8
Total	0	0	0	0	0	1	0	1	0	2	0	5	0	0	5	0	13	2	0	15	22
Approach %	0.00	0.00	0.00	0.00	-	50.00	0.00	50.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	86.67	13.33	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.25	0.00	**0.50**	0.00	0.63	0.00	0.00	**0.63**	0.00	0.65	0.25	0.00	**0.54**	**0.69**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	3	0	0	3	9
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.38	0.00	0.00	**0.38**	**0.75**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	6a	6b			Total	6c	6d			Total	6e	6f			Total	6g	6h			Total	Total
0700 - 0715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
1630 - 1645	0	0	0	0	0	7	0	9	0	16	6	78	0	0	84	0	122	10	0	132	232
1645 - 1700	0	0	0	0	0	6	0	3	0	9	5	79	0	0	84	0	138	15	0	153	246
1700 - 1715	0	0	0	0	0	8	0	5	0	13	5	100	0	0	105	0	130	14	0	144	262
1715 - 1730	0	0	0	0	0	12	0	9	0	21	5	102	0	0	107	0	131	15	0	146	274
Total	0	0	0	0	0	33	0	26	0	59	21	359	0	0	380	0	521	54	0	575	1014
Approach %	0.00	0.00	0.00	0.00	-	55.93	0.00	44.07	0.00	-	5.53	94.47	0.00	0.00	-	0.00	90.61	9.39	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.69	0.00	0.72	0.00	**0.70**	0.88	0.88	0.00	0.00	**0.89**	0.00	0.94	0.90	0.00	**0.94**	**0.93**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
1630 - 1645	0	0	0	0	0	7	0	9	0	16	6	77	0	0	83	0	117	10	0	127	226
1645 - 1700	0	0	0	0	0	6	0	3	0	9	5	78	0	0	83	0	135	15	0	150	242
1700 - 1715	0	0	0	0	0	8	0	5	0	13	5	97	0	0	102	0	128	14	0	142	257
1715 - 1730	0	0	0	0	0	12	0	7	0	19	5	101	0	0	106	0	129	15	0	144	269
Total	0	0	0	0	0	33	0	24	0	57	21	353	0	0	374	0	509	54	0	563	994
Approach %	0.00	0.00	0.00	0.00	-	57.89	0.00	42.11	0.00	-	5.61	94.39	0.00	0.00	-	0.00	90.41	9.59	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.69	0.00	0.67	0.00	**0.75**	0.88	0.87	0.00	0.00	**0.88**	0.00	0.94	0.90	0.00	**0.94**	**0.92**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1715 - 1730	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
Total	0	0	0	0	0	0	0	1	0	1	0	4	0	0	4	0	8	0	0	8	13
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	**0.25**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.67	0.00	0.00	**0.67**	**0.81**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	4	0	0	4	7
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	**0.25**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.50	0.00	0.00	**0.50**	**0.58**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	6a	6b			Total	6c	6d			Total	6e	6f			Total	6g	6h			Total	Total
1630 - 1645	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1645 - 1700	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1700 - 1715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1715 - 1730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 6 of 13
Driveway
Old Zion Rd Exd
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.576329°, -87.133518°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0600 - 0615	0	0	0	0	0	11	0	3	0	14	13	44	0	0	57	0	27	1	0	28	99
0615 - 0630	0	0	0	0	0	19	0	1	0	20	7	61	0	0	68	0	28	2	0	30	118
0630 - 0645	0	0	0	0	0	19	0	1	0	20	7	82	0	0	89	0	46	1	0	47	156
0645 - 0700	0	0	0	0	0	24	0	6	0	30	16	81	0	0	97	0	55	6	0	61	188
Hourly Total	0	0	0	0	**0**	73	0	11	0	**84**	43	268	0	0	**311**	0	156	10	0	**166**	**561**
0700 - 0715	0	0	0	0	0	12	0	3	0	15	12	97	0	0	109	0	66	1	0	67	191
0715 - 0730	0	1	0	0	1	20	0	8	0	28	14	133	0	0	147	0	96	8	0	104	280
0730 - 0745	0	0	1	0	1	26	0	0	0	26	6	131	0	0	137	0	91	3	0	94	258
0745 - 0800	0	0	0	0	0	16	0	6	0	22	6	119	0	0	125	0	85	9	0	94	241
Hourly Total	0	1	1	0	**2**	74	0	17	0	**91**	38	480	0	0	**518**	0	338	21	0	**359**	**970**
0800 - 0815	0	0	0	0	0	14	0	7	0	21	13	89	0	0	102	0	56	1	0	57	180
0815 - 0830	0	0	0	0	0	18	0	3	0	21	7	74	0	0	81	0	56	0	0	56	158
0830 - 0845	0	0	0	0	0	18	0	2	0	20	4	72	0	0	76	0	59	4	0	63	159
0845 - 0900	0	0	0	0	0	16	0	6	0	22	3	77	0	0	80	0	54	3	0	57	159
Hourly Total	0	0	0	0	**0**	66	0	18	0	**84**	27	312	0	0	**339**	0	225	8	0	**233**	**656**
0900 - 0915	0	0	0	0	0	13	0	2	0	15	0	92	0	0	92	0	50	4	0	54	161
0915 - 0930	0	0	0	0	0	15	0	2	0	17	4	62	0	0	66	0	51	8	0	59	142
0930 - 0945	0	0	0	0	0	13	1	5	0	19	13	73	0	0	86	0	64	6	0	70	175
0945 - 1000	0	0	0	0	0	10	0	5	0	15	5	74	0	0	79	0	62	5	0	67	161
Hourly Total	0	0	0	0	**0**	51	1	14	0	**66**	22	301	0	0	**323**	0	227	23	0	**250**	**639**
1000 - 1015	1	0	0	0	1	8	0	6	0	14	0	75	0	0	75	0	78	2	0	80	170
1015 - 1030	0	0	0	0	0	11	0	2	0	13	8	76	0	0	84	0	53	7	0	60	157
1030 - 1045	0	0	0	0	0	8	0	1	0	9	5	88	0	0	93	0	62	7	0	69	171
1045 - 1100	0	0	0	0	0	14	0	5	0	19	2	71	0	0	73	0	73	9	0	82	174
Hourly Total	1	0	0	0	**1**	41	0	14	0	**55**	15	310	0	0	**325**	0	266	25	0	**291**	**672**
1100 - 1115	0	0	0	0	0	10	0	5	0	15	2	74	0	0	76	1	74	2	0	77	168
1115 - 1130	0	0	0	0	0	16	0	3	0	19	4	74	0	0	78	0	74	3	0	77	174
1130 - 1145	1	0	0	0	1	5	0	2	0	7	2	59	0	0	61	0	73	7	0	80	149
1145 - 1200	0	0	0	0	0	12	0	5	0	17	3	72	0	0	75	0	66	6	0	72	164
Hourly Total	1	0	0	0	**1**	43	0	15	0	**58**	11	279	0	0	**290**	1	287	18	0	**306**	**655**
1200 - 1215	0	0	0	0	0	5	0	4	0	9	4	63	1	0	68	0	96	6	0	102	179
1215 - 1230	0	0	0	0	0	4	0	3	0	7	0	74	0	0	74	0	79	5	0	84	165
1230 - 1245	0	0	0	0	0	10	0	2	0	12	4	75	0	0	79	0	77	4	0	81	172
1245 - 1300	0	0	0	0	0	10	0	3	0	13	4	56	0	0	60	0	88	6	0	94	167
Hourly Total	0	0	0	0	**0**	29	0	12	0	**41**	12	268	1	0	**281**	0	340	21	0	**361**	**683**
1300 - 1315	0	0	0	0	0	5	0	3	0	8	4	70	0	0	74	0	91	6	0	97	179
1315 - 1330	0	0	0	0	0	6	0	6	0	12	4	65	0	0	69	0	75	7	0	82	163
1330 - 1345	0	0	0	0	0	6	0	3	0	9	5	93	0	0	98	0	92	8	0	100	207
1345 - 1400	0	0	0	0	0	13	0	4	0	17	6	71	0	0	77	0	91	9	0	100	194
Hourly Total	0	0	0	0	**0**	30	0	16	0	**46**	19	299	0	0	**318**	0	349	30	0	**379**	**743**
1400 - 1415	0	0	0	0	0	5	0	6	0	11	3	63	0	0	66	0	96	7	0	103	180
1415 - 1430	0	0	0	0	0	7	0	12	0	19	5	60	0	0	65	0	107	7	0	114	198
1430 - 1445	0	0	0	0	0	11	0	5	0	16	12	89	0	0	101	0	110	14	0	124	241
1445 - 1500	0	0	0	0	0	14	0	2	0	16	5	77	0	0	82	0	136	15	0	151	249
Hourly Total	0	0	0	0	**0**	37	0	25	0	**62**	25	289	0	0	**314**	0	449	43	0	**492**	**868**
1500 - 1515	0	0	0	0	0	21	0	4	0	25	11	107	0	0	118	0	102	9	0	111	254
1515 - 1530	0	0	0	0	0	9	0	6	0	15	6	109	0	0	115	0	103	9	0	112	242
1530 - 1545	0	0	0	0	0	6	0	10	0	16	4	97	0	0	101	0	127	16	0	143	260
1545 - 1600	0	0	0	0	0	9	0	6	0	15	4	61	0	0	65	0	137	8	0	145	225
Hourly Total	0	0	0	0	**0**	45	0	26	0	**71**	25	374	0	0	**399**	0	469	42	0	**511**	**981**
1600 - 1615	0	0	0	0	0	9	1	13	0	23	8	89	0	0	97	0	119	12	0	131	251
1615 - 1630	0	0	0	0	0	7	0	7	0	14	5	69	0	0	74	0	129	10	0	139	227
1630 - 1645	0	0	0	0	0	7	0	9	0	16	6	78	0	0	84	0	122	10	0	132	232
1645 - 1700	0	0	0	0	0	6	0	3	0	9	5	79	0	0	84	0	138	15	0	153	246
Hourly Total	0	0	0	0	**0**	29	1	32	0	**62**	24	315	0	0	**339**	0	508	47	0	**555**	**956**
1700 - 1715	0	0	0	0	0	8	0	5	0	13	5	100	0	0	105	0	130	14	0	144	262
1715 - 1730	0	0	0	0	0	12	0	9	0	21	5	102	0	0	107	0	131	15	0	146	274
1730 - 1745	0	0	0	0	0	9	0	5	0	14	7	64	0	0	71	0	113	7	0	120	205
1745 - 1800	0	0	0	0	0	8	0	9	0	17	8	64	0	0	72	0	104	6	0	110	199
Hourly Total	0	0	0	0	**0**	37	0	28	0	**65**	25	330	0	0	**355**	0	478	42	0	**520**	**940**
Grand Total	2	1	1	0	**4**	555	2	228	0	**785**	286	3825	1	0	**4112**	1	4092	330	0	**4423**	**9324**
Approach %	50.00	25.00	25.00	0.00	-	70.70	0.25	29.04	0.00	-	6.96	93.02	0.02	0.00	-	0.02	92.52	7.46	0.00	-	
Intersection %	0.02	0.01	0.01	0.00	0.04	5.95	0.02	2.45	0.00	8.42	3.07	41.02	0.01	0.00	44.10	0.01	43.89	3.54	0.00	47.44	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.69	0.00	0.72	0.00	**0.70**	0.88	0.88	0.00	0.00	**0.89**	0.00	0.94	0.90	0.00	**0.94**	**0.93**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 6 of 13
Driveway
Old Zion Rd Exd
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.576329°, -87.133518°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Grand Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 6 of 13
Driveway
Old Zion Rd Exd
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.576329°, -87.133518°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
TIME	6.1	6.2	6.3	6.4	Total	6.5	6.6	6.7	6.8	Total	6.9	6.10	6.11	6.12	Total	6.13	6.14	6.15	6.16	Total	Total
0600 - 0615	0	0	0	0	0	11	0	2	0	13	13	41	0	0	54	0	27	1	0	28	95
0615 - 0630	0	0	0	0	0	18	0	0	0	18	7	58	0	0	65	0	28	2	0	30	113
0630 - 0645	0	0	0	0	0	19	0	1	0	20	7	79	0	0	86	0	43	1	0	44	150
0645 - 0700	0	0	0	0	0	24	0	6	0	30	15	78	0	0	93	0	53	6	0	59	182
Hourly Total	0	0	0	0	**0**	72	0	9	0	**81**	42	256	0	0	**298**	0	151	10	0	**161**	**540**
0700 - 0715	0	0	0	0	0	12	0	3	0	15	12	94	0	0	106	0	65	1	0	66	187
0715 - 0730	0	1	0	0	1	20	0	7	0	27	14	132	0	0	146	0	90	8	0	98	272
0730 - 0745	0	0	1	0	1	25	0	0	0	25	6	128	0	0	134	0	87	3	0	90	250
0745 - 0800	0	0	0	0	0	16	0	6	0	22	6	115	0	0	121	0	80	7	0	87	230
Hourly Total	0	1	1	0	**2**	73	0	16	0	**89**	38	469	0	0	**507**	0	322	19	0	**341**	**939**
0800 - 0815	0	0	0	0	0	14	0	7	0	21	13	86	0	0	99	0	54	0	0	54	174
0815 - 0830	0	0	0	0	0	18	0	3	0	21	7	70	0	0	77	0	52	0	0	52	150
0830 - 0845	0	0	0	0	0	17	0	0	0	17	4	69	0	0	73	0	53	3	0	56	146
0845 - 0900	0	0	0	0	0	16	0	5	0	21	2	74	0	0	76	0	50	2	0	52	149
Hourly Total	0	0	0	0	**0**	65	0	15	0	**80**	26	299	0	0	**325**	0	209	5	0	**214**	**619**
0900 - 0915	0	0	0	0	0	13	0	2	0	15	0	87	0	0	87	0	47	3	0	50	152
0915 - 0930	0	0	0	0	0	15	0	2	0	17	3	58	0	0	61	0	49	8	0	57	135
0930 - 0945	0	0	0	0	0	13	1	3	0	17	13	69	0	0	82	0	60	6	0	66	165
0945 - 1000	0	0	0	0	0	9	0	3	0	12	5	69	0	0	74	0	56	5	0	61	147
Hourly Total	0	0	0	0	**0**	50	1	10	0	**61**	21	283	0	0	**304**	0	212	22	0	**234**	**599**
1000 - 1015	1	0	0	0	1	8	0	4	0	12	0	69	0	0	69	0	72	1	0	73	155
1015 - 1030	0	0	0	0	0	11	0	1	0	12	7	71	0	0	78	0	47	7	0	54	144
1030 - 1045	0	0	0	0	0	7	0	0	0	7	4	80	0	0	84	0	55	7	0	62	153
1045 - 1100	0	0	0	0	0	14	0	5	0	19	2	65	0	0	67	0	66	8	0	74	160
Hourly Total	1	0	0	0	**1**	40	0	10	0	**50**	13	285	0	0	**298**	0	240	23	0	**263**	**612**
1100 - 1115	0	0	0	0	0	10	0	5	0	15	2	71	0	0	73	1	67	2	0	70	158
1115 - 1130	0	0	0	0	0	16	0	3	0	19	4	71	0	0	75	0	68	3	0	71	165
1130 - 1145	1	0	0	0	1	5	0	2	0	7	2	55	0	0	57	0	69	7	0	76	141
1145 - 1200	0	0	0	0	0	12	0	4	0	16	3	71	0	0	74	0	64	6	0	70	160
Hourly Total	1	0	0	0	**1**	43	0	14	0	**57**	11	268	0	0	**279**	1	268	18	0	**287**	**624**
1200 - 1215	0	0	0	0	0	5	0	3	0	8	4	59	1	0	64	0	94	6	0	100	172
1215 - 1230	0	0	0	0	0	3	0	3	0	6	0	71	0	0	71	0	76	5	0	81	158
1230 - 1245	0	0	0	0	0	10	0	1	0	11	3	71	0	0	74	0	73	4	0	77	162
1245 - 1300	0	0	0	0	0	10	0	3	0	13	3	52	0	0	55	0	83	6	0	89	157
Hourly Total	0	0	0	0	**0**	28	0	10	0	**38**	10	253	1	0	**264**	0	326	21	0	**347**	**649**
1300 - 1315	0	0	0	0	0	5	0	3	0	8	2	69	0	0	71	0	90	5	0	95	174
1315 - 1330	0	0	0	0	0	6	0	3	0	9	4	59	0	0	63	0	74	6	0	80	152
1330 - 1345	0	0	0	0	0	6	0	3	0	9	5	87	0	0	92	0	90	8	0	98	199
1345 - 1400	0	0	0	0	0	13	0	4	0	17	5	68	0	0	73	0	83	9	0	92	182
Hourly Total	0	0	0	0	**0**	30	0	13	0	**43**	16	283	0	0	**299**	0	337	28	0	**365**	**707**
1400 - 1415	0	0	0	0	0	5	0	6	0	11	3	60	0	0	63	0	94	7	0	101	175
1415 - 1430	0	0	0	0	0	7	0	12	0	19	5	58	0	0	63	0	104	7	0	111	193
1430 - 1445	0	0	0	0	0	11	0	4	0	15	10	86	0	0	96	0	109	13	0	122	233
1445 - 1500	0	0	0	0	0	14	0	2	0	16	5	75	0	0	80	0	134	15	0	149	245
Hourly Total	0	0	0	0	**0**	37	0	24	0	**61**	23	279	0	0	**302**	0	441	42	0	**483**	**846**
1500 - 1515	0	0	0	0	0	21	0	3	0	24	11	105	0	0	116	0	102	9	0	111	251
1515 - 1530	0	0	0	0	0	9	0	5	0	14	6	106	0	0	112	0	100	9	0	109	235
1530 - 1545	0	0	0	0	0	6	0	10	0	16	3	92	0	0	95	0	123	16	0	139	250
1545 - 1600	0	0	0	0	0	9	0	6	0	15	4	59	0	0	63	0	133	8	0	141	219
Hourly Total	0	0	0	0	**0**	45	0	24	0	**69**	24	362	0	0	**386**	0	458	42	0	**500**	**955**
1600 - 1615	0	0	0	0	0	9	1	13	0	23	7	87	0	0	94	0	118	12	0	130	247
1615 - 1630	0	0	0	0	0	7	0	6	0	13	5	67	0	0	72	0	126	10	0	136	221
1630 - 1645	0	0	0	0	0	7	0	9	0	16	6	77	0	0	83	0	117	10	0	127	226
1645 - 1700	0	0	0	0	0	6	0	3	0	9	5	78	0	0	83	0	135	15	0	150	242
Hourly Total	0	0	0	0	**0**	29	1	31	0	**61**	23	309	0	0	**332**	0	496	47	0	**543**	**936**
1700 - 1715	0	0	0	0	0	8	0	5	0	13	5	97	0	0	102	0	128	14	0	142	257
1715 - 1730	0	0	0	0	0	12	0	7	0	19	5	101	0	0	106	0	129	15	0	144	269
1730 - 1745	0	0	0	0	0	9	0	5	0	14	7	62	0	0	69	0	113	7	0	120	203
1745 - 1800	0	0	0	0	0	8	0	8	0	16	7	63	0	0	70	0	103	6	0	109	195
Hourly Total	0	0	0	0	**0**	37	0	25	0	**62**	24	323	0	0	**347**	0	473	42	0	**515**	**924**
Grand Total	2	1	1	0	**4**	549	2	201	0	**752**	271	3669	1	0	**3941**	1	3933	319	0	**4253**	**8950**
Approach %	50.00	25.00	25.00	0.00	-	73.01	0.27	26.73	0.00	-	6.88	93.10	0.03	0.00	-	0.02	92.48	7.50	0.00	-	
Intersection %	0.02	0.01	0.01	0.00	0.04	6.13	0.02	2.25	0.00	8.40	3.03	40.99	0.01	0.00	44.03	0.01	43.94	3.56	0.00	47.52	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 6 of 13
Driveway
Old Zion Rd Exd
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.576329°, -87.133518°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
0615 - 0630	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	4
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
0645 - 0700	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	4
Hourly Total	0	0	0	0	**0**	1	0	1	0	**2**	1	7	0	0	**8**	0	3	0	0	**3**	**13**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0715 - 0730	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	4	0	0	4	6
0730 - 0745	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	3	0	0	3	6
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	2	0	7	8
Hourly Total	0	0	0	0	**0**	1	0	1	0	**2**	0	5	0	0	**5**	0	13	2	0	**15**	**22**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	1	0	2	4
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
0830 - 0845	0	0	0	0	0	1	0	2	0	3	0	2	0	0	2	0	3	1	0	4	9
0845 - 0900	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	3	0	0	3	5
Hourly Total	0	0	0	0	**0**	1	0	3	0	**4**	0	9	0	0	**9**	0	11	2	0	**13**	**26**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	1	0	2	6
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
0945 - 1000	0	0	0	0	0	1	0	2	0	3	0	3	0	0	3	0	4	0	0	4	10
Hourly Total	0	0	0	0	**0**	1	0	2	0	**3**	0	11	0	0	**11**	0	10	1	0	**11**	**25**
1000 - 1015	0	0	0	0	0	0	0	2	0	2	0	4	0	0	4	0	4	1	0	5	11
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	11
1030 - 1045	0	0	0	0	0	1	0	1	0	2	1	6	0	0	7	0	5	0	0	5	14
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	1	0	7	12
Hourly Total	0	0	0	0	**0**	1	0	3	0	**4**	1	20	0	0	**21**	0	21	2	0	**23**	**48**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	4	0	0	4	5
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	2	0	0	2	6
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	8	0	0	**8**	0	12	0	0	**12**	**20**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
1230 - 1245	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	2	0	0	2	5
1245 - 1300	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	3	0	0	3	7
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	1	9	0	0	**10**	0	7	0	0	**7**	**18**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	1	0	1	4
1315 - 1330	0	0	0	0	0	0	0	2	0	2	0	5	0	0	5	0	1	0	0	1	8
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1345 - 1400	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	5	0	0	5	9
Hourly Total	0	0	0	0	**0**	0	0	2	0	**2**	3	11	0	0	**14**	0	7	1	0	**8**	**24**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	5
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1430 - 1445	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	3
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	1	8	0	0	**9**	0	6	0	0	**6**	**15**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1515 - 1530	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2	4
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	6
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	0	4	0	0	**4**	0	7	0	0	**7**	**12**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	4
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	1	4	0	0	**5**	0	8	0	0	**8**	**13**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1715 - 1730	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1745 - 1800	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
Hourly Total	0	0	0	0	**0**	0	0	2	0	**2**	0	4	0	0	**4**	0	4	0	0	**4**	**10**
Grand Total	0	0	0	0	**0**	5	0	16	0	**21**	8	100	0	0	**108**	0	109	8	0	**117**	**246**
Approach %	0.00	0.00	0.00	0.00	-	23.81	0.00	76.19	0.00	-	7.41	92.59	0.00	0.00	-	0.00	93.16	6.84	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	2.03	0.00	6.50	0.00	8.54	3.25	40.65	0.00	0.00	43.90	0.00	44.31	3.25	0.00	47.56	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 6 of 13
Driveway
Old Zion Rd Exd
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Weather
Mostly Cloudy
58°F

Lat/Long
35.576329°, -87.133518°

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Driveway					Old Zion Rd Exd					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
TIME	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0615 - 0630	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	0	5	0	0	**5**	0	2	0	0	**2**	**8**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	6	0	0	**6**	0	3	0	0	**3**	**9**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
0845 - 0900	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	1	1	0	2	5
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	1	4	0	0	**5**	0	5	1	0	**6**	**11**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0915 - 0930	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
0930 - 0945	0	0	0	0	0	0	0	2	0	2	0	3	0	0	3	0	1	0	0	1	6
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
Hourly Total	0	0	0	0	**0**	0	0	2	0	**2**	1	7	0	0	**8**	0	5	0	0	**5**	**15**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1015 - 1030	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	1	5	0	0	**6**	0	5	0	0	**5**	**12**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1145 - 1200	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	0	3	0	0	**3**	0	7	0	0	**7**	**11**
1200 - 1215	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	2	0	0	2	6
1215 - 1230	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
1230 - 1245	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	5
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
Hourly Total	0	0	0	0	**0**	1	0	1	0	**2**	1	6	0	0	**7**	0	7	0	0	**7**	**16**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1315 - 1330	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	3
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	0	5	0	0	**5**	0	5	1	0	**6**	**12**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1430 - 1445	0	0	0	0	0	0	0	1	0	1	1	2	0	0	3	0	0	1	0	1	5
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	1	2	0	0	**3**	0	2	1	0	**3**	**7**
1500 - 1515	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
1530 - 1545	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	4
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	1	8	0	0	**9**	0	4	0	0	**4**	**14**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	0	2	0	0	**2**	0	4	0	0	**4**	**7**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	1	3	0	0	**4**	0	1	0	0	**1**	**6**
Grand Total	0	0	0	0	**0**	1	0	11	0	**12**	7	56	0	0	**63**	0	50	3	0	**53**	**128**
Approach %	0.00	0.00	0.00	0.00	-	8.33	0.00	91.67	0.00	-	11.11	88.89	0.00	0.00	-	0.00	94.34	5.66	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.78	0.00	8.59	0.00	9.38	5.47	43.75	0.00	0.00	49.22	0.00	39.06	2.34	0.00	41.41	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 6 of 13
Driveway
Old Zion Rd Exd
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.576329°, -87.133518°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Driveway			Old Zion Rd Exd			TN-243 Trotwood Ave (West)			TN-243 Trotwood Ave (East)			
TIME	EB 6a	WB 6b	App Total	EB 6c	WB 6d	App Total	NB 6e	SB 6f	App Total	NB 6g	SB 6h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

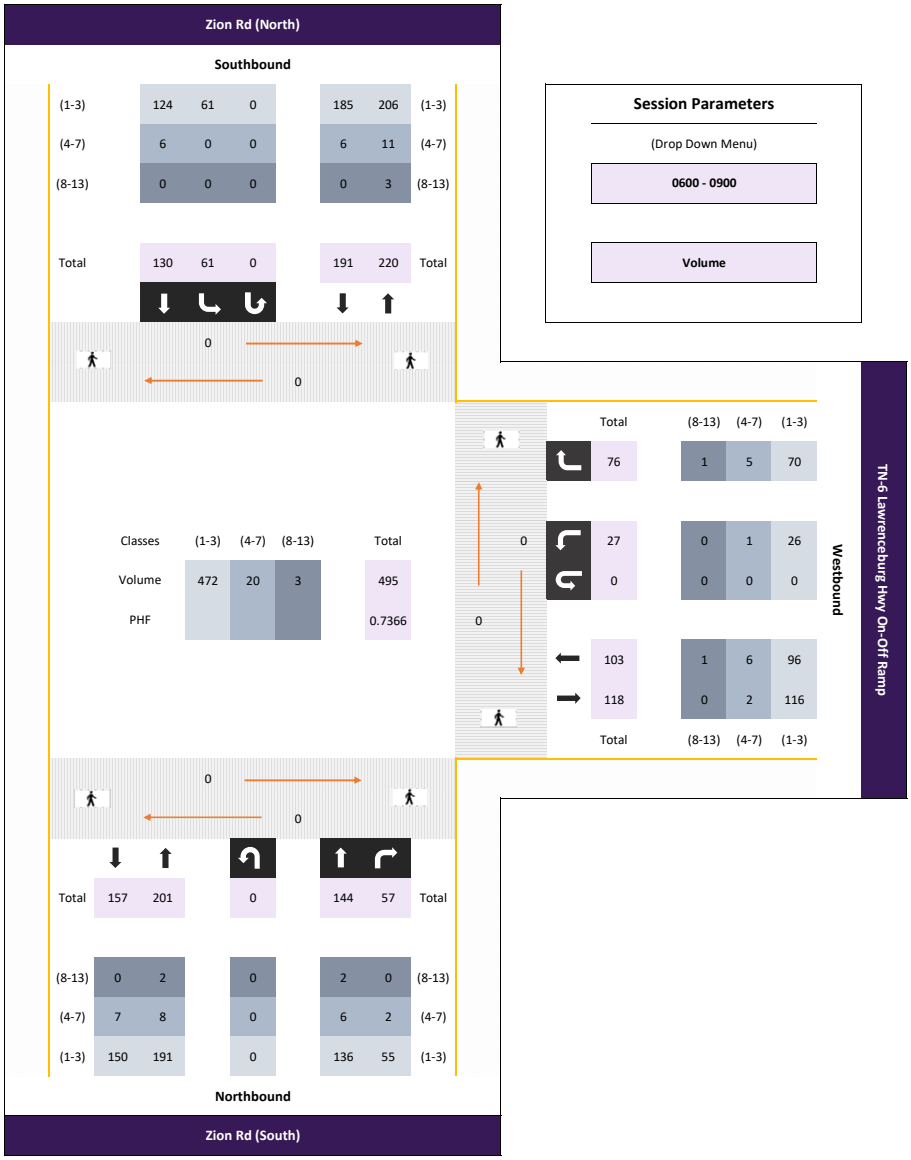
Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0700 - 0800



All vehicles

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
0700 - 0715	-	17	10	0	27	16	22	-	0	38	-	-	-	-	0	2	-	11	0	13	78
0715 - 0730	-	43	21	0	64	18	27	-	0	45	-	-	-	-	0	6	-	27	0	33	142
0730 - 0745	-	52	14	0	66	17	48	-	0	65	-	-	-	-	0	9	-	28	0	37	168
0745 - 0800	-	32	12	0	44	10	33	-	0	43	-	-	-	-	0	10	-	10	0	20	107
Total	0	144	57	0	201	61	130	0	0	191	0	0	0	0	0	27	0	76	0	103	495
Approach %	0.00	71.64	28.36	0.00	-	31.94	68.06	0.00	0.00	-	0.00	0.00	0.00	0.00	-	26.21	0.00	73.79	0.00	-	
PHF	0.00	0.69	0.68	0.00	**0.76**	0.85	0.68	0.00	0.00	**0.73**	0.00	0.00	0.00	0.00	**0.00**	0.68	0.00	0.68	0.00	**0.70**	**0.74**

Bikes

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
0700 - 0715	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
0715 - 0730	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
0730 - 0745	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
0745 - 0800	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
0700 - 0715	-	17	10	0	27	16	18	-	0	34	-	-	-	-	0	2	-	10	0	12	73
0715 - 0730	-	41	20	0	61	18	26	-	0	44	-	-	-	-	0	6	-	25	0	31	136
0730 - 0745	-	48	14	0	62	17	47	-	0	64	-	-	-	-	0	8	-	25	0	33	159
0745 - 0800	-	30	11	0	41	10	33	-	0	43	-	-	-	-	0	10	-	10	0	20	104
Total	0	136	55	0	191	61	124	0	0	185	0	0	0	0	0	26	0	70	0	96	472
Approach %	0.00	71.20	28.80	0.00	-	32.97	67.03	0.00	0.00	-	0.00	0.00	0.00	0.00	-	27.08	0.00	72.92	0.00	-	
PHF	0.00	0.71	0.69	0.00	**0.77**	0.85	0.66	0.00	0.00	**0.72**	0.00	0.00	0.00	0.00	**0.00**	0.65	0.00	0.70	0.00	**0.73**	**0.74**

Single Unit Trucks (4-7)

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
0700 - 0715	-	0	0	0	0	0	4	-	0	4	-	-	-	-	0	0	-	1	0	1	5
0715 - 0730	-	2	1	0	3	0	1	-	0	1	-	-	-	-	0	0	-	2	0	2	6
0730 - 0745	-	3	0	0	3	0	1	-	0	1	-	-	-	-	0	1	-	2	0	3	7
0745 - 0800	-	1	1	0	2	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	2
Total	0	6	2	0	8	0	6	0	0	6	0	0	0	0	0	1	0	5	0	6	20
Approach %	0.00	75.00	25.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	16.67	0.00	83.33	0.00	-	
PHF	0.00	0.50	0.50	0.00	**0.67**	0.00	0.38	0.00	0.00	**0.38**	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.63	0.00	**0.50**	**0.71**

Combination Trucks (8-13)

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
0700 - 0715	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
0715 - 0730	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
0730 - 0745	-	1	0	0	1	0	0	-	0	0	-	-	-	-	0	0	-	1	0	1	2
0745 - 0800	-	1	0	0	1	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF	0.00	0.50	0.00	0.00	**0.50**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	**0.25**	**0.38**

Pedestrians

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
	EB	WB			App	EB	WB			App					App	NB	SB			App	Int
Time	7a	7b			Total	7c	7d			Total					Total	7g	7h			Total	Total
0700 - 0715	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
0715 - 0730	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

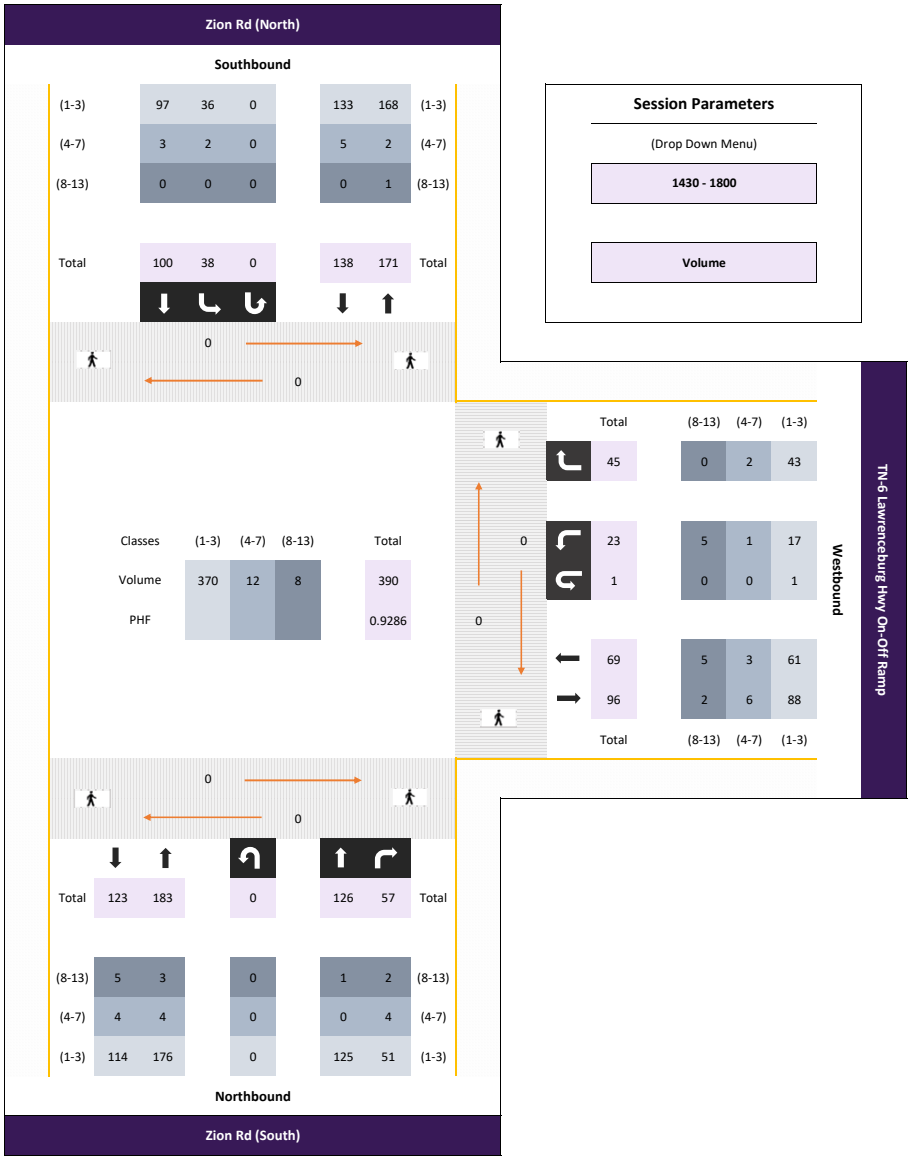
Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1430 - 1530



All vehicles

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
1430 - 1445	-	37	17	0	54	7	28	-	0	35	-	-	-	-	0	8	-	8	0	16	105
1445 - 1500	-	43	8	0	51	9	11	-	0	20	-	-	-	-	0	8	-	18	1	27	98
1500 - 1515	-	19	14	0	33	13	42	-	0	55	-	-	-	-	0	3	-	9	0	12	100
1515 - 1530	-	27	18	0	45	9	19	-	0	28	-	-	-	-	0	4	-	10	0	14	87
Total	0	126	57	0	183	38	100	0	0	138	0	0	0	0	0	23	0	45	1	69	390
Approach %	0.00	68.85	31.15	0.00	-	27.54	72.46	0.00	0.00	-	0.00	0.00	0.00	0.00	-	33.33	0.00	65.22	1.45	-	
PHF	0.00	0.73	0.79	0.00	**0.85**	0.73	0.60	0.00	0.00	**0.63**	0.00	0.00	0.00	0.00	**0.00**	0.72	0.00	0.63	0.25	**0.64**	**0.93**

Bikes

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
1430 - 1445	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
1445 - 1500	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
1500 - 1515	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
1515 - 1530	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
1430 - 1445	-	37	16	0	53	7	25	-	0	32	-	-	-	-	0	6	-	8	0	14	99
1445 - 1500	-	42	7	0	49	8	11	-	0	19	-	-	-	-	0	6	-	17	1	24	92
1500 - 1515	-	19	14	0	33	12	42	-	0	54	-	-	-	-	0	2	-	9	0	11	98
1515 - 1530	-	27	14	0	41	9	19	-	0	28	-	-	-	-	0	3	-	9	0	12	81
Total	0	125	51	0	176	36	97	0	0	133	0	0	0	0	0	17	0	43	1	61	370
Approach %	0.00	71.02	28.98	0.00	-	27.07	72.93	0.00	0.00	-	0.00	0.00	0.00	0.00	-	27.87	0.00	70.49	1.64	-	
PHF	0.00	0.74	0.80	0.00	**0.83**	0.75	0.58	0.00	0.00	**0.62**	0.00	0.00	0.00	0.00	**0.00**	0.71	0.00	0.63	0.25	**0.64**	**0.93**

Single Unit Trucks (4-7)

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
1430 - 1445	-	0	1	0	1	0	3	-	0	3	-	-	-	-	0	0	-	0	0	0	4
1445 - 1500	-	0	1	0	1	1	0	-	0	1	-	-	-	-	0	0	-	1	0	1	3
1500 - 1515	-	0	0	0	0	1	0	-	0	1	-	-	-	-	0	0	-	0	0	0	1
1515 - 1530	-	0	2	0	2	0	0	-	0	0	-	-	-	-	0	1	-	1	0	2	4
Total	0	0	4	0	4	2	3	0	0	5	0	0	0	0	0	1	0	2	0	3	12
Approach %	0.00	0.00	100.00	0.00	-	40.00	60.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	33.33	0.00	66.67	0.00	-	
PHF	0.00	0.00	0.50	0.00	**0.50**	0.50	0.25	0.00	0.00	**0.42**	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.50	0.00	**0.38**	**0.75**

Combination Trucks (8-13)

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
		Thru	Right	U-Turn	App	Left	Thru		U-Turn	App					App	Left		Right	U-Turn	App	Int
Time		7.1	7.2	7.3	Total	7.4	7.5		7.6	Total					Total	7.7		7.8	7.9	Total	Total
1430 - 1445	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	2	-	0	0	2	2
1445 - 1500	-	1	0	0	1	0	0	-	0	0	-	-	-	-	0	2	-	0	0	2	3
1500 - 1515	-	0	0	0	0	0	0	-	0	0	-	-	-	-	0	1	-	0	0	1	1
1515 - 1530	-	0	2	0	2	0	0	-	0	0	-	-	-	-	0	0	-	0	0	0	2
Total	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	8
Approach %	0.00	33.33	66.67	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.25	0.00	**0.38**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.63	0.00	0.00	0.00	**0.63**	**0.67**

Pedestrians

	Northbound					Southbound										Westbound					
	Zion Rd (South)					Zion Rd (North)										TN-6 Lawrenceburg Hwy On-Off Ramp					
	EB	WB			App	EB	WB			App					App	NB	SB			App	Int
Time	7a	7b			Total	7c	7d			Total					Total	7g	7h			Total	Total
1430 - 1445	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
1445 - 1500	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
1500 - 1515	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
1515 - 1530	0	0	-	-	0	0	0	-	-	0	-	-	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Marr Traffic DATA COLLECTION

Columbia, TN

www.marrtraffic.com

Site 7 of 13
Zion Rd (South)
Zion Rd (North)

TN-6 Lawrenceburg Hwy On-Off Ramp

Date
Thursday, November 11, 2021

Lat/Long
35.581116°, -87.145158°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound				Southbound				Westbound				
	Zion Rd (South)				Zion Rd (North)				TN-6 Lawrenceburg Hwy On-Off Ramp				
TIME	Thru 7.1	Right 7.2	U-Turn 7.3	App Total	Left 7.4	Thru 7.5	U-Turn 7.6	App Total	Left 7.7	Right 7.8	U-Turn 7.9	App Total	Int Total
0600 - 0615	7	11	0	18	11	4	0	15	5	3	0	8	41
0615 - 0630	0	16	0	16	8	8	0	16	4	3	0	7	39
0630 - 0645	9	13	0	22	12	13	0	25	6	4	0	10	57
0645 - 0700	7	13	0	20	11	16	0	27	6	6	0	12	59
Hourly Total	23	53	0	**76**	42	41	0	**83**	21	16	0	**37**	**196**
0700 - 0715	17	10	0	27	16	22	0	38	2	11	0	13	78
0715 - 0730	43	21	0	64	18	27	0	45	6	27	0	33	142
0730 - 0745	52	14	0	66	17	48	0	65	9	28	0	37	168
0745 - 0800	32	12	0	44	10	33	0	43	10	10	0	20	107
Hourly Total	144	57	0	**201**	61	130	0	**191**	27	76	0	**103**	**495**
0800 - 0815	12	4	0	16	5	25	0	30	8	3	0	11	57
0815 - 0830	14	12	0	26	8	19	0	27	5	5	0	10	63
0830 - 0845	18	3	0	21	8	19	0	27	8	7	0	15	63
0845 - 0900	6	8	0	14	5	15	0	20	1	3	0	4	38
Hourly Total	50	27	0	**77**	26	78	0	**104**	22	18	0	**40**	**221**
0900 - 0915	8	11	0	19	5	15	0	20	6	4	0	10	49
0915 - 0930	13	12	0	25	5	15	0	20	1	2	0	3	48
0930 - 0945	16	7	0	23	8	13	0	21	4	11	1	16	60
0945 - 1000	9	8	0	17	4	12	0	16	5	3	0	8	41
Hourly Total	46	38	0	**84**	22	55	0	**77**	16	20	1	**37**	**198**
1000 - 1015	10	5	0	15	5	12	0	17	7	2	0	9	41
1015 - 1030	12	3	0	15	4	13	1	18	2	4	0	6	39
1030 - 1045	13	6	0	19	7	16	0	23	5	6	0	11	53
1045 - 1100	18	11	0	29	7	20	0	27	3	10	0	13	69
Hourly Total	53	25	0	**78**	23	61	1	**85**	17	22	0	**39**	**202**
1100 - 1115	15	7	0	22	10	8	0	18	4	5	0	9	49
1115 - 1130	13	7	0	20	5	20	0	25	8	5	0	13	58
1130 - 1145	11	8	0	19	6	11	0	17	3	13	0	16	52
1145 - 1200	13	11	0	24	8	11	0	19	2	6	0	8	51
Hourly Total	52	33	0	**85**	29	50	0	**79**	17	29	0	**46**	**210**
1200 - 1215	11	6	0	17	7	13	0	20	3	4	0	7	44
1215 - 1230	17	7	0	24	4	19	0	23	3	8	0	11	58
1230 - 1245	9	11	0	20	2	17	0	19	3	6	0	9	48
1245 - 1300	16	10	0	26	4	7	0	11	2	3	0	5	42
Hourly Total	53	34	0	**87**	17	56	0	**73**	11	21	0	**32**	**192**
1300 - 1315	13	13	0	26	6	15	0	21	8	4	0	12	59
1315 - 1330	15	13	0	28	3	11	0	14	3	5	0	8	50
1330 - 1345	20	6	0	26	3	21	0	24	4	5	0	9	59
1345 - 1400	19	20	0	39	3	16	0	19	7	4	0	11	69
Hourly Total	67	52	0	**119**	15	63	0	**78**	22	18	0	**40**	**237**
1400 - 1415	20	11	0	31	7	15	0	22	8	6	0	14	67
1415 - 1430	24	9	0	33	6	24	0	30	3	6	0	9	72
1430 - 1445	37	17	0	54	7	28	0	35	8	8	0	16	105
1445 - 1500	43	8	0	51	9	11	0	20	8	18	1	27	98
Hourly Total	124	45	0	**169**	29	78	0	**107**	27	38	1	**66**	**342**
1500 - 1515	19	14	0	33	13	42	0	55	3	9	0	12	100
1515 - 1530	27	18	0	45	9	19	0	28	4	10	0	14	87
1530 - 1545	23	14	0	37	6	22	0	28	5	5	0	10	75
1545 - 1600	19	21	0	40	8	17	0	25	6	12	0	18	83
Hourly Total	88	67	0	**155**	36	100	0	**136**	18	36	0	**54**	**345**
1600 - 1615	18	18	0	36	10	16	0	26	5	14	0	19	81
1615 - 1630	23	15	0	38	12	13	0	25	9	9	1	19	82
1630 - 1645	25	24	0	49	7	12	0	19	6	7	0	13	81
1645 - 1700	20	22	0	42	12	24	0	36	10	12	0	22	100
Hourly Total	86	79	0	**165**	41	65	0	**106**	30	42	1	**73**	**344**
1700 - 1715	21	20	0	41	8	18	0	26	7	13	0	20	87
1715 - 1730	23	16	0	39	3	27	0	30	16	12	0	28	97
1730 - 1745	34	17	0	51	9	17	0	26	7	12	0	19	96
1745 - 1800	19	16	0	35	11	22	0	33	5	11	0	16	84
Hourly Total	97	69	0	**166**	31	84	0	**115**	35	48	0	**83**	**364**
Grand Total	883	579	0	**1462**	372	861	1	**1234**	263	384	3	**650**	**3346**
Approach %	60.40	39.60	0.00	-	30.15	69.77	0.08	-	40.46	59.08	0.46	-	
Intersection %	26.39	17.30	0.00	43.69	11.12	25.73	0.03	36.88	7.86	11.48	0.09	19.43	
PHF	0.69	0.68	0.00	**0.76**	0.85	0.68	0.00	**0.73**	0.68	0.68	0.00	**0.70**	**0.74**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 7 of 13
Zion Rd (South)
Zion Rd (North)

TN-6 Lawrenceburg Hwy On-Off Ramp

Date
Thursday, November 11, 2021

Lat/Long
35.581116°, -87.145158°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound				Southbound				Westbound				
	Zion Rd (South)				Zion Rd (North)				TN-6 Lawrenceburg Hwy On-Off Ramp				
TIME	Thru 7.1	Right 7.2	U-Turn 7.3	App Total	Left 7.4	Thru 7.5	U-Turn 7.6	App Total	Left 7.7	Right 7.8	U-Turn 7.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Grand Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 7 of 13
Zion Rd (South)
Zion Rd (North)

TN-6 Lawrenceburg Hwy On-Off Ramp

Date
Thursday, November 11, 2021

Lat/Long
35.581116°, -87.145158°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound				Southbound				Westbound				
	Zion Rd (South)				Zion Rd (North)				TN-6 Lawrenceburg Hwy On-Off Ramp				
TIME	Thru 7.1	Right 7.2	U-Turn 7.3	App Total	Left 7.4	Thru 7.5	U-Turn 7.6	App Total	Left 7.7	Right 7.8	U-Turn 7.9	App Total	Int Total
0600 - 0615	6	10	0	16	11	4	0	15	5	3	0	8	39
0615 - 0630	0	16	0	16	7	6	0	13	4	2	0	6	35
0630 - 0645	9	12	0	21	12	13	0	25	6	3	0	9	55
0645 - 0700	6	13	0	19	11	14	0	25	6	5	0	11	55
Hourly Total	21	51	0	**72**	41	37	0	**78**	21	13	0	**34**	**184**
0700 - 0715	17	10	0	27	16	18	0	34	2	10	0	12	73
0715 - 0730	41	20	0	61	18	26	0	44	6	25	0	31	136
0730 - 0745	48	14	0	62	17	47	0	64	8	25	0	33	159
0745 - 0800	30	11	0	41	10	33	0	43	10	10	0	20	104
Hourly Total	136	55	0	**191**	61	124	0	**185**	26	70	0	**96**	**472**
0800 - 0815	12	4	0	16	5	23	0	28	8	3	0	11	55
0815 - 0830	13	12	0	25	8	16	0	24	5	5	0	10	59
0830 - 0845	16	3	0	19	8	19	0	27	7	6	0	13	59
0845 - 0900	5	8	0	13	5	13	0	18	1	3	0	4	35
Hourly Total	46	27	0	**73**	26	71	0	**97**	21	17	0	**38**	**208**
0900 - 0915	8	11	0	19	4	12	0	16	5	4	0	9	44
0915 - 0930	12	12	0	24	4	14	0	18	1	2	0	3	45
0930 - 0945	13	6	0	19	7	13	0	20	4	10	1	15	54
0945 - 1000	9	7	0	16	4	11	0	15	5	2	0	7	38
Hourly Total	42	36	0	**78**	19	50	0	**69**	15	18	1	**34**	**181**
1000 - 1015	9	5	0	14	5	11	0	16	7	2	0	9	39
1015 - 1030	10	2	0	12	3	12	1	16	2	3	0	5	33
1030 - 1045	13	5	0	18	6	14	0	20	4	6	0	10	48
1045 - 1100	17	9	0	26	7	18	0	25	3	7	0	10	61
Hourly Total	49	21	0	**70**	21	55	1	**77**	16	18	0	**34**	**181**
1100 - 1115	15	7	0	22	10	7	0	17	4	5	0	9	48
1115 - 1130	13	7	0	20	5	19	0	24	8	5	0	13	57
1130 - 1145	10	7	0	17	6	11	0	17	3	12	0	15	49
1145 - 1200	13	11	0	24	8	11	0	19	1	4	0	5	48
Hourly Total	51	32	0	**83**	29	48	0	**77**	16	26	0	**42**	**202**
1200 - 1215	10	6	0	16	6	12	0	18	3	4	0	7	41
1215 - 1230	17	7	0	24	4	17	0	21	2	7	0	9	54
1230 - 1245	9	11	0	20	2	15	0	17	3	6	0	9	46
1245 - 1300	15	9	0	24	4	6	0	10	1	3	0	4	38
Hourly Total	51	33	0	**84**	16	50	0	**66**	9	20	0	**29**	**179**
1300 - 1315	13	13	0	26	5	14	0	19	7	4	0	11	56
1315 - 1330	14	13	0	27	3	10	0	13	3	4	0	7	47
1330 - 1345	19	6	0	25	2	20	0	22	3	5	0	8	55
1345 - 1400	16	18	0	34	3	15	0	18	6	4	0	10	62
Hourly Total	62	50	0	**112**	13	59	0	**72**	19	17	0	**36**	**220**
1400 - 1415	19	8	0	27	7	15	0	22	7	6	0	13	62
1415 - 1430	24	9	0	33	6	23	0	29	3	6	0	9	71
1430 - 1445	37	16	0	53	7	25	0	32	6	8	0	14	99
1445 - 1500	42	7	0	49	8	11	0	19	6	17	1	24	92
Hourly Total	122	40	0	**162**	28	74	0	**102**	22	37	1	**60**	**324**
1500 - 1515	19	14	0	33	12	42	0	54	2	9	0	11	98
1515 - 1530	27	14	0	41	9	19	0	28	3	9	0	12	81
1530 - 1545	23	13	0	36	5	22	0	27	5	5	0	10	73
1545 - 1600	19	21	0	40	8	17	0	25	6	11	0	17	82
Hourly Total	88	62	0	**150**	34	100	0	**134**	16	34	0	**50**	**334**
1600 - 1615	18	17	0	35	10	16	0	26	5	12	0	17	78
1615 - 1630	23	15	0	38	12	13	0	25	9	9	1	19	82
1630 - 1645	25	24	0	49	7	12	0	19	6	7	0	13	81
1645 - 1700	20	21	0	41	12	23	0	35	10	12	0	22	98
Hourly Total	86	77	0	**163**	41	64	0	**105**	30	40	1	**71**	**339**
1700 - 1715	21	19	0	40	7	18	0	25	7	13	0	20	85
1715 - 1730	22	15	0	37	3	27	0	30	15	12	0	27	94
1730 - 1745	34	17	0	51	9	17	0	26	6	12	0	18	95
1745 - 1800	19	16	0	35	11	22	0	33	5	11	0	16	84
Hourly Total	96	67	0	**163**	30	84	0	**114**	33	48	0	**81**	**358**
Grand Total	850	551	0	**1401**	359	816	1	**1176**	244	358	3	**605**	**3182**
Approach %	60.67	39.33	0.00	-	30.53	69.39	0.09	-	40.33	59.17	0.50	-	
Intersection %	26.71	17.32	0.00	44.03	11.28	25.64	0.03	36.96	7.67	11.25	0.09	19.01	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 7 of 13
Zion Rd (South)
Zion Rd (North)

TN-6 Lawrenceburg Hwy On-Off Ramp

Date
Thursday, November 11, 2021

Lat/Long
35.581116°, -87.145158°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound				Southbound				Westbound				
	Zion Rd (South)				Zion Rd (North)				TN-6 Lawrenceburg Hwy On-Off Ramp				
TIME	Thru 7.1	Right 7.2	U-Turn 7.3	App Total	Left 7.4	Thru 7.5	U-Turn 7.6	App Total	Left 7.7	Right 7.8	U-Turn 7.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	1	2	0	3	0	1	0	1	4
0630 - 0645	0	0	0	0	0	0	0	0	0	1	0	1	1
0645 - 0700	1	0	0	1	0	2	0	2	0	1	0	1	4
Hourly Total	1	0	0	**1**	1	4	0	**5**	0	3	0	**3**	**9**
0700 - 0715	0	0	0	0	0	4	0	4	0	1	0	1	5
0715 - 0730	2	1	0	3	0	1	0	1	0	2	0	2	6
0730 - 0745	3	0	0	3	0	1	0	1	1	2	0	3	7
0745 - 0800	1	1	0	2	0	0	0	0	0	0	0	0	2
Hourly Total	6	2	0	**8**	0	6	0	**6**	1	5	0	**6**	**20**
0800 - 0815	0	0	0	0	0	2	0	2	0	0	0	0	2
0815 - 0830	1	0	0	1	0	1	0	1	0	0	0	0	2
0830 - 0845	2	0	0	2	0	0	0	0	1	1	0	2	4
0845 - 0900	0	0	0	0	0	2	0	2	0	0	0	0	2
Hourly Total	3	0	0	**3**	0	5	0	**5**	1	1	0	**2**	**10**
0900 - 0915	0	0	0	0	0	2	0	2	0	0	0	0	2
0915 - 0930	1	0	0	1	0	0	0	0	0	0	0	0	1
0930 - 0945	3	1	0	4	0	0	0	0	0	1	0	1	5
0945 - 1000	0	1	0	1	0	1	0	1	0	0	0	0	2
Hourly Total	4	2	0	**6**	0	3	0	**3**	0	1	0	**1**	**10**
1000 - 1015	0	0	0	0	0	1	0	1	0	0	0	0	1
1015 - 1030	1	1	0	2	0	0	0	0	0	1	0	1	3
1030 - 1045	0	1	0	1	0	1	0	1	0	0	0	0	2
1045 - 1100	0	2	0	2	0	2	0	2	0	1	0	1	5
Hourly Total	1	4	0	**5**	0	4	0	**4**	0	2	0	**2**	**11**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	1	0	1	0	0	0	0	1
1130 - 1145	1	1	0	2	0	0	0	0	0	1	0	1	3
1145 - 1200	0	0	0	0	0	0	0	0	0	1	0	1	1
Hourly Total	1	1	0	**2**	0	1	0	**1**	0	2	0	**2**	**5**
1200 - 1215	0	0	0	0	1	1	0	2	0	0	0	0	2
1215 - 1230	0	0	0	0	0	1	0	1	0	1	0	1	2
1230 - 1245	0	0	0	0	0	1	0	1	0	0	0	0	1
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	1	3	0	**4**	0	1	0	**1**	**5**
1300 - 1315	0	0	0	0	1	0	0	1	0	0	0	0	1
1315 - 1330	0	0	0	0	0	0	0	0	0	1	0	1	1
1330 - 1345	0	0	0	0	1	1	0	2	0	0	0	0	2
1345 - 1400	1	2	0	3	0	0	0	0	0	0	0	0	3
Hourly Total	1	2	0	**3**	2	1	0	**3**	0	1	0	**1**	**7**
1400 - 1415	0	3	0	3	0	0	0	0	0	0	0	0	3
1415 - 1430	0	0	0	0	0	1	0	1	0	0	0	0	1
1430 - 1445	0	1	0	1	0	3	0	3	0	0	0	0	4
1445 - 1500	0	1	0	1	1	0	0	1	0	1	0	1	3
Hourly Total	0	5	0	**5**	1	4	0	**5**	0	1	0	**1**	**11**
1500 - 1515	0	0	0	0	1	0	0	1	0	0	0	0	1
1515 - 1530	0	2	0	2	0	0	0	0	1	1	0	2	4
1530 - 1545	0	1	0	1	1	0	0	1	0	0	0	0	2
1545 - 1600	0	0	0	0	0	0	0	0	0	1	0	1	1
Hourly Total	0	3	0	**3**	2	0	0	**2**	1	2	0	**3**	**8**
1600 - 1615	0	1	0	1	0	0	0	0	0	2	0	2	3
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	1	0	1	0	1	0	1	0	0	0	0	2
Hourly Total	0	2	0	**2**	0	1	0	**1**	0	2	0	**2**	**5**
1700 - 1715	0	0	0	0	1	0	0	1	0	0	0	0	1
1715 - 1730	1	0	0	1	0	0	0	0	1	0	0	1	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	**1**	1	0	0	**1**	1	0	0	**1**	**3**
Grand Total	18	21	0	**39**	8	32	0	**40**	4	21	0	**25**	**104**
Approach %	46.15	53.85	0.00	-	20.00	80.00	0.00	-	16.00	84.00	0.00	-	
Intersection %	17.31	20.19	0.00	37.50	7.69	30.77	0.00	38.46	3.85	20.19	0.00	24.04	

Classified Turn Movement Count || Combination Trucks (8-13)

Marr Traffic DATA COLLECTION

Columbia, TN

www.marrtraffic.com

Site 7 of 13
Zion Rd (South)
Zion Rd (North)

TN-6 Lawrenceburg Hwy On-Off Ramp

Date
Thursday, November 11, 2021

Lat/Long
35.581116°, -87.145158°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound				Southbound				Westbound				
	Zion Rd (South)				Zion Rd (North)				TN-6 Lawrenceburg Hwy On-Off Ramp				
TIME	Thru 7.1	Right 7.2	U-Turn 7.3	App Total	Left 7.4	Thru 7.5	U-Turn 7.6	App Total	Left 7.7	Right 7.8	U-Turn 7.9	App Total	Int Total
0600 - 0615	1	1	0	2	0	0	0	0	0	0	0	0	2
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	1	0	1	0	0	0	0	0	0	0	0	1
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	2	0	**3**	0	0	0	**0**	0	0	0	**0**	**3**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	1	0	0	1	0	0	0	0	0	1	0	1	2
0745 - 0800	1	0	0	1	0	0	0	0	0	0	0	0	1
Hourly Total	2	0	0	**2**	0	0	0	**0**	0	1	0	**1**	**3**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	2	0	2	0	0	0	0	2
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	1	0	0	1	0	0	0	0	0	0	0	0	1
Hourly Total	1	0	0	**1**	0	2	0	**2**	0	0	0	**0**	**3**
0900 - 0915	0	0	0	0	1	1	0	2	1	0	0	1	3
0915 - 0930	0	0	0	0	1	1	0	2	0	0	0	0	2
0930 - 0945	0	0	0	0	1	0	0	1	0	0	0	0	1
0945 - 1000	0	0	0	0	0	0	0	0	0	1	0	1	1
Hourly Total	0	0	0	**0**	3	2	0	**5**	1	1	0	**2**	**7**
1000 - 1015	1	0	0	1	0	0	0	0	0	0	0	0	1
1015 - 1030	1	0	0	1	1	1	0	2	0	0	0	0	3
1030 - 1045	0	0	0	0	1	1	0	2	1	0	0	1	3
1045 - 1100	1	0	0	1	0	0	0	0	0	2	0	2	3
Hourly Total	3	0	0	**3**	2	2	0	**4**	1	2	0	**3**	**10**
1100 - 1115	0	0	0	0	0	1	0	1	0	0	0	0	1
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	1	1	0	2	2
Hourly Total	0	0	0	**0**	0	1	0	**1**	1	1	0	**2**	**3**
1200 - 1215	1	0	0	1	0	0	0	0	0	0	0	0	1
1215 - 1230	0	0	0	0	0	1	0	1	1	0	0	1	2
1230 - 1245	0	0	0	0	0	1	0	1	0	0	0	0	1
1245 - 1300	1	1	0	2	0	1	0	1	1	0	0	1	4
Hourly Total	2	1	0	**3**	0	3	0	**3**	2	0	0	**2**	**8**
1300 - 1315	0	0	0	0	0	1	0	1	1	0	0	1	2
1315 - 1330	1	0	0	1	0	1	0	1	0	0	0	0	2
1330 - 1345	1	0	0	1	0	0	0	0	1	0	0	1	2
1345 - 1400	2	0	0	2	0	1	0	1	1	0	0	1	4
Hourly Total	4	0	0	**4**	0	3	0	**3**	3	0	0	**3**	**10**
1400 - 1415	1	0	0	1	0	0	0	0	1	0	0	1	2
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	2	0	0	2	2
1445 - 1500	1	0	0	1	0	0	0	0	2	0	0	2	3
Hourly Total	2	0	0	**2**	0	0	0	**0**	5	0	0	**5**	**7**
1500 - 1515	0	0	0	0	0	0	0	0	1	0	0	1	1
1515 - 1530	0	2	0	2	0	0	0	0	0	0	0	0	2
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	2	0	**2**	0	0	0	**0**	1	0	0	**1**	**3**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1700 - 1715	0	1	0	1	0	0	0	0	0	0	0	0	1
1715 - 1730	0	1	0	1	0	0	0	0	0	0	0	0	1
1730 - 1745	0	0	0	0	0	0	0	0	1	0	0	1	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	2	0	**2**	0	0	0	**0**	1	0	0	**1**	**3**
Grand Total	15	7	0	**22**	5	13	0	**18**	15	5	0	**20**	**60**
Approach %	68.18	31.82	0.00	-	27.78	72.22	0.00	-	75.00	25.00	0.00	-	
Intersection %	25.00	11.67	0.00	36.67	8.33	21.67	0.00	30.00	25.00	8.33	0.00	33.33	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 7 of 13
Zion Rd (South)
Zion Rd (North)

TN-6 Lawrenceburg Hwy On-Off Ramp

Date
Thursday, November 11, 2021

Lat/Long
35.581116°, -87.145158°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Westbound			
	Zion Rd (South)			Zion Rd (North)			TN-6 Lawrenceburg Hwy On-Off Ramp			
TIME	EB 7a	WB 7b	App Total	EB 7c	WB 7d	App Total	NB 7g	SB 7h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

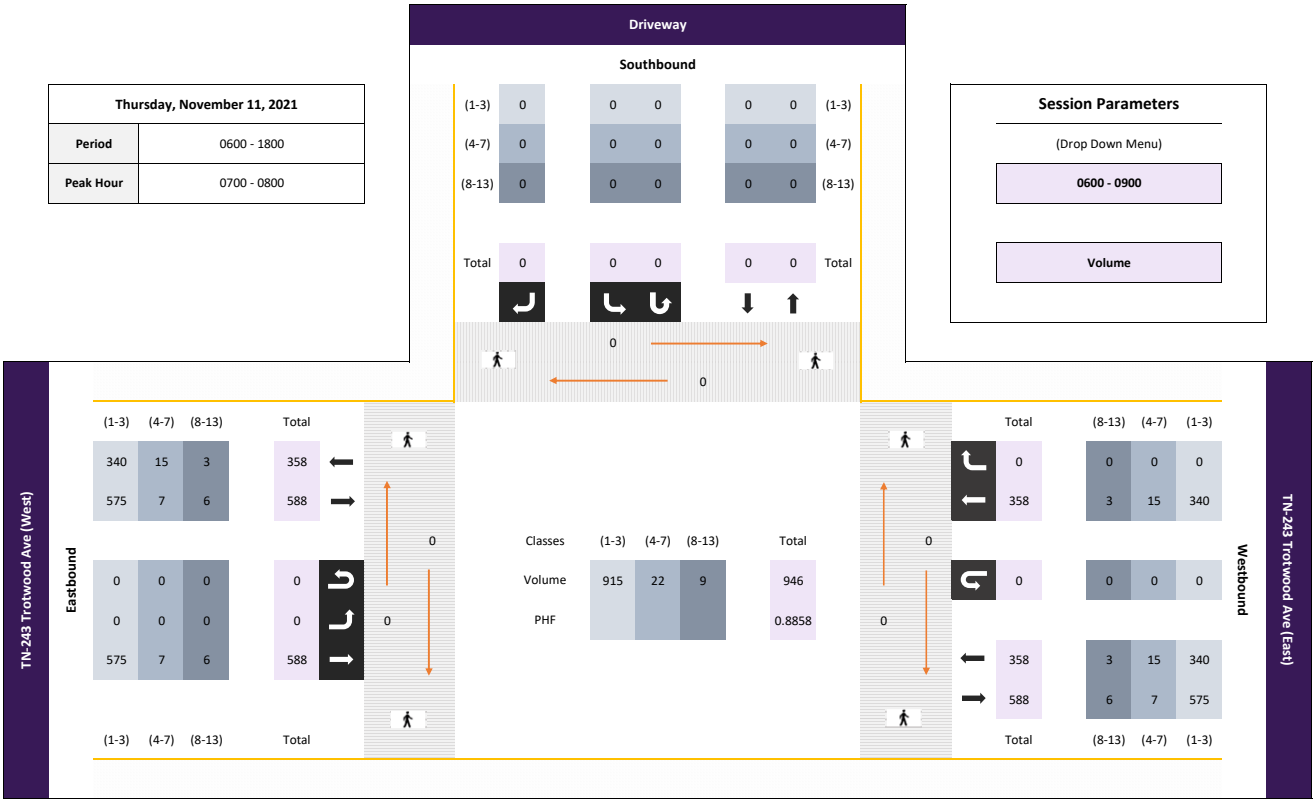
Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume



All vehicles

	Southbound					Driveway					Eastbound	TN-243 Trotwood Ave (West)				Westbound	TN-243 Trotwood Ave (East)				
Time					App Total	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	108	-	0	108	-	73	0	0	73	181
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	162	-	0	162	-	105	0	0	105	267
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	163	-	0	163	-	85	0	0	85	248
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	155	-	0	155	-	95	0	0	95	250
Total	0	0	0	0	0	0	0	0	0	0	0	588	0	0	588	0	358	0	0	358	946
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.90	0.00	0.00	**0.90**	0.00	0.85	0.00	0.00	**0.85**	**0.89**

Bikes

	Southbound					Driveway					Eastbound	TN-243 Trotwood Ave (West)				Westbound	TN-243 Trotwood Ave (East)				
Time					App Total	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Southbound					Driveway					Eastbound	TN-243 Trotwood Ave (West)				Westbound	TN-243 Trotwood Ave (East)				
Time					App Total	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	105	-	0	105	-	71	0	0	71	176
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	161	-	0	161	-	103	0	0	103	264
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	158	-	0	158	-	80	0	0	80	238
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	151	-	0	151	-	86	0	0	86	237
Total	0	0	0	0	0	0	0	0	0	0	0	575	0	0	575	0	340	0	0	340	915
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.89	0.00	0.00	**0.89**	0.00	0.83	0.00	0.00	**0.83**	**0.87**

Single Unit Trucks (4-7)

	Southbound					Driveway					Eastbound	TN-243 Trotwood Ave (West)				Westbound	TN-243 Trotwood Ave (East)				
Time					App Total	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	1	0	0	1	2
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	2	0	0	2	3
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	4	-	0	4	-	5	0	0	5	9
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	7	0	0	7	8
Total	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	15	0	0	15	22
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.44	0.00	0.00	**0.44**	0.00	0.54	0.00	0.00	**0.54**	**0.61**

Combination Trucks (8-13)

	Southbound					Driveway					Eastbound	TN-243 Trotwood Ave (West)				Westbound	TN-243 Trotwood Ave (East)				
Time					App Total	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	2	-	0	2	-	1	0	0	1	3
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	0	0	0	0	1
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	3	-	0	3	-	2	0	0	2	5
Total	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	3	0	0	3	9
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.38	0.00	0.00	**0.38**	**0.45**

Pedestrians

	Southbound					Driveway					Eastbound	TN-243 Trotwood Ave (West)				Westbound	TN-243 Trotwood Ave (East)				
Time					App Total	EB 8c	WB 8d			App Total	NB 8e	SB 8f			App Total	NB 8g	SB 8h			App Total	Int Total
0700 - 0715	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

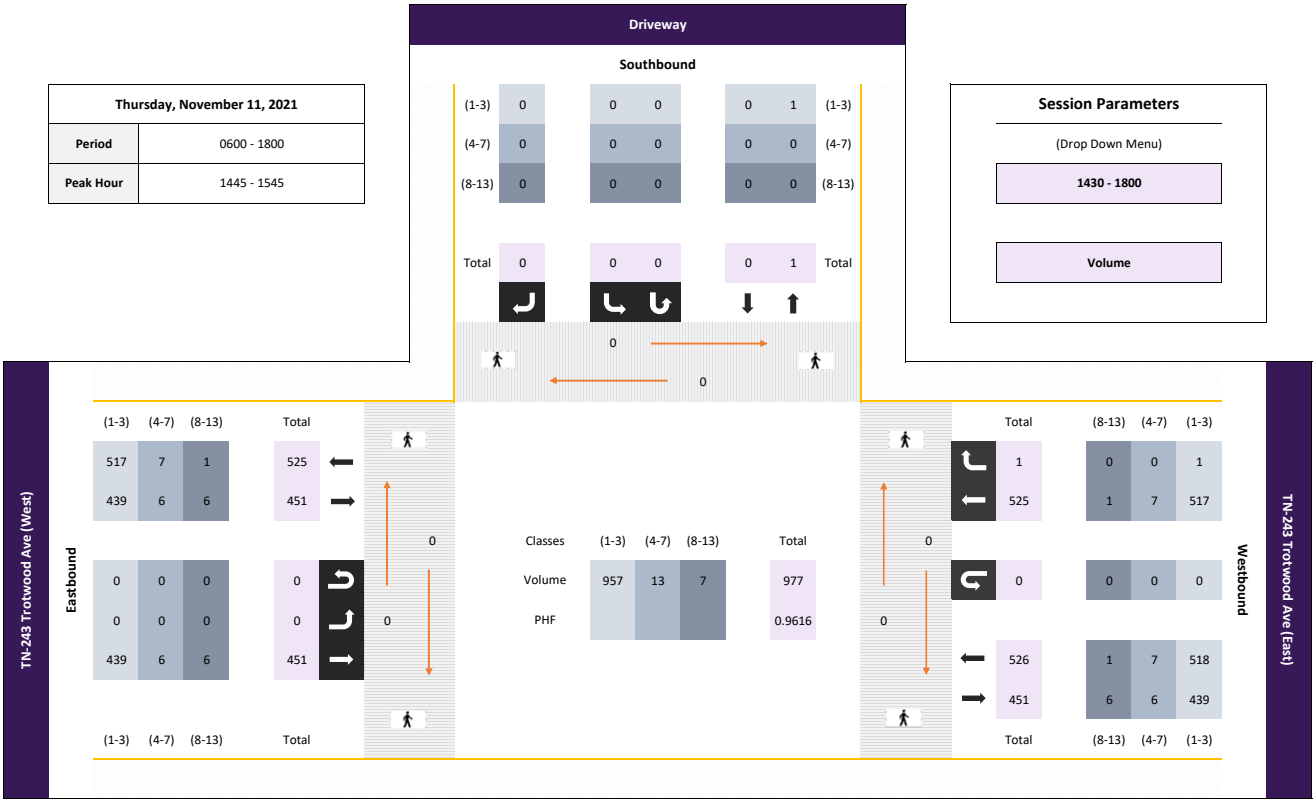
Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1445 - 1545



All vehicles

	Southbound					Eastbound					Westbound					
	Driveway					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
Time	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1445 - 1500	0	-	0	0	0	0	92	-	0	92	-	142	0	0	142	234
1500 - 1515	0	-	0	0	0	0	129	-	0	129	-	111	0	0	111	240
1515 - 1530	0	-	0	0	0	0	123	-	0	123	-	126	0	0	126	249
1530 - 1545	0	-	0	0	0	0	107	-	0	107	-	146	1	0	147	254
Total	0	0	0	0	0	0	451	0	0	451	0	525	1	0	526	977
Approach %	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	99.81	0.19	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.87	0.00	0.00	**0.87**	0.00	0.90	0.25	0.00	**0.89**	**0.96**

Bikes

	Southbound					Eastbound					Westbound					
	Driveway					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
Time	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1445 - 1500	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1500 - 1515	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1515 - 1530	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1530 - 1545	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Southbound					Eastbound					Westbound					
	Driveway					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
Time	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1445 - 1500	0	-	0	0	0	0	90	-	0	90	-	141	0	0	141	231
1500 - 1515	0	-	0	0	0	0	128	-	0	128	-	110	0	0	110	238
1515 - 1530	0	-	0	0	0	0	119	-	0	119	-	124	0	0	124	243
1530 - 1545	0	-	0	0	0	0	102	-	0	102	-	142	1	0	143	245
Total	0	0	0	0	0	0	439	0	0	439	0	517	1	0	518	957
Approach %	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	99.81	0.19	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.86	0.00	0.00	**0.86**	0.00	0.91	0.25	0.00	**0.91**	**0.98**

Single Unit Trucks (4-7)

	Southbound					Eastbound					Westbound					
	Driveway					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
Time	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1445 - 1500	0	-	0	0	0	0	2	-	0	2	-	1	0	0	1	3
1500 - 1515	0	-	0	0	0	0	0	-	0	0	-	1	0	0	1	1
1515 - 1530	0	-	0	0	0	0	2	-	0	2	-	2	0	0	2	4
1530 - 1545	0	-	0	0	0	0	2	-	0	2	-	3	0	0	3	5
Total	0	0	0	0	0	0	6	0	0	6	0	7	0	0	7	13
Approach %	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.75	0.00	0.00	**0.75**	0.00	0.58	0.00	0.00	**0.58**	**0.65**

Combination Trucks (8-13)

	Southbound					Eastbound					Westbound					
	Driveway					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
Time	Left 8.1		Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5		U-Turn 8.6	App Total		Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1445 - 1500	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1500 - 1515	0	-	0	0	0	0	1	-	0	1	-	0	0	0	0	1
1515 - 1530	0	-	0	0	0	0	2	-	0	2	-	0	0	0	0	2
1530 - 1545	0	-	0	0	0	0	3	-	0	3	-	1	0	0	1	4
Total	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	7
Approach %	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.50	0.00	0.00	**0.50**	0.00	0.25	0.00	0.00	**0.25**	**0.44**

Pedestrians

	Southbound					Eastbound					Westbound					
	Driveway					TN-243 Trotwood Ave (West)					TN-243 Trotwood Ave (East)					
Time	EB 8c	WB 8d			App Total	NB 8e	SB 8f			App Total	NB 8g	SB 8h			App Total	Int Total
1445 - 1500	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1500 - 1515	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1515 - 1530	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1530 - 1545	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 8 of 13

Driveway
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.582631°, -87.110780°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Southbound				Eastbound				Westbound				
	Driveway				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	56	0	56	24	0	0	24	80
0615 - 0630	0	0	0	0	0	85	0	85	30	0	0	30	115
0630 - 0645	0	0	0	0	0	93	0	93	52	0	0	52	145
0645 - 0700	0	0	0	0	0	120	0	120	55	0	0	55	175
Hourly Total	0	0	0	**0**	0	354	0	**354**	161	0	0	**161**	**515**
0700 - 0715	0	0	0	0	0	108	0	108	73	0	0	73	181
0715 - 0730	0	0	0	0	0	162	0	162	105	0	0	105	267
0730 - 0745	0	0	0	0	0	163	0	163	85	0	0	85	248
0745 - 0800	0	0	0	0	0	155	0	155	95	0	0	95	250
Hourly Total	0	0	0	**0**	0	588	0	**588**	358	0	0	**358**	**946**
0800 - 0815	0	0	0	0	0	106	1	107	67	0	0	67	174
0815 - 0830	0	0	0	0	1	100	0	101	52	0	0	52	153
0830 - 0845	0	1	0	1	0	94	0	94	61	0	0	61	156
0845 - 0900	0	0	0	0	0	98	0	98	57	1	0	58	156
Hourly Total	0	1	0	**1**	1	398	1	**400**	237	1	0	**238**	**639**
0900 - 0915	0	1	0	1	0	107	0	107	56	0	0	56	164
0915 - 0930	0	0	0	0	0	87	0	87	60	0	0	60	147
0930 - 0945	0	0	0	0	0	84	0	84	71	0	0	71	155
0945 - 1000	0	0	0	0	0	77	0	77	77	0	0	77	154
Hourly Total	0	1	0	**1**	0	355	0	**355**	264	0	0	**264**	**620**
1000 - 1015	1	0	0	1	1	100	0	101	72	0	0	72	174
1015 - 1030	0	0	0	0	0	89	0	89	63	0	0	63	152
1030 - 1045	0	0	0	0	0	93	0	93	70	0	0	70	163
1045 - 1100	1	0	0	1	0	93	0	93	85	1	0	86	180
Hourly Total	2	0	0	**2**	1	375	0	**376**	290	1	0	**291**	**669**
1100 - 1115	0	0	0	0	0	94	0	94	76	0	0	76	170
1115 - 1130	0	0	0	0	0	95	0	95	83	0	0	83	178
1130 - 1145	0	0	0	0	0	81	0	81	74	0	0	74	155
1145 - 1200	0	0	0	0	0	85	0	85	79	0	0	79	164
Hourly Total	0	0	0	**0**	0	355	0	**355**	312	0	0	**312**	**667**
1200 - 1215	0	0	0	0	0	70	0	70	105	0	0	105	175
1215 - 1230	1	0	0	1	0	73	0	73	76	1	0	77	151
1230 - 1245	0	0	0	0	0	88	0	88	87	0	0	87	175
1245 - 1300	0	0	0	0	0	69	0	69	97	0	0	97	166
Hourly Total	1	0	0	**1**	0	300	0	**300**	365	1	0	**366**	**667**
1300 - 1315	0	0	0	0	0	73	0	73	97	1	0	98	171
1315 - 1330	2	0	0	2	0	81	0	81	90	1	0	91	174
1330 - 1345	0	0	0	0	0	102	0	102	102	0	0	102	204
1345 - 1400	0	0	0	0	0	87	0	87	110	0	0	110	197
Hourly Total	2	0	0	**2**	0	343	0	**343**	399	2	0	**401**	**746**
1400 - 1415	0	0	0	0	0	74	0	74	102	0	0	102	176
1415 - 1430	0	0	0	0	0	67	0	67	122	0	0	122	189
1430 - 1445	0	0	0	0	0	107	0	107	131	0	0	131	238
1445 - 1500	0	0	0	0	0	92	0	92	142	0	0	142	234
Hourly Total	0	0	0	**0**	0	340	0	**340**	497	0	0	**497**	**837**
1500 - 1515	0	0	0	0	0	129	0	129	111	0	0	111	240
1515 - 1530	0	0	0	0	0	123	0	123	126	0	0	126	249
1530 - 1545	0	0	0	0	0	107	0	107	146	1	0	147	254
1545 - 1600	0	0	0	0	0	76	0	76	142	0	0	142	218
Hourly Total	0	0	0	**0**	0	435	0	**435**	525	1	0	**526**	**961**
1600 - 1615	0	0	0	0	0	101	1	102	148	0	0	148	250
1615 - 1630	1	0	0	1	0	90	0	90	141	0	1	142	233
1630 - 1645	0	0	0	0	0	83	1	84	138	0	0	138	222
1645 - 1700	0	0	0	0	0	87	0	87	147	0	0	147	234
Hourly Total	1	0	0	**1**	0	361	2	**363**	574	0	1	**575**	**939**
1700 - 1715	0	0	0	0	0	109	0	109	149	0	0	149	258
1715 - 1730	0	0	0	0	0	112	0	112	148	0	0	148	260
1730 - 1745	0	0	0	0	0	88	0	88	126	0	0	126	214
1745 - 1800	0	0	0	0	0	77	0	77	117	0	0	117	194
Hourly Total	0	0	0	**0**	0	386	0	**386**	540	0	0	**540**	**926**
Grand Total	6	2	0	**8**	2	4590	3	**4595**	4522	6	1	**4529**	**9132**
Approach %	75.00	25.00	0.00	-	0.04	99.89	0.07	-	99.85	0.13	0.02	-	
Intersection %	0.07	0.02	0.00	0.09	0.02	50.26	0.03	50.32	49.52	0.07	0.01	49.59	
PHF	0.00	0.00	0.00	**0.00**	0.00	0.87	0.00	**0.87**	0.90	0.25	0.00	**0.89**	**0.96**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 8 of 13

Driveway
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.582631°, -87.110780°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Southbound				Eastbound				Westbound				
	Driveway				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Grand Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 8 of 13

Driveway
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.582631°, -87.110780°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Southbound				Eastbound				Westbound				
	Driveway				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	53	0	53	24	0	0	24	77
0615 - 0630	0	0	0	0	0	82	0	82	29	0	0	29	111
0630 - 0645	0	0	0	0	0	90	0	90	49	0	0	49	139
0645 - 0700	0	0	0	0	0	116	0	116	54	0	0	54	170
Hourly Total	0	0	0	**0**	0	341	0	**341**	156	0	0	**156**	**497**
0700 - 0715	0	0	0	0	0	105	0	105	71	0	0	71	176
0715 - 0730	0	0	0	0	0	161	0	161	103	0	0	103	264
0730 - 0745	0	0	0	0	0	158	0	158	80	0	0	80	238
0745 - 0800	0	0	0	0	0	151	0	151	86	0	0	86	237
Hourly Total	0	0	0	**0**	0	575	0	**575**	340	0	0	**340**	**915**
0800 - 0815	0	0	0	0	0	102	1	103	62	0	0	62	165
0815 - 0830	0	0	0	0	1	99	0	100	48	0	0	48	148
0830 - 0845	0	1	0	1	0	88	0	88	56	0	0	56	145
0845 - 0900	0	0	0	0	0	95	0	95	52	1	0	53	148
Hourly Total	0	1	0	**1**	1	384	1	**386**	218	1	0	**219**	**606**
0900 - 0915	0	1	0	1	0	100	0	100	52	0	0	52	153
0915 - 0930	0	0	0	0	0	82	0	82	57	0	0	57	139
0930 - 0945	0	0	0	0	0	81	0	81	70	0	0	70	151
0945 - 1000	0	0	0	0	0	73	0	73	69	0	0	69	142
Hourly Total	0	1	0	**1**	0	336	0	**336**	248	0	0	**248**	**585**
1000 - 1015	1	0	0	1	1	86	0	87	63	0	0	63	151
1015 - 1030	0	0	0	0	0	87	0	87	59	0	0	59	146
1030 - 1045	0	0	0	0	0	88	0	88	65	0	0	65	153
1045 - 1100	1	0	0	1	0	89	0	89	76	1	0	77	167
Hourly Total	2	0	0	**2**	1	350	0	**351**	263	1	0	**264**	**617**
1100 - 1115	0	0	0	0	0	92	0	92	71	0	0	71	163
1115 - 1130	0	0	0	0	0	92	0	92	77	0	0	77	169
1130 - 1145	0	0	0	0	0	75	0	75	70	0	0	70	145
1145 - 1200	0	0	0	0	0	85	0	85	75	0	0	75	160
Hourly Total	0	0	0	**0**	0	344	0	**344**	293	0	0	**293**	**637**
1200 - 1215	0	0	0	0	0	65	0	65	104	0	0	104	169
1215 - 1230	1	0	0	1	0	70	0	70	72	1	0	73	144
1230 - 1245	0	0	0	0	0	85	0	85	83	0	0	83	168
1245 - 1300	0	0	0	0	0	64	0	64	92	0	0	92	156
Hourly Total	1	0	0	**1**	0	284	0	**284**	351	1	0	**352**	**637**
1300 - 1315	0	0	0	0	0	68	0	68	96	1	0	97	165
1315 - 1330	2	0	0	2	0	76	0	76	88	1	0	89	167
1330 - 1345	0	0	0	0	0	96	0	96	99	0	0	99	195
1345 - 1400	0	0	0	0	0	87	0	87	102	0	0	102	189
Hourly Total	2	0	0	**2**	0	327	0	**327**	385	2	0	**387**	**716**
1400 - 1415	0	0	0	0	0	72	0	72	100	0	0	100	172
1415 - 1430	0	0	0	0	0	66	0	66	120	0	0	120	186
1430 - 1445	0	0	0	0	0	102	0	102	127	0	0	127	229
1445 - 1500	0	0	0	0	0	90	0	90	141	0	0	141	231
Hourly Total	0	0	0	**0**	0	330	0	**330**	488	0	0	**488**	**818**
1500 - 1515	0	0	0	0	0	128	0	128	110	0	0	110	238
1515 - 1530	0	0	0	0	0	119	0	119	124	0	0	124	243
1530 - 1545	0	0	0	0	0	102	0	102	142	1	0	143	245
1545 - 1600	0	0	0	0	0	74	0	74	138	0	0	138	212
Hourly Total	0	0	0	**0**	0	423	0	**423**	514	1	0	**515**	**938**
1600 - 1615	0	0	0	0	0	99	1	100	146	0	0	146	246
1615 - 1630	1	0	0	1	0	88	0	88	137	0	1	138	227
1630 - 1645	0	0	0	0	0	82	1	83	134	0	0	134	217
1645 - 1700	0	0	0	0	0	86	0	86	145	0	0	145	231
Hourly Total	1	0	0	**1**	0	355	2	**357**	562	0	1	**563**	**921**
1700 - 1715	0	0	0	0	0	108	0	108	149	0	0	149	257
1715 - 1730	0	0	0	0	0	110	0	110	146	0	0	146	256
1730 - 1745	0	0	0	0	0	87	0	87	125	0	0	125	212
1745 - 1800	0	0	0	0	0	74	0	74	115	0	0	115	189
Hourly Total	0	0	0	**0**	0	379	0	**379**	535	0	0	**535**	**914**
Grand Total	6	2	0	**8**	2	4428	3	**4433**	4353	6	1	**4360**	**8801**
Approach %	75.00	25.00	0.00	-	0.05	99.89	0.07	-	99.84	0.14	0.02	-	
Intersection %	0.07	0.02	0.00	0.09	0.02	50.31	0.03	50.37	49.46	0.07	0.01	49.54	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 8 of 13

Driveway
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.582631°, -87.110780°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Southbound				Eastbound				Westbound				
	Driveway				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	1	0	1	0	0	0	0	1
0615 - 0630	0	0	0	0	0	3	0	3	1	0	0	1	4
0630 - 0645	0	0	0	0	0	2	0	2	1	0	0	1	3
0645 - 0700	0	0	0	0	0	2	0	2	1	0	0	1	3
Hourly Total	0	0	0	**0**	0	8	0	**8**	3	0	0	**3**	**11**
0700 - 0715	0	0	0	0	0	1	0	1	1	0	0	1	2
0715 - 0730	0	0	0	0	0	1	0	1	2	0	0	2	3
0730 - 0745	0	0	0	0	0	4	0	4	5	0	0	5	9
0745 - 0800	0	0	0	0	0	1	0	1	7	0	0	7	8
Hourly Total	0	0	0	**0**	0	7	0	**7**	15	0	0	**15**	**22**
0800 - 0815	0	0	0	0	0	3	0	3	2	0	0	2	5
0815 - 0830	0	0	0	0	0	0	0	0	4	0	0	4	4
0830 - 0845	0	0	0	0	0	5	0	5	3	0	0	3	8
0845 - 0900	0	0	0	0	0	2	0	2	4	0	0	4	6
Hourly Total	0	0	0	**0**	0	10	0	**10**	13	0	0	**13**	**23**
0900 - 0915	0	0	0	0	0	6	0	6	2	0	0	2	8
0915 - 0930	0	0	0	0	0	3	0	3	2	0	0	2	5
0930 - 0945	0	0	0	0	0	1	0	1	1	0	0	1	2
0945 - 1000	0	0	0	0	0	2	0	2	6	0	0	6	8
Hourly Total	0	0	0	**0**	0	12	0	**12**	11	0	0	**11**	**23**
1000 - 1015	0	0	0	0	0	9	0	9	6	0	0	6	15
1015 - 1030	0	0	0	0	0	2	0	2	4	0	0	4	6
1030 - 1045	0	0	0	0	0	5	0	5	4	0	0	4	9
1045 - 1100	0	0	0	0	0	4	0	4	8	0	0	8	12
Hourly Total	0	0	0	**0**	0	20	0	**20**	22	0	0	**22**	**42**
1100 - 1115	0	0	0	0	0	2	0	2	4	0	0	4	6
1115 - 1130	0	0	0	0	0	1	0	1	2	0	0	2	3
1130 - 1145	0	0	0	0	0	5	0	5	4	0	0	4	9
1145 - 1200	0	0	0	0	0	0	0	0	2	0	0	2	2
Hourly Total	0	0	0	**0**	0	8	0	**8**	12	0	0	**12**	**20**
1200 - 1215	0	0	0	0	0	2	0	2	0	0	0	0	2
1215 - 1230	0	0	0	0	0	1	0	1	2	0	0	2	3
1230 - 1245	0	0	0	0	0	2	0	2	2	0	0	2	4
1245 - 1300	0	0	0	0	0	4	0	4	3	0	0	3	7
Hourly Total	0	0	0	**0**	0	9	0	**9**	7	0	0	**7**	**16**
1300 - 1315	0	0	0	0	0	4	0	4	1	0	0	1	5
1315 - 1330	0	0	0	0	0	5	0	5	1	0	0	1	6
1330 - 1345	0	0	0	0	0	2	0	2	1	0	0	1	3
1345 - 1400	0	0	0	0	0	0	0	0	5	0	0	5	5
Hourly Total	0	0	0	**0**	0	11	0	**11**	8	0	0	**8**	**19**
1400 - 1415	0	0	0	0	0	2	0	2	2	0	0	2	4
1415 - 1430	0	0	0	0	0	1	0	1	0	0	0	0	1
1430 - 1445	0	0	0	0	0	3	0	3	3	0	0	3	6
1445 - 1500	0	0	0	0	0	2	0	2	1	0	0	1	3
Hourly Total	0	0	0	**0**	0	8	0	**8**	6	0	0	**6**	**14**
1500 - 1515	0	0	0	0	0	0	0	0	1	0	0	1	1
1515 - 1530	0	0	0	0	0	2	0	2	2	0	0	2	4
1530 - 1545	0	0	0	0	0	2	0	2	3	0	0	3	5
1545 - 1600	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	**0**	0	4	0	**4**	7	0	0	**7**	**11**
1600 - 1615	0	0	0	0	0	2	0	2	2	0	0	2	4
1615 - 1630	0	0	0	0	0	1	0	1	2	0	0	2	3
1630 - 1645	0	0	0	0	0	0	0	0	3	0	0	3	3
1645 - 1700	0	0	0	0	0	1	0	1	1	0	0	1	2
Hourly Total	0	0	0	**0**	0	4	0	**4**	8	0	0	**8**	**12**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	2	0	2	1	0	0	1	3
1730 - 1745	0	0	0	0	0	1	0	1	1	0	0	1	2
1745 - 1800	0	0	0	0	0	1	0	1	2	0	0	2	3
Hourly Total	0	0	0	**0**	0	4	0	**4**	4	0	0	**4**	**8**
Grand Total	0	0	0	**0**	0	105	0	**105**	116	0	0	**116**	**221**
Approach %	0.00	0.00	0.00	-	0.00	100.00	0.00	-	100.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	47.51	0.00	47.51	52.49	0.00	0.00	52.49	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 8 of 13

Driveway
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.582631°, -87.110780°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Southbound				Eastbound				Westbound				
	Driveway				TN-243 Trotwood Ave (West)				TN-243 Trotwood Ave (East)				
TIME	Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	2	0	2	0	0	0	0	2
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	1	0	1	2	0	0	2	3
0645 - 0700	0	0	0	0	0	2	0	2	0	0	0	0	2
Hourly Total	0	0	0	**0**	0	5	0	**5**	2	0	0	**2**	**7**
0700 - 0715	0	0	0	0	0	2	0	2	1	0	0	1	3
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	1	0	1	0	0	0	0	1
0745 - 0800	0	0	0	0	0	3	0	3	2	0	0	2	5
Hourly Total	0	0	0	**0**	0	6	0	**6**	3	0	0	**3**	**9**
0800 - 0815	0	0	0	0	0	1	0	1	3	0	0	3	4
0815 - 0830	0	0	0	0	0	1	0	1	0	0	0	0	1
0830 - 0845	0	0	0	0	0	1	0	1	2	0	0	2	3
0845 - 0900	0	0	0	0	0	1	0	1	1	0	0	1	2
Hourly Total	0	0	0	**0**	0	4	0	**4**	6	0	0	**6**	**10**
0900 - 0915	0	0	0	0	0	1	0	1	2	0	0	2	3
0915 - 0930	0	0	0	0	0	2	0	2	1	0	0	1	3
0930 - 0945	0	0	0	0	0	2	0	2	0	0	0	0	2
0945 - 1000	0	0	0	0	0	2	0	2	2	0	0	2	4
Hourly Total	0	0	0	**0**	0	7	0	**7**	5	0	0	**5**	**12**
1000 - 1015	0	0	0	0	0	5	0	5	3	0	0	3	8
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	1	0	0	1	1
1045 - 1100	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	**0**	0	5	0	**5**	5	0	0	**5**	**10**
1100 - 1115	0	0	0	0	0	0	0	0	1	0	0	1	1
1115 - 1130	0	0	0	0	0	2	0	2	4	0	0	4	6
1130 - 1145	0	0	0	0	0	1	0	1	0	0	0	0	1
1145 - 1200	0	0	0	0	0	0	0	0	2	0	0	2	2
Hourly Total	0	0	0	**0**	0	3	0	**3**	7	0	0	**7**	**10**
1200 - 1215	0	0	0	0	0	3	0	3	1	0	0	1	4
1215 - 1230	0	0	0	0	0	2	0	2	2	0	0	2	4
1230 - 1245	0	0	0	0	0	1	0	1	2	0	0	2	3
1245 - 1300	0	0	0	0	0	1	0	1	2	0	0	2	3
Hourly Total	0	0	0	**0**	0	7	0	**7**	7	0	0	**7**	**14**
1300 - 1315	0	0	0	0	0	1	0	1	0	0	0	0	1
1315 - 1330	0	0	0	0	0	0	0	0	1	0	0	1	1
1330 - 1345	0	0	0	0	0	4	0	4	2	0	0	2	6
1345 - 1400	0	0	0	0	0	0	0	0	3	0	0	3	3
Hourly Total	0	0	0	**0**	0	5	0	**5**	6	0	0	**6**	**11**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	2	0	0	2	2
1430 - 1445	0	0	0	0	0	2	0	2	1	0	0	1	3
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	2	0	**2**	3	0	0	**3**	**5**
1500 - 1515	0	0	0	0	0	1	0	1	0	0	0	0	1
1515 - 1530	0	0	0	0	0	2	0	2	0	0	0	0	2
1530 - 1545	0	0	0	0	0	3	0	3	1	0	0	1	4
1545 - 1600	0	0	0	0	0	2	0	2	3	0	0	3	5
Hourly Total	0	0	0	**0**	0	8	0	**8**	4	0	0	**4**	**12**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	1	0	1	2	0	0	2	3
1630 - 1645	0	0	0	0	0	1	0	1	1	0	0	1	2
1645 - 1700	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	**0**	0	2	0	**2**	4	0	0	**4**	**6**
1700 - 1715	0	0	0	0	0	1	0	1	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	0	1	0	0	1	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	2	0	2	0	0	0	0	2
Hourly Total	0	0	0	**0**	0	3	0	**3**	1	0	0	**1**	**4**
Grand Total	0	0	0	**0**	0	57	0	**57**	53	0	0	**53**	**110**
Approach %	0.00	0.00	0.00	-	0.00	100.00	0.00	-	100.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	51.82	0.00	51.82	48.18	0.00	0.00	48.18	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 8 of 13

Driveway
TN-243 Trotwood Ave (West)
TN-243 Trotwood Ave (East)

Date
Thursday, November 11, 2021

Lat/Long
35.582631°, -87.110780°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

TIME	Southbound Driveway EB 8c	Southbound Driveway WB 8d	Southbound App Total	Eastbound TN-243 Trotwood Ave (West) NB 8e	Eastbound TN-243 Trotwood Ave (West) SB 8f	Eastbound App Total	Westbound TN-243 Trotwood Ave (East) NB 8g	Westbound TN-243 Trotwood Ave (East) SB 8h	Westbound App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	9.1	9.2	9.3	9.4	Total	9.5	9.6	9.7	9.8	Total	9.9	9.10	9.11	9.12	Total	9.13	9.14	9.15	9.16	Total	Total
0700 - 0715	1	6	13	0	20	10	2	11	0	23	7	88	0	1	96	0	46	15	0	61	200
0715 - 0730	0	4	20	0	24	15	2	13	0	30	12	110	2	0	124	3	56	43	0	102	280
0730 - 0745	0	9	8	0	17	28	3	16	0	47	8	115	3	0	126	3	40	45	0	88	278
0745 - 0800	0	3	4	0	7	27	3	16	0	46	10	87	3	0	100	2	70	27	0	99	252
Total	1	22	45	0	68	80	10	56	0	146	37	400	8	1	446	8	212	130	0	350	1010
Approach %	1.47	32.35	66.18	0.00	-	54.79	6.85	38.36	0.00	-	8.30	89.69	1.79	0.22	-	2.29	60.57	37.14	0.00	-	
PHF	0.25	0.61	0.56	0.00	**0.71**	0.71	0.83	0.88	0.00	**0.78**	0.77	0.87	0.67	0.25	**0.88**	0.67	0.76	0.72	0.00	**0.86**	**0.90**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	9.1	9.2	9.3	9.4	Total	9.5	9.6	9.7	9.8	Total	9.9	9.10	9.11	9.12	Total	9.13	9.14	9.15	9.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	9.1	9.2	9.3	9.4	Total	9.5	9.6	9.7	9.8	Total	9.9	9.10	9.11	9.12	Total	9.13	9.14	9.15	9.16	Total	Total
0700 - 0715	1	6	12	0	19	10	0	9	0	19	6	85	0	0	91	0	43	15	0	58	187
0715 - 0730	0	3	20	0	23	15	2	13	0	30	11	108	1	0	120	3	54	43	0	100	273
0730 - 0745	0	7	8	0	15	28	3	15	0	46	7	112	1	0	120	3	37	44	0	84	265
0745 - 0800	0	3	4	0	7	27	3	14	0	44	9	85	3	0	97	2	64	25	0	91	239
Total	1	19	44	0	64	80	8	51	0	139	33	390	5	0	428	8	198	127	0	333	964
Approach %	1.56	29.69	68.75	0.00	-	57.55	5.76	36.69	0.00	-	7.71	91.12	1.17	0.00	-	2.40	59.46	38.14	0.00	-	
PHF	0.25	0.68	0.55	0.00	**0.70**	0.71	0.67	0.85	0.00	**0.76**	0.75	0.87	0.42	0.00	**0.89**	0.67	0.77	0.72	0.00	**0.83**	**0.88**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	9.1	9.2	9.3	9.4	Total	9.5	9.6	9.7	9.8	Total	9.9	9.10	9.11	9.12	Total	9.13	9.14	9.15	9.16	Total	Total
0700 - 0715	0	0	1	0	1	0	2	2	0	4	1	1	0	1	3	0	3	0	0	3	11
0715 - 0730	0	1	0	0	1	0	0	0	0	0	1	1	1	0	3	0	1	0	0	1	5
0730 - 0745	0	2	0	0	2	0	0	1	0	1	0	2	2	0	4	0	3	1	0	4	11
0745 - 0800	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	4	2	0	6	8
Total	0	3	1	0	4	0	2	5	0	7	2	4	3	1	10	0	11	3	0	14	35
Approach %	0.00	75.00	25.00	0.00	-	0.00	28.57	71.43	0.00	-	20.00	40.00	30.00	10.00	-	0.00	78.57	21.43	0.00	-	
PHF	0.00	0.38	0.25	0.00	**0.50**	0.00	0.25	0.63	0.00	**0.44**	0.50	0.50	0.38	0.25	**0.63**	0.00	0.69	0.38	0.00	**0.58**	**0.80**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	9.1	9.2	9.3	9.4	Total	9.5	9.6	9.7	9.8	Total	9.9	9.10	9.11	9.12	Total	9.13	9.14	9.15	9.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
0745 - 0800	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	5
Total	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	3	0	0	3	11
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	25.00	75.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.50	0.75	0.00	0.00	**0.67**	0.00	0.38	0.00	0.00	**0.38**	**0.55**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	9a	9b			Total	9c	9d			Total	9e	9f			Total	9g	9h			Total	Total
0700 - 0715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com



Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1630 - 1730

Session Parameters

(Drop Down Menu)

1430 - 1800

Volume

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
Time	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
1630 - 1645	1	2	7	0	10	5	3	8	0	16	7	72	2	0	81	4	91	35	0	130	237
1645 - 1700	0	0	4	0	4	14	5	12	0	31	6	67	0	0	73	11	99	34	0	144	252
1700 - 1715	1	1	8	0	10	12	4	7	0	23	5	79	3	0	87	10	93	35	0	138	258
1715 - 1730	0	1	7	0	8	19	5	15	0	39	8	75	3	0	86	11	106	25	0	142	275
Total	2	4	26	0	32	50	17	42	0	109	26	293	8	0	327	36	389	129	0	554	1022
Approach %	6.25	12.50	81.25	0.00	-	45.87	15.60	38.53	0.00	-	7.95	89.60	2.45	0.00	-	6.50	70.22	23.29	0.00	-	
PHF	0.50	0.50	0.81	0.00	**0.80**	0.66	0.85	0.70	0.00	**0.70**	0.81	0.93	0.67	0.00	**0.94**	0.82	0.92	0.92	0.00	**0.96**	**0.93**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
Time	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
Time	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
1630 - 1645	1	2	7	0	10	5	3	8	0	16	6	69	2	0	77	4	87	35	0	126	229
1645 - 1700	0	0	4	0	4	14	4	12	0	30	6	66	0	0	72	11	97	34	0	142	248
1700 - 1715	1	1	8	0	10	12	4	7	0	23	4	76	3	0	83	10	91	35	0	136	252
1715 - 1730	0	1	7	0	8	18	5	15	0	38	7	75	3	0	85	10	103	25	0	138	269
Total	2	4	26	0	32	49	16	42	0	107	23	286	8	0	317	35	378	129	0	542	998
Approach %	6.25	12.50	81.25	0.00	-	45.79	14.95	39.25	0.00	-	7.26	90.22	2.52	0.00	-	6.46	69.74	23.80	0.00	-	
PHF	0.50	0.50	0.81	0.00	**0.80**	0.68	0.80	0.70	0.00	**0.70**	0.82	0.94	0.67	0.00	**0.93**	0.80	0.92	0.92	0.00	**0.95**	**0.93**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
Time	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
1630 - 1645	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	5
1645 - 1700	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1715 - 1730	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	3
Total	0	0	0	0	0	1	1	0	0	2	1	5	0	0	6	1	5	0	0	6	14
Approach %	0.00	0.00	0.00	0.00	-	50.00	50.00	0.00	0.00	-	16.67	83.33	0.00	0.00	-	16.67	83.33	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.25	0.25	0.00	0.00	**0.50**	0.25	0.63	0.00	0.00	**0.50**	0.25	0.63	0.00	0.00	**0.75**	**0.70**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
Time	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1700 - 1715	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
1715 - 1730	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	3
Total	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	6	0	0	6	10
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	50.00	50.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.50	0.50	0.00	0.00	**0.50**	0.00	0.75	0.00	0.00	**0.75**	**0.83**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
Time	EB 9a	WB 9b			App Total	EB 9c	WB 9d			App Total	NB 9e	SB 9f			App Total	NB 9g	SB 9h			App Total	Int Total
1630 - 1645	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1645 - 1700	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1700 - 1715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1715 - 1730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 9 of 13
Polk Ln
Zion Rd
TN-243 N Main St
TN-243 Trotwood Ave

Date
Thursday, November 11, 2021

Lat/Long
35.573992°, -87.140889°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
TIME	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
0600 - 0615	1	3	11	0	15	3	1	8	0	12	5	44	0	0	49	1	19	8	0	28	104
0615 - 0630	0	4	11	0	15	1	2	6	0	9	5	54	0	0	59	2	23	5	0	30	113
0630 - 0645	0	4	9	0	13	4	3	8	0	15	8	78	3	1	90	4	31	11	0	46	164
0645 - 0700	0	1	12	0	13	10	2	9	0	21	3	76	0	1	80	2	42	15	0	59	173
Hourly Total	1	12	43	0	**56**	18	8	31	0	**57**	21	252	3	2	**278**	9	115	39	0	**163**	**554**
0700 - 0715	1	6	13	0	20	10	2	11	0	23	7	88	0	1	96	0	46	15	0	61	200
0715 - 0730	0	4	20	0	24	15	2	13	0	30	12	110	2	0	124	3	56	43	0	102	280
0730 - 0745	0	9	8	0	17	28	3	16	0	47	8	115	3	0	126	3	40	45	0	88	278
0745 - 0800	0	3	4	0	7	27	3	16	0	46	10	87	3	0	100	2	70	27	0	99	252
Hourly Total	1	22	45	0	**68**	80	10	56	0	**146**	37	400	8	1	**446**	8	212	130	0	**350**	**1010**
0800 - 0815	1	1	8	0	10	17	4	7	0	28	2	72	1	0	75	2	46	17	0	65	178
0815 - 0830	0	1	7	0	8	10	3	8	0	21	11	62	3	0	76	2	47	11	0	60	165
0830 - 0845	0	4	4	0	8	11	2	14	0	27	4	61	0	0	65	5	38	14	0	57	157
0845 - 0900	0	3	5	0	8	6	3	6	0	15	3	71	1	0	75	4	44	8	0	56	154
Hourly Total	1	9	24	0	**34**	44	12	35	0	**91**	20	266	5	0	**291**	13	175	50	0	**238**	**654**
0900 - 0915	2	2	7	0	11	15	2	7	0	24	3	69	2	0	74	2	40	14	0	56	165
0915 - 0930	1	5	4	0	10	11	2	3	0	16	5	49	2	0	56	4	35	13	0	52	134
0930 - 0945	0	5	7	0	12	13	0	7	0	20	5	58	2	0	65	7	49	14	0	70	167
0945 - 1000	0	0	7	0	7	7	5	3	0	15	3	65	1	0	69	3	54	12	0	69	160
Hourly Total	3	12	25	0	**40**	46	9	20	0	**75**	16	241	7	0	**264**	16	178	53	0	**247**	**626**
1000 - 1015	0	3	3	0	6	10	2	8	0	20	4	61	3	0	68	5	65	9	0	79	173
1015 - 1030	0	1	7	0	8	9	3	5	0	17	4	71	2	0	77	3	45	11	0	59	161
1030 - 1045	1	2	9	0	12	11	5	3	0	19	4	72	0	0	76	3	48	9	0	60	167
1045 - 1100	1	3	8	0	12	12	3	5	0	20	10	53	0	0	63	7	52	16	0	75	170
Hourly Total	2	9	27	0	**38**	42	13	21	0	**76**	22	257	5	0	**284**	18	210	45	0	**273**	**671**
1100 - 1115	0	3	5	0	8	6	3	5	0	14	4	63	2	0	69	7	56	13	0	76	167
1115 - 1130	0	1	3	0	4	17	3	4	0	24	5	61	0	0	66	4	64	13	0	81	175
1130 - 1145	0	1	6	0	7	8	2	5	0	15	6	47	1	0	54	1	58	13	0	72	148
1145 - 1200	0	1	5	0	6	9	0	5	0	14	3	62	0	0	65	4	53	15	0	72	157
Hourly Total	0	6	19	0	**25**	40	8	19	0	**67**	18	233	3	0	**254**	16	231	54	0	**301**	**647**
1200 - 1215	1	1	3	0	5	6	1	10	0	17	3	55	1	0	59	7	78	9	0	94	175
1215 - 1230	1	2	2	0	5	9	2	5	0	16	5	68	1	0	74	4	65	15	0	84	179
1230 - 1245	4	3	3	0	10	14	3	8	0	25	2	61	2	0	65	6	61	12	0	79	179
1245 - 1300	0	1	2	0	3	3	1	6	0	10	6	49	2	0	57	2	69	20	0	91	161
Hourly Total	6	7	10	0	**23**	32	7	29	0	**68**	16	233	6	0	**255**	19	273	56	0	**348**	**694**
1300 - 1315	1	2	1	0	4	9	2	9	0	20	3	66	1	0	70	4	63	21	0	88	182
1315 - 1330	0	2	6	0	8	4	2	4	0	10	4	59	3	0	66	10	56	19	0	85	169
1330 - 1345	1	2	7	0	10	8	5	13	0	26	5	83	1	0	89	5	71	15	0	91	216
1345 - 1400	1	0	3	0	4	9	0	6	0	15	8	64	1	0	73	4	68	22	0	94	186
Hourly Total	3	6	17	0	**26**	30	9	32	0	**71**	20	272	6	0	**298**	23	258	77	0	**358**	**753**
1400 - 1415	0	2	3	0	5	7	4	10	0	21	8	57	0	0	65	6	74	16	0	96	187
1415 - 1430	1	2	2	0	5	12	4	12	0	28	5	53	2	0	60	9	78	23	0	110	203
1430 - 1445	1	0	5	0	6	12	3	14	0	29	13	77	1	0	91	6	79	39	0	124	250
1445 - 1500	0	3	2	0	5	11	7	2	0	20	10	67	4	1	82	6	86	40	0	132	239
Hourly Total	2	7	12	0	**21**	42	18	38	0	**98**	36	254	7	1	**298**	27	317	118	0	**462**	**879**
1500 - 1515	0	0	7	0	7	28	3	10	0	41	8	81	3	0	92	9	77	21	0	107	247
1515 - 1530	0	2	8	0	10	16	3	7	0	26	10	82	3	1	96	8	83	27	0	118	250
1530 - 1545	1	1	8	0	10	13	2	11	0	26	10	83	5	0	98	9	105	24	0	138	272
1545 - 1600	0	5	0	0	5	7	3	6	0	16	5	53	1	0	59	9	98	30	0	137	217
Hourly Total	1	8	23	0	**32**	64	11	34	0	**109**	33	299	12	1	**345**	35	363	102	0	**500**	**986**
1600 - 1615	0	3	4	0	7	14	5	9	0	28	7	80	2	0	89	16	100	25	0	141	265
1615 - 1630	1	5	6	0	12	10	4	7	0	21	6	59	0	0	65	12	91	28	0	131	229
1630 - 1645	1	2	7	0	10	5	3	8	0	16	7	72	2	0	81	4	91	35	0	130	237
1645 - 1700	0	0	4	0	4	14	5	12	0	31	6	67	0	0	73	11	99	34	0	144	252
Hourly Total	2	10	21	0	**33**	43	17	36	0	**96**	26	278	4	0	**308**	43	381	122	0	**546**	**983**
1700 - 1715	1	1	8	0	10	12	4	7	0	23	5	79	3	0	87	10	93	35	0	138	258
1715 - 1730	0	1	7	0	8	19	5	15	0	39	8	75	3	0	86	11	106	25	0	142	275
1730 - 1745	0	2	8	0	10	9	2	8	0	19	13	56	1	0	70	12	80	30	0	122	221
1745 - 1800	1	2	9	0	12	9	7	6	0	22	6	52	1	0	59	14	76	30	0	120	213
Hourly Total	2	6	32	0	**40**	49	18	36	0	**103**	32	262	8	0	**302**	47	355	120	0	**522**	**967**
Grand Total	24	114	298	0	**436**	530	140	387	0	**1057**	297	3247	74	5	**3623**	274	3068	966	0	**4308**	**9424**
Approach %	5.50	26.15	68.35	0.00	-	50.14	13.25	36.61	0.00	-	8.20	89.62	2.04	0.14	-	6.36	71.22	22.42	0.00	-	
Intersection %	0.25	1.21	3.16	0.00	4.63	5.62	1.49	4.11	0.00	11.22	3.15	34.45	0.79	0.05	38.44	2.91	32.56	10.25	0.00	45.71	
PHF	0.50	0.50	0.81	0.00	**0.80**	0.66	0.85	0.70	0.00	**0.70**	0.81	0.93	0.67	0.00	**0.94**	0.82	0.92	0.92	0.00	**0.96**	**0.93**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 9 of 13
Polk Ln
Zion Rd
TN-243 N Main St
TN-243 Trotwood Ave

Date
Thursday, November 11, 2021

Lat/Long
35.573992°, -87.140889°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
TIME	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Grand Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 9 of 13
Polk Ln
Zion Rd
TN-243 N Main St
TN-243 Trotwood Ave

Date
Thursday, November 11, 2021

Lat/Long
35.573992°, -87.140889°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
TIME	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
0600 - 0615	1	2	11	0	14	3	1	7	0	11	4	41	0	0	45	1	18	8	0	27	97
0615 - 0630	0	4	11	0	15	0	2	5	0	7	5	53	0	0	58	2	22	5	0	29	109
0630 - 0645	0	4	9	0	13	4	3	8	0	15	8	75	3	1	87	4	29	10	0	43	158
0645 - 0700	0	1	11	0	12	10	2	8	0	20	2	72	0	0	74	2	40	15	0	57	163
Hourly Total	1	11	42	0	**54**	17	8	28	0	**53**	19	241	3	1	**264**	9	109	38	0	**156**	**527**
0700 - 0715	1	6	12	0	19	10	0	9	0	19	6	85	0	0	91	0	43	15	0	58	187
0715 - 0730	0	3	20	0	23	15	2	13	0	30	11	108	1	0	120	3	54	43	0	100	273
0730 - 0745	0	7	8	0	15	28	3	15	0	46	7	112	1	0	120	3	37	44	0	84	265
0745 - 0800	0	3	4	0	7	27	3	14	0	44	9	85	3	0	97	2	64	25	0	91	239
Hourly Total	1	19	44	0	**64**	80	8	51	0	**139**	33	390	5	0	**428**	8	198	127	0	**333**	**964**
0800 - 0815	1	1	8	0	10	17	3	7	0	27	2	69	1	0	72	2	41	16	0	59	168
0815 - 0830	0	1	7	0	8	10	2	7	0	19	10	58	3	0	71	2	44	11	0	57	155
0830 - 0845	0	3	4	0	7	11	2	11	0	24	4	59	0	0	63	5	33	14	0	52	146
0845 - 0900	0	3	5	0	8	5	2	6	0	13	2	67	1	0	70	4	39	8	0	51	142
Hourly Total	1	8	24	0	**33**	43	9	31	0	**83**	18	253	5	0	**276**	13	157	49	0	**219**	**611**
0900 - 0915	2	2	7	0	11	15	1	5	0	21	3	66	2	0	71	2	37	14	0	53	156
0915 - 0930	1	4	4	0	9	10	2	3	0	15	5	46	2	0	53	4	32	13	0	49	126
0930 - 0945	0	4	7	0	11	13	0	7	0	20	4	52	2	0	58	7	46	12	0	65	154
0945 - 1000	0	0	7	0	7	7	3	3	0	13	3	59	1	0	63	3	47	11	0	61	144
Hourly Total	3	10	25	0	**38**	45	6	18	0	**69**	15	223	7	0	**245**	16	162	50	0	**228**	**580**
1000 - 1015	0	2	3	0	5	10	1	6	0	17	3	56	3	0	62	3	57	9	0	69	153
1015 - 1030	0	1	7	0	8	8	2	5	0	15	3	65	2	0	70	3	41	10	0	54	147
1030 - 1045	1	2	9	0	12	10	5	2	0	17	4	64	0	0	68	3	41	8	0	52	149
1045 - 1100	1	3	8	0	12	12	3	5	0	20	9	47	0	0	56	7	47	14	0	68	156
Hourly Total	2	8	27	0	**37**	40	11	18	0	**69**	19	232	5	0	**256**	16	186	41	0	**243**	**605**
1100 - 1115	0	3	5	0	8	6	3	4	0	13	4	60	2	0	66	7	49	13	0	69	156
1115 - 1130	0	1	3	0	4	17	3	4	0	24	5	59	0	0	64	4	58	13	0	75	167
1130 - 1145	0	1	6	0	7	7	2	5	0	14	5	44	1	0	50	1	55	12	0	68	139
1145 - 1200	0	1	5	0	6	9	0	4	0	13	3	60	0	0	63	4	50	15	0	69	151
Hourly Total	0	6	19	0	**25**	39	8	17	0	**64**	17	223	3	0	**243**	16	212	53	0	**281**	**613**
1200 - 1215	1	1	3	0	5	6	1	9	0	16	2	51	1	0	54	7	75	9	0	91	166
1215 - 1230	1	2	2	0	5	9	1	5	0	15	5	64	0	0	69	4	62	15	0	81	170
1230 - 1245	4	3	3	0	10	14	3	4	0	21	2	57	2	0	61	6	56	12	0	74	166
1245 - 1300	0	1	2	0	3	3	1	4	0	8	4	44	2	0	50	2	64	20	0	86	147
Hourly Total	6	7	10	0	**23**	32	6	22	0	**60**	13	216	5	0	**234**	19	257	56	0	**332**	**649**
1300 - 1315	1	2	1	0	4	9	2	8	0	19	3	62	1	0	66	4	61	21	0	86	175
1315 - 1330	0	2	5	0	7	4	2	3	0	9	4	55	2	0	61	9	54	19	0	82	159
1330 - 1345	1	2	7	0	10	8	5	9	0	22	4	77	1	0	82	5	68	15	0	88	202
1345 - 1400	1	0	2	0	3	9	0	5	0	14	4	61	1	0	66	4	63	20	0	87	170
Hourly Total	3	6	15	0	**24**	30	9	25	0	**64**	15	255	5	0	**275**	22	246	75	0	**343**	**706**
1400 - 1415	0	2	3	0	5	7	4	9	0	20	7	55	0	0	62	6	73	15	0	94	181
1415 - 1430	1	2	2	0	5	12	4	9	0	25	5	50	1	0	56	8	78	23	0	109	195
1430 - 1445	1	0	5	0	6	12	3	11	0	26	11	72	1	0	84	6	76	38	0	120	236
1445 - 1500	0	3	2	0	5	11	6	1	0	18	9	65	4	0	78	6	85	39	0	130	231
Hourly Total	2	7	12	0	**21**	42	17	30	0	**89**	32	242	6	0	**280**	26	312	115	0	**453**	**843**
1500 - 1515	0	0	7	0	7	28	3	9	0	40	8	79	3	0	90	9	75	21	0	105	242
1515 - 1530	0	2	8	0	10	16	3	7	0	26	6	79	3	0	88	7	80	27	0	114	238
1530 - 1545	1	1	8	0	10	13	2	10	0	25	10	77	3	0	90	9	102	23	0	134	259
1545 - 1600	0	5	0	0	5	7	3	6	0	16	5	51	1	0	57	9	95	30	0	134	212
Hourly Total	1	8	23	0	**32**	64	11	32	0	**107**	29	286	10	0	**325**	34	352	101	0	**487**	**951**
1600 - 1615	0	3	4	0	7	14	5	9	0	28	7	79	2	0	88	16	97	24	0	137	260
1615 - 1630	1	5	6	0	12	10	4	7	0	21	6	57	0	0	63	12	88	28	0	128	224
1630 - 1645	1	2	7	0	10	5	3	8	0	16	6	69	2	0	77	4	87	35	0	126	229
1645 - 1700	0	0	4	0	4	14	4	12	0	30	6	66	0	0	72	11	97	34	0	142	248
Hourly Total	2	10	21	0	**33**	43	16	36	0	**95**	25	271	4	0	**300**	43	369	121	0	**533**	**961**
1700 - 1715	1	1	8	0	10	12	4	7	0	23	4	76	3	0	83	10	91	35	0	136	252
1715 - 1730	0	1	7	0	8	18	5	15	0	38	7	75	3	0	85	10	103	25	0	138	269
1730 - 1745	0	2	8	0	10	9	2	7	0	18	13	55	1	0	69	12	80	29	0	121	218
1745 - 1800	1	2	9	0	12	9	7	6	0	22	6	49	1	0	56	13	76	30	0	119	209
Hourly Total	2	6	32	0	**40**	48	18	35	0	**101**	30	255	8	0	**293**	45	350	119	0	**514**	**948**
Grand Total	24	106	294	0	**424**	523	127	343	0	**993**	265	3087	66	1	**3419**	267	2910	945	0	**4122**	**8958**
Approach %	5.66	25.00	69.34	0.00	-	52.67	12.79	34.54	0.00	-	7.75	90.29	1.93	0.03	-	6.48	70.60	22.93	0.00	-	
Intersection %	0.27	1.18	3.28	0.00	4.73	5.84	1.42	3.83	0.00	11.09	2.96	34.46	0.74	0.01	38.17	2.98	32.48	10.55	0.00	46.01	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 9 of 13
Polk Ln
Zion Rd
TN-243 N Main St
TN-243 Trotwood Ave

Date
Thursday, November 11, 2021

Lat/Long
35.573992°, -87.140889°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
TIME	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
0615 - 0630	0	0	0	0	0	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	3
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
0645 - 0700	0	0	1	0	1	0	0	1	0	1	1	2	0	1	4	0	2	0	0	2	8
Hourly Total	0	0	1	0	**1**	1	0	3	0	**4**	1	6	0	1	**8**	0	4	0	0	**4**	**17**
0700 - 0715	0	0	1	0	1	0	2	2	0	4	1	1	0	1	3	0	3	0	0	3	11
0715 - 0730	0	1	0	0	1	0	0	0	0	0	1	1	1	0	3	0	1	0	0	1	5
0730 - 0745	0	2	0	0	2	0	0	1	0	1	0	2	2	0	4	0	3	1	0	4	11
0745 - 0800	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	4	2	0	6	8
Hourly Total	0	3	1	0	**4**	0	2	5	0	**7**	2	4	3	1	**10**	0	11	3	0	**14**	**35**
0800 - 0815	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	3	1	0	4	7
0815 - 0830	0	0	0	0	0	0	1	0	0	1	1	3	0	0	4	0	3	0	0	3	8
0830 - 0845	0	1	0	0	1	0	0	2	0	2	0	1	0	0	1	0	3	0	0	3	7
0845 - 0900	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	0	4	0	0	4	8
Hourly Total	0	1	0	0	**1**	1	3	2	0	**6**	1	8	0	0	**9**	0	13	1	0	**14**	**30**
0900 - 0915	0	0	0	0	0	0	1	1	0	2	0	2	0	0	2	0	1	0	0	1	5
0915 - 0930	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	5
0930 - 0945	0	1	0	0	1	0	0	0	0	0	1	4	0	0	5	0	1	2	0	3	9
0945 - 1000	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	0	5	1	0	6	10
Hourly Total	0	2	0	0	**2**	0	2	1	0	**3**	1	11	0	0	**12**	0	9	3	0	**12**	**29**
1000 - 1015	0	1	0	0	1	0	1	0	0	1	0	4	0	0	4	2	6	0	0	8	14
1015 - 1030	0	0	0	0	0	1	1	0	0	2	1	5	0	0	6	0	4	0	0	4	12
1030 - 1045	0	0	0	0	0	1	0	0	0	1	0	6	0	0	6	0	5	1	0	6	13
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	2	0	6	10
Hourly Total	0	1	0	0	**1**	2	2	0	0	**4**	1	19	0	0	**20**	2	19	3	0	**24**	**49**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	6	0	0	6	8
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1130 - 1145	0	0	0	0	0	1	0	0	0	1	1	2	0	0	3	0	1	1	0	2	6
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
Hourly Total	0	0	0	0	**0**	1	0	0	0	**1**	1	7	0	0	**8**	0	11	1	0	**12**	**21**
1200 - 1215	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
1215 - 1230	0	0	0	0	0	0	1	0	0	1	0	3	1	0	4	0	1	0	0	1	6
1230 - 1245	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	3	0	0	3	6
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	3	0	0	3	7
Hourly Total	0	0	0	0	**0**	0	1	2	0	**3**	0	10	1	0	**11**	0	8	0	0	**8**	**22**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	1	1	0	0	2	7
1330 - 1345	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	2	0	0	2	5
1345 - 1400	0	0	1	0	1	0	0	0	0	0	1	3	0	0	4	0	3	2	0	5	10
Hourly Total	0	0	1	0	**1**	0	0	1	0	**1**	1	13	1	0	**15**	1	6	2	0	**9**	**26**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
1415 - 1430	0	0	0	0	0	0	0	2	0	2	0	3	1	0	4	0	0	0	0	0	6
1430 - 1445	0	0	0	0	0	0	0	1	0	1	2	2	0	0	4	0	2	1	0	3	8
1445 - 1500	0	0	0	0	0	0	0	1	0	1	0	2	0	1	3	0	1	1	0	2	6
Hourly Total	0	0	0	0	**0**	0	0	4	0	**4**	2	9	1	1	**13**	0	3	3	0	**6**	**23**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1515 - 1530	0	0	0	0	0	0	0	0	0	0	2	1	0	1	4	1	2	0	0	3	7
1530 - 1545	0	0	0	0	0	0	0	1	0	1	0	2	2	0	4	0	3	1	0	4	9
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	2	4	2	1	**9**	1	6	1	0	**8**	**18**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	1	0	4	5
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1630 - 1645	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	5
1645 - 1700	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Hourly Total	0	0	0	0	**0**	0	1	0	0	**1**	1	5	0	0	**6**	0	7	1	0	**8**	**15**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
1715 - 1730	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	3
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Hourly Total	0	0	0	0	**0**	1	0	0	0	**1**	0	3	0	0	**3**	2	3	1	0	**6**	**10**
Grand Total	0	7	3	0	**10**	6	11	19	0	**36**	13	99	8	4	**124**	6	100	19	0	**125**	**295**
Approach %	0.00	70.00	30.00	0.00	-	16.67	30.56	52.78	0.00	-	10.48	79.84	6.45	3.23	-	4.80	80.00	15.20	0.00	-	
Intersection %	0.00	2.37	1.02	0.00	3.39	2.03	3.73	6.44	0.00	12.20	4.41	33.56	2.71	1.36	42.03	2.03	33.90	6.44	0.00	42.37	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 9 of 13
Polk Ln
Zion Rd
TN-243 N Main St
TN-243 Trotwood Ave

Date
Thursday, November 11, 2021

Lat/Long
35.573992°, -87.140889°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Polk Ln					Zion Rd					TN-243 N Main St					TN-243 Trotwood Ave					
TIME	Left 9.1	Thru 9.2	Right 9.3	U-Turn 9.4	App Total	Left 9.5	Thru 9.6	Right 9.7	U-Turn 9.8	App Total	Left 9.9	Thru 9.10	Right 9.11	U-Turn 9.12	App Total	Left 9.13	Thru 9.14	Right 9.15	U-Turn 9.16	App Total	Int Total
0600 - 0615	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	4
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	3
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Hourly Total	0	1	0	0	**1**	0	0	0	0	**0**	1	5	0	0	**6**	0	2	1	0	**3**	**10**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
0745 - 0800	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	5
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	2	6	0	0	**8**	0	3	0	0	**3**	**11**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0815 - 0830	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
0830 - 0845	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2	4
0845 - 0900	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	4
Hourly Total	0	0	0	0	**0**	0	0	2	0	**2**	1	5	0	0	**6**	0	5	0	0	**5**	**13**
0900 - 0915	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2	0	0	2	4
0915 - 0930	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	3
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
0945 - 1000	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	0	2	0	0	2	6
Hourly Total	0	0	0	0	**0**	1	1	1	0	**3**	0	7	0	0	**7**	0	7	0	0	**7**	**17**
1000 - 1015	0	0	0	0	0	0	0	2	0	2	1	1	0	0	2	0	2	0	0	2	6
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1030 - 1045	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	2	0	0	2	5
1045 - 1100	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	4
Hourly Total	0	0	0	0	**0**	0	0	3	0	**3**	2	6	0	0	**8**	0	5	1	0	**6**	**17**
1100 - 1115	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1145 - 1200	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	3
Hourly Total	0	0	0	0	**0**	0	0	2	0	**2**	0	3	0	0	**3**	0	8	0	0	**8**	**13**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	2	0	0	2	6
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1230 - 1245	0	0	0	0	0	0	0	3	0	3	0	2	0	0	2	0	2	0	0	2	7
1245 - 1300	0	0	0	0	0	0	0	2	0	2	2	1	0	0	3	0	2	0	0	2	7
Hourly Total	0	0	0	0	**0**	0	0	5	0	**5**	3	7	0	0	**10**	0	8	0	0	**8**	**23**
1300 - 1315	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	3
1315 - 1330	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	3
1330 - 1345	0	0	0	0	0	0	0	3	0	3	1	4	0	0	5	0	1	0	0	1	9
1345 - 1400	0	0	0	0	0	0	0	1	0	1	3	0	0	0	3	0	2	0	0	2	6
Hourly Total	0	0	1	0	**1**	0	0	6	0	**6**	4	4	0	0	**8**	0	6	0	0	**6**	**21**
1400 - 1415	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	3
1415 - 1430	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	2
1430 - 1445	0	0	0	0	0	0	0	2	0	2	0	3	0	0	3	0	1	0	0	1	6
1445 - 1500	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2
Hourly Total	0	0	0	0	**0**	0	1	4	0	**5**	2	3	0	0	**5**	1	2	0	0	**3**	**13**
1500 - 1515	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
1515 - 1530	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	1	0	0	1	5
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	2	9	0	0	**11**	0	5	0	0	**5**	**17**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	2	0	0	**2**	0	5	0	0	**5**	**7**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
1715 - 1730	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	3
1730 - 1745	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Hourly Total	0	0	0	0	**0**	0	0	1	0	**1**	2	4	0	0	**6**	0	2	0	0	**2**	**9**
Grand Total	0	1	1	0	**2**	1	2	25	0	**28**	19	61	0	0	**80**	1	58	2	0	**61**	**171**
Approach %	0.00	50.00	50.00	0.00	-	3.57	7.14	89.29	0.00	-	23.75	76.25	0.00	0.00	-	1.64	95.08	3.28	0.00	-	
Intersection %	0.00	0.58	0.58	0.00	1.17	0.58	1.17	14.62	0.00	16.37	11.11	35.67	0.00	0.00	46.78	0.58	33.92	1.17	0.00	35.67	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 9 of 13
Polk Ln
Zion Rd
TN-243 N Main St
TN-243 Trotwood Ave

Date
Thursday, November 11, 2021

Lat/Long
35.573992°, -87.140889°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Polk Ln			Zion Rd			TN-243 N Main St			TN-243 Trotwood Ave			
TIME	EB 9a	WB 9b	App Total	EB 9c	WB 9d	App Total	NB 9e	SB 9f	App Total	NB 9g	SB 9h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

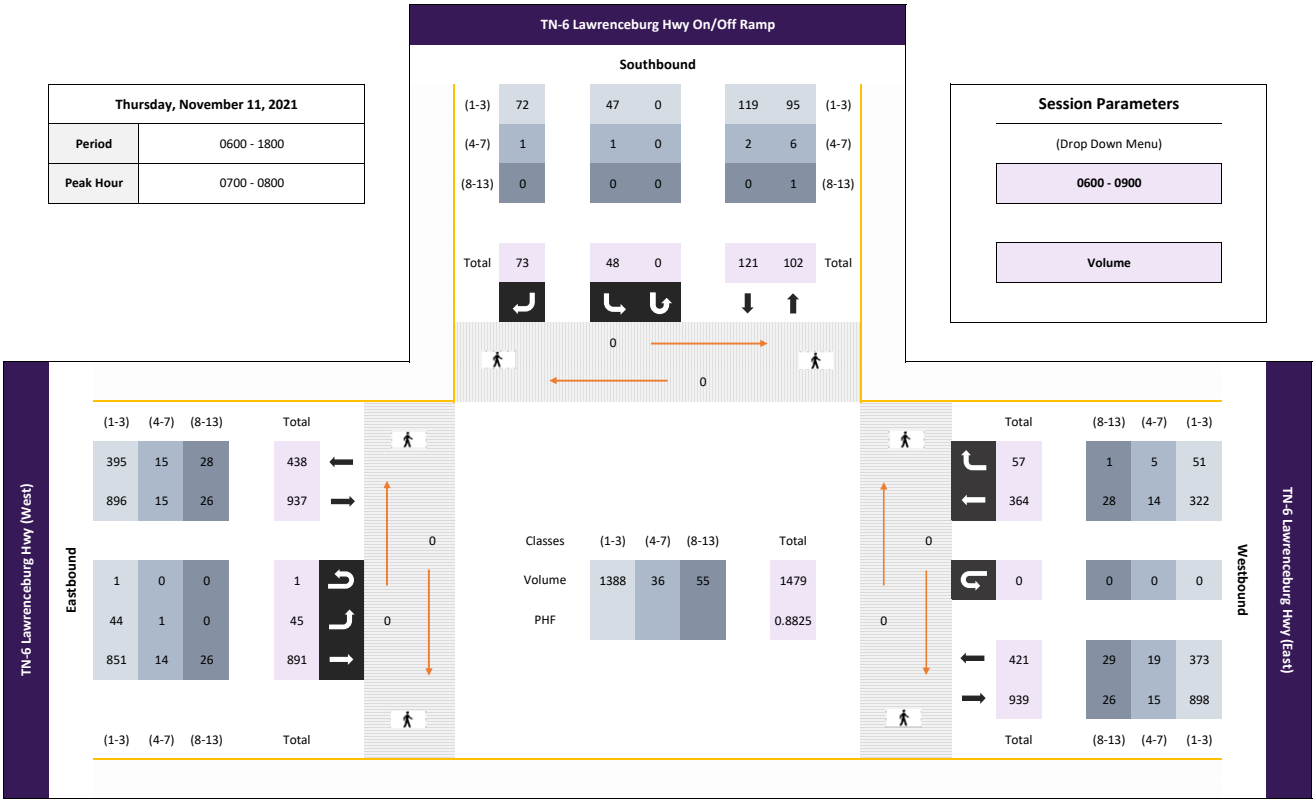
Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume



All vehicles

	Southbound					TN-6 Lawrenceburg Hwy On/Off Ramp					Eastbound	TN-6 Lawrenceburg Hwy (West)				Westbound	TN-6 Lawrenceburg Hwy (East)				
Time					App Total	Left 10.1		Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5		U-Turn 10.6	App Total		Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	13	-	12	0	25	5	193	-	0	198	-	84	8	0	92	315
0715 - 0730	-	-	-	-	0	13	-	26	0	39	15	232	-	1	248	-	100	18	0	118	405
0730 - 0745	-	-	-	-	0	16	-	19	0	35	18	252	-	0	270	-	96	18	0	114	419
0745 - 0800	-	-	-	-	0	6	-	16	0	22	7	214	-	0	221	-	84	13	0	97	340
Total	0	0	0	0	0	48	0	73	0	121	45	891	0	1	937	0	364	57	0	421	1479
Approach %	0.00	0.00	0.00	0.00	-	39.67	0.00	60.33	0.00	-	4.80	95.09	0.00	0.11	-	0.00	86.46	13.54	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.75	0.00	0.70	0.00	**0.78**	0.63	0.88	0.00	0.25	**0.87**	0.00	0.91	0.79	0.00	**0.89**	**0.88**

Bikes

	Southbound					TN-6 Lawrenceburg Hwy On/Off Ramp					Eastbound	TN-6 Lawrenceburg Hwy (West)				Westbound	TN-6 Lawrenceburg Hwy (East)				
Time					App Total	Left 10.1		Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5		U-Turn 10.6	App Total		Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Southbound					TN-6 Lawrenceburg Hwy On/Off Ramp					Eastbound	TN-6 Lawrenceburg Hwy (West)				Westbound	TN-6 Lawrenceburg Hwy (East)				
Time					App Total	Left 10.1		Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5		U-Turn 10.6	App Total		Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	13	-	12	0	25	5	185	-	0	190	-	72	7	0	79	294
0715 - 0730	-	-	-	-	0	13	-	26	0	39	14	225	-	1	240	-	92	16	0	108	387
0730 - 0745	-	-	-	-	0	15	-	19	0	34	18	243	-	0	261	-	87	16	0	103	398
0745 - 0800	-	-	-	-	0	6	-	15	0	21	7	198	-	0	205	-	71	12	0	83	309
Total	0	0	0	0	0	47	0	72	0	119	44	851	0	1	896	0	322	51	0	373	1388
Approach %	0.00	0.00	0.00	0.00	-	39.50	0.00	60.50	0.00	-	4.91	94.98	0.00	0.11	-	0.00	86.33	13.67	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.78	0.00	0.69	0.00	**0.76**	0.61	0.88	0.00	0.25	**0.86**	0.00	0.88	0.80	0.00	**0.86**	**0.87**

Single Unit Trucks (4-7)

	Southbound					TN-6 Lawrenceburg Hwy On/Off Ramp					Eastbound	TN-6 Lawrenceburg Hwy (West)				Westbound	TN-6 Lawrenceburg Hwy (East)				
Time					App Total	Left 10.1		Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5		U-Turn 10.6	App Total		Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	3	-	0	3	-	2	1	0	3	6
0715 - 0730	-	-	-	-	0	0	-	0	0	0	1	1	-	0	2	-	4	2	0	6	8
0730 - 0745	-	-	-	-	0	1	-	0	0	1	0	5	-	0	5	-	3	1	0	4	10
0745 - 0800	-	-	-	-	0	0	-	1	0	1	0	5	-	0	5	-	5	1	0	6	12
Total	0	0	0	0	0	1	0	1	0	2	1	14	0	0	15	0	14	5	0	19	36
Approach %	0.00	0.00	0.00	0.00	-	50.00	0.00	50.00	0.00	-	6.67	93.33	0.00	0.00	-	0.00	73.68	26.32	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.25	0.00	**0.50**	0.25	0.70	0.00	0.00	**0.75**	0.00	0.70	0.63	0.00	**0.79**	**0.75**

Combination Trucks (8-13)

	Southbound					TN-6 Lawrenceburg Hwy On/Off Ramp					Eastbound	TN-6 Lawrenceburg Hwy (West)				Westbound	TN-6 Lawrenceburg Hwy (East)				
Time					App Total	Left 10.1		Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5		U-Turn 10.6	App Total		Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0700 - 0715	-	-	-	-	0	0	-	0	0	0	0	5	-	0	5	-	10	0	0	10	15
0715 - 0730	-	-	-	-	0	0	-	0	0	0	0	6	-	0	6	-	4	0	0	4	10
0730 - 0745	-	-	-	-	0	0	-	0	0	0	0	4	-	0	4	-	6	1	0	7	11
0745 - 0800	-	-	-	-	0	0	-	0	0	0	0	11	-	0	11	-	8	0	0	8	19
Total	0	0	0	0	0	0	0	0	0	0	0	26	0	0	26	0	28	1	0	29	55
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	96.55	3.45	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.59	0.00	0.00	**0.59**	0.00	0.70	0.25	0.00	**0.73**	**0.72**

Pedestrians

	Southbound					TN-6 Lawrenceburg Hwy On/Off Ramp					Eastbound	TN-6 Lawrenceburg Hwy (West)				Westbound	TN-6 Lawrenceburg Hwy (East)				
Time					App Total	EB 10c	WB 10d			App Total	NB 10e	SB 10f			App Total	NB 10g	SB 10h			App Total	Int Total
0700 - 0715	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

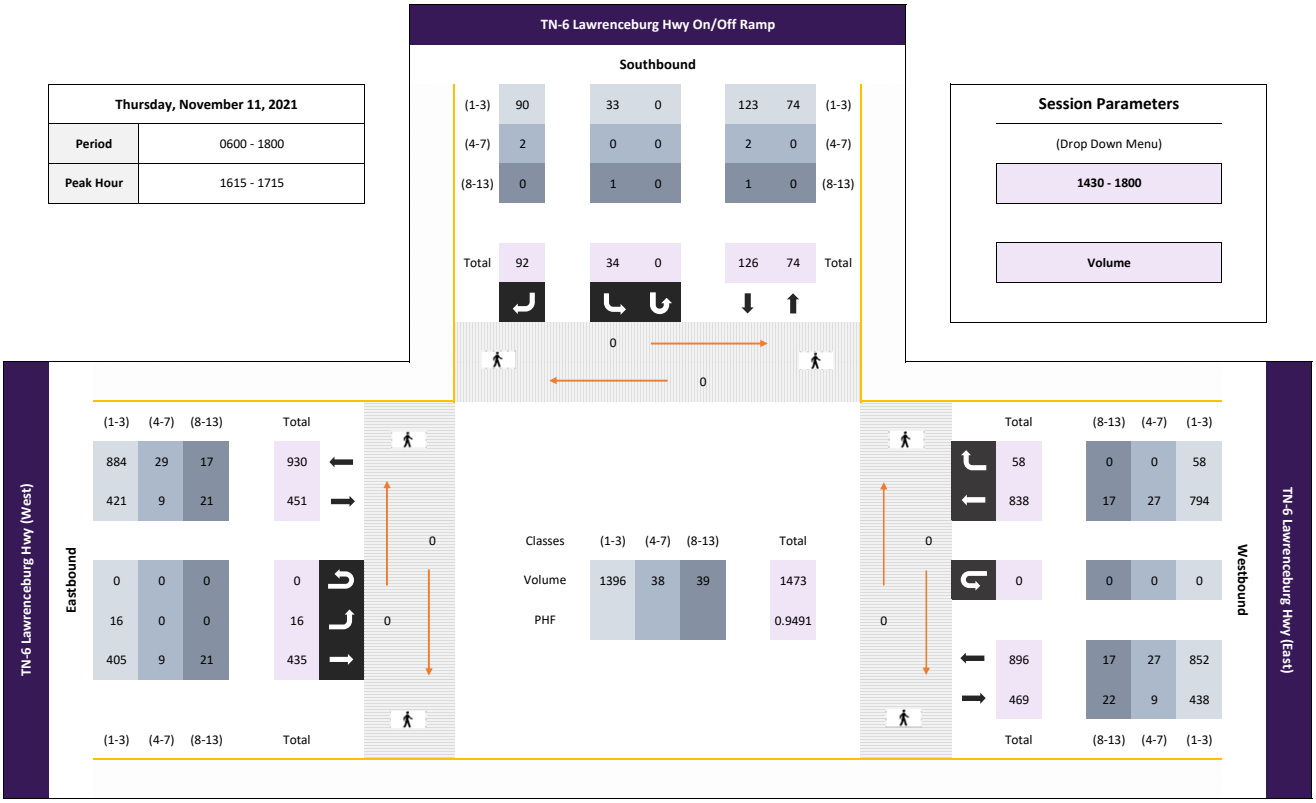
Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1615 - 1715



All vehicles

						Southbound					Eastbound					Westbound					
						TN-6 Lawrenceburg Hwy On/Off Ramp					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	10.1		10.2	10.3	Total	10.4	10.5		10.6	Total		10.7	10.8	10.9	Total	Total
1615 - 1630	-	-	-	-	0	8	-	21	0	29	4	125	-	0	129	-	193	16	0	209	367
1630 - 1645	-	-	-	-	0	10	-	22	0	32	4	101	-	0	105	-	246	5	0	251	388
1645 - 1700	-	-	-	-	0	8	-	28	0	36	2	109	-	0	111	-	202	19	0	221	368
1700 - 1715	-	-	-	-	0	8	-	21	0	29	6	100	-	0	106	-	197	18	0	215	350
Total	0	0	0	0	0	34	0	92	0	126	16	435	0	0	451	0	838	58	0	896	1473
Approach %	0.00	0.00	0.00	0.00	-	26.98	0.00	73.02	0.00	-	3.55	96.45	0.00	0.00	-	0.00	93.53	6.47	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.85	0.00	0.82	0.00	**0.88**	0.67	0.87	0.00	0.00	**0.87**	0.00	0.85	0.76	0.00	**0.89**	**0.95**

Bikes

						Southbound					Eastbound					Westbound					
						TN-6 Lawrenceburg Hwy On/Off Ramp					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	10.1		10.2	10.3	Total	10.4	10.5		10.6	Total		10.7	10.8	10.9	Total	Total
1615 - 1630	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1630 - 1645	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1645 - 1700	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
1700 - 1715	-	-	-	-	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

						Southbound					Eastbound					Westbound					
						TN-6 Lawrenceburg Hwy On/Off Ramp					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	10.1		10.2	10.3	Total	10.4	10.5		10.6	Total		10.7	10.8	10.9	Total	Total
1615 - 1630	-	-	-	-	0	8	-	21	0	29	4	116	-	0	120	-	182	16	0	198	347
1630 - 1645	-	-	-	-	0	10	-	22	0	32	4	95	-	0	99	-	236	5	0	241	372
1645 - 1700	-	-	-	-	0	8	-	27	0	35	2	103	-	0	105	-	193	19	0	212	352
1700 - 1715	-	-	-	-	0	7	-	20	0	27	6	91	-	0	97	-	183	18	0	201	325
Total	0	0	0	0	0	33	0	90	0	123	16	405	0	0	421	0	794	58	0	852	1396
Approach %	0.00	0.00	0.00	0.00	-	26.83	0.00	73.17	0.00	-	3.80	96.20	0.00	0.00	-	0.00	93.19	6.81	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.83	0.00	0.83	0.00	**0.88**	0.67	0.87	0.00	0.00	**0.88**	0.00	0.84	0.76	0.00	**0.88**	**0.94**

Single Unit Trucks (4-7)

						Southbound					Eastbound					Westbound					
						TN-6 Lawrenceburg Hwy On/Off Ramp					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	10.1		10.2	10.3	Total	10.4	10.5		10.6	Total		10.7	10.8	10.9	Total	Total
1615 - 1630	-	-	-	-	0	0	-	0	0	0	0	2	-	0	2	-	5	0	0	5	7
1630 - 1645	-	-	-	-	0	0	-	0	0	0	0	1	-	0	1	-	5	0	0	5	6
1645 - 1700	-	-	-	-	0	0	-	1	0	1	0	1	-	0	1	-	7	0	0	7	9
1700 - 1715	-	-	-	-	0	0	-	1	0	1	0	5	-	0	5	-	10	0	0	10	16
Total	0	0	0	0	0	0	0	2	0	2	0	9	0	0	9	0	27	0	0	27	38
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.50	0.00	**0.50**	0.00	0.45	0.00	0.00	**0.45**	0.00	0.68	0.00	0.00	**0.68**	**0.59**

Combination Trucks (8-13)

						Southbound					Eastbound					Westbound					
						TN-6 Lawrenceburg Hwy On/Off Ramp					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
					App	Left		Right	U-Turn	App	Left	Thru		U-Turn	App		Thru	Right	U-Turn	App	Int
Time					Total	10.1		10.2	10.3	Total	10.4	10.5		10.6	Total		10.7	10.8	10.9	Total	Total
1615 - 1630	-	-	-	-	0	0	-	0	0	0	0	7	-	0	7	-	6	0	0	6	13
1630 - 1645	-	-	-	-	0	0	-	0	0	0	0	5	-	0	5	-	5	0	0	5	10
1645 - 1700	-	-	-	-	0	0	-	0	0	0	0	5	-	0	5	-	2	0	0	2	7
1700 - 1715	-	-	-	-	0	1	-	0	0	1	0	4	-	0	4	-	4	0	0	4	9
Total	0	0	0	0	0	1	0	0	0	1	0	21	0	0	21	0	17	0	0	17	39
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.00	0.00	**0.25**	0.00	0.75	0.00	0.00	**0.75**	0.00	0.71	0.00	0.00	**0.71**	**0.75**

Pedestrians

						Southbound					Eastbound					Westbound					
						TN-6 Lawrenceburg Hwy On/Off Ramp					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
					App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time					Total	10c	10d			Total	10e	10f			Total	10g	10h			Total	Total
1615 - 1630	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1630 - 1645	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1645 - 1700	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1700 - 1715	-	-	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 10 of 13

TN-6 Lawrenceburg Hwy On/Off Ramp
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580973°, -87.142741°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Southbound				Eastbound				Westbound				
	TN-6 Lawrenceburg Hwy On/Off Ramp				TN-6 Lawrenceburg Hwy (West)				TN-6 Lawrenceburg Hwy (East)				
TIME	Left 10.1	Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5	U-Turn 10.6	App Total	Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0600 - 0615	13	7	0	20	1	162	0	163	48	6	0	54	237
0615 - 0630	16	9	0	25	1	182	0	183	52	6	0	58	266
0630 - 0645	14	11	0	25	5	241	0	246	71	5	0	76	347
0645 - 0700	10	14	0	24	6	157	0	163	78	6	0	84	271
Hourly Total	53	41	0	**94**	13	742	0	**755**	249	23	0	**272**	**1121**
0700 - 0715	13	12	0	25	5	193	0	198	84	8	0	92	315
0715 - 0730	13	26	0	39	15	232	1	248	100	18	0	118	405
0730 - 0745	16	19	0	35	18	252	0	270	96	18	0	114	419
0745 - 0800	6	16	0	22	7	214	0	221	84	13	0	97	340
Hourly Total	48	73	0	**121**	45	891	1	**937**	364	57	0	**421**	**1479**
0800 - 0815	4	4	0	8	3	134	1	138	91	9	0	100	246
0815 - 0830	12	9	0	21	4	160	1	165	74	6	0	80	266
0830 - 0845	6	3	0	9	7	155	0	162	87	7	0	94	265
0845 - 0900	9	6	0	15	1	151	0	152	92	3	0	95	262
Hourly Total	31	22	0	**53**	15	600	2	**617**	344	25	0	**369**	**1039**
0900 - 0915	4	12	0	16	6	135	0	141	87	4	0	91	248
0915 - 0930	7	10	0	17	1	137	0	138	87	2	0	89	244
0930 - 0945	6	10	0	16	4	143	1	148	98	12	0	110	274
0945 - 1000	3	9	0	12	3	99	0	102	75	5	0	80	194
Hourly Total	20	41	0	**61**	14	514	1	**529**	347	23	0	**370**	**960**
1000 - 1015	8	2	0	10	1	119	0	120	81	8	0	89	219
1015 - 1030	3	4	0	7	2	103	0	105	88	4	0	92	204
1030 - 1045	7	6	0	13	3	102	0	105	76	7	0	83	201
1045 - 1100	8	9	1	18	6	124	0	130	103	7	0	110	258
Hourly Total	26	21	1	**48**	12	448	0	**460**	348	26	0	**374**	**882**
1100 - 1115	12	5	0	17	3	130	0	133	101	7	0	108	258
1115 - 1130	5	6	0	11	3	135	0	138	80	10	0	90	239
1130 - 1145	7	7	0	14	3	98	0	101	110	12	0	122	237
1145 - 1200	8	10	1	19	2	102	0	104	86	5	0	91	214
Hourly Total	32	28	1	**61**	11	465	0	**476**	377	34	0	**411**	**948**
1200 - 1215	3	10	0	13	1	98	0	99	83	6	0	89	201
1215 - 1230	7	2	0	9	4	101	0	105	105	7	0	112	226
1230 - 1245	5	8	0	13	5	115	0	120	87	4	0	91	224
1245 - 1300	5	10	0	15	1	92	0	93	110	4	0	114	222
Hourly Total	20	30	0	**50**	11	406	0	**417**	385	21	0	**406**	**873**
1300 - 1315	5	15	0	20	1	112	0	113	97	11	0	108	241
1315 - 1330	5	10	0	15	4	109	0	113	94	5	0	99	227
1330 - 1345	3	8	0	11	2	91	0	93	98	6	0	104	208
1345 - 1400	8	15	0	23	2	109	0	111	123	9	0	132	266
Hourly Total	21	48	0	**69**	9	421	0	**430**	412	31	0	**443**	**942**
1400 - 1415	6	12	0	18	5	124	0	129	119	9	0	128	275
1415 - 1430	7	7	0	14	6	112	0	118	117	2	0	119	251
1430 - 1445	7	17	0	24	2	127	0	129	138	14	0	152	305
1445 - 1500	1	18	0	19	14	136	0	150	123	13	0	136	305
Hourly Total	21	54	0	**75**	27	499	0	**526**	497	38	0	**535**	**1136**
1500 - 1515	8	19	0	27	3	141	0	144	155	11	0	166	337
1515 - 1530	8	17	0	25	3	99	0	102	158	10	0	168	295
1530 - 1545	7	12	0	19	1	113	1	115	212	7	0	219	353
1545 - 1600	8	21	0	29	4	103	0	107	173	13	0	186	322
Hourly Total	31	69	0	**100**	11	456	1	**468**	698	41	0	**739**	**1307**
1600 - 1615	11	17	0	28	10	108	0	118	188	8	0	196	342
1615 - 1630	8	21	0	29	4	125	0	129	193	16	0	209	367
1630 - 1645	10	22	0	32	4	101	0	105	246	5	0	251	388
1645 - 1700	8	28	0	36	2	109	0	111	202	19	0	221	368
Hourly Total	37	88	0	**125**	20	443	0	**463**	829	48	0	**877**	**1465**
1700 - 1715	8	21	0	29	6	100	0	106	197	18	0	215	350
1715 - 1730	5	15	0	20	8	97	0	105	183	20	0	203	328
1730 - 1745	8	12	0	20	4	78	1	83	167	18	0	185	288
1745 - 1800	12	15	0	27	3	88	0	91	164	16	0	180	298
Hourly Total	33	63	0	**96**	21	363	1	**385**	711	72	0	**783**	**1264**
Grand Total	373	578	2	**953**	209	6248	6	**6463**	5561	439	0	**6000**	**13416**
Approach %	39.14	60.65	0.21	-	3.23	96.67	0.09	-	92.68	7.32	0.00	-	
Intersection %	2.78	4.31	0.01	7.10	1.56	46.57	0.04	48.17	41.45	3.27	0.00	44.72	
PHF	0.75	0.70	0.00	**0.78**	0.63	0.88	0.25	**0.87**	0.91	0.79	0.00	**0.89**	**0.88**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 10 of 13

TN-6 Lawrenceburg Hwy On/Off Ramp
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580973°, -87.142741°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Southbound				Eastbound				Westbound				
	TN-6 Lawrenceburg Hwy On/Off Ramp				TN-6 Lawrenceburg Hwy (West)				TN-6 Lawrenceburg Hwy (East)				
TIME	Left 10.1	Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5	U-Turn 10.6	App Total	Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Grand Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 10 of 13

TN-6 Lawrenceburg Hwy On/Off Ramp
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580973°, -87.142741°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Southbound				Eastbound				Westbound				
	TN-6 Lawrenceburg Hwy On/Off Ramp				TN-6 Lawrenceburg Hwy (West)				TN-6 Lawrenceburg Hwy (East)				
TIME	Left 10.1	Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5	U-Turn 10.6	App Total	Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0600 - 0615	12	7	0	19	1	157	0	158	45	6	0	51	228
0615 - 0630	16	9	0	25	1	173	0	174	39	5	0	44	243
0630 - 0645	14	10	0	24	4	230	0	234	54	5	0	59	317
0645 - 0700	9	14	0	23	5	145	0	150	69	6	0	75	248
Hourly Total	51	40	0	**91**	11	705	0	**716**	207	22	0	**229**	**1036**
0700 - 0715	13	12	0	25	5	185	0	190	72	7	0	79	294
0715 - 0730	13	26	0	39	14	225	1	240	92	16	0	108	387
0730 - 0745	15	19	0	34	18	243	0	261	87	16	0	103	398
0745 - 0800	6	15	0	21	7	198	0	205	71	12	0	83	309
Hourly Total	47	72	0	**119**	44	851	1	**896**	322	51	0	**373**	**1388**
0800 - 0815	4	4	0	8	3	128	1	132	72	9	0	81	221
0815 - 0830	12	9	0	21	3	140	1	144	60	6	0	66	231
0830 - 0845	6	3	0	9	6	133	0	139	74	7	0	81	229
0845 - 0900	9	6	0	15	1	135	0	136	71	3	0	74	225
Hourly Total	31	22	0	**53**	13	536	2	**551**	277	25	0	**302**	**906**
0900 - 0915	4	11	0	15	6	117	0	123	63	3	0	66	204
0915 - 0930	6	10	0	16	1	110	0	111	72	2	0	74	201
0930 - 0945	6	8	0	14	3	122	1	126	74	12	0	86	226
0945 - 1000	3	8	0	11	3	83	0	86	60	4	0	64	161
Hourly Total	19	37	0	**56**	13	432	1	**446**	269	21	0	**290**	**792**
1000 - 1015	8	2	0	10	1	101	0	102	66	8	0	74	186
1015 - 1030	3	2	0	5	1	82	0	83	68	4	0	72	160
1030 - 1045	6	5	0	11	3	94	0	97	65	6	0	71	179
1045 - 1100	8	7	1	16	3	109	0	112	76	7	0	83	211
Hourly Total	25	16	1	**42**	8	386	0	**394**	275	25	0	**300**	**736**
1100 - 1115	12	5	0	17	3	114	0	117	80	7	0	87	221
1115 - 1130	5	6	0	11	2	117	0	119	72	10	0	82	212
1130 - 1145	7	6	0	13	3	85	0	88	93	12	0	105	206
1145 - 1200	8	10	1	19	1	90	0	91	67	3	0	70	180
Hourly Total	32	27	1	**60**	9	406	0	**415**	312	32	0	**344**	**819**
1200 - 1215	3	9	0	12	1	86	0	87	74	6	0	80	179
1215 - 1230	7	2	0	9	4	83	0	87	83	5	0	88	184
1230 - 1245	5	8	0	13	5	99	0	104	68	4	0	72	189
1245 - 1300	4	10	0	14	1	83	0	84	96	3	0	99	197
Hourly Total	19	29	0	**48**	11	351	0	**362**	321	18	0	**339**	**749**
1300 - 1315	5	14	0	19	1	96	0	97	86	10	0	96	212
1315 - 1330	5	9	0	14	3	89	0	92	76	4	0	80	186
1330 - 1345	3	8	0	11	2	79	0	81	83	6	0	89	181
1345 - 1400	7	14	0	21	2	95	0	97	106	8	0	114	232
Hourly Total	20	45	0	**65**	8	359	0	**367**	351	28	0	**379**	**811**
1400 - 1415	6	9	0	15	5	112	0	117	98	8	0	106	238
1415 - 1430	7	7	0	14	6	100	0	106	106	2	0	108	228
1430 - 1445	7	16	0	23	2	110	0	112	122	12	0	134	269
1445 - 1500	1	16	0	17	13	121	0	134	107	11	0	118	269
Hourly Total	21	48	0	**69**	26	443	0	**469**	433	33	0	**466**	**1004**
1500 - 1515	8	18	0	26	3	125	0	128	141	10	0	151	305
1515 - 1530	8	15	0	23	3	94	0	97	146	8	0	154	274
1530 - 1545	7	10	0	17	1	100	1	102	203	7	0	210	329
1545 - 1600	7	20	0	27	4	95	0	99	167	12	0	179	305
Hourly Total	30	63	0	**93**	11	414	1	**426**	657	37	0	**694**	**1213**
1600 - 1615	11	16	0	27	9	96	0	105	168	7	0	175	307
1615 - 1630	8	21	0	29	4	116	0	120	182	16	0	198	347
1630 - 1645	10	22	0	32	4	95	0	99	236	5	0	241	372
1645 - 1700	8	27	0	35	2	103	0	105	193	19	0	212	352
Hourly Total	37	86	0	**123**	19	410	0	**429**	779	47	0	**826**	**1378**
1700 - 1715	7	20	0	27	6	91	0	97	183	18	0	201	325
1715 - 1730	4	15	0	19	7	92	0	99	174	20	0	194	312
1730 - 1745	8	12	0	20	4	71	1	76	159	17	0	176	272
1745 - 1800	12	15	0	27	3	80	0	83	157	16	0	173	283
Hourly Total	31	62	0	**93**	20	334	1	**355**	673	71	0	**744**	**1192**
Grand Total	363	547	2	**912**	193	5627	6	**5826**	4876	410	0	**5286**	**12024**
Approach %	39.80	59.98	0.22	-	3.31	96.58	0.10	-	92.24	7.76	0.00	-	
Intersection %	3.02	4.55	0.02	7.58	1.61	46.80	0.05	48.45	40.55	3.41	0.00	43.96	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 10 of 13

TN-6 Lawrenceburg Hwy On/Off Ramp
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580973°, -87.142741°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Southbound				Eastbound				Westbound				
	TN-6 Lawrenceburg Hwy On/Off Ramp				TN-6 Lawrenceburg Hwy (West)				TN-6 Lawrenceburg Hwy (East)				
TIME	Left 10.1	Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5	U-Turn 10.6	App Total	Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0600 - 0615	0	0	0	0	0	2	0	2	0	0	0	0	2
0615 - 0630	0	0	0	0	0	4	0	4	7	1	0	8	12
0630 - 0645	0	0	0	0	1	6	0	7	2	0	0	2	9
0645 - 0700	1	0	0	1	1	4	0	5	3	0	0	3	9
Hourly Total	1	0	0	**1**	2	16	0	**18**	12	1	0	**13**	**32**
0700 - 0715	0	0	0	0	0	3	0	3	2	1	0	3	6
0715 - 0730	0	0	0	0	1	1	0	2	4	2	0	6	8
0730 - 0745	1	0	0	1	0	5	0	5	3	1	0	4	10
0745 - 0800	0	1	0	1	0	5	0	5	5	1	0	6	12
Hourly Total	1	1	0	**2**	1	14	0	**15**	14	5	0	**19**	**36**
0800 - 0815	0	0	0	0	0	1	0	1	8	0	0	8	9
0815 - 0830	0	0	0	0	1	6	0	7	5	0	0	5	12
0830 - 0845	0	0	0	0	1	6	0	7	9	0	0	9	16
0845 - 0900	0	0	0	0	0	4	0	4	8	0	0	8	12
Hourly Total	0	0	0	**0**	2	17	0	**19**	30	0	0	**30**	**49**
0900 - 0915	0	0	0	0	0	8	0	8	10	0	0	10	18
0915 - 0930	0	0	0	0	0	7	0	7	4	0	0	4	11
0930 - 0945	0	1	0	1	1	10	0	11	12	0	0	12	24
0945 - 1000	0	1	0	1	0	7	0	7	2	0	0	2	10
Hourly Total	0	2	0	**2**	1	32	0	**33**	28	0	0	**28**	**63**
1000 - 1015	0	0	0	0	0	7	0	7	3	0	0	3	10
1015 - 1030	0	1	0	1	1	7	0	8	7	0	0	7	16
1030 - 1045	0	1	0	1	0	2	0	2	5	0	0	5	8
1045 - 1100	0	2	0	2	1	8	0	9	9	0	0	9	20
Hourly Total	0	4	0	**4**	2	24	0	**26**	24	0	0	**24**	**54**
1100 - 1115	0	0	0	0	0	6	0	6	5	0	0	5	11
1115 - 1130	0	0	0	0	1	7	0	8	4	0	0	4	12
1130 - 1145	0	1	0	1	0	5	0	5	7	0	0	7	13
1145 - 1200	0	0	0	0	0	6	0	6	6	1	0	7	13
Hourly Total	0	1	0	**1**	1	24	0	**25**	22	1	0	**23**	**49**
1200 - 1215	0	1	0	1	0	4	0	4	3	0	0	3	8
1215 - 1230	0	0	0	0	0	2	0	2	8	1	0	9	11
1230 - 1245	0	0	0	0	0	7	0	7	8	0	0	8	15
1245 - 1300	0	0	0	0	0	4	0	4	5	0	0	5	9
Hourly Total	0	1	0	**1**	0	17	0	**17**	24	1	0	**25**	**43**
1300 - 1315	0	1	0	1	0	7	0	7	1	0	0	1	9
1315 - 1330	0	1	0	1	1	5	0	6	8	0	0	8	15
1330 - 1345	0	0	0	0	0	6	0	6	5	0	0	5	11
1345 - 1400	1	1	0	2	0	5	0	5	8	0	0	8	15
Hourly Total	1	3	0	**4**	1	23	0	**24**	22	0	0	**22**	**50**
1400 - 1415	0	3	0	3	0	3	0	3	7	0	0	7	13
1415 - 1430	0	0	0	0	0	3	0	3	2	0	0	2	5
1430 - 1445	0	1	0	1	0	6	0	6	9	0	0	9	16
1445 - 1500	0	2	0	2	0	3	0	3	4	1	0	5	10
Hourly Total	0	6	0	**6**	0	15	0	**15**	22	1	0	**23**	**44**
1500 - 1515	0	1	0	1	0	4	0	4	7	0	0	7	12
1515 - 1530	0	1	0	1	0	2	0	2	5	2	0	7	10
1530 - 1545	0	2	0	2	0	6	0	6	6	0	0	6	14
1545 - 1600	0	1	0	1	0	1	0	1	4	1	0	5	7
Hourly Total	0	5	0	**5**	0	13	0	**13**	22	3	0	**25**	**43**
1600 - 1615	0	1	0	1	1	4	0	5	8	1	0	9	15
1615 - 1630	0	0	0	0	0	2	0	2	5	0	0	5	7
1630 - 1645	0	0	0	0	0	1	0	1	5	0	0	5	6
1645 - 1700	0	1	0	1	0	1	0	1	7	0	0	7	9
Hourly Total	0	2	0	**2**	1	8	0	**9**	25	1	0	**26**	**37**
1700 - 1715	0	1	0	1	0	5	0	5	10	0	0	10	16
1715 - 1730	0	0	0	0	1	2	0	3	3	0	0	3	6
1730 - 1745	0	0	0	0	0	3	0	3	5	0	0	5	8
1745 - 1800	0	0	0	0	0	3	0	3	2	0	0	2	5
Hourly Total	0	1	0	**1**	1	13	0	**14**	20	0	0	**20**	**35**
Grand Total	3	26	0	**29**	12	216	0	**228**	265	13	0	**278**	**535**
Approach %	10.34	89.66	0.00	-	5.26	94.74	0.00	-	95.32	4.68	0.00	-	
Intersection %	0.56	4.86	0.00	5.42	2.24	40.37	0.00	42.62	49.53	2.43	0.00	51.96	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 10 of 13

TN-6 Lawrenceburg Hwy On/Off Ramp
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580973°, -87.142741°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Southbound				Eastbound				Westbound				
	TN-6 Lawrenceburg Hwy On/Off Ramp				TN-6 Lawrenceburg Hwy (West)				TN-6 Lawrenceburg Hwy (East)				
TIME	Left 10.1	Right 10.2	U-Turn 10.3	App Total	Left 10.4	Thru 10.5	U-Turn 10.6	App Total	Thru 10.7	Right 10.8	U-Turn 10.9	App Total	Int Total
0600 - 0615	1	0	0	1	0	3	0	3	3	0	0	3	7
0615 - 0630	0	0	0	0	0	5	0	5	6	0	0	6	11
0630 - 0645	0	1	0	1	0	5	0	5	15	0	0	15	21
0645 - 0700	0	0	0	0	0	8	0	8	6	0	0	6	14
Hourly Total	1	1	0	**2**	0	21	0	**21**	30	0	0	**30**	**53**
0700 - 0715	0	0	0	0	0	5	0	5	10	0	0	10	15
0715 - 0730	0	0	0	0	0	6	0	6	4	0	0	4	10
0730 - 0745	0	0	0	0	0	4	0	4	6	1	0	7	11
0745 - 0800	0	0	0	0	0	11	0	11	8	0	0	8	19
Hourly Total	0	0	0	**0**	0	26	0	**26**	28	1	0	**29**	**55**
0800 - 0815	0	0	0	0	0	5	0	5	11	0	0	11	16
0815 - 0830	0	0	0	0	0	14	0	14	9	0	0	9	23
0830 - 0845	0	0	0	0	0	16	0	16	4	0	0	4	20
0845 - 0900	0	0	0	0	0	12	0	12	13	0	0	13	25
Hourly Total	0	0	0	**0**	0	47	0	**47**	37	0	0	**37**	**84**
0900 - 0915	0	1	0	1	0	10	0	10	14	1	0	15	26
0915 - 0930	1	0	0	1	0	20	0	20	11	0	0	11	32
0930 - 0945	0	1	0	1	0	11	0	11	12	0	0	12	24
0945 - 1000	0	0	0	0	0	9	0	9	13	1	0	14	23
Hourly Total	1	2	0	**3**	0	50	0	**50**	50	2	0	**52**	**105**
1000 - 1015	0	0	0	0	0	11	0	11	12	0	0	12	23
1015 - 1030	0	1	0	1	0	14	0	14	13	0	0	13	28
1030 - 1045	1	0	0	1	0	6	0	6	6	1	0	7	14
1045 - 1100	0	0	0	0	2	7	0	9	18	0	0	18	27
Hourly Total	1	1	0	**2**	2	38	0	**40**	49	1	0	**50**	**92**
1100 - 1115	0	0	0	0	0	10	0	10	16	0	0	16	26
1115 - 1130	0	0	0	0	0	11	0	11	4	0	0	4	15
1130 - 1145	0	0	0	0	0	8	0	8	10	0	0	10	18
1145 - 1200	0	0	0	0	1	6	0	7	13	1	0	14	21
Hourly Total	0	0	0	**0**	1	35	0	**36**	43	1	0	**44**	**80**
1200 - 1215	0	0	0	0	0	8	0	8	6	0	0	6	14
1215 - 1230	0	0	0	0	0	16	0	16	14	1	0	15	31
1230 - 1245	0	0	0	0	0	9	0	9	11	0	0	11	20
1245 - 1300	1	0	0	1	0	5	0	5	9	1	0	10	16
Hourly Total	1	0	0	**1**	0	38	0	**38**	40	2	0	**42**	**81**
1300 - 1315	0	0	0	0	0	9	0	9	10	1	0	11	20
1315 - 1330	0	0	0	0	0	15	0	15	10	1	0	11	26
1330 - 1345	0	0	0	0	0	6	0	6	10	0	0	10	16
1345 - 1400	0	0	0	0	0	9	0	9	9	1	0	10	19
Hourly Total	0	0	0	**0**	0	39	0	**39**	39	3	0	**42**	**81**
1400 - 1415	0	0	0	0	0	9	0	9	14	1	0	15	24
1415 - 1430	0	0	0	0	0	9	0	9	9	0	0	9	18
1430 - 1445	0	0	0	0	0	11	0	11	7	2	0	9	20
1445 - 1500	0	0	0	0	1	12	0	13	12	1	0	13	26
Hourly Total	0	0	0	**0**	1	41	0	**42**	42	4	0	**46**	**88**
1500 - 1515	0	0	0	0	0	12	0	12	7	1	0	8	20
1515 - 1530	0	1	0	1	0	3	0	3	7	0	0	7	11
1530 - 1545	0	0	0	0	0	7	0	7	3	0	0	3	10
1545 - 1600	1	0	0	1	0	7	0	7	2	0	0	2	10
Hourly Total	1	1	0	**2**	0	29	0	**29**	19	1	0	**20**	**51**
1600 - 1615	0	0	0	0	0	8	0	8	12	0	0	12	20
1615 - 1630	0	0	0	0	0	7	0	7	6	0	0	6	13
1630 - 1645	0	0	0	0	0	5	0	5	5	0	0	5	10
1645 - 1700	0	0	0	0	0	5	0	5	2	0	0	2	7
Hourly Total	0	0	0	**0**	0	25	0	**25**	25	0	0	**25**	**50**
1700 - 1715	1	0	0	1	0	4	0	4	4	0	0	4	9
1715 - 1730	1	0	0	1	0	3	0	3	6	0	0	6	10
1730 - 1745	0	0	0	0	0	4	0	4	3	1	0	4	8
1745 - 1800	0	0	0	0	0	5	0	5	5	0	0	5	10
Hourly Total	2	0	0	**2**	0	16	0	**16**	18	1	0	**19**	**37**
Grand Total	7	5	0	**12**	4	405	0	**409**	420	16	0	**436**	**857**
Approach %	58.33	41.67	0.00	-	0.98	99.02	0.00	-	96.33	3.67	0.00	-	
Intersection %	0.82	0.58	0.00	1.40	0.47	47.26	0.00	47.72	49.01	1.87	0.00	50.88	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 10 of 13

TN-6 Lawrenceburg Hwy On/Off Ramp
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.580973°, -87.142741°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Southbound			Eastbound			Westbound			
	TN-6 Lawrenceburg Hwy On/Off Ramp			TN-6 Lawrenceburg Hwy (West)			TN-6 Lawrenceburg Hwy (East)			
TIME	EB 10c	WB 10d	App Total	NB 10e	SB 10f	App Total	NB 10g	SB 10h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

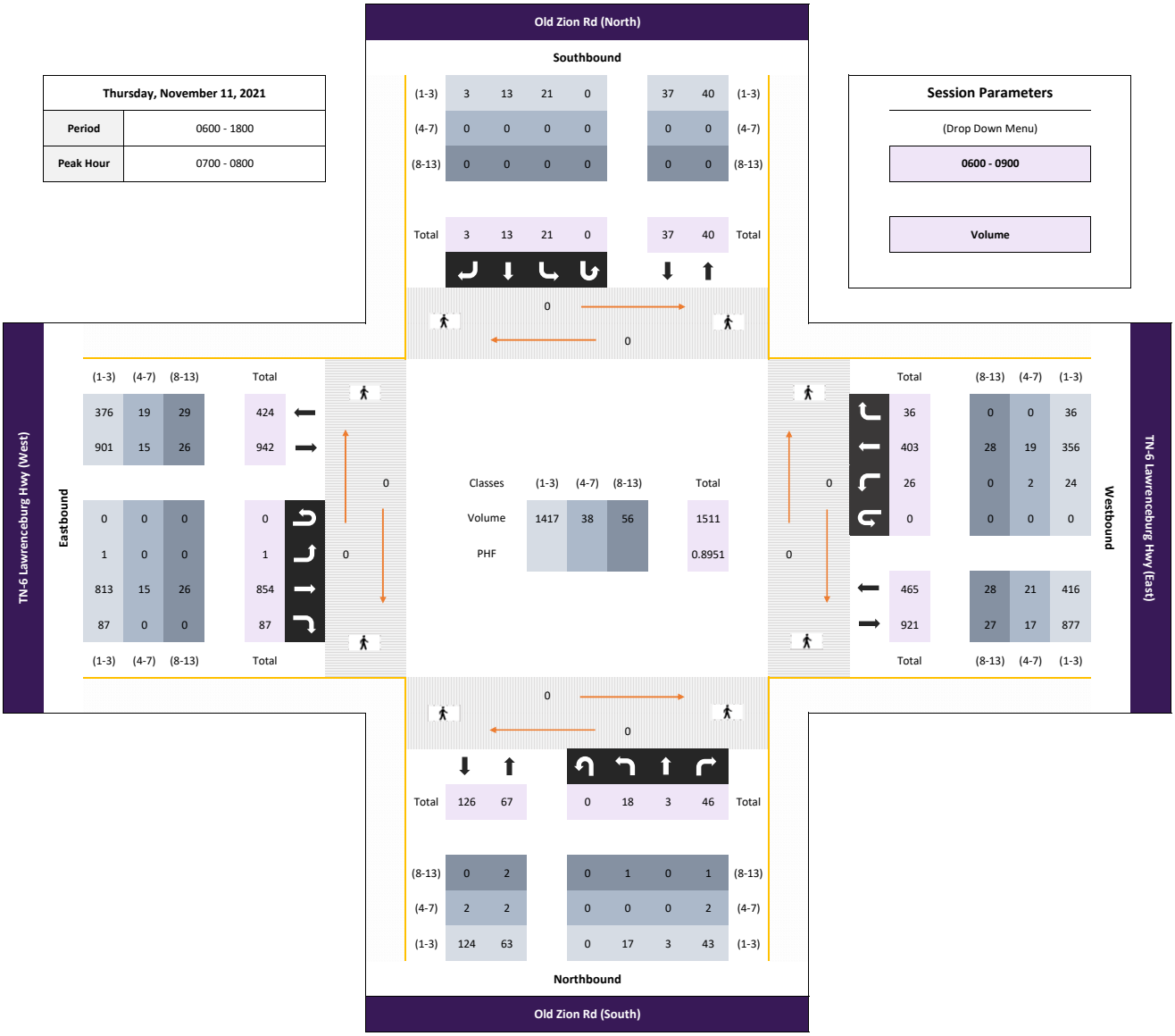
Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

0600 - 0900

Volume



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
0700 - 0715	1	0	15	0	16	2	2	0	0	4	0	187	14	0	201	5	92	7	0	104	325
0715 - 0730	8	1	12	0	21	4	4	0	0	8	0	225	23	0	248	10	107	12	0	129	406
0730 - 0745	4	1	10	0	15	7	4	2	0	13	0	241	25	0	266	3	110	15	0	128	422
0745 - 0800	5	1	9	0	15	8	3	1	0	12	1	201	25	0	227	8	94	2	0	104	358
Total	18	3	46	0	67	21	13	3	0	37	1	854	87	0	942	26	403	36	0	465	1511
Approach %	26.87	4.48	68.66	0.00	-	56.76	35.14	8.11	0.00	-	0.11	90.66	9.24	0.00	-	5.59	86.67	7.74	0.00	-	
PHF	0.56	0.75	0.77	0.00	**0.80**	0.66	0.81	0.38	0.00	**0.71**	0.25	0.89	0.87	0.00	**0.89**	0.65	0.92	0.60	0.00	**0.90**	**0.90**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
0700 - 0715	1	0	15	0	16	2	2	0	0	4	0	180	14	0	194	5	80	7	0	92	306
0715 - 0730	8	1	12	0	21	4	4	0	0	8	0	217	23	0	240	10	96	12	0	118	387
0730 - 0745	3	1	10	0	14	7	4	2	0	13	0	232	25	0	257	1	100	15	0	116	400
0745 - 0800	5	1	6	0	12	8	3	1	0	12	1	184	25	0	210	8	80	2	0	90	324
Total	17	3	43	0	63	21	13	3	0	37	1	813	87	0	901	24	356	36	0	416	1417
Approach %	26.98	4.76	68.25	0.00	-	56.76	35.14	8.11	0.00	-	0.11	90.23	9.66	0.00	-	5.77	85.58	8.65	0.00	-	
PHF	0.53	0.75	0.72	0.00	**0.75**	0.66	0.81	0.38	0.00	**0.71**	0.25	0.88	0.87	0.00	**0.88**	0.60	0.89	0.60	0.00	**0.88**	**0.89**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	7	0	0	7	8
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	2	3	0	0	5	11
0745 - 0800	0	0	2	0	2	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	13
Total	0	0	2	0	2	0	0	0	0	0	0	15	0	0	15	2	19	0	0	21	38
Approach %	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	9.52	90.48	0.00	0.00	-	
PHF	0.00	0.00	0.25	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.63	0.00	0.00	**0.63**	0.25	0.68	0.00	0.00	**0.75**	**0.73**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	9	0	0	9	13
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	4	0	0	4	11
0730 - 0745	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	0	7	0	0	7	11
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	12	0	0	12	0	8	0	0	8	21
Total	1	0	1	0	2	0	0	0	0	0	0	26	0	0	26	0	28	0	0	28	56
Approach %	50.00	0.00	50.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.25	0.00	0.25	0.00	**0.50**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.54	0.00	0.00	**0.54**	0.00	0.78	0.00	0.00	**0.78**	**0.67**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	12a	12b			Total	12c	12d			Total	12e	12f			Total	12g	12h			Total	Total
0700 - 0715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0715 - 0730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Click here for Map

Peak Hour Turning Movement Count

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Thursday, November 11, 2021	
Period	0600 - 1800
Peak Hour	1600 - 1700

Session Parameters

(Drop Down Menu)

1430 - 1800

Volume



All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
1600 - 1615	14	0	9	0	23	0	2	0	0	2	0	109	9	0	118	15	182	2	0	199	342
1615 - 1630	6	2	7	0	15	0	3	1	0	4	1	119	10	0	130	10	203	4	0	217	366
1630 - 1645	10	1	8	0	19	0	1	0	0	1	1	105	10	0	116	7	244	2	0	253	389
1645 - 1700	12	1	7	0	20	1	2	0	0	3	0	106	10	0	116	5	210	2	0	217	356
Total	42	4	31	0	77	1	8	1	0	10	2	439	39	0	480	37	839	10	0	886	1453
Approach %	54.55	5.19	40.26	0.00	-	10.00	80.00	10.00	0.00	-	0.42	91.46	8.13	0.00	-	4.18	94.70	1.13	0.00	-	
PHF	0.75	0.50	0.86	0.00	**0.84**	0.25	0.67	0.25	0.00	**0.63**	0.50	0.92	0.98	0.00	**0.92**	0.62	0.86	0.63	0.00	**0.88**	**0.93**

Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
1600 - 1615	14	0	8	0	22	0	2	0	0	2	0	99	8	0	107	15	164	2	0	181	312
1615 - 1630	6	2	7	0	15	0	3	1	0	4	1	112	10	0	123	9	190	4	0	203	345
1630 - 1645	10	1	8	0	19	0	1	0	0	1	1	96	10	0	107	7	235	2	0	244	371
1645 - 1700	12	1	7	0	20	1	2	0	0	3	0	100	10	0	110	5	199	2	0	206	339
Total	42	4	30	0	76	1	8	1	0	10	2	407	38	0	447	36	788	10	0	834	1367
Approach %	55.26	5.26	39.47	0.00	-	10.00	80.00	10.00	0.00	-	0.45	91.05	8.50	0.00	-	4.32	94.48	1.20	0.00	-	
PHF	0.75	0.50	0.94	0.00	**0.86**	0.25	0.67	0.25	0.00	**0.63**	0.50	0.91	0.95	0.00	**0.91**	0.60	0.84	0.63	0.00	**0.85**	**0.92**

Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
1600 - 1615	0	0	1	0	1	0	0	0	0	0	0	2	1	0	3	0	7	0	0	7	11
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	6	0	0	6	7
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5	8
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	9
Total	0	0	1	0	1	0	0	0	0	0	0	7	1	0	8	0	26	0	0	26	35
Approach %	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	87.50	12.50	0.00	-	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.25	0.00	**0.25**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.58	0.25	0.00	**0.67**	0.00	0.81	0.00	0.00	**0.81**	**0.80**

Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Int
Time	12.1	12.2	12.3	12.4	Total	12.5	12.6	12.7	12.8	Total	12.9	12.10	12.11	12.12	Total	12.13	12.14	12.15	12.16	Total	Total
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	11	0	0	11	19
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	1	7	0	0	8	14
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	4	0	0	4	10
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	3	0	0	3	8
Total	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	1	25	0	0	26	51
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	3.85	96.15	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.78	0.00	0.00	**0.78**	0.25	0.57	0.00	0.00	**0.59**	**0.67**

Pedestrians

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
	EB	WB			App	EB	WB			App	NB	SB			App	NB	SB			App	Int
Time	12a	12b			Total	12c	12d			Total	12e	12f			Total	12g	12h			Total	Total
1600 - 1615	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1615 - 1630	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1630 - 1645	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1645 - 1700	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Classified Turn Movement Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 12 of 13
Old Zion Rd (South)
Old Zion Rd (North)
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.586222°, -87.133034°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
TIME	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	Int Total
0600 - 0615	0	1	15	0	16	0	1	0	0	1	0	157	16	0	173	5	51	0	0	56	246
0615 - 0630	0	1	7	0	8	2	0	1	0	3	0	181	18	0	199	1	59	0	0	60	270
0630 - 0645	1	0	9	0	10	0	2	0	0	2	0	223	20	0	243	5	72	0	0	77	332
0645 - 0700	2	0	17	0	19	0	4	0	0	4	0	151	26	0	177	7	84	2	0	93	293
Hourly Total	3	2	48	0	**53**	2	7	1	0	**10**	0	712	80	0	**792**	18	266	2	0	**286**	**1141**
0700 - 0715	1	0	15	0	16	2	2	0	0	4	0	187	14	0	201	5	92	7	0	104	325
0715 - 0730	8	1	12	0	21	4	4	0	0	8	0	225	23	0	248	10	107	12	0	129	406
0730 - 0745	4	1	10	0	15	7	4	2	0	13	0	241	25	0	266	3	110	15	0	128	422
0745 - 0800	5	1	9	0	15	8	3	1	0	12	1	201	25	0	227	8	94	2	0	104	358
Hourly Total	18	3	46	0	**67**	21	13	3	0	**37**	1	854	87	0	**942**	26	403	36	0	**465**	**1511**
0800 - 0815	1	2	11	0	14	1	0	0	0	1	0	120	15	0	135	6	92	0	0	98	248
0815 - 0830	0	0	9	0	9	1	0	0	0	1	0	147	20	0	167	5	84	1	0	90	267
0830 - 0845	3	1	7	0	11	1	0	0	0	1	0	140	19	0	159	8	87	2	0	97	268
0845 - 0900	3	0	7	0	10	2	1	0	0	3	0	141	18	0	159	6	94	3	0	103	275
Hourly Total	7	3	34	0	**44**	5	1	0	0	**6**	0	548	72	0	**620**	25	357	6	0	**388**	**1058**
0900 - 0915	2	0	3	0	5	1	1	1	0	3	0	130	15	0	145	1	88	1	0	90	243
0915 - 0930	10	1	4	0	15	0	4	0	0	4	0	127	17	0	144	1	81	0	0	82	245
0930 - 0945	4	1	11	0	16	1	3	0	0	4	0	127	19	0	146	5	104	2	1	112	278
0945 - 1000	8	0	7	0	15	3	0	0	0	3	0	92	10	0	102	4	72	1	0	77	197
Hourly Total	24	2	25	0	**51**	5	8	1	0	**14**	0	476	61	0	**537**	11	345	4	1	**361**	**963**
1000 - 1015	1	2	1	0	4	0	0	0	0	0	0	110	13	0	123	5	87	2	0	94	221
1015 - 1030	4	0	6	0	10	0	0	1	0	1	0	92	12	0	104	1	88	2	0	91	206
1030 - 1045	5	3	6	0	14	1	2	0	0	3	0	106	7	0	113	3	79	0	0	82	212
1045 - 1100	5	2	6	0	13	2	0	0	0	2	0	114	15	0	129	9	101	0	0	110	254
Hourly Total	15	7	19	0	**41**	3	2	1	0	**6**	0	422	47	0	**469**	18	355	4	0	**377**	**893**
1100 - 1115	4	0	0	0	4	1	1	0	0	2	0	129	11	0	140	7	106	1	0	114	260
1115 - 1130	5	0	4	0	9	0	2	1	0	3	1	121	17	0	139	4	87	1	0	92	243
1130 - 1145	5	2	3	0	10	0	1	0	0	1	0	91	10	0	101	3	116	0	0	119	231
1145 - 1200	6	2	4	0	12	1	4	1	0	6	0	105	10	0	115	4	82	2	0	88	221
Hourly Total	20	4	11	0	**35**	2	8	2	0	**12**	1	446	48	0	**495**	18	391	4	0	**413**	**955**
1200 - 1215	4	0	7	0	11	0	0	0	0	0	0	96	8	0	104	4	88	0	0	92	207
1215 - 1230	6	2	2	0	10	1	2	0	0	3	0	102	3	0	105	4	98	1	0	103	221
1230 - 1245	1	1	5	0	7	0	2	0	0	2	0	110	10	0	120	4	95	1	0	100	229
1245 - 1300	6	1	4	0	11	0	1	1	0	2	0	88	9	0	97	4	106	1	0	111	221
Hourly Total	17	4	18	0	**39**	1	5	1	0	**7**	0	396	30	0	**426**	16	387	3	0	**406**	**878**
1300 - 1315	7	1	4	0	12	1	2	0	0	3	1	110	6	0	117	3	100	1	0	104	236
1315 - 1330	8	0	3	0	11	0	4	0	0	4	0	102	8	0	110	5	93	0	0	98	223
1330 - 1345	4	1	4	0	9	0	0	0	0	0	0	87	7	0	94	5	104	0	0	109	212
1345 - 1400	11	1	8	0	20	2	0	1	0	3	0	106	15	0	121	3	123	0	0	126	270
Hourly Total	30	3	19	0	**52**	3	6	1	0	**10**	1	405	36	0	**442**	16	420	1	0	**437**	**941**
1400 - 1415	7	2	4	0	13	1	0	1	0	2	0	117	9	0	126	6	119	4	0	129	270
1415 - 1430	6	0	6	0	12	1	0	0	0	1	1	114	9	0	124	12	110	3	0	125	262
1430 - 1445	10	1	11	0	22	2	1	1	0	4	0	121	13	0	134	4	137	2	0	143	303
1445 - 1500	11	4	8	0	23	4	2	0	0	6	0	127	11	0	138	4	124	8	0	136	303
Hourly Total	34	7	29	0	**70**	8	3	2	0	**13**	1	479	42	0	**522**	26	490	17	0	**533**	**1138**
1500 - 1515	6	2	13	0	21	7	10	0	0	17	0	125	14	0	139	6	162	0	0	168	345
1515 - 1530	7	2	7	0	16	2	2	0	0	4	0	106	11	0	117	8	169	1	0	178	315
1530 - 1545	12	4	7	0	23	4	1	0	0	5	0	119	5	0	124	9	198	3	0	210	362
1545 - 1600	9	1	4	0	14	3	2	0	0	5	0	99	12	0	111	8	176	3	0	187	317
Hourly Total	34	9	31	0	**74**	16	15	0	0	**31**	0	449	42	0	**491**	31	705	7	0	**743**	**1339**
1600 - 1615	14	0	9	0	23	0	2	0	0	2	0	109	9	0	118	15	182	2	0	199	342
1615 - 1630	6	2	7	0	15	0	3	1	0	4	1	119	10	0	130	10	203	4	0	217	366
1630 - 1645	10	1	8	0	19	0	1	0	0	1	1	105	10	0	116	7	244	2	0	253	389
1645 - 1700	12	1	7	0	20	1	2	0	0	3	0	106	10	0	116	5	210	2	0	217	356
Hourly Total	42	4	31	0	**77**	1	8	1	0	**10**	2	439	39	0	**480**	37	839	10	0	**886**	**1453**
1700 - 1715	10	1	5	0	16	2	1	0	0	3	0	96	9	0	105	5	203	3	0	211	335
1715 - 1730	17	3	6	0	26	2	0	1	0	3	0	91	9	0	100	15	194	0	0	209	338
1730 - 1745	6	1	3	0	10	4	2	0	0	6	0	76	11	0	87	3	162	0	0	165	268
1745 - 1800	6	0	11	0	17	1	6	0	0	7	0	93	4	0	97	8	158	0	0	166	287
Hourly Total	39	5	25	0	**69**	9	9	1	0	**19**	0	356	33	0	**389**	31	717	3	0	**751**	**1228**
Grand Total	283	53	336	0	**672**	76	85	14	0	**175**	6	5982	617	0	**6605**	273	5675	97	1	**6046**	**13498**
Approach %	42.11	7.89	50.00	0.00	-	43.43	48.57	8.00	0.00	-	0.09	90.57	9.34	0.00	-	4.52	93.86	1.60	0.02	-	
Intersection %	2.10	0.39	2.49	0.00	4.98	0.56	0.63	0.10	0.00	1.30	0.04	44.32	4.57	0.00	48.93	2.02	42.04	0.72	0.01	44.79	
PHF	0.56	0.75	0.77	0.00	**0.80**	0.66	0.81	0.38	0.00	**0.71**	0.25	0.89	0.87	0.00	**0.89**	0.65	0.92	0.60	0.00	**0.90**	**0.90**

Classified Turn Movement Count || Bikes

Columbia, TN

Marr Traffic DATA COLLECTION

www.marrtraffic.com

Site 12 of 13
Old Zion Rd (South)
Old Zion Rd (North)
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.586222°, -87.133034°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Bikes

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
TIME	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Grand Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Passenger Vehicles (1-3)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 12 of 13
Old Zion Rd (South)
Old Zion Rd (North)
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.586222°, -87.133034°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
TIME	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	Int Total
0600 - 0615	0	1	15	0	16	0	1	0	0	1	0	150	16	0	166	4	48	0	0	52	235
0615 - 0630	0	1	7	0	8	2	0	0	0	2	0	172	17	0	189	1	46	0	0	47	246
0630 - 0645	1	0	9	0	10	0	2	0	0	2	0	213	19	0	232	5	56	0	0	61	305
0645 - 0700	2	0	16	0	18	0	4	0	0	4	0	140	26	0	166	7	74	2	0	83	271
Hourly Total	3	2	47	0	**52**	2	7	0	0	**9**	0	675	78	0	**753**	17	224	2	0	**243**	**1057**
0700 - 0715	1	0	15	0	16	2	2	0	0	4	0	180	14	0	194	5	80	7	0	92	306
0715 - 0730	8	1	12	0	21	4	4	0	0	8	0	217	23	0	240	10	96	12	0	118	387
0730 - 0745	3	1	10	0	14	7	4	2	0	13	0	232	25	0	257	1	100	15	0	116	400
0745 - 0800	5	1	6	0	12	8	3	1	0	12	1	184	25	0	210	8	80	2	0	90	324
Hourly Total	17	3	43	0	**63**	21	13	3	0	**37**	1	813	87	0	**901**	24	356	36	0	**416**	**1417**
0800 - 0815	0	2	11	0	13	1	0	0	0	1	0	112	15	0	127	6	75	0	0	81	222
0815 - 0830	0	0	8	0	8	1	0	0	0	1	0	129	20	0	149	5	71	1	0	77	235
0830 - 0845	3	0	7	0	10	1	0	0	0	1	0	120	18	0	138	4	70	2	0	76	225
0845 - 0900	2	0	7	0	9	2	1	0	0	3	0	125	17	0	142	5	76	3	0	84	238
Hourly Total	5	2	33	0	**40**	5	1	0	0	**6**	0	486	70	0	**556**	20	292	6	0	**318**	**920**
0900 - 0915	2	0	2	0	4	1	1	1	0	3	0	113	15	0	128	1	65	1	0	67	202
0915 - 0930	10	1	3	0	14	0	4	0	0	4	0	101	16	0	117	1	68	0	0	69	204
0930 - 0945	3	1	11	0	15	1	3	0	0	4	0	107	17	0	124	3	79	2	1	85	228
0945 - 1000	8	0	7	0	15	3	0	0	0	3	0	75	10	0	85	1	54	1	0	56	159
Hourly Total	23	2	23	0	**48**	5	8	1	0	**14**	0	396	58	0	**454**	6	266	4	1	**277**	**793**
1000 - 1015	1	2	0	0	3	0	0	0	0	0	0	96	12	0	108	3	71	1	0	75	186
1015 - 1030	4	0	6	0	10	0	0	0	0	0	0	72	12	0	84	1	69	2	0	72	166
1030 - 1045	5	3	5	0	13	1	2	0	0	3	0	94	7	0	101	1	66	0	0	67	184
1045 - 1100	5	2	3	0	10	2	0	0	0	2	0	98	15	0	113	9	76	0	0	85	210
Hourly Total	15	7	14	0	**36**	3	2	0	0	**5**	0	360	46	0	**406**	14	282	3	0	**299**	**746**
1100 - 1115	4	0	0	0	4	1	1	0	0	2	0	115	11	0	126	6	84	1	0	91	223
1115 - 1130	5	0	4	0	9	0	2	1	0	3	1	103	16	0	120	4	78	0	0	82	214
1130 - 1145	5	2	3	0	10	0	1	0	0	1	0	79	10	0	89	3	98	0	0	101	201
1145 - 1200	6	2	4	0	12	1	4	1	0	6	0	92	9	0	101	4	64	2	0	70	189
Hourly Total	20	4	11	0	**35**	2	8	2	0	**12**	1	389	46	0	**436**	17	324	3	0	**344**	**827**
1200 - 1215	4	0	5	0	9	0	0	0	0	0	0	86	7	0	93	4	75	0	0	79	181
1215 - 1230	5	2	2	0	9	1	2	0	0	3	0	84	3	0	87	4	78	1	0	83	182
1230 - 1245	1	1	5	0	7	0	1	0	0	1	0	94	10	0	104	3	76	1	0	80	192
1245 - 1300	6	1	3	0	10	0	1	1	0	2	0	77	9	0	86	4	92	0	0	96	194
Hourly Total	16	4	15	0	**35**	1	4	1	0	**6**	0	341	29	0	**370**	15	321	2	0	**338**	**749**
1300 - 1315	7	0	2	0	9	1	2	0	0	3	1	93	6	0	100	3	85	1	0	89	201
1315 - 1330	8	0	3	0	11	0	4	0	0	4	0	85	8	0	93	3	77	0	0	80	188
1330 - 1345	4	1	4	0	9	0	0	0	0	0	0	73	7	0	80	4	89	0	0	93	182
1345 - 1400	11	1	5	0	17	2	0	1	0	3	0	91	15	0	106	3	105	0	0	108	234
Hourly Total	30	2	14	0	**46**	3	6	1	0	**10**	1	342	36	0	**379**	13	356	1	0	**370**	**805**
1400 - 1415	7	2	3	0	12	1	0	1	0	2	0	105	9	0	114	6	102	4	0	112	240
1415 - 1430	6	0	5	0	11	1	0	0	0	1	1	102	9	0	112	12	92	3	0	107	231
1430 - 1445	10	1	10	0	21	2	1	1	0	4	0	104	13	0	117	3	122	2	0	127	269
1445 - 1500	11	4	8	0	23	4	2	0	0	6	0	112	11	0	123	4	105	8	0	117	269
Hourly Total	34	7	26	0	**67**	8	3	2	0	**13**	1	423	42	0	**466**	25	421	17	0	**463**	**1009**
1500 - 1515	6	2	13	0	21	7	10	0	0	17	0	111	14	0	125	6	146	0	0	152	315
1515 - 1530	7	2	7	0	16	2	2	0	0	4	0	97	11	0	108	7	158	1	0	166	294
1530 - 1545	12	4	5	0	21	4	1	0	0	5	0	108	5	0	113	9	187	3	0	199	338
1545 - 1600	9	1	3	0	13	3	2	0	0	5	0	90	12	0	102	8	169	3	0	180	300
Hourly Total	34	9	28	0	**71**	16	15	0	0	**31**	0	406	42	0	**448**	30	660	7	0	**697**	**1247**
1600 - 1615	14	0	8	0	22	0	2	0	0	2	0	99	8	0	107	15	164	2	0	181	312
1615 - 1630	6	2	7	0	15	0	3	1	0	4	1	112	10	0	123	9	190	4	0	203	345
1630 - 1645	10	1	8	0	19	0	1	0	0	1	1	96	10	0	107	7	235	2	0	244	371
1645 - 1700	12	1	7	0	20	1	2	0	0	3	0	100	10	0	110	5	199	2	0	206	339
Hourly Total	42	4	30	0	**76**	1	8	1	0	**10**	2	407	38	0	**447**	36	788	10	0	**834**	**1367**
1700 - 1715	10	1	5	0	16	2	1	0	0	3	0	87	9	0	96	5	196	3	0	204	319
1715 - 1730	17	3	6	0	26	2	0	1	0	3	0	82	9	0	91	12	182	0	0	194	314
1730 - 1745	6	1	3	0	10	4	2	0	0	6	0	69	11	0	80	3	151	0	0	154	250
1745 - 1800	6	0	10	0	16	1	6	0	0	7	0	87	4	0	91	8	150	0	0	158	272
Hourly Total	39	5	24	0	**68**	9	9	1	0	**19**	0	325	33	0	**358**	28	679	3	0	**710**	**1155**
Grand Total	278	51	308	0	**637**	76	84	12	0	**172**	6	5363	605	0	**5974**	245	4969	94	1	**5309**	**12092**
Approach %	43.64	8.01	48.35	0.00	-	44.19	48.84	6.98	0.00	-	0.10	89.77	10.13	0.00	-	4.61	93.60	1.77	0.02	-	
Intersection %	2.30	0.42	2.55	0.00	5.27	0.63	0.69	0.10	0.00	1.42	0.05	44.35	5.00	0.00	49.40	2.03	41.09	0.78	0.01	43.91	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 12 of 13
Old Zion Rd (South)
Old Zion Rd (North)
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.586222°, -87.133034°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
TIME	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
0615 - 0630	0	0	0	0	0	0	0	1	0	1	0	4	1	0	5	0	7	0	0	7	13
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	2	0	0	2	7
0645 - 0700	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	0	3	0	0	3	8
Hourly Total	0	0	1	0	**1**	0	0	1	0	**1**	0	15	2	0	**17**	0	12	0	0	**12**	**31**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	7	0	0	7	8
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	2	3	0	0	5	11
0745 - 0800	0	0	2	0	2	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	13
Hourly Total	0	0	2	0	**2**	0	0	0	0	**0**	0	15	0	0	**15**	2	19	0	0	**21**	**38**
0800 - 0815	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	7	0	0	7	10
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	11
0830 - 0845	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	3	9	0	0	12	17
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	1	7	0	0	8	14
Hourly Total	1	1	0	0	**2**	0	0	0	0	**0**	0	17	0	0	**17**	4	29	0	0	**33**	**52**
0900 - 0915	0	0	1	0	1	0	0	0	0	0	0	8	0	0	8	0	9	0	0	9	18
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	10
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	12	0	0	12	22
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	3	4	0	0	7	14
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	32	0	0	**32**	3	28	0	0	**31**	**64**
1000 - 1015	0	0	1	0	1	0	0	0	0	0	0	6	0	0	6	2	3	1	0	6	13
1015 - 1030	0	0	0	0	0	0	0	1	0	1	0	6	0	0	6	0	7	0	0	7	14
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	2	4	0	0	6	11
1045 - 1100	0	0	2	0	2	0	0	0	0	0	0	7	0	0	7	0	9	0	0	9	18
Hourly Total	0	0	3	0	**3**	0	0	1	0	**1**	0	24	0	0	**24**	4	23	1	0	**28**	**56**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	11
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	4	0	0	4	13
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	8	0	0	8	12
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	5	0	0	5	11
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	24	0	0	**24**	0	23	0	0	**23**	**47**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	7	0	0	7	9
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	6	0	0	6	9
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	1	8	0	0	9	16
1245 - 1300	0	0	1	0	1	0	0	0	0	0	0	5	0	0	5	0	4	1	0	5	11
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	17	0	0	**17**	1	25	1	0	**27**	**45**
1300 - 1315	0	1	2	0	3	0	0	0	0	0	0	7	0	0	7	0	4	0	0	4	14
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	6	0	0	7	11
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	1	4	0	0	5	12
1345 - 1400	0	0	1	0	1	0	0	0	0	0	0	6	0	0	6	0	8	0	0	8	15
Hourly Total	0	1	3	0	**4**	0	0	0	0	**0**	0	24	0	0	**24**	2	22	0	0	**24**	**52**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
1415 - 1430	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	0	7	0	0	7	12
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	6	0	0	6	12
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5	8
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	15	0	0	**15**	0	23	0	0	**23**	**39**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	8	0	0	8	11
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	5	0	0	6	10
1530 - 1545	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	0	7	0	0	7	12
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	13	0	0	**13**	1	25	0	0	**26**	**40**
1600 - 1615	0	0	1	0	1	0	0	0	0	0	0	2	1	0	3	0	7	0	0	7	11
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	6	0	0	6	7
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5	8
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	9
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	7	1	0	**8**	0	26	0	0	**26**	**35**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	2	6	0	0	8	13
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	6
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	13	0	0	**13**	2	19	0	0	**21**	**34**
Grand Total	1	2	14	0	**17**	0	0	2	0	**2**	0	216	3	0	**219**	19	274	2	0	**295**	**533**
Approach %	5.88	11.76	82.35	0.00	-	0.00	0.00	100.00	0.00	-	0.00	98.63	1.37	0.00	-	6.44	92.88	0.68	0.00	-	
Intersection %	0.19	0.38	2.63	0.00	3.19	0.00	0.00	0.38	0.00	0.38	0.00	40.53	0.56	0.00	41.09	3.56	51.41	0.38	0.00	55.35	

Classified Turn Movement Count || Combination Trucks (8-13)

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 12 of 13
Old Zion Rd (South)
Old Zion Rd (North)
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.586222°, -87.133034°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Combination Trucks (8-13)

	Northbound					Southbound					Eastbound					Westbound					
	Old Zion Rd (South)					Old Zion Rd (North)					TN-6 Lawrenceburg Hwy (West)					TN-6 Lawrenceburg Hwy (East)					
TIME	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	3	0	0	4	8
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	11
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	14	0	0	14	20
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	7	0	0	7	14
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	22	0	0	**22**	1	30	0	0	**31**	**53**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	9	0	0	9	13
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	4	0	0	4	11
0730 - 0745	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	0	7	0	0	7	11
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	12	0	0	12	0	8	0	0	8	21
Hourly Total	1	0	1	0	**2**	0	0	0	0	**0**	0	26	0	0	**26**	0	28	0	0	**28**	**56**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	10	0	0	10	16
0815 - 0830	0	0	1	0	1	0	0	0	0	0	0	13	0	0	13	0	7	0	0	7	21
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	16	1	0	17	1	8	0	0	9	26
0845 - 0900	1	0	0	0	1	0	0	0	0	0	0	10	1	0	11	0	11	0	0	11	23
Hourly Total	1	0	1	0	**2**	0	0	0	0	**0**	0	45	2	0	**47**	1	36	0	0	**37**	**86**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	14	0	0	14	23
0915 - 0930	0	0	1	0	1	0	0	0	0	0	0	19	1	0	20	0	10	0	0	10	31
0930 - 0945	1	0	0	0	1	0	0	0	0	0	0	10	2	0	12	2	13	0	0	15	28
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	14	0	0	14	24
Hourly Total	1	0	1	0	**2**	0	0	0	0	**0**	0	48	3	0	**51**	2	51	0	0	**53**	**106**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	13	0	0	13	22
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	12	0	0	12	26
1030 - 1045	0	0	1	0	1	0	0	0	0	0	0	7	0	0	7	0	9	0	0	9	17
1045 - 1100	0	0	1	0	1	0	0	0	0	0	0	9	0	0	9	0	16	0	0	16	26
Hourly Total	0	0	2	0	**2**	0	0	0	0	**0**	0	38	1	0	**39**	0	50	0	0	**50**	**91**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	1	16	0	0	17	26
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	0	5	1	0	6	16
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	10	0	0	10	18
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	13	0	0	13	21
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	33	2	0	**35**	1	44	1	0	**46**	**81**
1200 - 1215	0	0	2	0	2	0	0	0	0	0	0	8	1	0	9	0	6	0	0	6	17
1215 - 1230	1	0	0	0	1	0	0	0	0	0	0	15	0	0	15	0	14	0	0	14	30
1230 - 1245	0	0	0	0	0	0	1	0	0	1	0	9	0	0	9	0	11	0	0	11	21
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	10	0	0	10	16
Hourly Total	1	0	2	0	**3**	0	1	0	0	**1**	0	38	1	0	**39**	0	41	0	0	**41**	**84**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	11	0	0	11	21
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	1	10	0	0	11	24
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	11	0	0	11	18
1345 - 1400	0	0	2	0	2	0	0	0	0	0	0	9	0	0	9	0	10	0	0	10	21
Hourly Total	0	0	2	0	**2**	0	0	0	0	**0**	0	39	0	0	**39**	1	42	0	0	**43**	**84**
1400 - 1415	0	0	1	0	1	0	0	0	0	0	0	10	0	0	10	0	12	0	0	12	23
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	11	0	0	11	19
1430 - 1445	0	0	1	0	1	0	0	0	0	0	0	11	0	0	11	1	9	0	0	10	22
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	14	0	0	14	26
Hourly Total	0	0	2	0	**2**	0	0	0	0	**0**	0	41	0	0	**41**	1	46	0	0	**47**	**90**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	8	0	0	8	19
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	11
1530 - 1545	0	0	1	0	1	0	0	0	0	0	0	7	0	0	7	0	4	0	0	4	12
1545 - 1600	0	0	1	0	1	0	0	0	0	0	0	7	0	0	7	0	2	0	0	2	10
Hourly Total	0	0	2	0	**2**	0	0	0	0	**0**	0	30	0	0	**30**	0	20	0	0	**20**	**52**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	11	0	0	11	19
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	1	7	0	0	8	14
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	4	0	0	4	10
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	3	0	0	3	8
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	25	0	0	**25**	1	25	0	0	**26**	**51**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	3	0	0	3	8
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	6	0	0	7	11
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	0	0	6	11
1745 - 1800	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	9
Hourly Total	0	0	1	0	**1**	0	0	0	0	**0**	0	18	0	0	**18**	1	19	0	0	**20**	**39**
Grand Total	4	0	14	0	**18**	0	1	0	0	**1**	0	403	9	0	**412**	9	432	1	0	**442**	**873**
Approach %	22.22	0.00	77.78	0.00	-	0.00	100.00	0.00	0.00	-	0.00	97.82	2.18	0.00	-	2.04	97.74	0.23	0.00	-	
Intersection %	0.46	0.00	1.60	0.00	2.06	0.00	0.11	0.00	0.00	0.11	0.00	46.16	1.03	0.00	47.19	1.03	49.48	0.11	0.00	50.63	

Pedestrian Count || All vehicles

Columbia, TN

Marr Traffic DATA COLLECTION
www.marrtraffic.com

Site 12 of 13
Old Zion Rd (South)
Old Zion Rd (North)
TN-6 Lawrenceburg Hwy (West)
TN-6 Lawrenceburg Hwy (East)

Date
Thursday, November 11, 2021

Lat/Long
35.586222°, -87.133034°

Weather
Mostly Cloudy
58°F

0600 - 1800 (Weekday 12h Session) (11-11-2021)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Old Zion Rd (South)			Old Zion Rd (North)			TN-6 Lawrenceburg Hwy (West)			TN-6 Lawrenceburg Hwy (East)			
TIME	EB 12a	WB 12b	App Total	EB 12c	WB 12d	App Total	NB 12e	SB 12f	App Total	NB 12g	SB 12h	App Total	Int Total
0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0
0615 - 0630	0	0	0	0	0	0	0	0	0	0	0	0	0
0630 - 0645	0	0	0	0	0	0	0	0	0	0	0	0	0
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Grand Total	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**0**
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

RaganSmith

Date: 9-Mar-22
Location: Trotwood at Old Zion Rd
Time Interval: AM

Time	-			Old Zion Rd			Trotwood Ave			Trotwood Ave		
	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right
0:00 - 0:15												
0:15 - 0:30												
0:30 - 0:45												
0:45 - 1:00												
1:00 - 1:15												
1:15 - 1:30												
1:30 - 1:45												
1:45 - 2:00												
2:00 - 2:15												
2:15 - 2:30												
2:30 - 2:45												
2:45 - 3:00												
3:00 - 3:15												
3:15 - 3:30												
3:30 - 3:45												
3:45 - 4:00												
4:00 - 4:15												
4:15 - 4:30												
4:30 - 4:45												
4:45 - 5:00												
5:00 - 5:15												
5:15 - 5:30												
5:30 - 5:45												
5:45 - 6:00												
6:00 - 6:15												
6:15 - 6:30												
6:30 - 6:45												
6:45 - 7:00												
7:00 - 7:15				8		0	0	109			67	1
7:15 - 7:30				9		0	0	153			104	0
7:30 - 7:45				5		1	0	157			93	1
7:45 - 8:00				2		1	1	134			93	1
8:00 - 8:15												
8:15 - 8:30												
8:30 - 8:45												
8:45 - 9:00												
9:00 - 9:15												
9:15 - 9:30												
9:30 - 9:45												
9:45 - 10:00												
10:00 - 10:15												
10:15 - 10:30												
10:30 - 10:45												
10:45 - 11:00												
11:00 - 11:15												
11:15 - 11:30												
11:30 - 11:45												
11:45 - 12:00												

RaganSmith

Date: 8-Mar-22
Location: Trotwood at Old Zion Rd
Time Interval: PM

Time	-			Old Zion Rd			Trotwood Ave			Trotwood Ave		
	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right
12:00 - 12:15												
12:15 - 12:30												
12:30 - 12:45												
12:45 - 13:00												
13:00 - 13:15												
13:15 - 13:30												
13:30 - 13:45												
13:45 - 14:00												
14:00 - 14:15												
14:15 - 14:30												
14:30 - 14:45												
14:45 - 15:00												
15:00 - 15:15												
15:15 - 15:30												
15:30 - 15:45												
15:45 - 16:00												
16:00 - 16:15												
16:15 - 16:30												
16:30 - 16:45				3		0	0	85			132	3
16:45 - 17:00				3		0	0	85			153	3
17:00 - 17:15				7		0	1	107			144	2
17:15 - 17:30				3		1	0	114			145	2
17:30 - 17:45												
17:45 - 18:00												
18:00 - 18:15												
18:15 - 18:30												
18:30 - 18:45												
18:45 - 19:00												
19:00 - 19:15												
19:15 - 19:30												
19:30 - 19:45												
19:45 - 20:00												
20:00 - 20:15												
20:15 - 20:30												
20:30 - 20:45												
20:45 - 21:00												
21:00 - 21:15												
21:15 - 21:30												
21:30 - 21:45												
21:45 - 22:00												
22:00 - 22:15												
22:15 - 22:30												
22:30 - 22:45												
22:45 - 23:00												
23:00 - 23:15												
23:15 - 23:30												
23:30 - 23:45												
23:45 - 24:00												

Date: 3/8/22 & 3/9/22
Location: Trotwood at Old Zion Rd

A.M. Peak Hour (Midnight to Noon)

	-			Old Zion Rd			Trotwood Ave			Trotwood Ave		
Time	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right
7:00 - 7:15	0	0	0	8	0	0	0	109	0	0	67	1
7:15 - 7:30	0	0	0	9	0	0	0	153	0	0	104	0
7:30 - 7:45	0	0	0	5	0	1	0	157	0	0	93	1
7:45 - 8:00	0	0	0	2	0	1	1	134	0	0	93	1
7:00 - 8:00	**0**	**0**	**0**	**24**	**0**	**2**	**1**	**553**	**0**	**0**	**357**	**3**

Peak Hour Factor: 0.883

P.M. Peak Hour (Noon to Midnight)

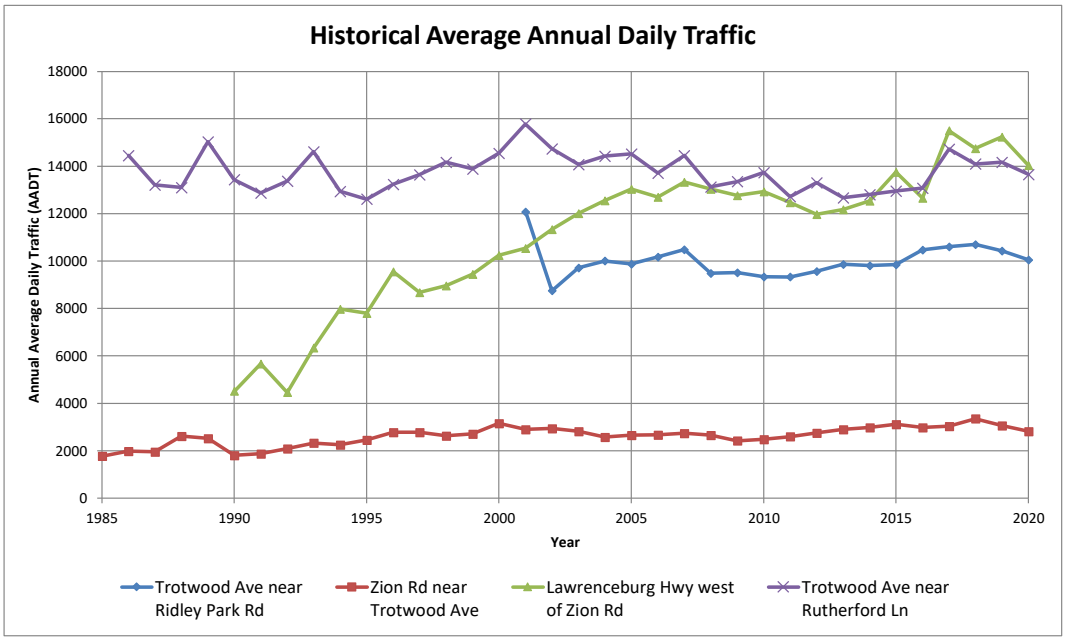
	-			Old Zion Rd			Trotwood Ave			Trotwood Ave		
Time	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right
16:30 - 16:45	0	0	0	3	0	0	0	85	0	0	132	3
16:45 - 17:00	0	0	0	3	0	0	0	85	0	0	153	3
17:00 - 17:15	0	0	0	7	0	0	1	107	0	0	144	2
17:15 - 17:30	0	0	0	3	0	1	0	114	0	0	145	2
16:30 - 17:30	**0**	**0**	**0**	**16**	**0**	**1**	**1**	**391**	**0**	**0**	**574**	**10**

Peak Hour Factor: 0.937

APPENDIX B

TRIP GENERATION &
FUTURE TRAFFIC DERIVATION

HISTORICAL TRAFFIC COUNT DATA				
Year	Trotwood Ave near Ridley Park Rd	Zion Rd near Trotwood Ave	Lawrenceburg Hwy west of Zion Rd	Trotwood Ave near Rutherford Ln
1985		1775		
1986		1990		14458
1987		1960		13210
1988		2616		13100
1989		2523		15036
1990		1813	4515	13434
1991		1871	5669	12873
1992		2095	4461	13376
1993		2329	6336	14620
1994		2249	7982	12939
1995		2451	7800	12612
1996		2775	9550	13242
1997		2780	8678	13640
1998		2630	8960	14175
1999		2710	9452	13882
2000		3153	10241	14552
2001	12080	2906	10535	15783
2002	8754	2945	11341	14732
2003	9716	2822	12007	14070
2004	10007	2581	12554	14421
2005	9880	2658	13041	14520
2006	10176	2670	12704	13710
2007	10481	2734	13327	14456
2008	9483	2654	13031	13133
2009	9519	2423	12766	13353
2010	9342	2488	12930	13742
2011	9332	2599	12475	12719
2012	9573	2754	11972	13312
2013	9860	2897	12177	12677
2014	9806	2984	12542	12804
2015	9849	3123	13756	12949
2016	10470	2980	12664	13078
2017	10613	3034	15504	14724
2018	10702	3357	14745	14095
2019	10431	3060	15236	14164
2020	10060	2818	14032	13651



		Trotwood Ave near Ridley Park Rd	Zion Rd near Trotwood Ave	Lawrenceburg Hwy west of Zion Rd	Trotwood Ave near Rutherford Ln
Analysis Period	Begin	2010	2010	2010	2010
	End	2020	2020	2020	2020
Future Year		2030	2030	2030	2030
Forecasted Traffic Volume		11850	3678	17773	15089
Annual Growth Rate		1.17%	2.70%	2.39%	1.01%
Growth Factor		1.123	1.305	1.267	1.105

TRIP GENERATION (11th Edition)

Single-Family Detached Housing - 765 Dwelling Units

Use ITE Land Use Code 210 (Single-Family Detached Housing) and associated trip generation rates for 24-hour total trips and peak hour trips.

Average Daily Traffic

Ln(T) = 0.92 Ln(X) + 2.68
Ln(T) = 0.92 Ln(765) + 2.68
T = 6560

A.M. Peak Hour of Adjacent Street Traffic

Ln(T) = 0.91 Ln(X) + 0.12
Ln(T) = 0.91 Ln(765) + 0.12
T = 475

Enter = 0.25(475) = 119
Exit = 0.75(475) = 356

P.M. Peak Hour of Adjacent Street Traffic

Ln(T) = 0.94 Ln(X) + 0.27
Ln(T) = 0.94 Ln(765) + 0.27
T = 673

Enter = 0.63(673) = 424
Exit = 0.37(673) = 249

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at CAYCE LN/SUNNYSIDE LN
A.M. PEAK HOUR

RaganSmith

Description	Northbound Sunnyside Ln			Southbound Cayce Ln			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	124	48	148	145	57	31	17	667	60	38	348	47
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	30	12	36	35	14	8	4	162	15	9	85	11
2032 Background Traffic Volumes	154	60	184	180	71	39	21	829	75	47	433	58
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In	5					5					25	
% Out							5	25	5			
Trips	6	0	0	0	0	6	18	89	18	0	30	0
2032 Site Traffic Volumes	6	0	0	0	0	6	18	89	18	0	30	0
2032 TOTAL TRAFFIC VOLUMES	160	60	184	180	71	45	39	918	93	47	463	58

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at CAYCE LN/SUNNYSIDE LN
P.M. PEAK HOUR

RaganSmith

Description	Northbound Sunnyside Ln			Southbound Cayce Ln			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	92	79	85	102	56	43	45	445	88	113	601	69
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	22	19	21	25	14	10	11	108	21	28	146	17
2032 Background Traffic Volumes	114	98	106	127	70	53	56	553	109	141	747	86
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In	5					5					25	
% Out							5	25	5			
Trips	21	0	0	0	0	21	12	62	12	0	106	0
2032 Site Traffic Volumes	21	0	0	0	0	21	12	62	12	0	106	0
2032 TOTAL TRAFFIC VOLUMES	135	98	106	127	70	74	68	615	121	141	853	86

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at RUTHERFORD LN / PRIVATE DRIVE
A.M. PEAK HOUR

RaganSmith

Description	Northbound Private Drive			Southbound Rutherford Ln			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	3	10	12	204	12	28	32	542	0	35	306	170
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	1	2	3	50	3	7	8	132	0	9	74	41
2032 Background Traffic Volumes	4	12	15	254	15	35	40	674	0	44	380	211
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In						5					35	
% Out							5	35				
Trips	0	0	0	0	0	6	18	125	0	0	42	0
2032 Site Traffic Volumes	0	0	0	0	0	6	18	125	0	0	42	0
2032 TOTAL TRAFFIC VOLUMES	4	12	15	254	15	41	58	799	0	44	422	211

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at RUTHERFORD LN / PRIVATE DRIVE
P.M. PEAK HOUR

RaganSmith

Description	Northbound Private Drive			Southbound Rutherford Ln			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	7	22	65	126	36	41	30	397	0	94	561	91
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	2	5	16	31	9	10	7	97	0	23	137	22
2032 Background Traffic Volumes	9	27	81	157	45	51	37	494	0	117	698	113
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In						5					35	
% Out							5	35				
Trips	0	0	0	0	0	21	12	87	0	0	148	0
2032 Site Traffic Volumes	0	0	0	0	0	21	12	87	0	0	148	0
2032 TOTAL TRAFFIC VOLUMES	9	27	81	157	45	72	49	581	0	117	846	113

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at RIDLEY PARK RD
A.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Ridley Park Rd			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				0		0	0	588			358	0
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	0	0	0	0	143	0	0	87	0
2032 Background Traffic Volumes	0	0	0	0	0	0	0	731	0	0	445	0
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In											40	
% Out								40				
Trips	0	0	0	0	0	0	0	142	0	0	48	0
2032 Site Traffic Volumes	0	0	0	0	0	0	0	142	0	0	48	0
2032 TOTAL TRAFFIC VOLUMES	0	0	0	0	0	0	0	873	0	0	493	0

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at RIDLEY PARK RD
P.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Ridley Park Rd			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				0		1	1	391			582	0
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	0	0	0	0	95	0	0	142	0
2032 Background Traffic Volumes	0	0	0	0	0	1	1	486	0	0	724	0
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In											40	
% Out								40				
Trips	0	0	0	0	0	0	0	100	0	0	170	0
2032 Site Traffic Volumes	0	0	0	0	0	0	0	100	0	0	170	0
2032 TOTAL TRAFFIC VOLUMES	0	0	0	0	0	1	1	586	0	0	894	0

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at YEATMAN LANE
A.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Yeatman Lane			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				13		2	4	577			354	4
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	3	0	0	1	140	0	0	86	1
2032 Background Traffic Volumes	0	0	0	16	0	2	5	717	0	0	440	5
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In								20			10	
% Out								10			20	
Trips	0	0	0	0	0	0	0	59	0	0	83	0
2032 Site Traffic Volumes	0	0	0	0	0	0	0	59	0	0	83	0
2032 TOTAL TRAFFIC VOLUMES	0	0	0	16	0	2	5	776	0	0	523	5

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at YEATMAN LANE
P.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Yeatman Lane			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				6		1	3	393			581	10
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	1	0	0	1	96	0	0	141	2
2032 Background Traffic Volumes	0	0	0	7	0	1	4	489	0	0	722	12
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In								20			10	
% Out								10			20	
Trips	0	0	0	0	0	0	0	110	0	0	92	0
2032 Site Traffic Volumes	0	0	0	0	0	0	0	110	0	0	92	0
2032 TOTAL TRAFFIC VOLUMES	0	0	0	7	0	1	4	599	0	0	814	12

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at OLD ZION ROAD
A.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Old Zion Road			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				24		2	1	553			357	3
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	6	0	0	0	135	0	0	87	1
2032 Background Traffic Volumes	0	0	0	30	0	2	1	688	0	0	444	4
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							5	20				10
% Out				5		5		5			20	
Trips	0	0	0	18	0	18	6	42	0	0	71	12
2032 Site Traffic Volumes	0	0	0	18	0	18	6	42	0	0	71	12
2032 TOTAL TRAFFIC VOLUMES	0	0	0	48	0	20	7	730	0	0	515	16

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at OLD ZION ROAD
P.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Old Zion Road			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				16		1	1	391			574	10
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	4	0	0	0	95	0	0	140	2
2032 Background Traffic Volumes	0	0	0	20	0	1	1	486	0	0	714	12
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							5	20				10
% Out				5		5		5			20	
Trips	0	0	0	12	0	12	21	97	0	0	50	42
2032 Site Traffic Volumes	0	0	0	12	0	12	21	97	0	0	50	42
2032 TOTAL TRAFFIC VOLUMES	0	0	0	32	0	13	22	583	0	0	764	54

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at OLD ZION EXT
A.M. PEAK HOUR

RaganSmith

Description	Northbound Private Drive			Southbound Old Zion Ext			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	0	1	1	74	0	17	38	480	0	0	338	21
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	0	0	0	18	0	4	9	117	0	0	82	5
2032 Background Traffic Volumes	0	1	1	92	0	21	47	597	0	0	420	26
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In				15			5	10				
% Out				5		5					10	15
Trips	0	0	0	36	0	18	6	12	0	0	36	53
2032 Site Traffic Volumes	0	0	0	36	0	18	6	12	0	0	36	53
2032 TOTAL TRAFFIC VOLUMES	0	1	1	128	0	39	53	609	0	0	456	79

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at OLD ZION EXT
P.M. PEAK HOUR

RaganSmith

Description	Northbound Private Drive			Southbound Old Zion Ext			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	0	0	0	33	0	26	21	359	0	0	521	54
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	0	0	0	8	0	6	5	87	0	0	127	13
2032 Background Traffic Volumes	0	0	0	41	0	32	26	446	0	0	648	67
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In				15			5	10				
% Out				5		5					10	15
Trips	0	0	0	76	0	12	21	42	0	0	25	37
2032 Site Traffic Volumes	0	0	0	76	0	12	21	42	0	0	25	37
2032 TOTAL TRAFFIC VOLUMES	0	0	0	117	0	44	47	488	0	0	673	104

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at ZION ROAD
A.M. PEAK HOUR

RaganSmith

Description	Northbound Polk Lane			Southbound Zion Road			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	1	22	45	80	10	56	38	400	8	8	212	130
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	0	5	11	19	2	14	9	97	2	2	52	32
2032 Background Traffic Volumes	1	27	56	99	12	70	47	497	10	10	264	162
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In				5				10				
% Out											10	5
Trips	0	0	0	6	0	0	0	12	0	0	36	18
2032 Site Traffic Volumes	0	0	0	6	0	0	0	12	0	0	36	18
2032 TOTAL TRAFFIC VOLUMES	1	27	56	105	12	70	47	509	10	10	300	180

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at ZION ROAD
P.M. PEAK HOUR

RaganSmith

Description	Northbound Polk Lane			Southbound Zion Road			Eastbound Trotwood Ave			Westbound Trotwood Ave		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	2	4	26	50	17	42	26	293	8	36	389	129
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	0	1	6	12	4	10	6	71	2	9	95	31
2032 Background Traffic Volumes	2	5	32	62	21	52	32	364	10	45	484	160
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In				5				10				
% Out											10	5
Trips	0	0	0	21	0	0	0	42	0	0	25	12
2032 Site Traffic Volumes	0	0	0	21	0	0	0	42	0	0	25	12
2032 TOTAL TRAFFIC VOLUMES	2	5	32	83	21	52	32	406	10	45	509	172

TRAFFIC VOLUME WORKSHEET
OLD ZION ROAD at OLD ZION EXT
A.M. PEAK HOUR

RaganSmith

Description	Northbound Old Zion Ext			Southbound Old Zion Road			Eastbound Private Drive			Westbound Old Zion Road		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	1	59	0	36	94	0	2	0	0	0	0	3
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	0	14	0	9	23	0	0	0	0	0	0	1
2032 Background Traffic Volumes	1	73	0	45	117	0	2	0	0	0	0	4
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In			5	30	15							
% Out		15								10		30
Trips	0	53	6	36	18	0	0	0	0	36	0	107
2032 Site Traffic Volumes	0	53	6	36	18	0	0	0	0	36	0	107
2032 TOTAL TRAFFIC VOLUMES	1	126	6	81	135	0	2	0	0	36	0	111

TRAFFIC VOLUME WORKSHEET
OLD ZION ROAD at OLD ZION EXT
P.M. PEAK HOUR

RaganSmith

Description	Northbound Old Zion Ext			Southbound Old Zion Road			Eastbound Private Drive			Westbound Old Zion Road		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	0	71	1	21	57	1	1	0	1	0	0	3
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	0	17	0	5	14	0	0	0	0	0	0	1
2032 Background Traffic Volumes	0	88	1	26	71	1	1	0	1	0	0	4
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In			5	30	15							
% Out		15								10		30
Trips	0	37	21	127	64	0	0	0	0	25	0	75
2032 Site Traffic Volumes	0	37	21	127	64	0	0	0	0	25	0	75
2032 TOTAL TRAFFIC VOLUMES	0	125	22	153	135	1	1	0	1	25	0	79

TRAFFIC VOLUME WORKSHEET
LAWRENCEBURG HWY at OLD ZION ROAD
A.M. PEAK HOUR

RaganSmith

Description	Northbound Old Zion Road			Southbound Old Zion Road			Eastbound Lawrenceburg Hwy			Westbound Lawrenceburg Hwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	18	3	46	21	13	3	1	854	87	26	403	36
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	4	1	11	5	3	1	0	208	21	6	98	9
2032 Background Traffic Volumes	22	4	57	26	16	4	1	1062	108	32	501	45
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In									5	40		
% Out	5		40									
Trips	18	0	142	0	0	0	0	0	6	48	0	0
2032 Site Traffic Volumes	18	0	142	0	0	0	0	0	6	48	0	0
2032 TOTAL TRAFFIC VOLUMES	40	4	199	26	16	4	1	1062	114	80	501	45

TRAFFIC VOLUME WORKSHEET
LAWRENCEBURG HWY at OLD ZION ROAD
P.M. PEAK HOUR

RaganSmith

Description	Northbound Old Zion Road			Southbound Old Zion Road			Eastbound Lawrenceburg Hwy			Westbound Lawrenceburg Hwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS	42	4	31	1	8	1	2	439	39	37	839	10
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Growth Factor	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Annual Background Growth Trips	10	1	8	0	2	0	0	107	9	9	204	2
2032 Background Traffic Volumes	52	5	39	1	10	1	2	546	48	46	1043	12
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In									5	40		
% Out	5		40									
Trips	12	0	100	0	0	0	0	0	21	170	0	0
2032 Site Traffic Volumes	12	0	100	0	0	0	0	0	21	170	0	0
2032 TOTAL TRAFFIC VOLUMES	64	5	139	1	10	1	2	546	69	216	1043	12

TRAFFIC VOLUME WORKSHEET
LAWRENCEBURG HIGHWAY at ZION ROAD CONNECTOR
A.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Zion Rd Connector			Eastbound Lawrenceburg Hwy			Westbound Lawrenceburg Hwy		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				48		73	46	891			364	57
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	12	0	18	11	217	0	0	89	14
2032 Background Traffic Volumes	0	0	0	60	0	91	57	1108	0	0	453	71
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							5	5				
% Out						5					5	
Trips	0	0	0	0	0	18	6	6	0	0	18	0
2032 Site Traffic Volumes	0	0	0	0	0	18	6	6	0	0	18	0
2032 TOTAL TRAFFIC VOLUMES	0	0	0	60	0	109	63	1114	0	0	471	71

TRAFFIC VOLUME WORKSHEET
LAWRENCEBURG HIGHWAY at ZION ROAD CONNECTOR
P.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound **Zion Rd Connector**			Eastbound **Lawrenceburg Hwy**			Westbound **Lawrenceburg Hwy**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS				34		92	16	435			838	58
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)				2.0		2.0	2.0	2.0			2.0	2.0
Growth Factor	1.00	1.00	1.00	1.24	1.00	1.24	1.24	1.24	1.00	1.00	1.24	1.24
Annual Background Growth Trips	0	0	0	8	0	22	4	106	0	0	204	14
2032 Background Traffic Volumes	0	0	0	42	0	114	20	541	0	0	1042	72
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							5	5				
% Out						5					5	
Trips	0	0	0	0	0	12	21	21	0	0	12	0
2032 Site Traffic Volumes	0	0	0	0	0	12	21	21	0	0	12	0
2032 TOTAL TRAFFIC VOLUMES	0	0	0	42	0	126	41	562	0	0	1054	72

TRAFFIC VOLUME WORKSHEET
ZION ROAD at LAWRENCEBURG HWY CONNECTOR
A.M. PEAK HOUR

RaganSmith

Description	Northbound Zion Road			Southbound Zion Road			Eastbound			Westbound L'burg Hwy Connector		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS		144	57	61	130					27		76
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)		2.0	2.0	2.0	2.0					2.0		2.0
Growth Factor	1.00	1.24	1.24	1.24	1.24	1.00	1.00	1.00	1.00	1.24	1.00	1.24
Annual Background Growth Trips	0	35	14	15	32	0	0	0	0	7	0	18
2032 Background Traffic Volumes	0	179	71	76	162	0	0	0	0	34	0	94
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In										5		
% Out			5									
Trips	0	0	18	0	0	0	0	0	0	6	0	0
2032 Site Traffic Volumes	0	0	18	0	0	0	0	0	0	6	0	0
2032 TOTAL TRAFFIC VOLUMES	0	179	89	76	162	0	0	0	0	40	0	94

TRAFFIC VOLUME WORKSHEET
ZION ROAD at LAWRENCEBURG HWY CONNECTOR
P.M. PEAK HOUR

RaganSmith

Description	Northbound Zion Road			Southbound Zion Road			Eastbound			Westbound L'burg Hwy Connector		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS		98	75	32	86					40		49
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)		2.0	2.0	2.0	2.0					2.0		2.0
Growth Factor	1.00	1.24	1.24	1.24	1.24	1.00	1.00	1.00	1.00	1.24	1.00	1.24
Annual Background Growth Trips	0	24	18	8	21	0	0	0	0	10	0	12
2032 Background Traffic Volumes	0	122	93	40	107	0	0	0	0	50	0	61
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In										5		
% Out			5									
Trips	0	0	12	0	0	0	0	0	0	21	0	0
2032 Site Traffic Volumes	0	0	12	0	0	0	0	0	0	21	0	0
2032 TOTAL TRAFFIC VOLUMES	0	122	105	40	107	0	0	0	0	71	0	61

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at PROJECT ACCESS #1
A.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound **Project Access #1**			Eastbound **Trotwood Ave**			Westbound **Trotwood Ave**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS								588			358	
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)								2.0			2.0	
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.24	1.00	1.00	1.24	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	143	0	0	87	0
2032 Background Traffic Volumes	0	0	0	0	0	0	0	731	0	0	445	0
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							20	5			10	30
% Out				30		20		10				
Trips	0	0	0	107	0	71	24	42	0	0	12	36
2032 Site Traffic Volumes	0	0	0	107	0	71	24	42	0	0	12	36
2032 TOTAL TRAFFIC VOLUMES	0	0	0	107	0	71	24	773	0	0	457	36

TRAFFIC VOLUME WORKSHEET
TROTWOOD AVE at PROJECT ACCESS #1
P.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound **Project Access #1**			Eastbound **Trotwood Ave**			Westbound **Trotwood Ave**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS								392			583	
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)								2.0			2.0	
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.24	1.00	1.00	1.24	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	95	0	0	142	0
2032 Background Traffic Volumes	0	0	0	0	0	0	0	487	0	0	725	0
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development % In							15	5			10	25
(765 single family homes) % Out				25		15		10			5	
Trips	0	0	0	62	0	37	64	46	0	0	55	106
2032 Site Traffic Volumes	0	0	0	62	0	37	64	46	0	0	55	106
2032 TOTAL TRAFFIC VOLUMES	0	0	0	62	0	37	64	533	0	0	780	106

TRAFFIC VOLUME WORKSHEET
OLD ZION ROAD at PROJECT ACCESS #2
A.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound Project Access #2			Eastbound Old Zion Road			Westbound Old Zion Road		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS								36			3	
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)								2.0			2.0	
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.24	1.00	1.00	1.24	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	9	0	0	1	0
2032 Background Traffic Volumes	0	0	0	0	0	0	0	45	0	0	4	0
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							35					15
% Out				10		40						
Trips	0	0	0	36	0	142	42	0	0	0	0	18
2032 Site Traffic Volumes	0	0	0	36	0	142	42	0	0	0	0	18
2032 TOTAL TRAFFIC VOLUMES	0	0	0	36	0	142	42	45	0	0	4	18

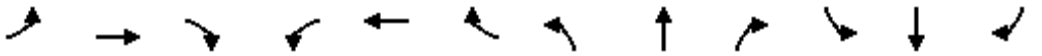
TRAFFIC VOLUME WORKSHEET
OLD ZION ROAD at PROJECT ACCESS #2
P.M. PEAK HOUR

RaganSmith

Description	Northbound			Southbound **Project Access #2**			Eastbound **Old Zion Road**			Westbound **Old Zion Road**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2021 TRAFFIC COUNTS								22			3	
2032 BACKGROUND TRAFFIC VOLUMES												
Annual Background Growth												
Growth Rate (%/year)								2.0			2.0	
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.24	1.00	1.00	1.24	1.00
Annual Background Growth Trips	0	0	0	0	0	0	0	5	0	0	1	0
2032 Background Traffic Volumes	0	0	0	0	0	0	0	27	0	0	4	0
2032 SITE TRAFFIC VOLUMES												
Old Zion Road Development (765 single family homes) % In							35					15
% Out				10		40						
Trips	0	0	0	25	0	100	148	0	0	0	0	64
2032 Site Traffic Volumes	0	0	0	25	0	100	148	0	0	0	0	64
2032 TOTAL TRAFFIC VOLUMES	0	0	0	25	0	100	148	27	0	0	4	64

APPENDIX C

EXISTING CONDITIONS
CAPACITY ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	667	60	38	348	47	124	48	148	145	57	31
Future Volume (veh/h)	17	667	60	38	348	47	124	48	148	145	57	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	725	65	41	378	51	135	52	161	158	62	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	805	72	205	793	107	394	64	198	295	194	106
Arrive On Green	0.02	0.48	0.48	0.04	0.49	0.49	0.08	0.16	0.16	0.10	0.17	0.17
Sat Flow, veh/h	1781	1691	152	1781	1613	218	1781	402	1244	1781	1136	623
Grp Volume(v), veh/h	18	0	790	41	0	429	135	0	213	158	0	96
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1831	1781	0	1646	1781	0	1758
Q Serve(g_s), s	0.4	0.0	33.8	1.0	0.0	13.4	5.3	0.0	10.7	6.2	0.0	4.1
Cycle Q Clear(g_c), s	0.4	0.0	33.8	1.0	0.0	13.4	5.3	0.0	10.7	6.2	0.0	4.1
Prop In Lane	1.00		0.08	1.00		0.12	1.00		0.76	1.00		0.35
Lane Grp Cap(c), veh/h	442	0	877	205	0	900	394	0	262	295	0	301
V/C Ratio(X)	0.04	0.00	0.90	0.20	0.00	0.48	0.34	0.00	0.81	0.54	0.00	0.32
Avail Cap(c_a), veh/h	717	0	1170	452	0	1162	565	0	479	445	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	0.0	20.7	17.5	0.0	14.5	26.7	0.0	34.9	26.9	0.0	31.2
Incr Delay (d2), s/veh	0.0	0.0	7.8	0.5	0.0	0.4	0.5	0.0	6.1	1.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	14.3	0.4	0.0	4.9	2.2	0.0	4.6	2.7	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	28.5	18.0	0.0	14.9	27.2	0.0	41.0	28.4	0.0	31.8
LnGrp LOS	B	A	C	B	A	B	C	A	D	C	A	C
Approach Vol, veh/h		808			470			348			254	
Approach Delay, s/veh		28.1			15.1			35.6			29.7	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	46.3	11.7	19.7	6.7	47.7	12.7	18.6
Change Period (Y+Rc), s	5.0	5.5	4.5	5.0	5.0	5.5	4.5	5.0
Max Green Setting (Gmax), s	15.0	54.5	15.5	25.0	15.0	54.5	15.5	25.0
Max Q Clear Time (g_c+I1), s	3.0	35.8	7.3	6.1	2.4	15.4	8.2	12.7
Green Ext Time (p_c), s	0.0	5.1	0.2	0.4	0.0	2.6	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	542	0	35	306	170	3	10	12	204	12	28
Future Volume (veh/h)	32	542	0	35	306	170	3	10	12	204	12	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	571	0	37	322	179	3	11	13	215	13	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	866	0	395	526	292	119	324	319	404	104	231
Arrive On Green	0.04	0.46	0.00	0.04	0.47	0.47	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1129	628	188	1612	1585	1387	515	1149
Grp Volume(v), veh/h	34	571	0	37	0	501	14	0	13	215	0	42
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1757	1801	0	1585	1387	0	1664
Q Serve(g_s), s	0.5	12.7	0.0	0.6	0.0	11.5	0.0	0.0	0.4	8.0	0.0	1.1
Cycle Q Clear(g_c), s	0.5	12.7	0.0	0.6	0.0	11.5	0.3	0.0	0.4	8.3	0.0	1.1
Prop In Lane	1.00		0.00	1.00		0.36	0.21		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	426	866	0	395	0	818	443	0	319	404	0	335
V/C Ratio(X)	0.08	0.66	0.00	0.09	0.00	0.61	0.03	0.00	0.04	0.53	0.00	0.13
Avail Cap(c_a), veh/h	525	1576	0	489	0	1481	913	0	749	793	0	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	11.2	0.0	8.4	0.0	10.8	17.4	0.0	17.4	20.7	0.0	17.7
Incr Delay (d2), s/veh	0.1	0.9	0.0	0.1	0.0	0.7	0.0	0.0	0.1	1.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.9	0.0	0.2	0.0	3.3	0.1	0.0	0.1	2.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.2	12.1	0.0	8.5	0.0	11.5	17.4	0.0	17.4	21.8	0.0	17.8
LnGrp LOS	A	B	A	A	A	B	B	A	B	C	A	B
Approach Vol, veh/h		605			538			27			257	
Approach Delay, s/veh		11.9			11.3			17.4			21.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	30.5		16.4	7.0	30.6		16.4
Change Period (Y+Rc), s	5.0	5.5		* 5.5	5.0	5.5		5.5
Max Green Setting (Gmax), s	5.0	45.5		* 26	5.0	45.5		25.5
Max Q Clear Time (g_c+I1), s	2.6	14.7		10.3	2.5	13.5		2.4
Green Ext Time (p_c), s	0.0	3.6		0.7	0.0	3.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	588	358	0	0	0
Future Vol, veh/h	0	588	358	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	70	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	661	402	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	402	0	-	0	1063	402
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	661	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1157	-	-	-	247	648
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	514	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1157	-	-	-	247	648
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1157	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	553	357	3	24	2
Future Vol, veh/h	1	553	357	3	24	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	80	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	628	446	3	27	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	449	0	-	0	1078	448
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	630	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1111	-	-	-	242	611
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	531	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1111	-	-	-	242	611
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	531	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1111	-	-	-	254
HCM Lane V/C Ratio	0.001	-	-	-	0.116
HCM Control Delay (s)	8.2	0	-	-	21
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	38	480	0	0	338	21	0	1	1	74	0	17
Future Vol, veh/h	38	480	0	0	338	21	0	1	1	74	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	552	0	0	389	24	0	1	1	85	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	413	0	0	552	0	0	1051	1053	552	1042	1041	401
Stage 1	-	-	-	-	-	-	640	640	-	401	401	-
Stage 2	-	-	-	-	-	-	411	413	-	641	640	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1146	-	-	1018	-	-	205	226	533	208	230	649
Stage 1	-	-	-	-	-	-	464	470	-	626	601	-
Stage 2	-	-	-	-	-	-	618	594	-	463	470	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1146	-	-	1018	-	-	190	214	533	198	217	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	214	-	198	217	-
Stage 1	-	-	-	-	-	-	438	444	-	592	601	-
Stage 2	-	-	-	-	-	-	599	594	-	435	444	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	16.9	33.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	305	1146	-	-	1018	-	-	228
HCM Lane V/C Ratio	0.008	0.038	-	-	-	-	-	0.459
HCM Control Delay (s)	16.9	8.3	0	-	0	-	-	33.5
HCM Lane LOS	C	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	2.2

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	400	8	8	212	130	1	22	45	80	10	56
Future Vol, veh/h	38	400	8	8	212	130	1	22	45	80	10	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	444	9	9	236	144	1	24	50	89	11	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	453	0	0	896	931	449	896	863	308
Stage 1	-	-	-	-	-	-	533	533	-	326	326	-
Stage 2	-	-	-	-	-	-	363	398	-	570	537	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1178	-	-	1108	-	-	261	267	610	261	292	732
Stage 1	-	-	-	-	-	-	531	525	-	687	648	-
Stage 2	-	-	-	-	-	-	656	603	-	506	523	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1108	-	-	224	255	610	215	279	732
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	255	-	215	279	-
Stage 1	-	-	-	-	-	-	512	506	-	662	643	-
Stage 2	-	-	-	-	-	-	585	598	-	426	504	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	15.7	30.1
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	1178	-	-	1108	-	-	301
HCM Lane V/C Ratio	0.183	0.036	-	-	0.008	-	-	0.539
HCM Control Delay (s)	15.7	8.2	-	-	8.3	-	-	30.1
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	3

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	0	0	0	3	1	59	0	36	94	0
Future Vol, veh/h	2	0	0	0	0	3	1	59	0	36	94	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	0	0	0	4	1	70	0	43	112	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	272	270	112	270	270	70	112	0	0	70	0	0
Stage 1	198	198	-	72	72	-	-	-	-	-	-	-
Stage 2	74	72	-	198	198	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	680	636	941	683	636	993	1478	-	-	1531	-	-
Stage 1	804	737	-	938	835	-	-	-	-	-	-	-
Stage 2	935	835	-	804	737	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	662	616	941	667	616	993	1478	-	-	1531	-	-
Mov Cap-2 Maneuver	662	616	-	667	616	-	-	-	-	-	-	-
Stage 1	803	715	-	937	834	-	-	-	-	-	-	-
Stage 2	931	834	-	780	715	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	8.6	0.1	2.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1478	-	-	662	993	1531	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.004	0.028	-	-
HCM Control Delay (s)	7.4	0	-	10.5	8.6	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	854	87	26	403	36	18	3	46	21	13	3
Future Vol, veh/h	1	854	87	26	403	36	18	3	46	21	13	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	None	-	-	None
Storage Length	190	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	949	97	29	448	40	20	3	51	23	14	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	949	0	0	1289	1506	523	1004	1477	244
Stage 1	-	-	-	-	-	-	1000	1000	-	526	526	-
Stage 2	-	-	-	-	-	-	289	506	-	478	951	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1109	-	-	719	-	-	121	120	499	196	125	757
Stage 1	-	-	-	-	-	-	261	319	-	503	527	-
Stage 2	-	-	-	-	-	-	694	538	-	537	336	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1109	-	-	719	-	-	106	115	499	167	120	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	115	-	167	120	-
Stage 1	-	-	-	-	-	-	261	319	-	502	506	-
Stage 2	-	-	-	-	-	-	644	516	-	477	336	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	27.5	36.4
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	233	1109	-	-	719	-	-	155
HCM Lane V/C Ratio	0.32	0.001	-	-	0.04	-	-	0.265
HCM Control Delay (s)	27.5	8.2	-	-	10.2	-	-	36.4
HCM Lane LOS	D	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	1.3	0	-	-	0.1	-	-	1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	891	364	57	48	73
Future Vol, veh/h	46	891	364	57	48	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	1013	414	65	55	83

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	414	0	-	0	1058	240
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	611	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1141	-	-	-	220	761
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1141	-	-	-	210	761
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	583	-
Stage 2	-	-	-	-	504	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1141	-	-	-	529
HCM Lane V/C Ratio	0.046	-	-	-	0.26
HCM Control Delay (s)	8.3	-	-	-	14.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	76	144	57	61	130
Future Vol, veh/h	27	76	144	57	61	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	103	195	77	82	176

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	574	234	0	0	272	0
Stage 1	234	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	480	805	-	-	1291	-
Stage 1	805	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	449	805	-	-	1291	-
Mov Cap-2 Maneuver	449	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	449	805	1291	-
HCM Lane V/C Ratio	-	-	0.081	0.128	0.064	-
HCM Control Delay (s)	-	-	13.7	10.1	8	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	0.2	-

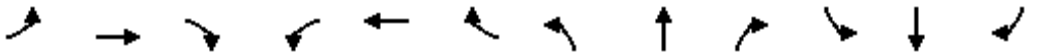
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	577	354	4	13	2
Future Vol, veh/h	4	577	354	4	13	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	627	385	4	14	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	389	0	-	0	1022	387
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	635	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1170	-	-	-	261	661
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1170	-	-	-	260	661
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1170	-	-	-	283
HCM Lane V/C Ratio	0.004	-	-	-	0.058
HCM Control Delay (s)	8.1	0	-	-	18.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	445	88	113	601	69	92	79	85	102	56	43
Future Volume (veh/h)	45	445	88	113	601	69	92	79	85	102	56	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	449	89	114	607	70	93	80	86	103	57	43
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	620	123	367	712	82	358	125	135	305	156	118
Arrive On Green	0.04	0.41	0.41	0.07	0.43	0.43	0.06	0.15	0.15	0.07	0.16	0.16
Sat Flow, veh/h	1781	1516	300	1781	1646	190	1781	824	886	1781	990	746
Grp Volume(v), veh/h	45	0	538	114	0	677	93	0	166	103	0	100
Grp Sat Flow(s),veh/h/ln	1781	0	1816	1781	0	1836	1781	0	1711	1781	0	1736
Q Serve(g_s), s	0.9	0.0	16.4	2.4	0.0	21.8	2.8	0.0	6.0	3.1	0.0	3.4
Cycle Q Clear(g_c), s	0.9	0.0	16.4	2.4	0.0	21.8	2.8	0.0	6.0	3.1	0.0	3.4
Prop In Lane	1.00		0.17	1.00		0.10	1.00		0.52	1.00		0.43
Lane Grp Cap(c), veh/h	263	0	742	367	0	795	358	0	260	305	0	274
V/C Ratio(X)	0.17	0.00	0.72	0.31	0.00	0.85	0.26	0.00	0.64	0.34	0.00	0.36
Avail Cap(c_a), veh/h	594	0	1506	655	0	1523	668	0	651	604	0	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	16.3	12.0	0.0	16.7	21.5	0.0	26.2	21.5	0.0	24.7
Incr Delay (d2), s/veh	0.3	0.0	1.4	0.5	0.0	2.7	0.4	0.0	2.6	0.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.8	0.8	0.0	7.9	1.1	0.0	2.5	1.3	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	17.7	12.5	0.0	19.5	21.9	0.0	28.8	22.1	0.0	25.5
LnGrp LOS	B	A	B	B	A	B	C	A	C	C	A	C
Approach Vol, veh/h		583			791			259			203	
Approach Delay, s/veh		17.4			18.5			26.3			23.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	32.4	8.6	15.4	7.8	33.9	9.0	15.0
Change Period (Y+Rc), s	5.0	5.5	4.5	5.0	5.0	5.5	4.5	5.0
Max Green Setting (Gmax), s	15.0	54.5	15.5	25.0	15.0	54.5	15.5	25.0
Max Q Clear Time (g_c+I1), s	4.4	18.4	4.8	5.4	2.9	23.8	5.1	8.0
Green Ext Time (p_c), s	0.2	3.5	0.1	0.4	0.0	4.7	0.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	397	0	94	561	91	7	22	65	126	36	41
Future Volume (veh/h)	30	397	0	94	561	91	7	22	65	126	36	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	409	0	97	578	94	7	23	67	130	37	42
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	854	0	554	773	126	118	286	287	350	145	164
Arrive On Green	0.03	0.46	0.00	0.07	0.49	0.49	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	1870	0	1781	1569	255	205	1580	1585	1307	799	908
Grp Volume(v), veh/h	31	409	0	97	0	672	30	0	67	130	0	79
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1824	1785	0	1585	1307	0	1707
Q Serve(g_s), s	0.5	8.3	0.0	1.5	0.0	16.2	0.0	0.0	2.0	5.0	0.0	2.2
Cycle Q Clear(g_c), s	0.5	8.3	0.0	1.5	0.0	16.2	0.7	0.0	2.0	5.8	0.0	2.2
Prop In Lane	1.00		0.00	1.00		0.14	0.23		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	343	854	0	554	0	899	404	0	287	350	0	309
V/C Ratio(X)	0.09	0.48	0.00	0.18	0.00	0.75	0.07	0.00	0.23	0.37	0.00	0.26
Avail Cap(c_a), veh/h	445	1554	0	591	0	1516	889	0	738	734	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.1	10.4	0.0	7.2	0.0	11.2	18.7	0.0	19.2	21.1	0.0	19.3
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.1	0.0	1.3	0.1	0.0	0.4	0.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.6	0.0	0.4	0.0	4.7	0.3	0.0	0.7	1.4	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	10.8	0.0	7.3	0.0	12.4	18.7	0.0	19.6	21.7	0.0	19.7
LnGrp LOS	A	B	A	A	A	B	B	A	B	C	A	B
Approach Vol, veh/h		440			769			97			209	
Approach Delay, s/veh		10.7			11.8			19.3			21.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	30.5		15.4	6.9	32.5		15.4
Change Period (Y+Rc), s	5.0	5.5		* 5.5	5.0	5.5		5.5
Max Green Setting (Gmax), s	5.0	45.5		* 26	5.0	45.5		25.5
Max Q Clear Time (g_c+I1), s	3.5	10.3		7.8	2.5	18.2		4.0
Green Ext Time (p_c), s	0.0	2.4		0.7	0.0	4.5		0.3

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	391	582	0	0	1
Future Vol, veh/h	1	391	582	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	70	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	416	619	0	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	619	0	-	0	1037	619
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	961	-	-	-	256	489
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	961	-	-	-	256	489
Mov Cap-2 Maneuver	-	-	-	-	256	-
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	664	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	961	-	-	-	-	489
HCM Lane V/C Ratio	0.001	-	-	-	-	0.002
HCM Control Delay (s)	8.8	0	-	-	0	12.4
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	391	574	10	16	1
Future Vol, veh/h	1	391	574	10	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	416	611	11	17	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	622	0	-	0	1035	617
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	959	-	-	-	257	490
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	959	-	-	-	257	490
Mov Cap-2 Maneuver	-	-	-	-	257	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	664	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	959	-	-	-	264
HCM Lane V/C Ratio	0.001	-	-	-	0.069
HCM Control Delay (s)	8.8	0	-	-	19.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	21	359	0	0	521	54	0	0	0	33	0	26
Future Vol, veh/h	21	359	0	0	521	54	0	0	0	33	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	386	0	0	560	58	0	0	0	35	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	618	0	0	386	0	0	1035	1050	386	1021	1021	589
Stage 1	-	-	-	-	-	-	432	432	-	589	589	-
Stage 2	-	-	-	-	-	-	603	618	-	432	432	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	962	-	-	1172	-	-	210	227	662	215	236	508
Stage 1	-	-	-	-	-	-	602	582	-	494	495	-
Stage 2	-	-	-	-	-	-	486	481	-	602	582	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	962	-	-	1172	-	-	194	220	662	210	229	508
Mov Cap-2 Maneuver	-	-	-	-	-	-	194	220	-	210	229	-
Stage 1	-	-	-	-	-	-	584	565	-	479	495	-
Stage 2	-	-	-	-	-	-	459	481	-	584	565	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	0	21.4
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	962	-	-	1172	-	-	283
HCM Lane V/C Ratio	-	0.023	-	-	-	-	-	0.224
HCM Control Delay (s)	0	8.8	0	-	0	-	-	21.4
HCM Lane LOS	A	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	293	8	36	389	129	2	4	26	50	17	42
Future Vol, veh/h	26	293	8	36	389	129	2	4	26	50	17	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	315	9	39	418	139	2	4	28	54	18	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	324	0	0	973	1011	320	958	946	488
Stage 1	-	-	-	-	-	-	376	376	-	566	566	-
Stage 2	-	-	-	-	-	-	597	635	-	392	380	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1014	-	-	1236	-	-	231	240	721	237	262	580
Stage 1	-	-	-	-	-	-	645	616	-	509	507	-
Stage 2	-	-	-	-	-	-	490	472	-	633	614	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1014	-	-	1236	-	-	192	226	721	214	247	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	192	226	-	214	247	-
Stage 1	-	-	-	-	-	-	627	599	-	495	491	-
Stage 2	-	-	-	-	-	-	421	457	-	587	597	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	12.7	25.5
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	499	1014	-	-	1236	-	-	291
HCM Lane V/C Ratio	0.069	0.028	-	-	0.031	-	-	0.403
HCM Control Delay (s)	12.7	8.7	-	-	8	-	-	25.5
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	1.9

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	3	0	71	1	21	57	1
Future Vol, veh/h	1	0	1	0	0	3	0	71	1	21	57	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	4	0	86	1	25	69	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	209	207	70	207	207	87	70	0	0	87	0	0
Stage 1	120	120	-	87	87	-	-	-	-	-	-	-
Stage 2	89	87	-	120	120	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	748	690	993	751	690	971	1531	-	-	1509	-	-
Stage 1	884	796	-	921	823	-	-	-	-	-	-	-
Stage 2	918	823	-	884	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	735	678	993	740	678	971	1531	-	-	1509	-	-
Mov Cap-2 Maneuver	735	678	-	740	678	-	-	-	-	-	-	-
Stage 1	884	782	-	921	823	-	-	-	-	-	-	-
Stage 2	915	823	-	868	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	8.7	0	2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	845	971	1509	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.004	0.017	-	-
HCM Control Delay (s)	0	-	-	9.3	8.7	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	439	39	37	839	10	42	4	31	1	8	1
Future Vol, veh/h	2	439	39	37	839	10	42	4	31	1	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	None	-	-	None
Storage Length	190	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	472	42	40	902	11	45	4	33	1	9	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	902	0	0	472	0	0	1033	1479	257	1230	1464	457
Stage 1	-	-	-	-	-	-	497	497	-	988	988	-
Stage 2	-	-	-	-	-	-	536	982	-	242	476	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	749	-	-	1086	-	-	187	125	742	134	127	551
Stage 1	-	-	-	-	-	-	523	543	-	265	323	-
Stage 2	-	-	-	-	-	-	496	325	-	740	555	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	749	-	-	1086	-	-	171	120	742	121	122	551
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	120	-	121	122	-
Stage 1	-	-	-	-	-	-	521	541	-	264	311	-
Stage 2	-	-	-	-	-	-	464	313	-	699	553	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	27.7	34.7
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	749	-	-	1086	-	-	132
HCM Lane V/C Ratio	0.345	0.003	-	-	0.037	-	-	0.081
HCM Control Delay (s)	27.7	9.8	-	-	8.4	-	-	34.7
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.5	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	435	838	58	34	92
Future Vol, veh/h	16	435	838	58	34	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	458	882	61	36	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	882	0	-	0	1176	472
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	762	-	-	-	184	538
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	762	-	-	-	180	538
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	762	-	-	-	667
HCM Lane V/C Ratio	0.022	-	-	-	0.199
HCM Control Delay (s)	9.8	-	-	-	11.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	49	98	75	32	86
Future Vol, veh/h	40	49	98	75	32	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	52	103	79	34	91

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	302	143	0	0	182	0
Stage 1	143	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	690	905	-	-	1393	-
Stage 1	884	-	-	-	-	-
Stage 2	870	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	673	905	-	-	1393	-
Mov Cap-2 Maneuver	673	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	849	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	673	905	1393	-
HCM Lane V/C Ratio	-	-	0.063	0.057	0.024	-
HCM Control Delay (s)	-	-	10.7	9.2	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	393	581	10	6	1
Future Vol, veh/h	3	393	581	10	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	427	632	11	7	1

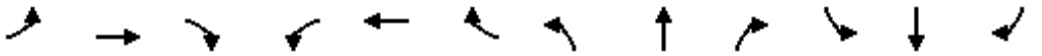
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	643	0	-	0	1071	638
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	433	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	942	-	-	-	244	477
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	654	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	942	-	-	-	243	477
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	654	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	942	-	-	-	261
HCM Lane V/C Ratio	0.003	-	-	-	0.029
HCM Control Delay (s)	8.8	0	-	-	19.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

APPENDIX D

2032 BACKGROUND CONDITIONS CAPACITY ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	829	75	47	433	58	154	60	184	180	71	39
Future Volume (veh/h)	21	829	75	47	433	58	154	60	184	180	71	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	901	82	51	471	63	167	65	200	196	77	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	834	76	129	819	110	407	73	226	284	222	121
Arrive On Green	0.02	0.49	0.49	0.04	0.51	0.51	0.09	0.18	0.18	0.11	0.19	0.19
Sat Flow, veh/h	1781	1689	154	1781	1615	216	1781	404	1243	1781	1138	621
Grp Volume(v), veh/h	23	0	983	51	0	534	167	0	265	196	0	119
Grp Sat Flow(s),veh/h/ln	1781	0	1843	1781	0	1831	1781	0	1647	1781	0	1759
Q Serve(g_s), s	0.7	0.0	54.5	1.5	0.0	22.4	8.3	0.0	17.3	9.7	0.0	6.4
Cycle Q Clear(g_c), s	0.7	0.0	54.5	1.5	0.0	22.4	8.3	0.0	17.3	9.7	0.0	6.4
Prop In Lane	1.00		0.08	1.00		0.12	1.00		0.75	1.00		0.35
Lane Grp Cap(c), veh/h	371	0	910	129	0	928	407	0	299	284	0	343
V/C Ratio(X)	0.06	0.00	1.08	0.40	0.00	0.58	0.41	0.00	0.89	0.69	0.00	0.35
Avail Cap(c_a), veh/h	572	0	910	307	0	928	489	0	373	343	0	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	27.9	26.0	0.0	18.9	32.1	0.0	44.0	33.0	0.0	38.4
Incr Delay (d2), s/veh	0.1	0.0	53.9	2.0	0.0	0.9	0.7	0.0	18.7	4.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	35.1	0.7	0.0	8.9	3.6	0.0	8.5	4.5	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	81.8	28.0	0.0	19.8	32.7	0.0	62.8	37.5	0.0	39.0
LnGrp LOS	B	A	F	C	A	B	C	A	E	D	A	D
Approach Vol, veh/h		1006			585			432			315	
Approach Delay, s/veh		80.3			20.5			51.2			38.0	
Approach LOS		F			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	60.0	14.9	26.5	7.5	61.4	16.4	25.0
Change Period (Y+Rc), s	5.0	5.5	4.5	5.0	5.0	5.5	4.5	5.0
Max Green Setting (Gmax), s	15.0	54.5	15.5	25.0	15.0	54.5	15.5	25.0
Max Q Clear Time (g_c+I1), s	3.5	56.5	10.3	8.4	2.7	24.4	11.7	19.3
Green Ext Time (p_c), s	0.1	0.0	0.2	0.5	0.0	3.4	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	674	0	44	380	211	4	12	15	254	15	35
Future Volume (veh/h)	40	674	0	44	380	211	4	12	15	254	15	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	709	0	46	400	222	4	13	16	267	16	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	838	0	283	509	283	133	365	378	441	120	277
Arrive On Green	0.04	0.45	0.00	0.04	0.45	0.45	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	1870	0	1781	1130	627	246	1529	1585	1381	502	1160
Grp Volume(v), veh/h	42	709	0	46	0	622	17	0	16	267	0	53
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1757	1776	0	1585	1381	0	1662
Q Serve(g_s), s	0.7	20.1	0.0	0.8	0.0	17.9	0.0	0.0	0.5	11.0	0.0	1.5
Cycle Q Clear(g_c), s	0.7	20.1	0.0	0.8	0.0	17.9	0.4	0.0	0.5	11.4	0.0	1.5
Prop In Lane	1.00		0.00	1.00		0.36	0.24		1.00	1.00		0.70
Lane Grp Cap(c), veh/h	316	838	0	283	0	792	498	0	378	441	0	396
V/C Ratio(X)	0.13	0.85	0.00	0.16	0.00	0.79	0.03	0.00	0.04	0.61	0.00	0.13
Avail Cap(c_a), veh/h	391	1428	0	353	0	1342	823	0	678	714	0	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	14.6	0.0	11.5	0.0	13.9	17.4	0.0	17.4	21.8	0.0	17.8
Incr Delay (d2), s/veh	0.2	2.5	0.0	0.3	0.0	1.8	0.0	0.0	0.0	1.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.9	0.0	0.2	0.0	5.7	0.2	0.0	0.2	3.3	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	17.1	0.0	11.7	0.0	15.7	17.5	0.0	17.5	23.1	0.0	18.0
LnGrp LOS	B	B	A	B	A	B	B	A	B	C	A	B
Approach Vol, veh/h		751			668			33			320	
Approach Delay, s/veh		16.7			15.4			17.5			22.3	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	32.2		19.7	7.5	32.4		19.7
Change Period (Y+Rc), s	5.0	5.5		* 5.5	5.0	5.5		5.5
Max Green Setting (Gmax), s	5.0	45.5		* 26	5.0	45.5		25.5
Max Q Clear Time (g_c+I1), s	2.8	22.1		13.4	2.7	19.9		2.5
Green Ext Time (p_c), s	0.0	4.6		0.9	0.0	4.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	731	445	0	0	0
Future Vol, veh/h	0	731	445	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	70	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	821	500	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	500	0	-	0	1321	500
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	821	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1064	-	-	-	173	571
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	432	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1064	-	-	-	173	571
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	432	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1064	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	688	444	4	30	2
Future Vol, veh/h	1	688	444	4	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	80	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	782	555	5	34	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	560	0	-	0	1342	558
Stage 1	-	-	-	-	558	-
Stage 2	-	-	-	-	784	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1011	-	-	-	168	529
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1011	-	-	-	168	529
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	450	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	30.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1011	-	-	-	175
HCM Lane V/C Ratio	0.001	-	-	-	0.208
HCM Control Delay (s)	8.6	0	-	-	30.9
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	47	597	0	0	420	26	0	1	1	92	0	21
Future Vol, veh/h	47	597	0	0	420	26	0	1	1	92	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	686	0	0	483	30	0	1	1	106	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	513	0	0	686	0	0	1304	1307	686	1293	1292	498
Stage 1	-	-	-	-	-	-	794	794	-	498	498	-
Stage 2	-	-	-	-	-	-	510	513	-	795	794	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1052	-	-	908	-	-	137	160	447	140	163	572
Stage 1	-	-	-	-	-	-	381	400	-	554	544	-
Stage 2	-	-	-	-	-	-	546	536	-	381	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1052	-	-	908	-	-	123	147	447	130	149	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	123	147	-	130	149	-
Stage 1	-	-	-	-	-	-	349	367	-	508	544	-
Stage 2	-	-	-	-	-	-	523	536	-	347	367	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	21.5	96.8
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	221	1052	-	-	908	-	-	152
HCM Lane V/C Ratio	0.01	0.051	-	-	-	-	-	0.855
HCM Control Delay (s)	21.5	8.6	0	-	0	-	-	96.8
HCM Lane LOS	C	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	5.7

Intersection	
Int Delay, s/veh	17.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	497	10	10	264	162	1	27	56	99	12	70
Future Vol, veh/h	47	497	10	10	264	162	1	27	56	99	12	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	552	11	11	293	180	1	30	62	110	13	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	473	0	0	563	0	0	1113	1157	558	1113	1072	383
Stage 1	-	-	-	-	-	-	662	662	-	405	405	-
Stage 2	-	-	-	-	-	-	451	495	-	708	667	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1089	-	-	1008	-	-	186	196	529	186	220	664
Stage 1	-	-	-	-	-	-	451	459	-	622	598	-
Stage 2	-	-	-	-	-	-	588	546	-	426	457	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1089	-	-	1008	-	-	149	185	529	137	207	664
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	185	-	137	207	-
Stage 1	-	-	-	-	-	-	429	437	-	592	591	-
Stage 2	-	-	-	-	-	-	502	540	-	333	435	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	20.5	108
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	325	1089	-	-	1008	-	-	204
HCM Lane V/C Ratio	0.287	0.048	-	-	0.011	-	-	0.986
HCM Control Delay (s)	20.5	8.5	-	-	8.6	-	-	108
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.2	0.2	-	-	0	-	-	8.5

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	0	0	0	4	1	73	0	45	117	0
Future Vol, veh/h	2	0	0	0	0	4	1	73	0	45	117	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	0	0	0	5	1	87	0	54	139	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	339	336	139	336	336	87	139	0	0	87	0	0
Stage 1	247	247	-	89	89	-	-	-	-	-	-	-
Stage 2	92	89	-	247	247	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	615	585	909	618	585	971	1445	-	-	1509	-	-
Stage 1	757	702	-	918	821	-	-	-	-	-	-	-
Stage 2	915	821	-	757	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	593	562	909	599	562	971	1445	-	-	1509	-	-
Mov Cap-2 Maneuver	593	562	-	599	562	-	-	-	-	-	-	-
Stage 1	756	675	-	917	820	-	-	-	-	-	-	-
Stage 2	910	820	-	727	675	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	8.7	0.1	2.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1445	-	-	593	971	1509	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.005	0.036	-	-
HCM Control Delay (s)	7.5	0	-	11.1	8.7	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1062	108	32	501	45	22	4	57	26	16	4
Future Vol, veh/h	1	1062	108	32	501	45	22	4	57	26	16	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	None	-	-	None
Storage Length	190	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1180	120	36	557	50	24	4	63	29	18	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	1180	0	0	1602	1871	650	1248	1836	304
Stage 1	-	-	-	-	-	-	1242	1242	-	654	654	-
Stage 2	-	-	-	-	-	-	360	629	-	594	1182	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1010	-	-	588	-	-	71	71	412	130	75	692
Stage 1	-	-	-	-	-	-	185	245	-	422	461	-
Stage 2	-	-	-	-	-	-	631	474	-	458	262	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	588	-	-	54	67	412	100	70	692
Mov Cap-2 Maneuver	-	-	-	-	-	-	54	67	-	100	70	-
Stage 1	-	-	-	-	-	-	185	245	-	422	433	-
Stage 2	-	-	-	-	-	-	564	445	-	380	262	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	73.4	83.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	137	1010	-	-	588	-	-	93
HCM Lane V/C Ratio	0.673	0.001	-	-	0.06	-	-	0.55
HCM Control Delay (s)	73.4	8.6	-	-	11.5	-	-	83.2
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	3.7	0	-	-	0.2	-	-	2.5

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	1108	453	71	60	91
Future Vol, veh/h	57	1108	453	71	60	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	1259	515	81	68	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	515	0	-	0	1316	298
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	760	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1047	-	-	-	149	698
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	422	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1047	-	-	-	140	698
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	422	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	24.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1047	-	-	-	352
HCM Lane V/C Ratio	0.062	-	-	-	0.487
HCM Control Delay (s)	8.7	-	-	-	24.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.6

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	94	179	71	76	162
Future Vol, veh/h	34	94	179	71	76	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	127	242	96	103	219

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	715	290	0	0	338	0
Stage 1	290	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	397	749	-	-	1221	-
Stage 1	759	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	364	749	-	-	1221	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	364	749	1221	-
HCM Lane V/C Ratio	-	-	0.126	0.17	0.084	-
HCM Control Delay (s)	-	-	16.3	10.8	8.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	717	440	5	16	2
Future Vol, veh/h	5	717	440	5	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	779	478	5	17	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	483	0	-	0	1270	481
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1080	-	-	-	186	585
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	448	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1080	-	-	-	185	585
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	448	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	24.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1080	-	-	-	200
HCM Lane V/C Ratio	0.005	-	-	-	0.098
HCM Control Delay (s)	8.3	0	-	-	24.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	553	109	141	747	86	114	98	106	127	70	53
Future Volume (veh/h)	56	553	109	141	747	86	114	98	106	127	70	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	559	110	142	755	87	115	99	107	128	71	54
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	731	144	331	826	95	327	122	132	263	154	117
Arrive On Green	0.04	0.48	0.48	0.06	0.50	0.50	0.07	0.15	0.15	0.08	0.16	0.16
Sat Flow, veh/h	1781	1518	299	1781	1646	190	1781	822	888	1781	986	750
Grp Volume(v), veh/h	57	0	669	142	0	842	115	0	206	128	0	125
Grp Sat Flow(s),veh/h/ln	1781	0	1817	1781	0	1836	1781	0	1710	1781	0	1735
Q Serve(g_s), s	1.4	0.0	26.7	3.5	0.0	37.3	4.7	0.0	10.3	5.3	0.0	5.8
Cycle Q Clear(g_c), s	1.4	0.0	26.7	3.5	0.0	37.3	4.7	0.0	10.3	5.3	0.0	5.8
Prop In Lane	1.00		0.16	1.00		0.10	1.00		0.52	1.00		0.43
Lane Grp Cap(c), veh/h	209	0	875	331	0	921	327	0	255	263	0	271
V/C Ratio(X)	0.27	0.00	0.76	0.43	0.00	0.91	0.35	0.00	0.81	0.49	0.00	0.46
Avail Cap(c_a), veh/h	436	0	1119	521	0	1131	508	0	483	431	0	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	18.8	14.9	0.0	20.3	28.8	0.0	36.4	29.0	0.0	34.0
Incr Delay (d2), s/veh	0.7	0.0	2.4	0.9	0.0	9.9	0.6	0.0	6.0	1.4	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	10.3	1.3	0.0	16.0	2.0	0.0	4.6	2.3	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	0.0	21.2	15.8	0.0	30.2	29.4	0.0	42.5	30.4	0.0	35.2
LnGrp LOS	B	A	C	B	A	C	C	A	D	C	A	D
Approach Vol, veh/h		726			984			321			253	
Approach Delay, s/veh		21.0			28.1			37.8			32.7	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	48.1	11.0	18.8	8.8	49.9	11.6	18.2
Change Period (Y+Rc), s	5.0	5.5	4.5	5.0	5.0	5.5	4.5	5.0
Max Green Setting (Gmax), s	15.0	54.5	15.5	25.0	15.0	54.5	15.5	25.0
Max Q Clear Time (g_c+I1), s	5.5	28.7	6.7	7.8	3.4	39.3	7.3	12.3
Green Ext Time (p_c), s	0.2	4.5	0.2	0.5	0.1	5.1	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	494	0	117	698	113	9	27	81	157	45	51
Future Volume (veh/h)	37	494	0	117	698	113	9	27	81	157	45	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	509	0	121	720	116	9	28	84	162	46	53
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	919	0	508	822	132	114	281	290	328	145	167
Arrive On Green	0.04	0.49	0.00	0.07	0.52	0.52	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	1870	0	1781	1572	253	233	1534	1585	1281	793	913
Grp Volume(v), veh/h	38	509	0	121	0	836	37	0	84	162	0	99
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1825	1767	0	1585	1281	0	1706
Q Serve(g_s), s	0.6	11.9	0.0	2.0	0.0	25.3	0.0	0.0	2.9	7.6	0.0	3.2
Cycle Q Clear(g_c), s	0.6	11.9	0.0	2.0	0.0	25.3	1.0	0.0	2.9	8.6	0.0	3.2
Prop In Lane	1.00		0.00	1.00		0.14	0.24		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	262	919	0	508	0	954	395	0	290	328	0	312
V/C Ratio(X)	0.14	0.55	0.00	0.24	0.00	0.88	0.09	0.00	0.29	0.49	0.00	0.32
Avail Cap(c_a), veh/h	336	1358	0	525	0	1325	773	0	645	625	0	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	11.1	0.0	7.8	0.0	13.2	21.3	0.0	22.1	24.9	0.0	22.2
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.2	0.0	5.1	0.1	0.0	0.5	1.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.8	0.0	0.6	0.0	8.7	0.4	0.0	1.1	2.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	11.7	0.0	8.0	0.0	18.3	21.4	0.0	22.6	26.1	0.0	22.8
LnGrp LOS	B	B	A	A	A	B	C	A	C	C	A	C
Approach Vol, veh/h		547			957			121			261	
Approach Delay, s/veh		11.7			17.0			22.3			24.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	36.3		17.0	7.4	38.3		17.0
Change Period (Y+Rc), s	5.0	5.5		* 5.5	5.0	5.5		5.5
Max Green Setting (Gmax), s	5.0	45.5		* 26	5.0	45.5		25.5
Max Q Clear Time (g_c+I1), s	4.6	13.9		10.6	2.6	27.3		4.9
Green Ext Time (p_c), s	0.0	3.1		0.9	0.0	5.5		0.4

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	486	724	0	0	1
Future Vol, veh/h	1	486	724	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	70	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	517	770	0	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	770	0	-	0	1289	770
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	844	-	-	-	181	401
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	844	-	-	-	181	401
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	456	-
Stage 2	-	-	-	-	597	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	844	-	-	-	-	401
HCM Lane V/C Ratio	0.001	-	-	-	-	0.003
HCM Control Delay (s)	9.3	0	-	-	0	14
HCM Lane LOS	A	A	-	-	A	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	486	714	12	20	1
Future Vol, veh/h	1	486	714	12	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	517	760	13	21	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	773	0	-	0	1286	767
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	842	-	-	-	181	402
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	842	-	-	-	181	402
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	597	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	27
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	842	-	-	-	186
HCM Lane V/C Ratio	0.001	-	-	-	0.12
HCM Control Delay (s)	9.3	0	-	-	27
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	26	446	0	0	648	67	0	0	0	41	0	32
Future Vol, veh/h	26	446	0	0	648	67	0	0	0	41	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	480	0	0	697	72	0	0	0	44	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	769	0	0	480	0	0	1286	1305	480	1269	1269	733
Stage 1	-	-	-	-	-	-	536	536	-	733	733	-
Stage 2	-	-	-	-	-	-	750	769	-	536	536	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	845	-	-	1082	-	-	141	160	586	145	168	421
Stage 1	-	-	-	-	-	-	529	523	-	412	426	-
Stage 2	-	-	-	-	-	-	403	411	-	529	523	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	845	-	-	1082	-	-	125	153	586	140	160	421
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	153	-	140	160	-
Stage 1	-	-	-	-	-	-	505	499	-	393	426	-
Stage 2	-	-	-	-	-	-	370	411	-	505	499	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	0	34.6
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	845	-	-	1082	-	-	198
HCM Lane V/C Ratio	-	0.033	-	-	-	-	-	0.396
HCM Control Delay (s)	0	9.4	0	-	0	-	-	34.6
HCM Lane LOS	A	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	1.8

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	364	10	45	484	160	2	5	32	62	21	52
Future Vol, veh/h	32	364	10	45	484	160	2	5	32	62	21	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	391	11	48	520	172	2	5	34	67	23	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	692	0	0	402	0	0	1207	1253	397	1186	1172	606
Stage 1	-	-	-	-	-	-	465	465	-	702	702	-
Stage 2	-	-	-	-	-	-	742	788	-	484	470	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	903	-	-	1157	-	-	160	172	652	166	192	497
Stage 1	-	-	-	-	-	-	578	563	-	429	440	-
Stage 2	-	-	-	-	-	-	408	402	-	564	560	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	903	-	-	1157	-	-	121	159	652	144	177	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	159	-	144	177	-
Stage 1	-	-	-	-	-	-	556	542	-	413	422	-
Stage 2	-	-	-	-	-	-	329	386	-	509	539	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	15	55.8
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	402	903	-	-	1157	-	-	206
HCM Lane V/C Ratio	0.104	0.038	-	-	0.042	-	-	0.705
HCM Control Delay (s)	15	9.1	-	-	8.2	-	-	55.8
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	4.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	0	0	4	0	88	1	26	71	1
Future Vol, veh/h	1	0	1	0	0	4	0	88	1	26	71	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	0	0	5	0	106	1	31	86	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	258	256	87	256	256	107	87	0	0	107	0	0
Stage 1	149	149	-	107	107	-	-	-	-	-	-	-
Stage 2	109	107	-	149	149	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	695	648	971	697	648	947	1509	-	-	1484	-	-
Stage 1	854	774	-	898	807	-	-	-	-	-	-	-
Stage 2	896	807	-	854	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	680	634	971	684	634	947	1509	-	-	1484	-	-
Mov Cap-2 Maneuver	680	634	-	684	634	-	-	-	-	-	-	-
Stage 1	854	757	-	898	807	-	-	-	-	-	-	-
Stage 2	891	807	-	834	757	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	8.8	0	2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1509	-	-	800	947	1484	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.005	0.021	-	-
HCM Control Delay (s)	0	-	-	9.5	8.8	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	546	48	46	1043	12	52	5	39	1	10	1
Future Vol, veh/h	2	546	48	46	1043	12	52	5	39	1	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	None	-	-	None
Storage Length	190	-	-	160	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	587	52	49	1122	13	56	5	42	1	11	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1122	0	0	587	0	0	1282	1837	320	1527	1818	568
Stage 1	-	-	-	-	-	-	617	617	-	1227	1227	-
Stage 2	-	-	-	-	-	-	665	1220	-	300	591	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	618	-	-	984	-	-	122	75	676	80	77	466
Stage 1	-	-	-	-	-	-	444	479	-	189	249	-
Stage 2	-	-	-	-	-	-	416	251	-	684	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	618	-	-	984	-	-	104	71	676	68	73	466
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	71	-	68	73	-
Stage 1	-	-	-	-	-	-	443	478	-	188	237	-
Stage 2	-	-	-	-	-	-	376	238	-	632	492	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	67.1	60.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	153	618	-	-	984	-	-	78
HCM Lane V/C Ratio	0.675	0.003	-	-	0.05	-	-	0.165
HCM Control Delay (s)	67.1	10.8	-	-	8.9	-	-	60.1
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3.8	0	-	-	0.2	-	-	0.6

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	541	1042	72	42	114
Future Vol, veh/h	20	541	1042	72	42	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	569	1097	76	44	120

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1097	0	-	0	1462	587
Stage 1	-	-	-	-	1135	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	632	-	-	-	120	453
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	703	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	632	-	-	-	116	453
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	260	-
Stage 2	-	-	-	-	703	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	632	-	-	-	431
HCM Lane V/C Ratio	0.033	-	-	-	0.381
HCM Control Delay (s)	10.9	-	-	-	18.4
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	61	122	93	40	107
Future Vol, veh/h	50	61	122	93	40	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	64	128	98	42	113

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	374	177	0	0	226	0
Stage 1	177	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	627	866	-	-	1342	-
Stage 1	854	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	608	866	-	-	1342	-
Mov Cap-2 Maneuver	608	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	608	866	1342	-
HCM Lane V/C Ratio	-	-	0.087	0.074	0.031	-
HCM Control Delay (s)	-	-	11.5	9.5	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	489	722	12	7	1
Future Vol, veh/h	4	489	722	12	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	532	785	13	8	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	798	0	-	0	1332	792
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	540	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	824	-	-	-	170	389
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	584	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	824	-	-	-	169	389
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	25.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	824	-	-	-	182
HCM Lane V/C Ratio	0.005	-	-	-	0.048
HCM Control Delay (s)	9.4	0	-	-	25.8
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	782	526	8	24	10
Future Vol, veh/h	8	782	526	8	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	850	572	9	26	11

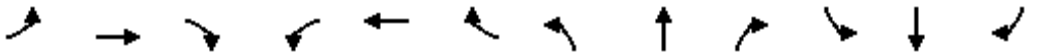
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	581	0	-	0	1440	572
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	868	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	993	-	-	-	146	520
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	411	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	993	-	-	-	145	520
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	560	-
Stage 2	-	-	-	-	411	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	29.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	993	-	-	-	184
HCM Lane V/C Ratio	0.009	-	-	-	0.201
HCM Control Delay (s)	8.7	-	-	-	29.4
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.7

APPENDIX E

2032 TOTAL CONDITIONS CAPACITY ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	918	93	47	463	58	160	60	184	180	71	45
Future Volume (veh/h)	39	918	93	47	463	58	160	60	184	180	71	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	998	101	51	503	63	174	65	200	196	77	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	983	931	141	989	952	319	65	201	202	184	117
Arrive On Green	0.03	0.53	0.53	0.04	0.53	0.53	0.06	0.16	0.16	0.07	0.17	0.17
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	404	1243	1781	1068	680
Grp Volume(v), veh/h	42	998	101	51	503	63	174	0	265	196	0	126
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1647	1781	0	1748
Q Serve(g_s), s	1.0	51.9	2.8	1.3	17.1	1.6	6.1	0.0	15.9	7.1	0.0	6.4
Cycle Q Clear(g_c), s	1.0	51.9	2.8	1.3	17.1	1.6	6.1	0.0	15.9	7.1	0.0	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.39
Lane Grp Cap(c), veh/h	435	983	931	141	989	952	319	0	267	202	0	301
V/C Ratio(X)	0.10	1.02	0.11	0.36	0.51	0.07	0.54	0.00	0.99	0.97	0.00	0.42
Avail Cap(c_a), veh/h	464	983	931	163	989	952	319	0	267	202	0	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	23.4	9.0	23.3	15.0	8.2	34.5	0.0	41.3	36.6	0.0	36.5
Incr Delay (d2), s/veh	0.1	32.6	0.1	1.6	0.4	0.0	1.9	0.0	53.2	54.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	28.5	0.9	0.6	6.6	0.5	1.0	0.0	10.2	4.3	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	56.0	9.0	24.9	15.4	8.2	36.4	0.0	94.5	90.6	0.0	37.4
LnGrp LOS	B	F	A	C	B	A	D	A	F	F	A	D
Approach Vol, veh/h		1141			617			439			322	
Approach Delay, s/veh		50.2			15.5			71.5			69.8	
Approach LOS		D			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	57.4	10.6	22.0	8.4	57.7	11.6	21.0
Change Period (Y+Rc), s	5.0	5.5	4.5	5.0	5.0	5.5	4.5	5.0
Max Green Setting (Gmax), s	5.0	51.9	6.1	17.0	5.0	51.9	7.1	16.0
Max Q Clear Time (g_c+I1), s	3.3	53.9	8.1	8.4	3.0	19.1	9.1	17.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	3.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	799	0	44	422	211	4	12	15	254	15	41
Future Volume (veh/h)	58	799	0	44	422	211	4	12	15	254	15	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	841	0	46	444	222	4	13	16	267	16	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	937	0	240	581	290	122	342	358	406	101	272
Arrive On Green	0.05	0.50	0.00	0.04	0.49	0.49	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	1870	0	1781	1176	588	256	1514	1585	1381	448	1205
Grp Volume(v), veh/h	61	841	0	46	0	666	17	0	16	267	0	59
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1764	1770	0	1585	1381	0	1653
Q Serve(g_s), s	1.1	28.3	0.0	0.9	0.0	21.3	0.0	0.0	0.5	13.0	0.0	2.0
Cycle Q Clear(g_c), s	1.1	28.3	0.0	0.9	0.0	21.3	0.5	0.0	0.5	13.5	0.0	2.0
Prop In Lane	1.00		0.00	1.00		0.33	0.24		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	336	937	0	240	0	871	464	0	358	406	0	373
V/C Ratio(X)	0.18	0.90	0.00	0.19	0.00	0.76	0.04	0.00	0.04	0.66	0.00	0.16
Avail Cap(c_a), veh/h	376	1147	0	293	0	1082	485	0	377	433	0	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	15.7	0.0	13.6	0.0	14.3	21.0	0.0	21.0	26.2	0.0	21.5
Incr Delay (d2), s/veh	0.3	8.3	0.0	0.4	0.0	2.6	0.0	0.0	0.1	3.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.4	0.0	0.3	0.0	7.3	0.2	0.0	0.2	4.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	24.0	0.0	14.0	0.0	16.9	21.0	0.0	21.0	29.6	0.0	21.7
LnGrp LOS	B	C	A	B	A	B	C	A	C	C	A	C
Approach Vol, veh/h		902			712			33			326	
Approach Delay, s/veh		23.1			16.7			21.0			28.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.9	40.2		21.1	8.5	39.7		21.1
Change Period (Y+Rc), s	5.0	5.5		* 5.5	5.0	5.5		5.5
Max Green Setting (Gmax), s	5.0	42.5		* 17	5.0	42.5		16.5
Max Q Clear Time (g_c+I1), s	2.9	30.3		15.5	3.1	23.3		2.5
Green Ext Time (p_c), s	0.0	4.5		0.2	0.0	4.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	873	493	0	0	0
Future Vol, veh/h	0	873	493	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	295	-	-	70	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	981	554	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	554	0	-	0	1535	554
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	981	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1016	-	-	-	128	532
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	363	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1016	-	-	-	128	532
Mov Cap-2 Maneuver	-	-	-	-	128	-
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	363	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1016	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

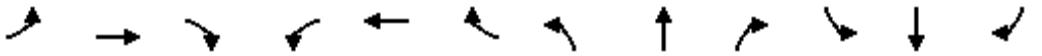
Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	730	515	16	48	20
Future Vol, veh/h	7	730	515	16	48	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	290	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	80	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	830	644	18	55	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	662	0	-	0	1490	644
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	846	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	927	-	-	-	136	473
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	927	-	-	-	135	473
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	421	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	42.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	927	-	-	-	171
HCM Lane V/C Ratio	0.009	-	-	-	0.452
HCM Control Delay (s)	8.9	-	-	-	42.3
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	2.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	609	0	0	456	79	0	1	1	128	0	39
Future Volume (veh/h)	53	609	0	0	456	79	0	1	1	128	0	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	700	0	0	524	91	0	1	1	147	0	45
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	1199	0	0	883	748	0	113	113	266	0	45
Arrive On Green	0.06	0.64	0.00	0.00	0.47	0.47	0.00	0.13	0.13	0.13	0.00	0.13
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	858	858	1103	0	338
Grp Volume(v), veh/h	61	700	0	0	524	91	0	0	2	192	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	0	1716	1440	0	0
Q Serve(g_s), s	0.8	11.4	0.0	0.0	10.9	1.7	0.0	0.0	0.1	6.9	0.0	0.0
Cycle Q Clear(g_c), s	0.8	11.4	0.0	0.0	10.9	1.7	0.0	0.0	0.1	7.0	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.50	0.77		0.23
Lane Grp Cap(c), veh/h	451	1199	0	0	883	748	0	0	227	310	0	0
V/C Ratio(X)	0.14	0.58	0.00	0.00	0.59	0.12	0.00	0.00	0.01	0.62	0.00	0.00
Avail Cap(c_a), veh/h	519	1271	0	0	883	748	0	0	227	310	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.9	5.4	0.0	0.0	10.3	7.8	0.0	0.0	20.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.0	0.0	1.1	0.1	0.0	0.0	0.0	3.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	0.0	0.0	3.0	0.4	0.0	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.0	6.1	0.0	0.0	11.3	7.9	0.0	0.0	20.0	26.7	0.0	0.0
LnGrp LOS	A	A	A	A	B	A	A	A	B	C	A	A
Approach Vol, veh/h		761			615			2			192	
Approach Delay, s/veh		6.1			10.8			20.0			26.7	
Approach LOS		A			B			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		40.0		13.0	9.0	31.0		13.0				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		36.0		7.0	5.0	25.0		7.0				
Max Q Clear Time (g_c+I1), s		13.4		9.0	2.8	12.9		2.1				
Green Ext Time (p_c), s		4.2		0.0	0.0	2.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	509	10	10	300	180	1	27	56	105	12	70
Future Volume (veh/h)	47	509	10	10	300	180	1	27	56	105	12	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	566	11	11	333	200	1	30	62	117	13	78
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	920	18	384	472	283	64	95	192	232	30	99
Arrive On Green	0.09	0.50	0.50	0.01	0.43	0.43	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1828	36	1781	1095	657	5	551	1112	785	172	575
Grp Volume(v), veh/h	52	0	577	11	0	533	93	0	0	208	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1864	1781	0	1752	1668	0	0	1532	0	0
Q Serve(g_s), s	0.8	0.0	12.9	0.2	0.0	14.4	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	12.9	0.2	0.0	14.4	2.8	0.0	0.0	7.3	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.38	0.01		0.67	0.56		0.37
Lane Grp Cap(c), veh/h	436	0	938	384	0	755	350	0	0	361	0	0
V/C Ratio(X)	0.12	0.00	0.62	0.03	0.00	0.71	0.27	0.00	0.00	0.58	0.00	0.00
Avail Cap(c_a), veh/h	436	0	938	512	0	816	350	0	0	361	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.8	0.0	10.4	9.7	0.0	13.5	21.0	0.0	0.0	22.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.0	0.0	2.6	0.4	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.7	0.1	0.0	4.5	1.0	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	0.0	11.6	9.7	0.0	16.1	21.4	0.0	0.0	24.9	0.0	0.0
LnGrp LOS	A	A	B	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		629			544			93			208	
Approach Delay, s/veh		11.4			15.9			21.4			24.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	35.2		16.0	11.0	31.0		16.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	27.0		10.0	5.0	27.0		10.0				
Max Q Clear Time (g_c+I1), s	2.8	14.9		9.3	2.8	16.4		4.8				
Green Ext Time (p_c), s	0.0	2.5		0.1	0.0	2.2		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

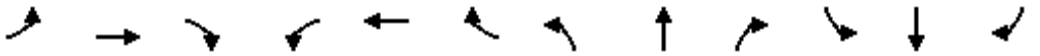
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	0	36	0	111	1	126	6	81	135	0
Future Vol, veh/h	2	0	0	36	0	111	1	126	6	81	135	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	0	43	0	132	1	150	7	96	161	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	575	512	161	509	509	154	161	0	0	157	0	0
Stage 1	353	353	-	156	156	-	-	-	-	-	-	-
Stage 2	222	159	-	353	353	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	429	465	884	475	467	892	1418	-	-	1423	-	-
Stage 1	664	631	-	846	769	-	-	-	-	-	-	-
Stage 2	780	766	-	664	631	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	344	430	884	448	432	892	1418	-	-	1423	-	-
Mov Cap-2 Maneuver	344	430	-	448	432	-	-	-	-	-	-	-
Stage 1	663	584	-	845	768	-	-	-	-	-	-	-
Stage 2	664	765	-	615	584	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	11.6	0.1	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	344	718	1423	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.244	0.068	-	-
HCM Control Delay (s)	7.5	0	-	15.5	11.6	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1062	114	80	501	45	40	4	199	26	16	4
Future Volume (veh/h)	1	1062	114	80	501	45	40	4	199	26	16	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1180	0	89	557	0	44	4	221	29	18	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1536		115	1761		105	22	262	217	119	20
Arrive On Green	0.00	0.43	0.00	0.06	0.50	0.00	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3647	0	1781	3647	0	171	111	1296	604	587	101
Grp Volume(v), veh/h	1	1180	0	89	557	0	269	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1578	0	0	1292	0	0
Q Serve(g_s), s	0.0	16.9	0.0	2.9	5.6	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	16.9	0.0	2.9	5.6	0.0	9.8	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.16		0.82	0.57		0.08
Lane Grp Cap(c), veh/h	3	1536		115	1761		389	0	0	356	0	0
V/C Ratio(X)	0.34	0.77		0.77	0.32		0.69	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	417	2139		208	1761		439	0	0	399	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.8	14.4	0.0	27.5	9.0	0.0	22.9	0.0	0.0	19.6	0.0	0.0
Incr Delay (d2), s/veh	55.6	1.1	0.0	10.5	0.1	0.0	4.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.0	0.0	1.4	1.5	0.0	3.7	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.5	15.6	0.0	38.0	9.1	0.0	26.8	0.0	0.0	19.8	0.0	0.0
LnGrp LOS	F	B		D	A		C	A	A	B	A	A
Approach Vol, veh/h		1181			646			269			51	
Approach Delay, s/veh		15.6			13.1			26.8			19.8	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	31.9		18.1	6.1	35.6		18.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	36.0		14.0	14.0	29.0		14.0				
Max Q Clear Time (g_c+I1), s	4.9	18.9		3.4	2.0	7.6		11.8				
Green Ext Time (p_c), s	0.0	7.0		0.1	0.0	3.1		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		16.4
HCM 6th LOS		B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	1114	471	71	60	109
Future Vol, veh/h	63	1114	471	71	60	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	1266	535	81	68	124

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	535	0	-	0	1353	308
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	777	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1029	-	-	-	141	688
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	414	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1029	-	-	-	131	688
Mov Cap-2 Maneuver	-	-	-	-	131	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	414	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	24.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1029	-	-	-	369
HCM Lane V/C Ratio	0.07	-	-	-	0.52
HCM Control Delay (s)	8.8	-	-	-	24.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.9

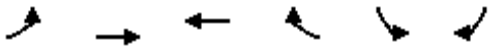
Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	94	179	89	76	162
Future Vol, veh/h	40	94	179	89	76	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	127	242	120	103	219

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	727	302	0	0	362	0
Stage 1	302	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	391	738	-	-	1197	-
Stage 1	750	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	357	738	-	-	1197	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	357	738	1197	-
HCM Lane V/C Ratio	-	-	0.151	0.172	0.086	-
HCM Control Delay (s)	-	-	16.9	10.9	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.6	0.3	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	773	457	36	107	71
Future Volume (veh/h)	24	773	457	36	107	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	840	497	39	116	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	339	993	757	641	490	436
Arrive On Green	0.03	0.53	0.40	0.40	0.28	0.28
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585
Grp Volume(v), veh/h	26	840	497	39	116	77
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585
Q Serve(g_s), s	0.5	23.6	13.3	0.9	3.1	2.3
Cycle Q Clear(g_c), s	0.5	23.6	13.3	0.9	3.1	2.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	339	993	757	641	490	436
V/C Ratio(X)	0.08	0.85	0.66	0.06	0.24	0.18
Avail Cap(c_a), veh/h	431	1090	757	641	490	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	12.4	14.9	11.2	17.4	17.1
Incr Delay (d2), s/veh	0.1	5.9	2.1	0.0	1.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.5	5.4	0.3	1.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	18.2	17.0	11.3	18.5	18.0
LnGrp LOS	B	B	B	B	B	B
Approach Vol, veh/h		866	536		193	
Approach Delay, s/veh		18.0	16.6		18.3	
Approach LOS		B	B		B	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			38.8		23.0	7.8	31.0
Change Period (Y+Rc), s			6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s			36.0		17.0	5.0	25.0
Max Q Clear Time (g_c+I1), s			25.6		5.1	2.5	15.3
Green Ext Time (p_c), s			4.5		0.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	45	4	18	36	142
Future Vol, veh/h	42	45	4	18	36	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	49	4	20	39	154

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	155	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1591	-	-	-	836	1066
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1591	-	-	-	811	1066
Mov Cap-2 Maneuver	-	-	-	-	811	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	886	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1591	-	-	-	811	1066
HCM Lane V/C Ratio	0.029	-	-	-	0.048	0.145
HCM Control Delay (s)	7.3	0	-	-	9.7	8.9
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.5

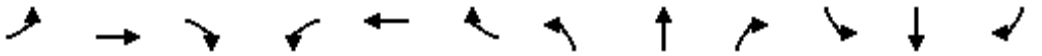
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	776	523	5	16	2
Future Vol, veh/h	5	776	523	5	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	843	568	5	17	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	573	0	-	0	1424	571
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	853	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1000	-	-	-	150	520
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	418	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1000	-	-	-	149	520
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	560	-
Stage 2	-	-	-	-	418	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	30.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1000	-	-	-	162
HCM Lane V/C Ratio	0.005	-	-	-	0.121
HCM Control Delay (s)	8.6	0	-	-	30.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	615	121	141	853	86	135	98	106	127	70	74
Future Volume (veh/h)	68	615	121	141	853	86	135	98	106	127	70	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	621	122	142	862	87	136	99	107	128	71	75
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	905	767	361	929	787	282	121	130	234	122	129
Arrive On Green	0.05	0.48	0.48	0.06	0.50	0.50	0.06	0.15	0.15	0.06	0.15	0.15
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	822	888	1781	833	879
Grp Volume(v), veh/h	69	621	122	142	862	87	136	0	206	128	0	146
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1710	1781	0	1712
Q Serve(g_s), s	1.5	20.8	3.5	3.2	34.9	2.4	5.0	0.0	9.5	5.0	0.0	6.5
Cycle Q Clear(g_c), s	1.5	20.8	3.5	3.2	34.9	2.4	5.0	0.0	9.5	5.0	0.0	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.51
Lane Grp Cap(c), veh/h	214	905	767	361	929	787	282	0	251	234	0	251
V/C Ratio(X)	0.32	0.69	0.16	0.39	0.93	0.11	0.48	0.00	0.82	0.55	0.00	0.58
Avail Cap(c_a), veh/h	238	1015	860	361	1015	860	282	0	337	234	0	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	16.2	11.7	12.4	19.1	10.9	28.1	0.0	33.6	28.0	0.0	32.3
Incr Delay (d2), s/veh	0.9	1.7	0.1	0.7	13.5	0.1	1.3	0.0	11.3	2.7	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.9	1.1	1.1	15.9	0.8	2.3	0.0	4.6	2.2	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	17.9	11.8	13.1	32.6	10.9	29.4	0.0	44.9	30.7	0.0	34.4
LnGrp LOS	B	B	B	B	C	B	C	A	D	C	A	C
Approach Vol, veh/h		812			1091			342			274	
Approach Delay, s/veh		17.0			28.3			38.7			32.7	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	44.7	9.5	16.9	8.9	45.8	9.5	16.9
Change Period (Y+Rc), s	5.0	5.5	4.5	5.0	5.0	5.5	4.5	5.0
Max Green Setting (Gmax), s	5.0	44.0	5.0	16.0	5.0	44.0	5.0	16.0
Max Q Clear Time (g_c+I1), s	5.2	22.8	7.0	8.5	3.5	36.9	7.0	11.5
Green Ext Time (p_c), s	0.0	4.1	0.0	0.4	0.0	3.4	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	581	0	117	846	113	9	27	81	157	45	72
Future Volume (veh/h)	49	581	0	117	846	113	9	27	81	157	45	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	599	0	121	872	116	9	28	84	162	46	74
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1063	0	495	945	126	99	256	269	287	110	176
Arrive On Green	0.04	0.57	0.00	0.06	0.58	0.58	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1870	0	1781	1617	215	248	1506	1585	1281	645	1038
Grp Volume(v), veh/h	51	599	0	121	0	988	37	0	84	162	0	120
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1832	1754	0	1585	1281	0	1683
Q Serve(g_s), s	0.9	16.0	0.0	2.1	0.0	38.3	0.0	0.0	3.7	9.7	0.0	5.0
Cycle Q Clear(g_c), s	0.9	16.0	0.0	2.1	0.0	38.3	1.3	0.0	3.7	11.0	0.0	5.0
Prop In Lane	1.00		0.00	1.00		0.12	0.24		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	223	1063	0	495	0	1071	355	0	269	287	0	286
V/C Ratio(X)	0.23	0.56	0.00	0.24	0.00	0.92	0.10	0.00	0.31	0.56	0.00	0.42
Avail Cap(c_a), veh/h	260	1255	0	503	0	1229	412	0	324	340	0	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	10.8	0.0	7.8	0.0	14.8	27.7	0.0	28.7	32.4	0.0	29.3
Incr Delay (d2), s/veh	0.5	0.5	0.0	0.3	0.0	10.6	0.1	0.0	0.7	1.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.3	0.0	0.6	0.0	15.0	0.6	0.0	1.4	3.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	11.3	0.0	8.0	0.0	25.4	27.8	0.0	29.3	34.1	0.0	30.2
LnGrp LOS	B	B	A	A	A	C	C	A	C	C	A	C
Approach Vol, veh/h		650			1109			121			282	
Approach Delay, s/veh		11.7			23.5			28.9			32.5	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	50.3		18.9	8.4	51.6		18.9
Change Period (Y+Rc), s	5.0	5.5		* 5.5	5.0	5.5		5.5
Max Green Setting (Gmax), s	5.6	52.9		* 17	5.0	52.9		16.1
Max Q Clear Time (g_c+I1), s	4.1	18.0		13.0	2.9	40.3		5.7
Green Ext Time (p_c), s	0.0	3.9		0.4	0.0	5.7		0.3

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	586	894	0	0	1
Future Vol, veh/h	1	586	894	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	295	-	-	70	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	623	951	0	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	951	0	-	0	1576	951
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	625	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	722	-	-	-	121	315
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	722	-	-	-	121	315
Mov Cap-2 Maneuver	-	-	-	-	121	-
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	534	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	722	-	-	-	-	315
HCM Lane V/C Ratio	0.001	-	-	-	-	0.003
HCM Control Delay (s)	10	-	-	-	0	16.5
HCM Lane LOS	A	-	-	-	A	C
HCM 95th %tile Q(veh)	0	-	-	-	-	0

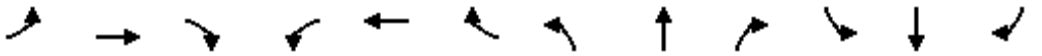
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	583	764	54	32	13
Future Vol, veh/h	22	583	764	54	32	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	290	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	620	813	57	34	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	870	0	-	0	1479	813
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	666	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	775	-	-	-	138	378
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	775	-	-	-	134	378
Mov Cap-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	511	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	35.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	775	-	-	-	165
HCM Lane V/C Ratio	0.03	-	-	-	0.29
HCM Control Delay (s)	9.8	-	-	-	35.5
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	488	0	0	673	104	0	0	0	117	0	44
Future Volume (veh/h)	47	488	0	0	673	104	0	0	0	117	0	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	525	0	0	724	112	0	0	0	126	0	47
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	1132	0	0	839	711	0	336	0	289	16	72
Arrive On Green	0.05	0.61	0.00	0.00	0.45	0.45	0.00	0.00	0.00	0.18	0.00	0.18
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	988	91	403
Grp Volume(v), veh/h	51	525	0	0	724	112	0	0	0	173	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1482	0	0
Q Serve(g_s), s	0.8	8.6	0.0	0.0	19.4	2.3	0.0	0.0	0.0	5.3	0.0	0.0
Cycle Q Clear(g_c), s	0.8	8.6	0.0	0.0	19.4	2.3	0.0	0.0	0.0	6.0	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	0.73		0.27
Lane Grp Cap(c), veh/h	282	1132	0	0	839	711	0	336	0	378	0	0
V/C Ratio(X)	0.18	0.46	0.00	0.00	0.86	0.16	0.00	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	355	1275	0	0	906	768	0	336	0	378	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.7	6.0	0.0	0.0	13.8	9.1	0.0	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	0.0	0.0	8.2	0.1	0.0	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	0.0	0.0	7.3	0.6	0.0	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	6.3	0.0	0.0	22.0	9.2	0.0	0.0	0.0	22.0	0.0	0.0
LnGrp LOS	B	A	A	A	C	A	A	A	A	C	A	A
Approach Vol, veh/h		576			836			0			173	
Approach Delay, s/veh		6.7			20.3			0.0			22.0	
Approach LOS		A			C						C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		39.7		16.0	8.7	31.0		16.0				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		38.0		10.0	5.0	27.0		10.0				
Max Q Clear Time (g_c+I1), s		10.6		8.0	2.8	21.4		0.0				
Green Ext Time (p_c), s		2.9		0.2	0.0	2.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			15.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	406	10	45	509	172	2	5	32	83	21	52
Future Volume (veh/h)	32	406	10	45	509	172	2	5	32	83	21	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	437	11	48	547	185	2	5	34	89	23	56
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	884	22	494	587	198	68	43	228	210	57	87
Arrive On Green	0.09	0.49	0.49	0.04	0.44	0.44	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1816	46	1781	1337	452	23	253	1343	682	337	510
Grp Volume(v), veh/h	34	0	448	48	0	732	41	0	0	168	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1862	1781	0	1789	1619	0	0	1529	0	0
Q Serve(g_s), s	0.5	0.0	9.6	0.9	0.0	22.9	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	9.6	0.9	0.0	22.9	1.3	0.0	0.0	5.9	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.25	0.05		0.83	0.53		0.33
Lane Grp Cap(c), veh/h	310	0	907	494	0	785	339	0	0	354	0	0
V/C Ratio(X)	0.11	0.00	0.49	0.10	0.00	0.93	0.12	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	310	0	907	549	0	821	339	0	0	354	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	10.2	8.7	0.0	15.7	20.8	0.0	0.0	22.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.1	0.0	16.9	0.2	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	2.7	0.2	0.0	10.0	0.5	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	0.0	10.6	8.8	0.0	32.5	20.9	0.0	0.0	23.6	0.0	0.0
LnGrp LOS	B	A	B	A	A	C	C	A	A	C	A	A
Approach Vol, veh/h		482			780			41			168	
Approach Delay, s/veh		10.7			31.1			20.9			23.6	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	34.6		16.0	11.0	31.8		16.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	4.6	28.0		10.0	5.0	27.0		10.0
Max Q Clear Time (g_c+I1), s	2.9	11.6		7.9	2.5	24.9		3.3
Green Ext Time (p_c), s	0.0	2.1		0.2	0.0	1.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

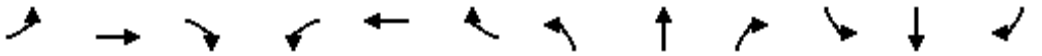
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	25	0	79	0	125	22	153	135	1
Future Vol, veh/h	1	0	1	25	0	79	0	125	22	153	135	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	30	0	95	0	151	27	184	163	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	744	710	164	697	697	165	164	0	0	178	0	0
Stage 1	532	532	-	165	165	-	-	-	-	-	-	-
Stage 2	212	178	-	532	532	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	331	359	881	356	365	879	1414	-	-	1398	-	-
Stage 1	531	526	-	837	762	-	-	-	-	-	-	-
Stage 2	790	752	-	531	526	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	262	307	881	316	312	879	1414	-	-	1398	-	-
Mov Cap-2 Maneuver	262	307	-	316	312	-	-	-	-	-	-	-
Stage 1	531	450	-	837	762	-	-	-	-	-	-	-
Stage 2	704	752	-	453	450	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	12.3	0	4.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	404	615	1398	-	-
HCM Lane V/C Ratio	-	-	-	0.006	0.204	0.132	-	-
HCM Control Delay (s)	0	-	-	14	12.3	8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0.5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	546	69	216	1043	12	64	5	139	1	10	1
Future Volume (veh/h)	2	546	69	216	1043	12	64	5	139	1	10	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	587	0	232	1122	0	69	5	149	1	11	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1415		277	1959		137	20	165	68	265	23
Arrive On Green	0.00	0.40	0.00	0.16	0.55	0.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3647	0	1781	3647	0	388	128	1038	37	1661	141
Grp Volume(v), veh/h	2	587	0	232	1122	0	223	0	0	13	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1554	0	0	1839	0	0
Q Serve(g_s), s	0.1	7.5	0.0	7.9	13.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	7.5	0.0	7.9	13.0	0.0	8.8	0.0	0.0	0.4	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	0.31		0.67	0.08		0.08
Lane Grp Cap(c), veh/h	5	1415		277	1959		323	0	0	355	0	0
V/C Ratio(X)	0.41	0.41		0.84	0.57		0.69	0.00	0.00	0.04	0.00	0.00
Avail Cap(c_a), veh/h	199	1415		284	1959		323	0	0	355	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.2	13.6	0.0	25.7	9.2	0.0	25.8	0.0	0.0	22.3	0.0	0.0
Incr Delay (d2), s/veh	47.4	0.2	0.0	18.9	0.4	0.0	6.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	0.0	4.3	3.2	0.0	3.6	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.6	13.8	0.0	44.7	9.6	0.0	32.0	0.0	0.0	22.4	0.0	0.0
LnGrp LOS	E	B		D	A		C	A	A	C	A	A
Approach Vol, veh/h		589			1354			223			13	
Approach Delay, s/veh		14.0			15.6			32.0			22.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.8	31.0		16.0	6.2	40.6		16.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	10.0	25.0		10.0	7.0	28.0		10.0				
Max Q Clear Time (g_c+I1), s	9.9	9.5		2.4	2.1	15.0		10.8				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	5.7		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	41	562	1054	72	42	126
Future Vol, veh/h	41	562	1054	72	42	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	592	1109	76	44	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1109	0	-	0	1529	593
Stage 1	-	-	-	-	1147	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	625	-	-	-	108	449
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	660	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	625	-	-	-	101	449
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	660	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	625	-	-	-	404
HCM Lane V/C Ratio	0.069	-	-	-	0.438
HCM Control Delay (s)	11.2	-	-	-	20.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.2

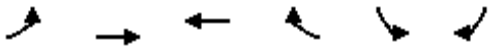
Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	61	122	105	40	107
Future Vol, veh/h	71	61	122	105	40	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	64	128	111	42	113

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	381	184	0	0	239	0
Stage 1	184	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	621	858	-	-	1328	-
Stage 1	848	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	601	858	-	-	1328	-
Mov Cap-2 Maneuver	601	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	809	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	601	858	1328	-
HCM Lane V/C Ratio	-	-	0.124	0.075	0.032	-
HCM Control Delay (s)	-	-	11.8	9.5	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.1	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	533	780	106	62	37
Future Volume (veh/h)	64	533	780	106	62	37
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	579	848	115	67	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	314	1308	993	940	111	177
Arrive On Green	0.05	0.70	0.53	0.53	0.06	0.06
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585
Grp Volume(v), veh/h	70	579	848	115	67	40
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585
Q Serve(g_s), s	0.8	6.8	19.6	1.6	1.8	1.2
Cycle Q Clear(g_c), s	0.8	6.8	19.6	1.6	1.8	1.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	314	1308	993	940	111	177
V/C Ratio(X)	0.22	0.44	0.85	0.12	0.60	0.23
Avail Cap(c_a), veh/h	367	1746	1375	1264	566	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	3.3	10.1	4.5	23.0	20.4
Incr Delay (d2), s/veh	0.4	0.2	4.0	0.1	5.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	5.1	0.3	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.4	3.5	14.1	4.6	28.2	21.0
LnGrp LOS	A	A	B	A	C	C
Approach Vol, veh/h		649	963		107	
Approach Delay, s/veh		4.2	13.0		25.5	
Approach LOS		A	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		41.2		9.1	8.5	32.7
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		47.0		16.0	4.0	37.0
Max Q Clear Time (g_c+I1), s		8.8		3.8	2.8	21.6
Green Ext Time (p_c), s		3.5		0.2	0.0	5.1

Intersection Summary		
HCM 6th Ctrl Delay		10.4
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	148	27	4	64	25	100
Future Vol, veh/h	148	27	4	64	25	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	161	29	4	70	27	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	390	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	351	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	614	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	548	1033
Mov Cap-2 Maneuver	-	-	-	-	548	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1526	-	-	-	548	1033
HCM Lane V/C Ratio	0.105	-	-	-	0.05	0.105
HCM Control Delay (s)	7.6	0	-	-	11.9	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	599	814	12	7	1
Future Vol, veh/h	4	599	814	12	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	651	885	13	8	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	898	0	-	0	1551	892
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	756	-	-	-	125	341
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	756	-	-	-	124	341
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	515	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	33.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	756	-	-	-	135
HCM Lane V/C Ratio	0.006	-	-	-	0.064
HCM Control Delay (s)	9.8	0	-	-	33.5
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

APPENDIX F

TRAFFIC SIGNAL WARRANT WORKSHEETS

TRAFFIC SIGNAL WARRANT ANALYSIS - VOLUME WARRANTS

Intersection of: Trotwood Ave
and: Project Access #1
City or County: Columbia State: TN

Date of Count:
Day of Week of Count: 2032

Are warranting volumes to be adjusted for built up area or speeds greater that 40 mph? . . . . . Yes

	Major Street	Minor Street
Adjustment factor for day of week and month of year of count . . .	1.00	1.00
Number of Lanes	1	1

Time Beginning	Major Street Actual Volume App #1	App #2	Total	Adjusted Total Volume	Minor Street Actual Volume	Adjusted Total Volume
6:00 am	515		515	515	53	53
7:00	701		701	701	98	98
8:00	605		605	605	79	79
9:00 am	665		665	665	55	55
10:00	648		648	648	47	47
11:00	719		719	719	47	47
12:00 noon	752		752	752	50	50
1:00	728		728	728	51	51
2:00	781		781	781	55	55
3:00 pm	857		857	857	53	53
4:00	898		898	898	62	62
5:00	937		937	937	65	65
6:00 pm	673		673	673	54	54
7:00	534		534	534	39	39
8:00	357		357	357	29	29

--- No adjustment made.

Note:
--- Where more than one minor approach exists use the higher approach volume
--- Number of hours shown is the minimum meeting the MUTCD requirements. Additional hours outside of the count period may meet the MUTCD specified volume levels.

Warrant 1A Min Vehicular Volume	Major	Minor
Percent of Warrant	147	50
	200	93
	173	75
	190	52
	185	45
	205	45
	215	48
	208	49
	223	52
	245	50
	257	59
	268	62
	192	51
	153	37
	102	28
Warranting Volumes	350	105
Total Hours Meeting		
Warrant =	0	
Warrant Met	No	

Warrant 1B Inter of Cont Traffic	Major	Minor
Percent of Warrant	98	100
	134	185
	115	149
	127	104
	123	89
	137	89
	143	94
	139	96
	149	104
	163	100
	171	117
	178	123
	128	102
	102	74
	68	55
Warranting Volumes	525	53
Total Hours Meeting		
Warrant =	8	
Warrant Met	Yes	

Warrant 1C 80% of Warrant 1A	Major	Minor
Percent of Warrant	184	63
	250	117
	216	94
	238	65
	231	56
	257	56
	269	60
	260	61
	279	65
	306	63
	321	74
	335	77
	240	64
	191	46
	128	35
Warranting Volumes	280 0	84
Total Hours Meeting		
Warrant =	1	
Warrant Met	No	

Warrant 1D 80% of Warrant 1B	Major	Minor
Percent of Warrant	123	125
	167	231
	144	186
	158	130
	154	111
	171	111
	179	118
	173	120
	186	130
	204	125
	214	146
	223	153
	160	127
	127	92
	85	68
Warranting Volumes	420	42.4
Total Hours Meeting		
Warrant =	13	
Warrant Met	Yes	

Warrant 2 Four Hour Volume	Warrant Volume	Percent of Warrant
	120	44
	80	123
	100	79
	80	69
	90	52
	70	67
	70	71
	70	73
	60	92
	60	88
	60	103
	60	108
	80	68
	120	33
	180	16
Warranting Volumes	From MUTCD Fig. 4-8	
Total Hours Meeting		
Warrant =	3	
Warrant Met	No	

Warrant 3 Peak Hour Volume	Warrant Volume	Percent of Warrant
	210	25
	140	70
	180	44
	150	37
	160	29
	140	34
	130	38
	130	39
	120	46
	100	53
	90	69
	90	72
	150	36
	200	20
	300	10
Warranting Volumes	From MUTCD Fig. 4-6	
Total Hours Meeting		
Warrant =	0	
Warrant Met	No	

Warrant 1 Met	Yes

***** Major Street volume is so low that no Minor Street warrant exists

Comments: (include any information which may be useful to the reviewer)

Major Street Volumes taken from nearby TDOT annual count station

Analysis Prepared by
Name : Brandon Baxter, P.E., PTOE
Organization: RaganSmith
Date: 05/20/22
Time: 08:22

Developed by: T. Darcy Sullivan, P.E.
Distrubuted by: SITE, Incorporated
Updated by: Andrew Padgett, EI 2/11/2008
VC/R4

TRAFFIC SIGNAL WARRANT ANALYSIS - VOLUME WARRANTS

Intersection of: Trotwood Ave
and: Old Zion Extended
City or County: Columbia State: TN

Date of Count: 2032
Day of Week of Count:

Are warranting volumes to be adjusted for built up area or speeds greater that 40 mph? . . . . . Yes

	Major Street	Minor Street
Adjustment factor for day of week and month of year of count . . .	1.00	1.00
Number of Lanes	1	1

Time Beginning	Major Street Actual Volume App #1	App #2	Total	Adjusted Total Volume	Minor Street Actual Volume	Adjusted Total Volume
6:00 am	387	206	593	593	82	82
7:00	644	446	1090	1090	91	91
8:00	422	290	712	712	89	89
9:00 am	402	311	713	713	72	72
10:00	404	362	766	766	65	65
11:00	361	380	741	741	74	74
12:00 noon	349	449	798	798	62	62
1:00	395	471	866	866	64	64
2:00	390	612	1002	1002	76	76
3:00 pm	496	635	1131	1131	96	96
4:00	422	690	1112	1112	90	90
5:00	441	647	1088	1088	99	99
6:00 pm			0	0		0
7:00			0	0		0
8:00			0	0		0

--- No adjustment made.

Note:
--- Where more than one minor approach exists use the higher approach volume
--- Number of hours shown is the minimum meeting the MUTCD requirements. Additional hours outside of the count period may meet the MUTCD specified volume levels.

Warrant 1A Min Vehicular Volume	Major	Minor
Percent of Warrant		
6:00 am	169	78
7:00	311	87
8:00	203	85
9:00 am	204	69
10:00	219	62
11:00	212	70
12:00 noon	228	59
1:00	247	61
2:00	286	72
3:00 pm	323	91
4:00	318	86
5:00	311	94
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	350	105
Total Hours Meeting		
Warrant =	0	
Warrant Met	No	

Warrant 1B Inter of Cont Traffic	Major	Minor
Percent of Warrant		
6:00 am	113	155
7:00	208	172
8:00	136	168
9:00 am	136	136
10:00	146	123
11:00	141	140
12:00 noon	152	117
1:00	165	121
2:00	191	143
3:00 pm	215	181
4:00	212	170
5:00	207	187
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	525	53
Total Hours Meeting		
Warrant =	12	
Warrant Met	Yes	

Warrant 1C 80% of Warrant 1A	Major	Minor
Percent of Warrant		
6:00 am	212	98
7:00	389	108
8:00	254	106
9:00 am	255	86
10:00	274	77
11:00	265	88
12:00 noon	285	74
1:00	309	76
2:00	358	90
3:00 pm	404	114
4:00	397	107
5:00	389	118
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	280 0	84
Total Hours Meeting		
Warrant =	5	
Warrant Met	No	

Warrant 1D 80% of Warrant 1B	Major	Minor
Percent of Warrant		
6:00 am	141	193
7:00	260	215
8:00	170	210
9:00 am	170	170
10:00	182	153
11:00	176	175
12:00 noon	190	146
1:00	206	151
2:00	239	179
3:00 pm	269	226
4:00	265	212
5:00	259	233
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	420	42.4
Total Hours Meeting		
Warrant =	12	
Warrant Met	Yes	

Warrant 2 Four Hour Volume	Warrant Volume	Percent of Warrant
6:00 am	100	82
7:00	60	152
8:00	70	127
9:00 am	70	103
10:00	70	93
11:00	70	106
12:00 noon	60	103
1:00	60	107
2:00	60	127
3:00 pm	60	160
4:00	60	150
5:00	60	165
6:00 pm	0	*****
7:00	0	*****
8:00	0	*****
Warranting Volumes	From MUTCD Fig. 4-8	
Total Hours Meeting		
Warrant =	10	
Warrant Met	Yes	

Warrant 3 Peak Hour Volume	Warrant Volume	Percent of Warrant
6:00 am	180	46
7:00	80	114
8:00	140	64
9:00 am	140	51
10:00	120	54
11:00	130	57
12:00 noon	120	52
1:00	100	64
2:00	80	95
3:00 pm	80	120
4:00	80	113
5:00	80	124
6:00 pm	0	*****
7:00	0	*****
8:00	0	*****
Warranting Volumes	From MUTCD Fig. 4-6	
Total Hours Meeting		
Warrant =	4	
Warrant Met	Yes	

***** Major Street volume is so low that no Minor Street warrant exists

Warrant 1 Met: Yes

Comments: (include any information which may be useful to the reviewer)

Analysis Prepared by
Name : Brandon Baxter, P.E., PTOE
Organization: RaganSmith
Date: 05/20/22
Time: 08:21

Developed by: T. Darcy Sullivan, P.E.
Distrubuted by: SITE, Incorporated
Updated by: Andrew Padgett, EI
2/11/2008
VC/R4

TRAFFIC SIGNAL WARRANT ANALYSIS - VOLUME WARRANTS

Intersection of: Trotwood Ave
and: Zion Road / Polk Lane
City or County: Columbia State: TN

Date of Count: 2021
Day of Week of Count:

Are warranting volumes to be adjusted for built up area or speeds greater that 40 mph? . . . . . Yes

	Major Street	Minor Street
Adjustment factor for day of week and month of year of count . . .	1.00	1.00
Number of Lanes	1	1

Time Beginning	Major Street Actual Volume App #1	App #2	Total	Adjusted Total Volume	Minor Street Actual Volume	Adjusted Total Volume
6:00 am	278	163	441	441	57	57
7:00	446	350	796	796	146	146
8:00	291	238	529	529	91	91
9:00 am	264	247	511	511	75	75
10:00	284	273	557	557	76	76
11:00	254	301	555	555	67	67
12:00 noon	255	348	603	603	68	68
1:00	298	358	656	656	71	71
2:00	298	462	760	760	98	98
3:00 pm	345	500	845	845	109	109
4:00	308	546	854	854	96	96
5:00	302	522	824	824	103	103
6:00 pm			0	0		0
7:00			0	0		0
8:00			0	0		0

--- No adjustment made.

Note:
--- Where more than one minor approach exists use the higher approach volume
--- Number of hours shown is the minimum meeting the MUTCD requirements. Additional hours outside of the count period may meet the MUTCD specified volume levels.

Time Beginning	Warrant 1A Min Vehicular Volume Percent of Warrant Major	Minor	Warrant 1B Inter of Cont Traffic Percent of Warrant Major	Minor	Warrant 1C 80% of Warrant 1A Percent of Warrant Major	Minor	Warrant 1D 80% of Warrant 1B Percent of Warrant Major	Minor	Warrant 2 Four Hour Volume Warrant Volume	Percent of Warrant	Warrant 3 Peak Hour Volume Warrant Volume	Percent of Warrant
6:00 am	126	54	84	108	158	68	105	134	140	41	250	23
7:00	227	139	152	275	284	174	190	344	60	243	120	122
8:00	151	87	101	172	189	108	126	215	120	76	210	43
9:00 am	146	71	97	142	183	89	122	177	120	63	210	36
10:00	159	72	106	143	199	90	133	179	110	69	190	40
11:00	159	64	106	126	198	80	132	158	110	61	200	34
12:00 noon	172	65	115	128	215	81	144	160	100	68	180	38
1:00	187	68	125	134	234	85	156	167	90	79	160	44
2:00	217	93	145	185	271	117	181	231	70	140	130	75
3:00 pm	241	104	161	206	302	130	201	257	60	182	100	109
4:00	244	91	163	181	305	114	203	226	60	160	100	96
5:00	235	98	157	194	294	123	196	243	60	172	110	94
6:00 pm	0	0	0	0	0	0	0	0	0	*****	0	*****
7:00	0	0	0	0	0	0	0	0	0	*****	0	*****
8:00	0	0	0	0	0	0	0	0	0	*****	0	*****
Warranting Volumes	350	105	525	53	280 0	84	420	42.4	From MUTCD Fig. 4-8		From MUTCD Fig. 4-6	
Total Hours Meeting Warrant =	2		10		6		12		5		2	
Warrant Met	No		Yes		No		Yes		Yes		Yes	

Warrant 1 Met: Yes

***** Major Street volume is so low that no Minor Street warrant exists

Comments: (include any information which may be useful to the reviewer)

Analysis Prepared by
Name: Brandon Baxter, P.E., PTOE
Organization: RaganSmith
Date: 05/20/22
Time: 08:24

Developed by: T. Darcy Sullivan, P.E.
Distrubuted by: SITE, Incorporated
Updated by: Andrew Padgett, EI
2/11/2008
VC/R4

TRAFFIC SIGNAL WARRANT ANALYSIS - VOLUME WARRANTS

Intersection of: Lawrenceburg Highway
and: Old Zion Road
City or County: Columbia State: TN

Date of Count: 2021
Day of Week of Count:

Are warranting volumes to be adjusted for built up area or speeds greater that 40 mph? . . . . . Yes

	Major Street	Minor Street
Adjustment factor for day of week and month of year of count . . .	1.00	1.00
Number of Lanes	2	1

Time Beginning	Major Street Actual Volume App #1	App #2	Total	Adjusted Total Volume	Minor Street Actual Volume	Adjusted Total Volume
6:00 am	792	286	1078	1078	9	9
7:00	942	465	1407	1407	34	34
8:00	620	388	1008	1008	10	10
9:00 am	537	361	898	898	26	26
10:00	469	377	846	846	22	22
11:00	495	413	908	908	24	24
12:00 noon	426	406	832	832	21	21
1:00	442	437	879	879	33	33
2:00	522	533	1055	1055	41	41
3:00 pm	491	743	1234	1234	43	43
4:00	480	886	1366	1366	46	46
5:00	389	751	1140	1140	44	44
6:00 pm			0	0		0
7:00			0	0		0
8:00			0	0		0

--- No adjustment made.

Note:
--- Where more than one minor approach exists use the higher approach volume
--- Number of hours shown is the minimum meeting the MUTCD requirements. Additional hours outside of the count period may meet the MUTCD specified volume levels.

Warrant 1A Min Vehicular Volume	Percent of Warrant Major	Minor
6:00 am	257	9
7:00	335	32
8:00	240	10
9:00 am	214	25
10:00	201	21
11:00	216	23
12:00 noon	198	20
1:00	209	31
2:00	251	39
3:00 pm	294	41
4:00	325	44
5:00	271	42
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	420	105
Total Hours Meeting Warrant =	0	
Warrant Met	No	

Warrant 1B Inter of Cont Traffic	Percent of Warrant Major	Minor
6:00 am	171	17
7:00	223	64
8:00	160	19
9:00 am	143	49
10:00	134	42
11:00	144	45
12:00 noon	132	40
1:00	140	62
2:00	167	77
3:00 pm	196	81
4:00	217	87
5:00	181	83
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	630	53
Total Hours Meeting Warrant =	0	
Warrant Met	No	

Warrant 1C 80% of Warrant 1A	Percent of Warrant Major	Minor
6:00 am	321	11
7:00	419	40
8:00	300	12
9:00 am	267	31
10:00	252	26
11:00	270	29
12:00 noon	248	25
1:00	262	39
2:00	314	49
3:00 pm	367	51
4:00	407	55
5:00	339	52
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	336 0	84
Total Hours Meeting Warrant =	0	
Warrant Met	No	

Warrant 1D 80% of Warrant 1B	Percent of Warrant Major	Minor
6:00 am	214	21
7:00	279	80
8:00	200	24
9:00 am	178	61
10:00	168	52
11:00	180	57
12:00 noon	165	50
1:00	174	78
2:00	209	97
3:00 pm	245	101
4:00	271	108
5:00	226	104
6:00 pm	0	0
7:00	0	0
8:00	0	0
Warranting Volumes	504	42.4
Total Hours Meeting Warrant =	3	
Warrant Met	No	

Warrant 2 Four Hour Volume	Warrant Volume	Percent of Warrant
6:00 am	60	15
7:00	60	57
8:00	60	17
9:00 am	60	43
10:00	70	31
11:00	60	40
12:00 noon	80	26
1:00	70	47
2:00	60	68
3:00 pm	60	72
4:00	60	77
5:00	60	73
6:00 pm	0	*****
7:00	0	*****
8:00	0	*****
Warranting Volumes	From MUTCD Fig. 4-8	
Total Hours Meeting Warrant =	0	
Warrant Met	No	

Warrant 3 Peak Hour Volume	Warrant Volume	Percent of Warrant
6:00 am	100	9
7:00	80	43
8:00	110	9
9:00 am	140	19
10:00	150	15
11:00	140	17
12:00 noon	160	13
1:00	140	24
2:00	100	41
3:00 pm	80	54
4:00	80	58
5:00	90	49
6:00 pm	0	*****
7:00	0	*****
8:00	0	*****
Warranting Volumes	From MUTCD Fig. 4-6	
Total Hours Meeting Warrant =	0	
Warrant Met	No	

Warrant 1 Met: No

***** Major Street volume is so low that no Minor Street warrant exists

Comments: (include any information which may be useful to the reviewer)

Analysis Prepared by
Name: Brandon Baxter, P.E., PTOE
Organization: RaganSmith
Date: 05/20/22
Time: 08:23

Developed by: T. Darcy Sullivan, P.E.
Distrubuted by: SITE, Incorporated
Updated by: Andrew Padgett, EI
2/11/2008
VC/R4

February 13, 2023

Mr. Glenn Harper, P.E.
City Engineer
City of Columbia, TN
700 N. Garden Street
Columbia, TN

RE: Old Zion Concurrence Letter to TIS Report

Dear Mr. Glenn Harper,

Encompass Land Group, LLC (Developer) would like to submit this concurrence letter to the City of Columbia acknowledging our commitment to make the off-site improvements as outlined in the TIS prepared by Ragan Smith dated March 21st, 2022. This agreement includes the recommendations from Neel-Schaffer issued May 9th, 2022, on behalf of the City of Columbia, TN, and as noted in the updated TIS dated July 27th, 2022. A list of the improvements from the July 27th TIS is included below.

Trotwood Avenue at Cayce Lane/Sunnyside Lane

- The recommended roadway project in the City of Columbia's *ConnectColumbia* Comprehensive Plan for this intersection will provide capacity improvements that mitigate the impact of background traffic growth and traffic from the Old Zion Road Development.

- The recommended roadway project at this intersection consists of adding right turn lanes on Trotwood Avenue and closing the nearest access points within a 10-year timeframe from 2018 when *ConnectColumbia* was adopted.

- Based on the properties adjacent to the approaches of Trotwood Avenue, the turn lane design dimensions below would keep the number of properties impacted to a minimum.
    - The eastbound right turn lane can have a storage length of 150 feet and a taper length of 100 feet within the limits of the property on the southwest corner of the intersection.
    - The westbound right turn lane can have a storage length of 100 feet and a taper length of 100 feet within the limits of the property on the northeast corner of the intersection.

- Because the recommended City project is already identified in *ConnectColumbia* and is located 1.1 miles from the Old Zion Road Development, it is not reasonable to assign full responsibility of the improvement to the Old Zion Road Development. However, the proposed Old Zion Road Development should support the recommended City project in a manner that corresponds to the pro rata share of development traffic at the intersection because the improvements do provide additional capacity to mitigate the development impact. Based on statements by city staff, there are traffic signal equipment and hardware replacements that can be completed by the Old Zion Road Development at this intersection to fulfill the pro rata share of the development's impact.

Trotwood Avenue at Rutherford Lane

- No intersection control or laneage modifications are recommended at the intersection of Trotwood Avenue and Rutherford Lane due to the impact of the Old Zion Road Development.

Trotwood Avenue at Ridley Park Road

- This access is planned to remain gated and under control of the City of Columbia Parks Department and site traffic from the Old Zion Development has not been distributed to it for the analysis of this report. Therefore, no improvements are recommended at the intersection due to the impact of the Old Zion Development.

Trotwood Avenue at Yeatman Lane

- A connection from the existing Ashwood Manor neighborhood to the Old Zion Road Development is proposed via an extension of Yeatman Lane but it will be gated by the City of Columbia.

Trotwood Avenue at Old Zion Road

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The recommended eastbound left turn lane and westbound right turn lane on Trotwood Avenue should be constructed concurrently with phase 2D when the Old Zion Road Development connects to Old Zion Road.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane and westbound right turn lane.

Trotwood Avenue at Old Zion Ext

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on the TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- The traffic signal warrant evaluation in this report indicates that this signal may be a candidate for signalization in the future. This intersection should be monitored with traffic counts and signal

warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Old Zion Ext.

- The recommended eastbound left turn lane, westbound right turn lane, and traffic signal at the intersection of Trotwood Avenue and Old Zion Ext should be constructed when traffic signal warrants are satisfied by traffic counts at the intersection or at approximately 50% build out (±400 homes) of the Old Zion Road Development. This level of development is anticipated to be concurrent with phase 2A.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Trotwood Avenue at Zion Road

- The traffic signal warrant evaluation in the reports indicates that this signal may be a candidate for signalization. If signalization is not implemented based on the analysis of this report, this intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. If signal warrants are satisfied, a traffic signal should be constructed to TDOT standards at the direction of the City Engineering Department with TDOT concurrence.

- A TDOT grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Old Zion Road at Old Zion Ext

- A southbound left turn lane should be constructed on Old Zion Road concurrently with phase 2E of the Old Zion Road Development. This turn lane should include 115 feet of storage, 140 feet of bay taper, and lane transitions based on TDOT design guidelines.

- Right-of-Way on the Old Zion Road Development property at this intersection (northeast quadrant) should be dedicated so that intersection sight lines per AASHTO guidelines and future improvements by others are possible.

Lawrenceburg Highway at Old Zion Road

- The intersection of Lawrenceburg Highway and Old Zion Road includes an intersection skew of approximately 40 degrees and traffic operations on the minor street approaches will be characterized by level of service F during background traffic conditions. Intersection improvements will be appropriate to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.

- The intersection of Lawrenceburg Highway and Old Zion Road may qualify for modifications into a J-turn intersections as described in the TDOT Design Guidelines (Section 2-303.00). At a J-turn intersection, direct crossing and left-turn movements from the minor approach roadway are prevented to reduce the exposure to high-speed angle collisions. There are already J-turn intersections located on Lawrenceburg Highway nearby in the City of Mt. Pleasant so this type of intersection should be familiar to many drivers in the area. The Old Zion Road Development should coordinate with the TDOT Region traffic engineering office to consider if TDOT's criteria for a J-turn intersection are met. If approved by TDOT, a J-turn intersection should be constructed concurrently with phase 2D where Old Zion Road intersects Lawrenceburg Highway.

- If a J-turn intersection is not approved by TDOT, the improvements below may be considered as alternative measures to address the existing and background traffic conditions as well as accommodate the proposed Old Zion Road Development.
    - Reduce the speed limit on Lawrenceburg Highway from 65 mph to 55 mph within the influence area of the intersection with Old Zion Road.
    - Extend the eastbound and westbound left turn lanes to a minimum length of 385 feet with 220 of bay taper and offset the left turn lanes to the center of the existing median.
    - If warranted, install a traffic signal at the intersection of Lawrenceburg Highway and Old Zion Road. Based on the analysis of this report, the satisfaction of traffic signal warrants at this intersection may be challenging due to the high volume of right turn movements which are often subtracted from the signal warrant consideration.
    - If a traffic signal is installed at this intersection in the future, providing railroad-traffic signal preemption should be considered.

- A TDOT grading permit will be required as part of the construction of any improvements at the intersection of Lawrenceburg Highway and Old Zion Road.

- The at-grade railroad crossing on Old Zion Road south of Lawrenceburg Highway is protected by recently installed active warning devices including flashing lights and gates that lower across the roadway when activated by an approaching train. The existing warning devices are appropriate for the conditions on Old Zion Road with and without the Old Zion Road Development.

<u>Lawrenceburg Highway at Zion Road Connector</u>

- No intersection control or laneage modifications are recommended at the intersection of Lawrenceburg Highway at the Zion Road Connector due to the impact of the Old Zion Road Development.

<u>Zion Road at Lawrenceburg Highway Connector</u>

- No intersection control or laneage modifications are recommended at the intersection of Zion Road at the Lawrenceburg Highway Connector due to the impact of the Old Zion Road Development.

- The at-grade railroad crossing on Zion Road south of Lawrenceburg Highway is protected by active warning devices including flashing lights and gates that lower across the roadway when activated

by an approaching train. The existing warning devices are appropriate for the conditions on Zion Road with and without the Old Zion Road Development.

Trotwood Avenue Project Access #1

- The approach of Project Access #1 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- An eastbound left turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage, 220 feet of bay taper, and lane transitions based on TDOT design guidelines.

- A westbound right turn lane should be constructed on Trotwood Avenue as part of the Old Zion Road Development. This turn lane should include 175 feet of storage and 220 feet of taper.

- Based on the analysis in this report, this intersection appears to be a candidate for future signalization. This intersection should be monitored with traffic counts and signal warrant analysis approximately every 12 months while home building is active at the Old Zion Road Development. Traffic counts and signal warrant analysis more frequently than every 12 months should be performed if requested by City of Columbia Engineering Staff based on the continued monitoring of the intersection. If signal warrants are satisfied, a traffic signal should be constructed at the direction of the City Engineering Department to City of Columbia standards and specifications at the intersection of Trotwood Avenue and Project Access #1.

- The recommended eastbound left turn lane and westbound right turn lane at the intersection of Trotwood Avenue and Project Access #1 should be constructed as part of Project Access #1 with phase 1A.

- A TDOT entrance and grading permit will be required as part of the construction of the recommended eastbound left turn lane, westbound right turn lane, and traffic signal.

Old Zion Road at Project Access #2

- The approach of Project Access #2 should consist of one lane for traffic entering the site and two lanes for traffic exiting the site. The lanes exiting the development should be designated as separate left turn and right turn lanes with each having a storage length of 100 feet and a taper of 100 feet.

- The portion of Old Zion Road along the project frontage within the City of Columbia should be annexed into the city, if requested by the County Highway Department. The annexed portion of Old Zion Road should be improved as part of phase 2D to meet the requirements of the City of Columbia Engineering Department including pavement markings, signage, along the roadway and at the intersections and curves along the site frontage.

Trotwood Avenue Improvements

- The Old Zion Road Development should plan for the future widening of Trotwood Avenue by the City or TDOT by maintaining a 150’ buffer along the project frontage so that future roadway improvements will not be constrained by limited right-of-way.

All improvements will be designed and constructed in accordance with appropriate AASHTO, TDOT, and the City of Columbia standards.

Should you have any questions, please give me a call on my cell at 615.400.7729.

Respectfully,

Andrew Ethridge
Encompass Land Group, LLC
V.P. of Land Development

This instrument prepared by:
Sidwell, Barrett, Gore & Reynolds, P.C.
121 1st Avenue South, Suite 200
Franklin, TN 37064

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR HOMEOWNER'S ASSOCIATION FOR OLD ZION, INC.

THIS DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR HOMEOWNER'S ASSOCIATION FOR OLD ZION, INC. (this "Declaration") is made this ___ day of _____, 2024, by Encompass Land Group, LLC, a Tennessee limited liability company, hereinafter referred to as the "Declarant".

WITNESSETH:

WHEREAS, Declarant is the owner and developer of certain real property located in Maury County, Tennessee, more particularly described on **Exhibit "A"**, attached hereto, and incorporated herein by reference (the "Development Property"), which is to be developed as a development known as the “Old Zion” Subdivision; and

WHEREAS, Declarant desires to develop the Development Property, including the infrastructure thereof and the common amenities appurtenant thereto;

WHEREAS, Declarant desires to impose certain covenants, conditions and restrictions upon the Development Property; and

WHEREAS, the Declarant currently owns lots within the properties.

NOW, THEREFORE, the Declarant hereby declares that the real property described in Article I hereof is and shall be held, transferred, sold, conveyed and occupied subject to the covenants, conditions, restrictions, easements, charges and liens (sometimes referred to herein as the "Covenants, Conditions and Restrictions" or as the "Restrictions") hereinafter set forth, which are for the purpose of protecting the value and desirability of, and which shall run with the Property and be binding upon all parties having any right, title, or interest in the described properties or any part thereof, their heirs, successors or assigns, and shall inure to the benefit of each owner thereof.

ARTICLE I
PROPERTIES SUBJECT TO THIS DECLARATION

Section 1. Description of Property**.** The portion of the Property which shall be held, transferred, sold, conveyed and occupied subject to this Declaration is all the property described on **Exhibit "A"** attached hereto and made a part hereof.

Section 2. Additional Properties**.** The Declarant hereby reserves the right in its sole discretion to subject other real property, adjacent or in close proximity to that described in this Article I, in accordance with the provisions of Article IX hereof, in order to extend the scheme of this Declaration to other property to be developed, and thereby to bring such additional properties within the jurisdiction of the Association.

ARTICLE II
DEFINITIONS

Section 1. "Area of Common Responsibility" shall mean and refer to the Common Area, together with those areas, if any, which by the terms of this Declaration will by contract become the responsibility of the Association. The office of any property manager employed by or contracting with the Association, if located on the Properties, or any public rights-of-way within or adjacent to the Properties, may be part of the Area of Common Responsibility.

Section 2. "Articles of Incorporation" or "Articles" shall mean and refer to the Articles of Incorporation of Homeowner's Association for Old Zion, Inc., as filed with the Secretary of State of the State of Tennessee.

Section 3. "Association" shall mean and refer to Homeowner's Association for Old Zion, Inc., a Tennessee non-profit corporation, its successors, or assigns. The "Board of Directors" or "Board" shall be the elected body having its normal meaning under Tennessee corporate law and shall be responsible for managing the affairs of the Association.

Section 4. "Base Assessment" shall mean and refer to assessments levied against all Residences in the Properties to fund Common Expenses.

Section 5. "By-Laws" shall mean and refer to the By-Laws of Homeowner's Association for Old Zion, Inc., attached as **Exhibit "B"** hereto and made a part of, as they may be amended from time to time.

Section 6. "Class B Control Period" shall mean and refer to the period of time during which the Class B Member has voting rights as provided in Article IV herein.

Section 7. "Common Area(s)" shall mean those areas specifically designated as "Open Space" or "Common Area(s)" on the recorded subdivision plat or plats for the Property, and those areas designated as private access easements and drainage easements which provide access, either primary or secondary, from a public street to more than one Lot. The easement rights reserved in any such private access easements shall belong to the Association to be administered by the Association for the benefit, and at the expense of, those owners benefiting directly therefrom. The Common Area to be owned by the Association at the time of the conveyance of the first lot is described on the recorded subdivision plat or plats for the Property and shall mean all areas on such plat(s) not consisting of the Lots, public rights-of-way, and public easements on the recorded plat or plats or other recorded documents.

Section 8. "Common Expenses" shall mean and include the actual and estimated expenses incurred by the Association for the general benefit of all Owners, including reasonable reserves, all as may be found to be necessary and appropriate by the Board pursuant to this Declaration, the By-Laws, and the Articles of Incorporation of the Association.

Section 9. "Lot" shall mean and refer to any plot of land shown upon any recorded subdivision plat of the Property with the exception of the Common Area and public rights of way or public and private easements.

Section 10. "Community-Wide Standard" shall mean the standard of conduct, maintenance, or other activity generally prevailing throughout the Properties. Such standard may be more specifically determined by the Board of Directors and/or the Architectural Review Committee, as applicable.

Section 11. "Developer" shall mean and refer to Encompass Land Group, LLC, a Tennessee limited liability company, or its successors, or assigns who should acquire more than one undeveloped Lot from the Declarant for the purpose of development.

Section 12. "Member" shall mean and refer to a Person entitled to membership in the Association, as provided herein.

Section 13. "Mortgage" shall mean and refer to a mortgage, a deed of trust, a deed to secure debt, or any other form of security deed.

Section 14. "Mortgagee" shall mean and refer to a beneficiary or holder of a Mortgage.

Section 15. "Mortgagor" shall mean and refer to any Person who gives a Mortgage.

Section 16. "Owner" shall mean and refer to the record Owner, whether one or more persons or entities of the fee simple title to any Lot which is a part of the Property, including contract sellers, but excluding those having an interest merely as security for the performance of an obligation, unless and until such person has acquired title pursuant to foreclosure or any proceeding in lieu of foreclosure.

Section 17. "Person" shall mean a natural person, a corporation, a partnership, trustee, or other legal entity.

Section 18. "Property" or "Properties" shall mean and refer to the real property described in Article I of this Declaration, and such additions thereto as may hereafter be brought within the jurisdiction of the Association.

Section 19. "Residence" or "Dwelling" shall mean and refer to a detached single-family home on a Lot in the Old Zion Subdivision and subject to this Declaration.

Section 20. "Special Assessment" shall mean and refer to assessments levied in accordance with Article XI of this Declaration.

Section 21. "Supplemental Declaration" shall mean an amendment to this Declaration which subjects additional property to this Declaration or imposes, expressly or by reference, additional restrictions and obligations on the land described therein, or both.

ARTICLE III
PROPERTY RIGHTS

Section 1. Common Area Rights. Every Owner shall have a right and easement of enjoyment in and to the Common Area, subject to this Declaration as it may be amended from time to time and to any restrictions or limitations contained in any deed conveying such property to the Association. Any Owner may delegate his or her right of enjoyment to the members of his or her family, tenants, and social invitees, as applicable, subject to reasonable regulation by the Board and in accordance with procedures it may adopt. An Owner who leases his or her Residence shall be deemed to have delegated all such rights to the Residence's lessee. Declarant reserves the right to amend this Declaration unilaterally at any time, without prior notice and without the consent of any Person, for the purpose of removing certain portions of the Properties then owned by the Declarant or its affiliates or the Association from the provisions of this Declaration to the extent originally included in error or as a result of any changes whatsoever in the plans for Old Zion desired to be effected by the Declarant, provided such withdrawal is not unequivocally contrary to the overall, uniform scheme of development for Old Zion.

Section 2. Developer's Rights. Notwithstanding anything in this Declaration to the contrary, Henry P. Ingram, Jr., individually or through any entity in which he holds at least a ten percent (10%) financial interest (collectively "Ingram"), has the irrevocable right to lease the Properties within Old Zion, subject only to the following restrictions:

(a) Ingram shall not lease more than ten percent (10%) of the Lots located within the Properties.

Section 3. Amendment. The provisions of Article III of the Declaration may only be amended by a vote of one hundred percent (100%) of the ownership of the Members of the Association. This provision supersedes any other provision contained elsewhere in the Declaration regarding the amendment of the Declaration.

ARTICLE IV
MEMBERSHIP AND VOTING RIGHTS

Section 1. Membership. Every Owner, as defined in Article II, shall be deemed to have a mandatory membership in the Association. No Class A Owner, whether one (1) or more Persons, shall have more than one (1) membership per Lot owned. The rights and privileges of membership may be exercised by a Member or the Member's partner, subject to the provisions of this Declaration and the By-Laws. The membership rights of a Lot owned by a corporation or partnership shall be exercised by the individual designated by the Owner in a written instrument provided to the Secretary, subject to the provisions of this Declaration and the By-Laws.

Section 2. Voting. The Association shall have two (2) classes of membership, Class "A" and Class "B", as follows:

(a) Class "A". Class A Members shall all be owners who are not Class B Members. Each Class A Member shall be entitled to one (1) equal vote for each Lot owned. When more than one person holds an interest in any Lot, all such persons shall be members. The vote for such Lot shall be exercised as they among themselves determine, but in no event shall more than one (1) vote be cast with respect to any Lot.

(b) Class "B". Class B Members shall be the Declarant, any successor or assigns of the Declarant, the Developer, and any successor or assigns of the Developer, designated as such in an instrument recorded in the Register's Office for Maury County, Tennessee. The rights of the Class B Member, including the right to approve actions taken under this Declaration pursuant to the By-Laws, are specified elsewhere in the Declaration and the By-Laws. During the term of its Class B membership, the Class B Member shall be entitled to four (4) votes for each Lot owned. The Class B Control Period shall terminate, and the Class B membership shall terminate and become converted to Class A membership upon the earlier of:

(i) when ninety-five (95%) percent of all Lots within the Property, and any other properties annexed in accordance with Article IX hereof have been improved and sold to purchasers who intend to reside thereon; or

(ii) when, at its sole discretion, the Class B Member so determines.

ARTICLE V
MAINTENANCE

Section 1. Association's Responsibility. The Association shall maintain and keep in good repair the Common Areas, such maintenance to be funded as hereinafter provided. This maintenance shall include, but need not be limited to, maintenance, repair, and replacement of all landscaping and other flora, structures, and improvements situated upon the Common Areas. Maintenance may also include such portions of any additional property included within the Area of Common Responsibility as may be dictated by this Declaration or by a contract or agreement for maintenance thereof by the Association.

Except as otherwise specifically provided herein, all costs associated with the maintenance, repair and replacement of Common Areas shall be a Common Expense to be allocated among all Lots as part of the Base Assessment.

The association may maintain property, which it does not own, including, without limitation, property dedicated to the public, if the Association determines that such maintenance is necessary or desirable to maintain the Community-Wide Standard.

Section 2. Owner's Responsibility. Each Owner shall maintain his or her own Lot and all structures, exterior surfaces of the Lot, parking areas, fences and other improvements comprising the Lot in a manner consistent with the Community-Wide Standard and all applicable

covenants, unless such maintenance responsibility is otherwise assumed by or assigned to the Association. If any Owner fails properly to perform his or her maintenance responsibly, the Association may perform it and assess all costs incurred by the Association against the Lot and the Owner thereof. In that instance, the Association shall afford the Owner reasonable notice and an opportunity to cure the problem prior to entry except, however, when entry is required due to an emergency.

ARTICLE VI
INSURANCE AND CASUALTY LOSSES

Section 1. Casualty Insurance. The Association's Board of Directors, or its duly authorized agent shall have the authority to and shall obtain blanket all-risk Insurance, if reasonably available, for all insurable improvements on the Common Area. If blanket all-risk coverage is not reasonably available, then at a minimum an insurance policy providing fire and extended coverage shall be obtained. This insurance shall be in an amount sufficient to cover one hundred (100%) percent of the replacement cost of any repair or reconstruction in the event of damage or destruction from any insured hazard. In addition to casualty insurance on the Common Area, the Association may, but shall not under any circumstances be obligated to, obtain, and continue in effect adequate blanket all-risk casualty insurance, if reasonably available and if not reasonably available, fire and extended coverage, in such form as the Board of Directors deems appropriate for one hundred (100%) percent of the replacement cost of all structures located on Lots.

Section 2. Liability Insurance. The Board shall also obtain a public liability policy covering the Common Area, the Association, and its Owners as a group to a single Owner for all damage or injury caused by the negligence of the Association or any of its contractors, employees, or agents. The public liability policy shall have at least a One Million ($1,000,000.00) Dollar single person limit as respects bodily injury and property damage, a Three Million ($3,000,000.00) Dollar limit per occurrence, if reasonably available, and a Five Hundred Thousand ($500,000.00) Dollar minimum property damage limit.

Section 3. Insurance Premiums. Premiums for all insurance shall be Common Expenses of the Association and shall be included in the Base Assessment as defined in Article II and as more particularly described in Article XI. The policy may contain a reasonable deductible, and, in the case of casualty insurance, the amount thereof shall be added to the face amount of the policy in determining whether the insurance at least equals the full replacement cost. The deductible shall be paid by the party who would be liable for the loss or repair in the absence of insurance and in the event of multiple parties shall be allocated in relation to the amount each party's loss bears to the total.

Section 4. Ownership of Policies and Policy Provisions. All insurance coverage obtained by the Association shall be for the benefit of the Association and the Owners and their mortgagees as their interest may appear and shall provide that all proceeds thereof shall be payable to the Association as insurance trustee under this Declaration. The sole duty of the Association as insurance trustee shall be to receive such proceeds as are paid and to hold the same in trust for the

benefit of the Association and Owners and their mortgagees as their interest may appear. Such Insurance shall be governed by the provisions hereinafter set forth:

(a) All policies shall be written with a company licensed to do business in Tennessee which holds a Best's rating of A or better and is assigned a financial size category of XI or larger as established by A.M. Best Company, Inc., if reasonably available, or, if not available, the most nearly equivalent rating.

(b) Exclusive authority to adjust losses under policies obtained by the Association on the Properties shall be vested in the Association's Board of Directors; provided, however, no Mortgagee having an interest in such losses may be prohibited from participating in the settlement negotiations, if any, related thereto.

(c) The insurance coverage obtained and maintained by the Association shall provide coverage for the Common Areas and acts or omissions of the Association and its agents. Owners shall, at their own expense, obtain the insurance required of them by this Article hereof and may, at their option, obtain other insurance coverage at their own expense upon their Lots and for their personal liability, and such other coverage as they may desire.

(d) All casualty insurance policies shall have an inflation guard endorsement, if reasonably available, and an agreed amount endorsement with an annual review by one or more qualified persons, at least one of whom must be in the real estate industry and familiar with construction in the Maury County, Tennessee, area.

(e) The Association's Board of Directors shall be required to make every reasonable effort to secure insurance policies that will provide for the following:

(i) a waiver of subrogation by the insurer as to any claims against the Association's Board of Directors, its manager, the Owners, and their respective tenants, servants, agents, and guests;

(ii) a waiver by the insurer of its rights to repair and reconstruct, instead of paying cash;

(iii) a statement that no policy may be cancelled, invalidated, suspended, or subject to non-renewal on account of the actions of any one or more individual Owners;

(iv) a statement that no policy may be cancelled, invalidated, suspended, or subject to non-renewal on account of the conduct of any director, officer, or employee of the Association or its duly authorized manager without prior demand in writing delivered to the Association to cure the defect and the allowance of a reasonable time thereafter within which the defect may be cured by the Association, its manager, any Owner, or Mortgagee;

(v) that any "other insurance" clause in any policy exclude individual Owners' policies from consideration; and

(vi) that the Association will be given at least thirty (30) days' prior written notice of any cancellation, substantial modification, or non-renewal.

Section 5. Additional Insurance. In addition to the other insurance required by this Article, the Association shall obtain, as a common expense, worker's compensation insurance for all work done, if and to the extent required by law, directors', and officers' liability coverage, if reasonably available, a fidelity bond or bonds on directors, officers, employees, and other Persons handling or responsible for the Association's funds, if reasonably available, and flood insurance if required. The amount of fidelity coverage shall be determined in the Directors' best business judgment but, if reasonably available, may not be less than three (3) months' assessments on all Lots, plus reserves on hand. Bonds shall contain a waiver of all defenses based upon the exclusion of persons serving without compensation and shall require at least thirty (30) days' prior written notice to the Association of any cancellation, substantial modification, or non-renewal.

Section 6. Individual Insurance. By virtue of taking title to a Lot subject to the terms of this Declaration, each Owner covenants and agrees with all other Owners and with the Association that each Owner shall carry blanket all-risk casualty Insurance on the Lot(s) and structures constructed thereon meeting the same requirements as set forth in Section 1 of this Article VI for insurance on the Common Area, unless the Association carries such insurance (which they are not obligated to do hereunder). Each Owner further covenants and agrees that in the event of a partial loss or damage and destruction resulting in less than total destruction of structures comprising his dwelling, the Owner shall proceed promptly to repair or to reconstruct the damaged structure in a manner consistent with the original construction or such other plans and specifications as are approved in accordance with Article XII of this Declaration. The Owner shall pay any costs of repair or reconstruction that is not covered by insurance proceeds. In the event that the structure is detached and is totally destroyed the Owner may decide not to rebuild, in which case the Owner shall clear the Lot of all debris and all foundation and return it to substantially the natural state in which it existed prior to construction and thereafter the Owner shall continue to maintain the Lot in a neat and attractive condition consistent with the Community-Wide Standard. All dwellings sharing a common wall with another dwelling must be repaired, replaced, or restored.

Section 7. Damage and Destruction.

(a) Immediately after damage or destruction by fire or other casualty to all or any part of the Properties covered by insurance written in the name of the Association, the Board of Directors or its duly authorized agent shall proceed with the filing and adjustment of all claims arising under such insurance and obtain reliable and detailed estimates of the cost of repair or reconstruction of the damaged or destroyed Properties. Repair or reconstruction, as used in this paragraph, means repairing or restoring the Properties to substantially the same condition in which they existed prior to the fire or other casualty, allowing for any changes or improvements necessitated by changes in applicable building codes.

(b) Any damage or destruction to the Common Area shall be repaired or reconstructed at the discretion of the Board. The Board shall have a period of ninety (90) days to make this determination. If for any reason either the amount of the insurance proceeds to be paid

as a result of such damage or destruction, or reliable and detailed estimates of the cost of repair or reconstruction, or both, are not made available to the Association within said ninety (90) day period, then the period shall be extended until such information shall be made available; provided, however, such extension shall not exceed an additional sixty (60) days. No Mortgagee shall have the right to participate in the determination of whether the damage or destruction to Common Area shall be repaired or reconstructed.

(c) In the event that it should be determined in the manner described above that the damage or destruction to the Common Area shall not be repaired or reconstructed and no alternative improvements are authorized, then and in that event the affected portion of the Properties shall be restored to their natural state and maintained by the Association in a neat and attractive condition consistent with the Community-Wide Standard.

Section 8. Disbursement of Proceeds. If the damage or destruction for which the proceeds of insurance policies are paid is to be repaired or reconstructed, the proceeds, or such portion thereof as may be required for such purpose, shall be disbursed in payment of such repairs or reconstruction as herein provided. Any proceeds remaining after defraying such costs of repair or reconstruction to the Common Area shall be retained by and for the benefit of the Association and placed in a capital improvements account. In the event no repair or reconstruction is made, any proceeds remaining after making such settlement as is necessary and appropriate with the affected Owner or Owners and their Mortgagee(s) as their interests may appear, shall be retained by and for the benefit of the Association and placed in a capital improvements account. This is a covenant for the benefit of any Mortgagee and may be enforced by such Mortgagee.

Section 9. Repair and Reconstruction. If the damage or destruction to the Common Area is to be repaired or reconstructed, and such proceeds are not sufficient to defray the cost thereof, the Board of Directors shall, without the necessity of a vote of the Members, levy a special assessment against all Owners as provided for in Article XI hereof. Additional assessments may be made in like manner at any time during or following the completion of any repair or reconstruction.

ARTICLE VII
NO PARTITION

Except as is permitted in the Declaration or amendments thereto, there shall be no physical partition of the Common Area or any part thereof, nor shall any Person acquiring any interest in the Properties, or any part thereof seek any judicial partition unless the Properties have been removed from the provisions of this Declaration. This Article shall not be construed to prohibit the Association from acquiring and disposing of tangible personal property nor from acquiring title to real property which may or may not be subject to this Declaration.

ARTICLE VIII
CONDEMNATION

Section 1. General. Whenever all or any part of the Common Area shall be taken [or conveyed in lieu of and under threat of condemnation by the Association acting on the written

direction of Members representing at least two-thirds (2/3) of the Class A Membership, and the Declarant, during the Class B Control Period] by any authority having the power of condemnation or eminent domain, each Owner shall be entitled to notice thereof. The award made for such taking shall be payable to the Association as trustee for all Owners to be disbursed as follows:

(a) Common Areas with Improvements. If the taking involves a portion of the Common Area on which improvements have been constructed, then unless within sixty (60) days after such taking, the Declarant, during the Class B Control Period, or seventy-five (75%) percent of the Class A Membership shall otherwise agree, the Association shall restore or replace such improvements so taken on the remaining land included in the Common Area to the extent lands are available therefore, in accordance with plans approved by the Board of Directors of the Association. If such improvements are to be repaired or restored, the above provisions in Article VI hereof regarding the disbursement of funds in respect to casualty damage or destruction which is to be repaired shall apply.

(b) Common Areas without Improvements. If the taking does not involve any improvements on the Common Area, or if there is a decision made not to repair or restore, or if there are net funds remaining after any such restoration or replacement is completed, then such award or net funds shall be disbursed to the Association and used for such purposes as the Board of Directors of the Association shall determine.

ARTICLE IX
ANNEXATION OF ADDITIONAL PROPERTY

Section 1. Annexation. Annexation of additional property, except as provided in Section 2 hereof, shall require the assent of a majority of the Class A membership and a majority of the Class B membership, if any, at a meeting duly called for this purpose, written notice of which shall be sent to all Members not less than thirty (30) days nor more than sixty (60) days in advance of the meeting setting forth the purpose of the meeting. The presence of Members or of proxies entitled to cast sixty percent (60%) of the votes of each class of membership shall constitute a quorum. If the required quorum is not forthcoming at any meeting, another meeting may be called subject to the notice requirement set forth above and the required quorum at such subsequent meeting shall be one-half (1/2) of the required quorum of the preceding meeting. No such subsequent meeting shall be held more than sixty (60) days following the preceding meeting. If a majority of the Class A membership or a majority of the Class B membership are not present in person or by proxy, Members not present may give their written assent to the action taken or to be taken thereat.

Section 2. Additional Declarant Right. If within twenty (20) years of the date of incorporation of the Association, the Declarant should develop additional land, as provided for in Article I, such land may be annexed by the Declarant in the manner provided in Article I and Section 3 hereof without the consent of the Association or its Members, or any other person or entity. Declarant shall notify the Association of any such annexation.

Section 3. Procedure. Annexation of additional Properties shall be accomplished by recording in the Office of the Maury County Register of Deeds a Declaration of Annexation, duly executed by the Declarant if the Declarant has the right to annex pursuant to Section 2 above (and by the Association if pursuant to Section 1 above), describing the lands annexed and incorporating the provisions of this Declaration, either by reference or by fully setting out said provisions of this Declaration. The additional lands shall be deemed annexed to the Properties on the date of recordation of the Declaration of Annexation, and in the case of an annexation by the Declarant, no action or consent on the part of the Association or any other person or entity shall be necessary to accomplish the annexation except that of the City of Columbia and Maury County, Tennessee, if required by their respective ordinances. After recordation of the Declaration of Annexation, the Declarant shall deliver to the Association one or more deeds conveying to the Association any common areas within the annexed property.

ARTICLE X
RIGHTS AND OBLIGATIONS OF THE ASSOCIATION

Section 1. Common Area. The Association, subject to the rights of the Owners set forth in this Declaration, shall be responsible for the exclusive management and control of the Common Area and all improvements thereon (including, without limitation, furnishings and equipment related thereto, the removal of improvements to the Common Area and common landscaped areas) and shall keep it in good, clean, attractive, and sanitary condition, order, and repair, pursuant to the terms and conditions hereof and consistent with the Community-Wide Standards.

Section 2. Additional Maintenance Obligation. In addition to these duties of the Association as set forth in Section 1 above, the Association may provide each Lot Owner with contract yard maintenance, and other landscaping maintenance as may be agreed upon from time to time. The Association, acting by and through its Board of Directors, shall have the power and authority to select an independent outside company to offer for the lawn maintenance, cultivation, and weed control of each Lot. If the Association elects to recommend for such services, it shall be mandatory that the owners of each attached dwelling utilize said services and provide access to their premises for the performance of lawn maintenance. Detached dwellings (those who do not share a common wall with another dwelling) may accept or decline such services. The entire cost of the lawn maintenance under this Article X shall be divided and paid among all the participating owners. Each owner's share of the expense shall be based on the square footage of their yard.

Section 3. Personal Property and Real Property for Common Use. The Association, through action of its Board of Directors, may acquire, hold, and dispose of tangible and intangible personal property and real property for Common Use. The Board, acting on behalf of the Association, shall accept any real or personal property, leasehold, or other property interests within the Property conveyed to it by the Declarant.

Section 4. Rules and Regulations. The Association, through its Board of Directors, may make and enforce reasonable rules and regulations governing the use of the Properties, which rules and regulations shall be consistent with the rights and duties established by this Declaration. Sanctions may include reasonable monetary fines and suspension of the right to vote and the right to use the recreational facilities. The Board shall, in addition, have the power to seek relief in any

court for violations or to abate nuisances, in which event the offending party shall pay all costs and expenses of such enforcement, including without limitation reasonable attorney's fees. Imposition of sanctions shall be as provided in the By-Laws of the Association. The Association, through the Board, by contract or other agreement, shall have the right to enforce county ordinances or permit Maury County, Tennessee and/or the City of Columbia, Tennessee to enforce ordinances on the Properties for the benefit of the Association and its Members.

Section 5. Implied Rights. The Association may exercise any other right or privilege given to it expressly by this Declaration or the By-Laws, and every other right or privilege reasonably to be implied from the existence of any right or privilege given to it herein or reasonably necessary to effectuate any such right or privilege.

ARTICLE XI
ASSESSMENTS

Section 1. Creation of Assessments. There are hereby created assessments for Association expenses as may from time to time specifically be authorized by the Board of Directors to be commenced at the time and in the manner set forth in Section 10 of this Article. There shall be two (2) types of assessments:

(a) Base Assessments to fund Common Expenses for the benefit of all Members of the Association; and

(b) Special Assessments as described in Section 8 herein. Base Assessments shall be levied equally on all Residences. Special Assessments shall be levied as provided in Section 8 below.

Section 2. Creation of the Lien and Personal Obligation for Assessments. Each Class A Member, by acceptance of a deed to the Lot or residence owned by such Class A Member, whether or not it shall be so expressed in such deed, is deemed to covenant, and agree to pay to the Association (a) Base Assessments, and (b) Special Assessments for capital improvements, such assessments to be established and collected as hereinafter provided. The Base and Special Assessments, together with interest, costs, and reasonable attorney's fees, shall be a charge on the land and shall be a continuing lien upon the property against which each such assessment is made. Each such assessment, together with interest, costs, and reasonable attorney's fees, shall also be the personal obligation of the person who was the Owner of such property at the time when the assessment fell due. The personal obligation for delinquent assessments shall not pass to such person's successors in title unless expressly assumed by such successor(s), but shall, nevertheless, continue to be a charge against the property until paid. The Association, acting on behalf of the Owners, shall have the power to bid for the Residence at foreclosure sale and to acquire and hold, lease, mortgage, and convey the same. During the period in which a Residence is owned by the Association following a foreclosure: (a) no right to vote shall be exercised on its behalf; (b) no assessment shall be assessed or levied on it; and (c) each other Residence shall be charged, in addition to its usual assessment, its equal pro rata share of the assessment that would have been charged such Residence had it not been acquired by the Association as a result of foreclosure. Suit

to recover a money judgment for unpaid assessments and attorney's fees shall be maintainable without foreclosing or waiving the lien securing the same.

Section 3. Certificates of Assessment. The Association shall, upon demand at any time, furnish to any Owner liable for any type of assessment a certificate in writing signed by the attorney, property manager or an officer of the Association setting forth whether such assessment has been paid as to any particular Lot. Such certificate shall be conclusive evidence of payment to the Association of such assessment therein stated to have been paid. The Association will require the advance payment of a processing fee as agreed by the Board for the issuance of such certificate.

Section 4. Payment of Assessments. Assessments shall be paid in such manner and on such dates as may be fixed by the Board of Directors which may include, without limitation, acceleration of the annual Base Assessment for delinquents, including Owner's delinquent in the payment of fines imposed in accordance with Article III, Section 22, of the By-Laws. Unless the Board otherwise provides, the Base Assessment shall be paid in monthly installments.

Section 5. No Waiver, Exemption or Abatement. No Owner may waive or otherwise exempt himself from liability for the assessments provided for herein, including, by way of illustration and not limitation, by non-use of Common Areas or abandonment of the Lot. The obligation to pay assessments is a separate and independent covenant on the part of each Owner. No diminution or abatement of assessment or set-off shall be claimed or allowed by reason of any alleged failure of the Association or Board to take some action or perform some function required to be taken or performed by the Association or Board under this Declaration or the By-Laws, or for inconvenience or discomfort arising from the making of repairs or improvements which are the responsibility of the Association, or from any action taken to comply with any law, ordinance, or with any order or directive of any municipal or other governmental authority.

Section 6. The Declarant. All such Lots owned by the Declarant, its successors and assigned, and intended for resale are expressly exempt from assessment. Any costs and expenses incurred by the Declarant in funding any shortfalls in assessments to their collection are obligations of the Association and shall be repaid by the Association to the Declarant from future surpluses of the Association. The funding of shortfall in assessments by the Declarant may be made in the form of a cash subsidy or by "in kind" contributions of services or materials, or a combination of these. Declarant reserves the right, notwithstanding anything else in this Declaration, to charge builders an entry fee and/or monthly assessments for maintenance as determined by Declarant. The Association is specifically authorized to enter into subsidy contracts or contracts for "in kind" contribution of these services or materials or a combination of services and materials with Declarant or other entities for the payment of some portion of the Common Expenses.

Section 7. Computation of Base Assessment. It shall be the duty of the Board to prepare a budget covering the estimated Common Expenses of the Association during the coming year. The budget may include a capital contribution establishing a reserve fund in accordance with a capital budget separately prepared. The Base Assessment to be levied for the coming year against each Residence subject to assessment shall be computed by dividing the budgeted Common Expenses by the total number of Residences subject to assessment. The Board shall cause a copy of the Common Expense budget and notice of the amount of Base Assessment to be levied against

each Residence for the following year to be made available by December 1 of each year. Notwithstanding the foregoing, however, in the event the Board fails for any reason so to determine the budget for any year, then and until such time as a budget shall have been determined as provided herein, the budget in effect for the immediately preceding year shall continue for the current year.

Section 8. Special Assessments. In addition to the assessments authorized in Section 1 of this Article, the Board of the Association may levy a Special Assessment or Special Assessments from time to time; provided, such assessment shall have the written consent of the Class B Member, if such exists. Special Assessments shall be payable in such manner and at such times as determined by the Board and may be payable in installments extending beyond the fiscal year in which the Special Assessment is approved if the Board so determines. The Board may also levy a Special Assessment against any Member, without the necessity of a vote of the Members, to reimburse the Association for costs incurred in bringing a Member and his Lot into compliance with the provisions of the Declaration, any amendments thereto, the Articles, the By-Laws, and the Association rules and any applicable governmental ordinances, which Special Assessment may be levied upon the vote of the Board.

Section 9. Capital Budget and Contribution. The Board of Directors may annually prepare a capital budget to consider the number and nature of replaceable assets, the expected life of each asset, and the expected repair or replacement cost. The Board may set the required capital contribution, if any, in an amount sufficient to permit meeting the projected capital needs of the Association, as shown on the capital budget, with respect both to amount and timing by annual assessments over the period of the budget. The capital contribution required, if any, shall be fixed by the Board and included within and distributed with the budget and assessment, as provided in Section 7 of this Article.

Section 10. Date of Commencement of Annual Assessments. The assessments provided for herein shall commence as to all Lots upon conveyance of the first Lot to a person other than a builder or developer holding title solely for purposes of development and/or resale. Assessments shall be due and payable in a manner and on a schedule as the Board of Directors may provide. The first annual assessment shall be adjusted according to the number of days remaining in the fiscal year at the time assessments commence.

Section 11. Subordination of the Lien to First Mortgage. The lien of assessments, including interest, late charges (subject to the limitations of Tennessee law), and costs (including attorney's fees) provided for herein, shall be subordinate to the lien of any first Mortgage upon any Lot or Residence. The sale or transfer of any Lot or Residence shall not affect the assessment lien. However, the sale or transfer of any Lot or Residence pursuant to judicial foreclosure or foreclosure pursuant to a power of sale of a first Mortgage shall extinguish the lien of such assessments as to payments which became due prior to such sale or transfer. No sale or transfer shall relieve such property from lien rights for any assessments thereafter becoming due. Where the Mortgagee holding a first Mortgage of record or other purchaser of a property obtains title pursuant to remedies under the Mortgage, its successors and assigns shall not be liable for the share of the common expenses or assessments by the Association chargeable to such property which became due prior to acquisition of title to such property by such transferee. Such unpaid share of

common expenses or assessments shall be deemed to be common expenses collectible from Owner of all the properties, including such acquirer, its successors, and assigns.

Section 12. Exempt Property. Notwithstanding anything to the contrary herein, all Common Area shall be exempt from payment of Base Assessments and Special Assessments.

Section 13. Effect of Nonpayment of Assessments; Remedies of the Association. Any assessment not paid within thirty (30) days after the due date shall bear interest from the due date at the highest rate permitted by law on the date the assessment became due. The Association may, after ten (10) days' advance notice and opportunity to cure, bring an action at law against the Owner personally obligated to pay the same and/or may foreclose the lien against the property and in either event interest, costs, and reasonable attorney's fees of any such action shall be added to the assessment. In addition to the foregoing, no Owner shall have the right to access any amenity area while any Assessments are outstanding for more than thirty (30) days. No Owner may waive or otherwise escape liability for the assessments provided for herein by non-use of the Common Area or abandonment of his or her Lot.

Section 14. Late Fees. In addition to interest, the Association shall be able to charge a reasonable late fee in an amount determined by the Board of Directors for any Assessment that is not paid by the date such Assessment is due.

Section 15. Transfer Fees; Working Capital Fees. In conjunction with the acquisition of record title to a lot or home, a reasonable contribution shall be made by the buyer and/or seller at closing to the management company to cover certain administrative costs related to the transfer of ownership and/or a working capital fee to Association in an amount(s) as determined by the Board.

ARTICLE XII
ARCHITECTURAL STANDARDS

Section 1. General. The Board of Directors shall have the authority and standing on behalf of the Association to enforce in courts of competent jurisdiction decisions of the committees established in this Article XII. This Article may not be amended without the Declarant's written consent during the Class B Control Period. No construction, which term shall include within its definition staking, clearing, excavation, grading, and other site work, shall take place except in strict compliance with this Article, until the requirements thereof have been fully met, and until the approval of the appropriate committee has been obtained.

Section 2. Size of Residences. The minimum living area of any residence constructed on any lot, exclusive of basement, garages, carports, porches, breezeways, terraces, and similar appurtenances shall be as follows:

(a) A one-story residence with no basement shall have a minimum of 1,000 square feet, excluding garage, carports, crawl space, breezeways, terraces, and similar appurtenances.

(b) A one-story residence with full basement shall have a minimum of 1,000 square feet, excluding garage, basement, carports, breezeways, terraces, and similar appurtenances.

(c) A one and one-half story residence shall have a minimum of 1,000 square feet, excluding garage, basement, carports, crawl space, breezeways, terraces, and similar appurtenances.

(d) A two-story residence detached shall have a minimum of 1,000 square feet, excluding garage, basement, carports, crawl space, breezeways, terraces, and similar appurtenances.

Section 3. Exterior Materials to be Used. The exterior portion of a residence must be of thirty percent (30%) masonry and can have front entry garages. Fiber cement siding is permitted if it does not cover more than seventy percent (70%) of the exterior wall surface of the house. Vinyl siding is prohibited. Authentic stone may be used within the Properties. The exterior material must be at grade level or as close to grade level as possible and approved by the appropriate committee as provided in this Article. Architectural roofing shingles must be used on all roof surfaces within the Properties.

Section 4. Architectural Review Committee. The Architectural Review Committee ("ARC") shall consist of at least three (3) and no more than five (5) members, all of whom shall be appointed by the Declarant; provided that after all Lots within the Property and any other Properties annexed in accordance with Article IX hereof are sold and no longer owned by the Declarant, the members of the ARC shall be appointed by the Board of Directors. Once appointed, the ARC shall have exclusive jurisdiction over modifications, additions, or alterations made on or to existing lots or structures containing Residences, modifications to landscaping, windows and the open space, if any, appurtenant thereto. The ARC shall promulgate detailed standards and procedures governing its areas of responsibility and practice. In addition thereto, the following shall apply: Plans and specifications showing the nature, kind, shape, color, size, materials, and location of such modifications, additions, or alterations, shall be submitted to the ARC for review as to quality of workmanship and design and as to harmony of external design with existing structures, location in relation to surrounding structures, topography, and finish grade elevation. In the event the ARC fails to approve or disapprove such plans or to request additional information reasonably required within sixty (60) days after submission, the plans shall be deemed denied. No permission or approval shall be required to repaint in accordance with an originally approved color scheme, or to rebuild in accordance with originally approved plans and specifications. Nothing contained herein shall be construed to limit the right of an Owner to remodel the interior of his Residence, or to paint the interior of his Residence any color desired. The Declarant is exempt from the requirement to submit to or receive approvals from the ARC.

Section 5. No Waiver of Future Approvals. The approval of the ARC of any proposals or plans and specifications or drawings for any work done or proposed, or in connection with any other matter requiring the approval and consent of the ARC, shall not be deemed to constitute a waiver of any right to withhold approval or consent as to any similar proposals, plans and

specifications, drawings, or matters whatever subsequently or additionally submitted for approval or consent.

Section 6. Variance. The ARC may authorize variances from compliance with any of the provisions of its guidelines and procedures when circumstances such as topography, natural obstructions, hardship, aesthetic, or environmental considerations require, but only in accordance with duly adopted rules and regulations. Such variances may only be granted, however, when unique circumstances dictate and no variance shall (a) be effective unless in writing, (b) be contrary to the restrictions set forth in the body of this Declaration, or (c) prohibit the ARC from denying a variance in other circumstances. For purposes of this Section, the inability to obtain approval of any governmental agency, the issuance of any permit, or the terms of any financing shall not be considered a hardship warranting a variance.

Section 7. Compliance and Penalty. Upon any failure of an Owner to comply with any provision of this Article, Declarant, during the Class B Control Period and thereafter the Board, may take such action as necessary to achieve compliance therewith, including, without limitation, assessment of reasonable fines against a Lot. The Owner shall, upon demand, immediately reimburse Declarant or other performing party for all expenses incurred in so doing, including reasonable attorney's fees and administrative fees. Declarant and thereafter the Association shall have a lien on the Lot and the improvements thereon to secure the repayment of such amounts. Such lien may be enforced in the same manner and with the same priority that the lien for Assessments may be enforced.

ARTICLE XIII
USE RESTRICTIONS

Section 1. General. The Properties shall be used only for residential, recreational, and related purposes (which may include, without limitation, offices for any property manager retained by the Association or business offices for the Declarant or the Association or commercial property) as may more particularly be set forth in this Declaration or amendments hereto. Home offices are permitted so long as there are no more than two vehicles or two employees working from the home office. Any home office that generates substantial pedestrian or vehicle traffic, including excessive vehicles parked on the streets creating a nuisance is prohibited. All home offices must comply with any City of Columbia zoning and ordinances. The Association, acting through its Board of Directors, shall have authority to make and to enforce standards and restrictions governing the use of the Properties, in addition to those contained herein, and to impose reasonable user fees for use of Common Area facilities. Such regulations and use restrictions shall be binding upon all Owners and occupants until and unless overruled, cancelled, or modified in a regular or special meeting of the Association by the vote of Members representing a simple majority of the total Class A votes in the Association and with the consent of the Class B Member, so long as such Class B membership shall exist.

Section 2. Signs or Billboards. No signs of any kind shall be displayed to the public view on any residential Lot within the Properties without the written consent of the Board of Directors. The Board may promulgate regulations regarding the kinds and sizes of signs that will be approved. The Board of Directors shall have the right to erect signs as it, in its discretion, deems

appropriate. Notwithstanding the foregoing, the Declarant and any other person or entity engaged in the construction and sale of residences within the Property shall have the right, during the construction and sales period, to construct and maintain such facilities as may be reasonably necessary or convenient for such construction and sale, including, but not limited to, signs, offices, storage areas and model Residences. Political signs must meet the State requirements for size and period of time allowed both prior to and after any election. (See T.C.A. Section 2-7-143).

Section 3. Parking and Garages. Vehicles shall be parked only in the garages or in the driveways, if any, serving the lots or in appropriate spaces or designated areas in which parking may or may not be assigned and then subject to such reasonable rules and regulations as the Board of Directors may adopt. No parking shall be permitted on any street, except temporarily for social gatherings or other functions as may be approved by the Board. Commercial vehicles, tractors, mobile homes, recreational vehicles, trailers (either with or without wheels), campers, camper trailers, boats and other watercraft, boat trailers, and other vehicles as the Board of Directors may designate, shall not be parked in the street in front of any Lot, or in the case of corner lots, the side street, or on the driveway or on the Lot except for construction and repair equipment while a residence or residences are being built or repaired in the immediate vicinity. This Section is not meant to prohibit vehicles of less than two axles or 6,000 pounds, that have identifying signage that are routinely driven home from a workplace.

Section 4. Occupants Bound. All provisions of the Declaration, By-Laws and of any rules and regulations or use restrictions promulgated pursuant thereto which govern the conduct of Owners, and which provide for sanctions against Owners shall also apply to all occupants, guests, and invitees of any Owner.

Section 5. Animals and Pets. No animals, reptiles, rodents, livestock, birds, fish, or poultry of any kind shall be raised, bred, or kept on any portion of the Properties, except that dogs, cats, or other usual and common household pets not to exceed a total of four (4) may be permitted in a Residence. However, those pets which are permitted to roam free, or, in the sole discretion of the Association, endanger the health, make objectionable noise, or constitute a nuisance, hazard, or inconvenience to the Owners of other Residences or the owner of any portion of the Properties shall be removed upon request of the Board; if the owner fails to honor such request, the pet may be removed by the Board and turned over to the appropriate agency for keeping or disposal. No pets shall be kept, bred, or maintained for any commercial purpose. Dogs and cats which are household pets, and any dog or cat allowed outside a Residence, shall always be confined on a leash held by and under the physical control of a responsible person and shall not be allowed to roam free. No dog runs are allowed. In any event each Owner shall be absolutely liable to all remaining Owners, their families, guests, invitees, and tenants and to the Association for any and all damage to person or property caused by any pets brought to the Property by any member of his family, guests, or invitees. Owners are responsible for cleaning up after their pets.

Section 6. Nuisance. No portion of the Properties shall be used, in whole or in part, for the storage of any property or thing that will cause it to appear to be in an unclean or untidy condition or that will be obnoxious to the eye; nor shall any substance, thing, or material be kept upon any portion of the Properties that will emit foul or obnoxious odors or that will cause any noise or other condition that will or might disturb the peace, quiet, safety, comfort, or serenity of

the occupants of surrounding property. No noxious or offensive activity shall be carried on upon any portion of the Properties, nor shall anything be done thereon tending to cause embarrassment, discomfort, annoyance, or nuisance to any person using any portion of the Properties. There shall not be maintained any plants or animal or device or thing of any sort whose activities or existence in any way is noxious, dangerous, unsightly, unpleasant, or of a nature as may diminish or destroy the enjoyment of Properties.

Section 7. Unsightly or Unkempt Conditions. It shall be the responsibility of each Owner to prevent the development of any unclean, unhealthy, unsightly, or unkempt condition. The pursuit of hobbies or other activities, including specifically, without limiting the generality of the foregoing, the assembly and disassembly of motor vehicles, and other mechanical devices which might tend to cause disorderly, unsightly, or unkempt conditions, shall not be pursued or undertaken on any part of the Properties.

Section 8. Infections, Plant Diseases, or Insects. No Owner shall permit anything or any condition to exist upon any portion of such Owner's Residential Lot that shall induce, breed, or harbor infections, plant diseases, vermin, or noxious insects.

Section 9. Antennas. No exterior antennas aerials, satellite dishes, or other apparatus for the transmission of television, radio, or other signals of any kind shall be placed, allowed, or maintained upon any portion of the Properties, including any Residence, without the prior written consent of the ARC or its designee. No such antenna or dish may be placed in a location that would be visible from the front elevation of the property. The Declarant and/or the Association shall have the right, without obligation, to erect an aerial, satellite dish, or other apparatus for a master antenna or cable system for the benefit of all or a portion of the Properties, should any such master system or systems be utilized by the Association and require any such exterior apparatus. Nothing in this Section shall limit the use of antennas or other such apparatus as may be needed by a technology provider servicing the properties.

Section 10. Clotheslines, Garbage Cans, Tanks, Etc. No clotheslines, above-ground tanks, and other similar items shall be placed, allowed, or maintained upon any portion of the Properties. All garbage cans shall be located or screened to be somewhat concealed from view of neighboring Residences, streets, and property located adjacent to the Residence, except that garbage cans may be placed at curbside on days designated for trash pickup. Trash receptacles may be left out no longer than the night before and not longer than the night after the time designated for trash pickup. All rubbish, trash and garbage shall be regularly removed from the Properties and shall not be allowed to accumulate thereon.

Section 11. Subdivision of Lots. No Lot shall be subdivided, or its boundary lines changed except with the prior written approval of the Association. Declarant, however, hereby expressly reserves the right to re-plat any Lot or Lots owned by Declarant without notice. Any such division, boundary line change or re-platting shall not be in violation of the applicable subdivision and zoning regulations.

Section 12. Firearms. The discharge of firearms within the Properties is prohibited. The term "firearms" includes "B-B" guns, pellet guns, and other firearms of all types.

Section 13. Swimming Pools. Swimming pools below ground level for the use of residence occupants and their guests may be constructed on lots provided that: (1) the location, plans and specifications thereof are approved by the ARC; (2) all applicable laws, ordinances, rules, and regulations of governmental agencies are complied with, and all necessary governmental permits are obtained; and (3) such construction is not commenced until after construction of the Residence has begun. Should a Residence become vacant, the Owner shall be required to drain the pool and keep it drained during the period of such non-occupancy, to prevent health and safety hazards. Above-ground pools are prohibited on the Properties.

Section 14. Tents, Trailers and Temporary Structures. Except as may be permitted during initial construction within the Properties, no tent, utility shed, shack, trailer, camper, or other boat equipment or structure of a temporary nature shall be placed upon a Lot or any part of the Properties, unless such trailer, camper or boat is stored within an enclosed garage. Declarant or its agents shall have the right to conduct any business necessary for the sale of Residences, including showing models and maintaining a sales and/or construction office on the Common Area or in any Residential lots owned by Declarant. In furtherance thereof, Declarant shall have an easement over all of the Common Area for ingress, egress, and parking for itself, its agents, employees, and prospective buyers of Residential Lots for so long as Declarant or any subsidiary or affiliated company owns any interest in the Property or properties annexed in accordance with Article IX hereof.

Section 15. Drainage and Septic Systems. Catch basins and drainage area are for the purpose of natural flow of water only. No obstruction or debris shall be placed in the catch basins and drainage areas. No alteration shall be made to these any of areas without the permission of the Declarant during the Class B Control Period and thereafter without the permission of the Association. There shall be a perpetual easement across the Properties for the purpose of altering drainage and water flow. Septic systems are prohibited on the Properties.

Section 16. Tree Removal. Except as may be permitted during initial construction within the Properties, no trees shall be removed, except for diseased or dead trees and trees needing to be removed to promote the growth of other trees or for safety reasons, unless approved in accordance with Article XII of this Declaration.

Section 17. Sight Distance at Intersections. All property located at street intersections shall be landscaped to permit safe sight across the street corners. No fence, wall, hedge, or shrub planting shall be placed or permitted to remain where it would create a traffic or sight problem.

Section 18. Utility Lines. No overhead utility lines, including lines for cable television, shall be permitted within the Properties, except for temporary lines as required during construction and high voltage lines if required by law or for safety purposes or primary service.

Section 19. Air Conditioning Units. Except as may be permitted by the Board or its designee, no window air conditioning units may be installed in any Residence.

Section 20. Lighting. Except for seasonal Christmas and Halloween decorations and lights, which may be displayed between Thanksgiving Day and January 10 only for Christmas displays and October 10 and November 10 for Halloween displays, all exterior lights must be approved in accordance with Article XII of this Declaration. The ARC shall have the right to promulgate lighting guidelines and to approve such holiday lighting. Strobe lighting is prohibited.

Section 21. Artificial Vegetation, Exterior Sculpture, and Similar Items. No artificial vegetation shall be permitted on the exterior of any portion of the Properties. Exterior sculpture, fountains, flagpoles, flags, and similar items must be approved in accordance with Article XII of this Declaration.

Section 22. Mailboxes. All mailboxes shall be located in the central mailbox kiosk and satisfy applicable postal regulations and developer requirements. Maintenance of the central mailbox kiosk shall be the responsibility of the Association.

Section 23. Energy Conservation Equipment. No solar energy collector panels or attendant hardware or other energy conservation equipment shall be constructed or installed unless it is an integral and harmonious part of the architectural design of a structure, as determined in the sole discretion of the appropriate committee pursuant to Article XII hereof.

Section 24. Driveways and Sidewalks. All driveways and turnaround areas shall be gray concrete or approved equal. Sidewalks within street right of ways shall be exposed gray concrete broom finished to the City of Columbia and ARC standards. No driveway extensions or modifications shall be allowed.

Section 25. Occupancy of Before Completion. No Residence shall be occupied until the construction thereof has been completed in accordance with the plans and specifications as approved by the Declarant except with reference to (a) final grading, planting, sidewalks, walkways, and retaining walls, which items shall be finished within sixty (60) days after the date of occupancy; and (b) patios and paved driveways which shall be completed within nine (9) months from the date of occupancy. The Declarant, during the Class B Control Period, or the Association, thereafter, may waive the above requirements if special circumstances exist.

Section 26. Reasonable Inspection. During reasonable hours, any member or representative of the Board shall have the right to enter upon and inspect any portion of the Properties and the improvements thereon for the purpose of ascertaining whether or not the provision of this Declaration has been or are being complied with. Such Persons shall not be deemed guilty of trespass by reason of such entry, provided twenty-four (24) hours' prior written notice has been given to the Owner of any Residence entered upon.

Section 27. Leasing.

(a) Leasing of Detached Single-Family Residences in Old Zion. The leasing of any detached single-family Lot or Residence, or interest therein, shall be specifically prohibited and not allowed (with the exception of Ingram as provided for in this Section and in Article III, Section 2 herein, respectively, and the limited exceptions contained in this Paragraph). With the

exception of Ingram, an Owner shall only be permitted to lease a Residence under one of the following circumstances: (i) an Owner may sell its Residence and lease said Residence back from the new Residence Owner for an indefinite period thereafter; or (ii) the Board of Directors shall be empowered to allow reasonable leasing of Residences to avoid undue hardship. Examples of an undue hardship exception shall include but not be limited to the following: (a) where an Owner must relocate his or her Residence and cannot, within ninety (90) days from the date that the Residence was placed on the market, sell the Residence for at least the current appraised market value, after having made reasonable efforts to do so; (b) where the Owner dies and the Residence is being administered by his or her estate; or (c) where Owner takes a leave of absence or temporarily relocates and intends to return to reside in the Residence, in which case the Owner must reapply at the end of the lease term for renewal of the hardship exception. Those Owners who are required to demonstrate and have demonstrated that the inability to lease their Residence would result in undue hardship and who have obtained the requisite approval of the Board may lease their Residence for such duration as the Board reasonably determines is necessary to prevent undue hardship. Notwithstanding the foregoing, in the event leasing of a Residence is permitted under this Section, in no event shall an Owner be permitted to lease a Residence for a term of less than twelve (12) months and no Residence shall be leased except in its entirety. All leases shall be in writing and a copy shall be filed with the Board of Directors. There shall be no subleasing or assignment of leases except with the prior written approval of the Board.

(b) Right of Ingram to Lease. Notwithstanding anything in this Section 27 to the contrary, Ingram shall at all times have the irrevocable right to lease the Properties within Old Zion, subject only to the following restrictions:

(i) Ingram shall not lease more than ten percent (10%) of the Lots located within the Properties.

The provisions of this Section 27(b) may only be amended by a vote of one hundred percent (100%) of the ownership of the Members of the Association. This provision supersedes any other provision contained elsewhere in the Declaration regarding the amendment of the Declaration.

Section 28. Parks. Any Park or other areas or equipment furnished by the Association or erected within the Properties, if any, shall be used at the risk of the user, and the Association shall not be held liable to any person for any claim, damage, or injury occurring thereon or related to use thereof.

Section 29. Fences**.**

(a) Location, style, type, and materials of any and all fencing must be approved by the ARC prior to any installation or modifications of the same. Prior to submitting fencing plans to the ARC for approval, the requesting Owner must first receive written approval from the City of Columbia pursuant to the Town's application process and present such approval to the ARC.

(b) All fences must comply with the construction guidelines established in **Exhibit "C"** attached hereto and made a part of.

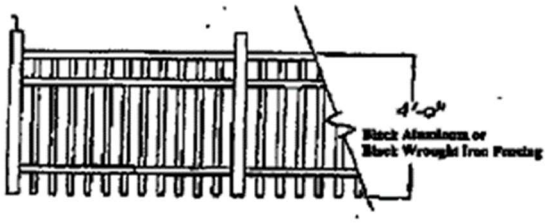
(c) No side or rear fence shall be more than four (4) feet in height.

(d) Any fence erected on a Lot shall be maintained by the owner thereof.

(e) All fencing shall be constructed only of such materials and erected only on such Lots and in such a manner as shall be approved by the Association.

(f) Fences shall conform to the approved designs which are primarily forty-eight inch (48") black aluminum, steel or wrought iron fencing as indicated in the below Exhibit, and the Architectural Guidelines.

FENCE EXHIBIT:



(g) Sixty inch (60") tall Brick and Stone Columns are permitted.

(h) Mislocated fences are subject to removal at the respective Owner's expense. It is the Owner's responsibility to assure that the fence does not encroach on adjacent properties. The Owner should hire the services of a professional land surveyor, licensed in the State of Tennessee, to verify the location of property corners and extents prior to submittal to the ARC for approval. Approval by the ARC does not absolve the Owner of this responsibility.

(i) No invisible fencing of any kind shall be allowed on any Lot.

Section 30. Business Use. Trade or business may not be conducted in or from any Residence, except that an Owner or occupant may conduct business activities within the Residence so long as:

(a) the existence or operation of the business activity is not somewhat apparent by sight, sound, or smell from outside the property;

(b) the business activity generally conforms to the City of Columbia, Tennessee, zoning ordinances for the Properties;

(c) the business activity does not interfere with the neighbor's right to quiet enjoyment of their Residence;

(d) the business activity does not involve door-to-door solicitation of residents of the Properties; and

(e) the business activity is reasonably consistent with the residential character of the Properties and does not constitute a substantial nuisance, or a hazardous use, or threaten the safety or other residents of the Properties. The terms "business" and "trade", as used in this provision, shall be construed to have their ordinary, generally accepted meanings, and shall include, without limitation, any occupation, work, or activity undertaken on an ongoing basis which involves the provision of goods or services to persons other than the provider's family and for which the provider receives a fee, compensation, or other form of consideration, regardless of whether: (i) such activity is engaged in full or part-time; (ii) such activity is intended to or does generate a profit; or (iii) a license is required, therefore. Notwithstanding the foregoing, the leasing of a Residence in accordance with Section 27 of this Article shall not be considered a trade or business within the meaning of this Section.

Section 31. Landscaping Buffers.

(a) To the extent that exterior boundary landscape buffers are established for the Property (the "Landscape Buffer"), the following shall apply: healthy trees larger than eight (8) inches in diameter at a distance of five (5) feet above the ground level shall not be cut or removed without the prior written consent of the Association, except to (i) install or maintain utilities; (ii) ensure adequate drainage; or (iii) allow construction of improvements within approved building sites adjacent to the Landscape Buffer. If trees are removed for any of the above three reasons, then, if feasible and desirable in the sole discretion of the Association, the tree buffer will be replaced within one hundred and eighty (180) days by the Association and the expense thereof shall be a common expense of the Association.

(b) In the event an eight (8) inch diameter tree or larger is removed without the prior written consent of the Association, and for reasons other than items (i) through (iii) above, then eight (8) two-inch diameter or larger trees or four (4) three-inch diameter or larger trees, measured five (5) feet above ground level, will be put back in the place of the tree removed within ninety (90) days. Such replacement shall be the responsibility and cost of the Lot Owner on which that portion of the Landscape Buffer is situated or to which it is adjacent.

(c) Trees under eight (8) inches in diameter which are removed shall be replaced within ninety (90) days by the Lot Owner on which the Landscape Buffer is situated.

(d) The Association may determine the conditions and requirements under which trees may be removed and replaced and may impose additional reasonable restrictions and requirements as it deems appropriate in connection with the maintenance and preservation of the Landscape Buffers. In the event the Owner is required, and fails to replace trees or other vegetation, the Association may do so, in which event it shall charge the amounts reasonably expended in this regard to said homeowner, which amount shall be paid as part of the next monthly assessment, or may be paid in monthly installments in the discretion of the Association, and, if not timely paid, shall become a lien against said property and collected in the same fashion as delinquent assessments. The Homeowner's Association and its designees and agents are hereby granted the

right of access across Lots and Landscape Buffers to the extent necessary to comply with and enforce the provisions of this Section.

(e) Additional landscaping provisions may be promulgated by the ARC.

Section 32. Outdoor Sports Equipment. Trampolines must be shielded from view from the street and must be anchored to the ground. The ARC has the right to promulgate rules and regulations concerning trampolines and has the right to approve their location on the Property. Basketball goals must have clear backboard and must be located off the driveway. Basketball goals shall also never placed on any street or other Common Area unless pursuant to the approval of an amenity with prior Board approval.

Section 33. Screen Doors. No screen doors are permitted on the front elevation of any dwelling within the properties. Solid glass storm doors are permitted on the front elevation.

Section 34. Additional Use Restrictions. The Board of Directors shall be entitled to invoke additional rules and regulations from time to time for the operation, use and maintenance of the Properties, including Common Area, provided such rules and regulations are not inconsistent with this Declaration.

ARTICLE XIV
AMENITIES

Section 1. Trash Collection. The Association has planned for regular collection of trash from all Lots. All costs and expenses incurred by the Association for these services will be deemed Common Expenses and will be billed to each Owner as a Base Assessment each month pursuant to Article XI.

Section 2. Other Services. In the future, the Developer and/or the Association may provide or may contract for the provision of additional amenities to the Owners. In the event such amenities are approved and constructed, the Board shall promulgate appropriate and applicable rules and regulations for the use and enjoyment thereof. All costs and expenses incurred by the Association for these amenities will be deemed Common Expenses and will be billed to each Owner as part of the Base Assessment established by the Association each month pursuant to Article XI.

ARTICLE XV
MORTGAGEE PROVISIONS

Section 1. General. The following provisions are for the benefit of holders of first Mortgages in the Properties. The provisions of this Article apply to both this Declaration and to the By-Laws, notwithstanding any other provisions contained therein.

Section 2. Notices of Action. An institutional holder, insurer, or guarantor of a first Mortgage who provides written request to the Association (such request to state the name and address of such holder, insurer, or guarantor and the property address, therefore becoming an "eligible holder"), will be entitled to timely written notice of:

(a) any condemnation loss or any casualty loss which affects a material portion of the Properties, or which affects any property on which there is a first Mortgage held, insured, or guaranteed by such eligible holder;

(b) any delinquency in the payment of assessments or charges owed by an Owner subject to the Mortgage of such eligible holder, where such delinquency has continued for a period of sixty (60) days; provided, however, notwithstanding this provision, any holder of a first Mortgage, upon request, is entitled to written notice from the Association of any default in the performance by an Owner of any obligation under the Declaration or By-Laws of the Association which is not cured within sixty (60) days;

(c) any lapse, cancellation, or material modification of any insurance policy maintained by the Association; or

(d) any proposed action which would require the consent of a specified percentage of eligible holders.

Section 3. Special FHLMC Provision. So long as required by the Federal Home Loan Mortgage Corporation, the following provisions apply in addition to and not in lieu of the foregoing. Unless at least fifty-one percent (51%) of the first Mortgagees of the Lots subject to mortgages consent, the Association shall not:

(a) by act or omission seek to abandon, partition, subdivide, encumber, sell, or transfer all or any portion of the real property comprising the Common Area which the Association owns, directly or indirectly (granting of easements for public utilities or other similar purposes consistent with the intended use of the Common Area shall not be deemed a transfer within the meaning of this subsection);

(b) change the method of determining the obligations, assessments, dues, or other charges which may be levied against an Owner (a decision, including contracts, by the Board or provisions of any declaration subsequently recorded on any portion of the Properties shall not be subject to this provision where such decision or subsequent declaration is otherwise authorized by this Declaration);

(c) by act or omission change, waive, or abandon any scheme of regulations or enforcement thereof pertaining to the architectural design or the exterior appearance and maintenance of lots and of the Common Area (the issuance and amendment of architectural standards, procedures, rules, and regulations, or use restrictions shall not constitute a change, waive, or abandonment within the meaning of this provision); or

(d) fail to maintain insurance, as required by this Declaration; or use hazard insurance proceeds for any Common Area losses for other than the repair, replacement, or reconstruction of such property.

First Mortgagees may, jointly or singly, pay taxes or other charges which are in default, and which may or have become a charge against the Common Area and may pay overdue premiums on casualty insurance policies or secure new casualty insurance coverage upon the lapse of an Association policy, and first Mortgagees making such payments shall be entitled to immediate reimbursement from the Association.

Section 4. No Priority. No provision of this Declaration or the By-Laws gives or shall be construed as giving any Owner or other party priority over any rights of the first Mortgagee of any dwelling in the case of distribution to such Owner of insurance proceeds or condemnation awards for losses to or a taking of the Common Area.

Section 5. Notice to Association. Upon request, each Owner shall be obligated to furnish to the Association the name and address of the holder of any Mortgage encumbering such Owner's property.

Section 6. Amendment by Board. Should the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation subsequently delete any of their respective requirements which necessitate the provisions of this Article or make any such requirements less stringent, the Board, without approval of the Owners, may cause an amendment to this Article to be recorded to reflect such changes.

Section 7. Applicability of Article XV. Nothing contained in this Article shall be construed to reduce the percentage vote that must otherwise be obtained under the Declaration, By-Laws, or Tennessee law for any of the acts set out in this Article.

Section 8. Failure of Mortgagee to Respond. Any Mortgagee who receives a written request from the Board to respond to or consent to any action shall be deemed to have approved such action if the Association does not receive a written response from the Mortgagee within sixty (60) days of the date of the Association's request.

ARTICLE XVI
RIGHTS OF DECLARANT

Section 1. Applicability and Term. Declarant shall have and hereby retains and reserves certain rights set forth in this Declaration with respect to the Association and the Property. Declarant's rights and reservations set forth herein shall be deemed excepted and reserved in each recorded supplemental Declaration or amendment thereto, in each conveyance of property by Declarant to the Association, and in each deed or other instrument by which any property within the Property is conveyed, whether or not specifically stated therein. The rights, reservations, and easements of Declarant set forth in this Declaration during the Class B Control Period may not, without Declarant's prior written consent, be modified, amended, rescinded, or affected by any amendment hereto, including any amendment of this Article. Declarant's consent to any such

amendment shall not be construed as consent to any other or subsequent amendment. In the event of Declarant default of any development loan(s) or other financing related to the development of the Property that results in the transfer of ownership of the Property to any lender, then all of Declarant's rights, duties, obligations, liabilities and any other responsibility set forth in this Declaration shall automatically be transferred and assigned to such lender.

Section 2. Declarant's Rights and Assignment. Any or all of the special rights and obligations of the Declarant set forth in this Declaration may be transferred or assigned in whole or in part to any other Person, provided that the transfer shall not reduce an obligation nor enlarge a right beyond that contained herein, and provided further, no such transfer shall be effective unless it is in a written instrument signed by the Declarant and duly recorded in the Register's Office of Maury County, Tennessee.

Section 3. Construction and Sales Activities. Notwithstanding any provisions contained in the Declaration to the contrary, so long as construction and the initial sale of Lots shall continue, it shall be expressly permissible for Declarant to permit any builder, including Declarant, to maintain and carry on upon portions of the Property, including any Lot, such facilities and activities as, in the sole opinion of Declarant, may be reasonably required, convenient, or incidental to the construction or sale of improvements upon such Lots, including, but not limited to, business offices, signs, model homes, and sales offices or trailers, and the Declarant and such builder(s) shall have an easement for access to such facilities. The right to maintain and carry on such facilities and activities shall include specifically the right of Declarant to use designated portions of the Common Areas, and Lots owned by the Declarant and the right of any builder to use Lots owned by builder, as models and sales offices or trailers, respectively.

Section 4. Promotion and Marketing. Declarant shall have and hereby reserves the right to use the Property in connection with development, construction, promotion, marketing, sale and leasing of properties within the Property, by erecting and maintaining on any part of the Property such signs as Declarant, in its sole discretion, may deem desirable, necessary or proper in connection with the development, construction, promotion, marketing, sale and leasing of parcels of real property within the Property, and by permitting prospective purchasers of any of such parcels who are not Owners to enter upon the Property.

Section 5. Development Completion. No provision of this Declaration shall be construed to limit the right of Declarant to or require Declarant to obtain approval: (a) to complete improvements indicated on any plat(s), site plans and/or plans related to the Property, as may be amended from time to time; (b) to create, add, withdraw, modify, alter, or redefine Lots, Common Areas comprising the Property or to subdivide Lots; (c) to make the Property part of a larger planned community or to subject same to a master association; (d) to excavate, cut, fill, or grade any property owned by Declarant or to construct, alter, remodel, demolish, or replace any improvements on any Property; or (e) to require Declarant to seek or obtain the approval of the Association for any such activity or improvement to property by Declarant on any Property. Nothing in this Paragraph shall limit or impair the reserved rights of Declarant as elsewhere provided in this Declaration.

Section 6. Additional Improvements. Declarant shall have and hereby reserves the right, at any time and from time to time, but shall not have the obligation, to construct, at its expense, additional improvements on Property which are for the betterment and enhancement thereof and for the benefit of the Association and the Owners. Declarant will convey or transfer such improvements to the Association, which shall be obligated to accept title to, care for, and maintain the same as elsewhere provided herein.

Section 7. Conveyance of Additional Property. Declarant shall have and hereby reserves the right, but shall not be obligated to, convey additional real property and improvements thereon to the Association at any time and from time to time in accordance with this Declaration.

Section 8. Easements. Declarant shall have and hereby reserves the right to grant or create temporary or permanent easements and rights-of-way for access, utilities, water, drainage, and other purposes incident to development, construction, or sale within the Property, located in, on, under, over, and across Property, property owned by Declarant, provided that such easements and rights-of-way that are located within the Property do not unreasonably interfere with the rights of Owners.

Section 9. Cell Towers. Declarant shall have and hereby reserves the right to lease, license, convey, or otherwise establish and easement for the construction, installation, and use of a cellular tower and equipment appurtenant thereto upon a Lot(s) or other portion of the Property. Cellular towers, cellular tower sites and the operation and maintenance thereof can and will emit unpleasant noises and/or other emissions which could potentially result in, among other things, inconveniences, interruptions in use or enjoyment of property or common areas, and/or health issues. By the acceptance of their deed or other conveyance or mortgage, leasehold, license or other interest, each Owner and any Occupant or tenant of such Owner automatically acknowledges, stipulates and agrees (a) that such Owner and/or such Owner's invitees, guests, tenants or other occupants do not object to the presence of the cellular tower or cellular tower site, (b) that the cellular tower, cellular tower site and the use, operation, and/or maintenance thereof shall not be deemed nuisances or noxious or offensive activities, hereunder or at law generally, (c) not to enter upon, or allow their children or other persons under their control or direction to enter upon (regardless of whether such entry is a trespass or otherwise) the cellular tower and/or cellular tower site (even if not being actively used at the time of entry), (d) the Declarant, the Association, and the owner and/or operator of the cellular tower and/or cellular tower site shall not be liable for any losses, damages (compensatory, consequential, punitive or otherwise), injuries or deaths arising from or relating to the cellular tower and/or cellular tower site, except resulting directly from the gross negligence or willful misconduct of the respective owner thereof, and (e) any purchase or use of any portion of the Property has been and will be made with full knowledge of the foregoing.

Section 10. Notice and Opportunity to Cure. No Person shall (a) institute legal or equitable proceedings involving the alleged defective design or construction of any improvement upon or within the Property or (b) retain an expert for the purpose of inspecting the design or construction of any such improvement in connection with or in anticipation of any potential or pending claim, demand, or litigation involving such design or construction, unless Declarant and the respective builder have been first notified in writing and given an opportunity to meet with the Owner of the Lot to discuss the Owner's concerns and conduct their own inspection(s). Declarant

and the respective Builder(s) reserve the right for themselves and others designated to inspect, monitor, test, redesign and correct any improvement or condition which may exist on any portion of the Property, including the Lots and Common Areas, and a perpetual easement of access through the Property for such purposes.

Section 11. Instrument Recording Prohibition. During the Class B Control Period, no Person shall record any declaration of covenants, conditions and restrictions, or similar instrument affecting any portion of the Property without Declarant's review and written consent thereto, and any attempted recordation without compliance herewith shall result in such declaration of covenants, conditions and restrictions, or similar instrument being void and of no force and effect unless subsequently approved by recorded consent signed by the Declarant.

ARTICLE XVII
COMMON OPEN SPACE – ZONING ORDINANCE

Any common open space established by an adopted final master development plan for planned unit development shall be subject to the following:

Section 1. Organization for Ownership and Maintenance. The City of Columbia may require that the Owner provide for and establish an organization for the ownership and maintenance of any common open space, and such organization shall not be dissolved nor shall it dispose of any common open space, by sale or otherwise (except to an organization conceived and established to own and maintain the common open space), without first offering to dedicate the same to the City of Columbia and/or Maury County and the said dedication be approved by the planning commission(s) of the same. However, the conditions of any transfer shall conform to the adopted final master plan.

Section 2. Failure of Organization to Maintain. In the event that the organization established to own and maintain common open space, or any successor organization, shall at any time after the establishment of the planned unit development fail to maintain the common open space in reasonable order and condition in accordance with the adopted master development plan, the zoning administrator may serve written notice upon such organization and/or the owners or residents of the association and hold a public hearing. After thirty (30) days when deficiencies of maintenance are not corrected, the zoning administrator shall call upon any public or private agency to maintain the common open space for a period of one (1) year. When the zoning administrator determines that the organization is not prepared for the maintenance for the common open space, such agency shall continue maintenance for yearly periods.

Section 3. Cost of Maintenance Assessment. The cost of such maintenance by such agency shall be assessed proportionally against the properties within the Association that have a right of enjoyment of the common open space and shall become a lien on said properties.

ARTICLE XIII
GENERAL PROVISIONS

Section 1. Term. The covenants and restrictions of this Declaration shall run with and bind the Property and any properties annexed in accordance with Article IX hereof, and shall inure to the benefit of and shall be enforceable by the Association or the Owner of any property subject to this Declaration, their respective legal representatives, heirs, successors, and assigns, for a term of fifty (50) years from the date this Declaration is recorded, after which time they shall be automatically extended for successive periods of ten (10) years, unless an instrument in writing, signed by a majority of the then Owners, has been recorded within the year preceding the beginning of each successive period of ten (10) years, agreeing to change said covenants and restrictions, in whole or in part, or to terminate the same, in which case this Declaration shall be modified or terminated as specified therein.

Section 2. Amendment. Until such time as one hundred percent (100%) of all properties have been conveyed to an Owner other than the Declarant or a builder holding title to one or more lots solely for development, construction and resale, the Declarant may unilaterally amend this Declaration. Thereafter, this Declaration may only be amended by the affirmative vote (whether by proxy, upon written consent, in person, or other permitted means) of the Members representing at least seventy-five percent (75%) of the Class A Membership. No amendment shall be effective and binding unless such amendment is recorded in the Register's Office for Maury County, Tennessee. If an Owner consents to any amendment to this Declaration or the By-Laws, it will be conclusively presumed that such Owner has the authority so to consent and no contrary provision in any Mortgage or contract between the Owner and a third party will affect the validity of such amendment. No amendment may remove, revoke, or modify any right or privilege of Declarant without the written consent of Declarant or the assignee of such right or privilege.

Section 3. Indemnification. The Association shall indemnify every officer, director, and committee member against any and all expenses, including counsel fees, reasonably incurred by, or imposed upon such officer, director, or committee member in connection with any action, suit, or other proceeding (including settlement of any suit or proceeding, if approved by the Board of Directors) to which he or she may be a party by reason of being or having been an officer, director, or committee member. The officers, directors, and committee members shall not be liable for any mistake of judgment, negligent or otherwise, except for their own individual willful misfeasance, malfeasance, misconduct, or bad faith. The officers and directors shall have no personal liability with respect to any contract or other commitment made by them, in good faith, on behalf of the Association (except to the extent that such officers or directors may also be Members of the Association), and the Association shall indemnify and forever hold each such officer and directors free and harmless against any and all liability to others on account of any such contract or commitment. Any right to indemnification provided for herein shall not be exclusive of any other rights to which any officer, director, or committee member, or former officer, director, or committee member may be entitled. The Association shall, as a Common Expense, maintain adequate general liability and officers' and directors' liability insurance to fund this obligation, if such insurance is reasonably available.

Section 4. Delegation of Use. Any Owner may delegate, in accordance with the By-Laws of the Association his or her right of enjoyment to the Common Area and facilities to the members of his or her family, tenants, and social invitees, subject to such rules and regulations as the Board of Directors may adopt. The Owner must be present with his or her invitee(s).

Section 5. Easements of Encroachment. Due to the possibility that construction, modification or reconstruction of a Residence might result in unintentional settling or shifting of the location of such structures, there is an automatic easement of up to thirty-six (36) inches between the boundary of each property and the Common Area, unless such encroachment occurred due to the willful and knowing conduct of any Owner, Tenant, or the Association.

Section 6. Easements for Utilities, Etc. There is hereby reserved unto Declarant, so long as Declarant owns any portion of the Property and any other properties annexed in accordance with Article IX hereof, the Association and the designees of each (which may include, without limitation, Maury County, Tennessee or the City of Columbia, and any utility), blanket easements upon, across, over, and under all of the Common Area and, to the extent shown on any plat(s), over the Lots for ingress, egress, installation, replacing, repairing, and maintaining telecommunication systems, phone systems, data systems, master television antenna systems, security, and similar systems, roads, walkways, bicycle pathways, lakes, ponds, wetlands, drainage systems, street lights, signage, and all utilities, including, but not limited to, water, sewers, meter boxes, telephones, gas, and electricity. Without limiting the generality of the foregoing, there are hereby reserved for the local water supplier easements across all Lots on the Properties for ingress, egress, installation, reading, replacing, repairing, and maintaining water meter boxes.

Notwithstanding anything to the contrary contained in this Section, no sewers, electrical lines, water lines, or other utilities may be installed or relocated on the Properties, except as may be approved by the Association or as provided by Declarant. Should any entity furnishing a service covered by the general easement herein provided request a specific easement by separate recordable document, the Association shall have the right to grant such easement on said Properties without conflicting with the terms hereof. The easements provided for in this Article shall in no way adversely affect any other recorded easement on the Properties.

The Board shall have, by a two-thirds (2/3) vote, the power to dedicate portions of the Common Area to the City of Columbia, Tennessee or any other local, state, or federal governmental entity, subject to such approval requirements as may be contained in this Declaration.

Section 7. Severability. Invalidation of any one of these covenants or restrictions by judgment or court order shall in no way affect any other provisions, which shall remain in full force and effect.

Section 8. Right of Entry. The Association shall have the right, but not the obligation, to enter into any Residence for emergency, security, and safety, which right may be exercised by the Association's Board of Directors, officers, agents, employees, managers, and all policemen, firemen, ambulance personnel, and similar emergency personnel in the performance of their respective duties. Except in an emergency, entry shall only be during reasonable hours and after notice to the Owner. This right of entry shall include the right of the Association to enter a

Residence to cure any condition which may increase the possibility of a fire or other hazard in the event an Owner fails or refuses to cure the condition upon request by the Board.

Section 9. Litigation. No judicial or administrative proceeding shall be commenced or prosecuted by the Association unless approved by a vote of fifty (50%) percent of the Members. This Section shall not apply, however, to (a) actions brought by the Association to enforce the provisions of this Declaration (including, without limitation, the foreclosure of liens), (b) the imposition and collection of assessments as provided in Article XI hereof, (c) proceedings involving challenges to ad valorem taxation, or (d) counterclaims brought by the Association in proceedings instituted against it.

Section 10. Other Maintenance Associations. The Property will be developed in several tracts which may include various types of residential properties, including townhouses and detached single family residences. This Declaration applies to all the Property made subject to this Declaration, but nothing contained in this Declaration shall be construed to prevent additional covenants, conditions and restrictions from being imposed on individual tracts. Any such covenants, conditions, or restrictions that conflict with those contained in the Declaration shall supersede this Declaration as to that portion of the Property subject to such covenants, conditions and restrictions and shall control. Maintenance associations may be established for the different tracts. The formation of such additional associations, however, shall not relieve any Owner from its obligations to pay assessments as provided in this Declaration; provided, the Homeowner's Association may arrange for the additional associations to collect the assessments provided for in this Declaration. The Association may contract with the additional associations and third parties for the purpose of accomplishing the obligations set forth in this Declaration.

Section 11. Management Company Rights. The following rights shall be granted by the Association to a property management company or other contracted vendor:

(a) The right to charge a statement of account fee;

(b) The right to charge a collection fee for delinquent accounts;

(c) The right to charge a late fee on any delinquent accounts. The amount of the late fee shall be set by the Board of Directors and shall be charged to any account not paid by the due date of such assessment;

(d) The right to charge a working capital fee and a transfer fee in conjunction with the acquisition of record title to a lot or home to cover the administrative costs relating to the transfer of ownership. The working capital fee shall be set by the Board and shall not be deemed a credit against monthly assessments;

(e) The right to contract with a vendor to charge an annual fee to Owners who lease their property to cover the administration costs of managing leased properties; and

(f) The Board of Directors retains the right to manage the association without the assistance of a management company.

Section 12. Use of the Word(s) Old Zion. No Person shall use the word(s) " Old Zion " or any derivative thereof in any printed or promotional material without the prior written consent of the Declarant. However, Owners may use the term " Old Zion " in printed or promotional matter where such term is used solely to specify that particular property is located within the " Old Zion " community.

Section 13. Notice to Owners. Notice to any Owner set forth herein shall be sent by prepaid U.S. Mail, FedEx, UPS, or other reputable private carrier, or electronic transmission at the address or other contact information provided to the Board by the Owner or in the event no separate address or other contact information has been provided, then by prepaid U.S. Mail or hand delivery to the Owner's Lot. It shall be the obligation of every Owner to notify the Board in writing of any change in address. Any Person who becomes the Owner after the date on which notice was made upon such Owner's predecessor in title to the Lot shall be deemed to have received such notice.

Section 14. Statue of Limitation. No action in contract, tort, or otherwise against the Association, the Board, or the Declarant for any action or inaction by the same or to challenge the validity of this Declaration, any supplemental Declaration or other duly adopted amendment may be brought more than one (1) year after the occurrence of such action or inaction or the date this Declaration, the supplemental Declaration, or other instrument is recorded.

Section 15. Disclosures. Each Owner acknowledges the following:

(a) The Property is located adjacent to thoroughfares that may be affected by traffic and noise from time to time and may be improved and/or widened in the future.

(b) The views from an Owner's Lot may change over time due to, among other circumstances, additional development and the removal or addition of landscaping.

(c) No representations are made regarding the zoning of adjacent property, or that the category to which adjacent property is zoned may not change in the future.

(d) No representations are made regarding the schools that currently or may in the future serve the Property.

(e) Since in every neighborhood, there are conditions that different people may find objectionable, it is acknowledged that there may be conditions outside of the Property that an Owner may find objectionable and that it shall be the sole responsibility of the Owner to become acquainted with neighborhood conditions that could affect such Owner's Lot.

Section 16. Construction Activity. All Owners acknowledge and understand that Declarant will be constructing/renovating portions of the Property and engaging in other construction activities related to the construction of Common Areas and other improvements. Such construction activities may, from time to time, produce certain conditions on the Property, including, without limitation: noise or sound that is objectionable because of its volume, duration, frequency or shrillness; smoke; noxious, toxic, or corrosive fumes or gases; obnoxious odors; dust, dirt or flying ash; unusual fire or explosion hazards; temporary interruption of utilities; and/or

other conditions that may threaten the security or safety of persons on the Property. Notwithstanding the foregoing, all Owners agree that such conditions on the Property resulting from renovation and construction activities shall not be deemed a nuisance and shall not cause Declarant and their agents to be deemed in violation of any provision of the Declaration.

Section 17. Governing Law. This Declaration shall be construed, governed, and enforced under and in accordance with the laws of the State of Tennessee.

Section 18. Interpretation. The Board shall have the right, power, and authority to determine all questions arising under or in connection with this Declaration and to construe and interpret its provisions, and any determination, construction, or interpretation made in good faith by the Board shall be binding on all Owners. In all cases, the provisions set forth in this Declaration shall be construed, in the opinion of the Board, to best effect the intent of the general purposes of this Declaration. The provisions hereof shall be liberally interpreted to effectuate the purposes set forth herein, and, if necessary, they shall be so extended or enlarged by implication as to make them fully effective.

Section 19. Remedies Cumulative. The rights, powers and remedies provided in this Declaration shall be cumulative and not restrictive of other remedies at law or in equity, and the exercise by a Person of any particular right, power, or remedy shall not be deemed an election of remedies or to preclude such Person's resort to other rights, powers, or remedies available to it.

Section 20. Partial Invalidity. Invalidation of any one or more of the provisions of this Declaration by judgment or court order shall not affect any other provision not expressly held to be void or the provisions so void in circumstances or applications other than those expressly invalidated, and all such remaining provisions shall remain in full force and effect together with the provisions ruled upon as they apply to circumstances other than those expressly invalidated.

Section 21. Severability. If any provision of this Declaration is held invalid, the validity of the remainder of this Declaration and of the application of any such provision, section, sentence, clause, phrase or word in any other circumstances shall not be affected thereby, and the remainder of this Declaration shall be construed as if such invalid part was never included therein.

Section 22. Captions and Gender. The captions herein are inserted only as a matter of convenience, and in no way define, limit or describe the scope of these provisions or the intent of any provision hereof. The use of the masculine gender in this Declaration shall be deemed to include the feminine and neuter references, and the use of the singular shall be deemed to include the plural whenever the context so requires.

Section 23. Exoneration of Declarant. Each Owner or any other party having an interest in any portion of the Property expressly agree that no duty or obligation is imposed upon the Declarant to enforce or attempt to enforce any of the covenants or restrictions contained herein, nor shall the Declarant be subject to any liability of any kind or nature whatsoever in respect to any claim that the Declarant has failed to enforce same.

ARTICLE XIX
PROVISIONS FOR ELECTRONIC MEETINGS

All meetings contemplated or held for the benefit of the Association, the Board of Directors or any committees may be held, at the discretion of the Board of Directors via electronic means, or by written ballot, as opposed to an actual meeting. This provision is intended to permit the use of video conferencing or telephone conferencing to conduct any meetings.

[The remainder of this page has been left blank intentionally.]

IN WITNESS WHEREOF, the undersigned Declarant has executed this Declaration this the ___ day of _____, 2024.

ENCOMPASS LAND GROUP, LLC

_____
By:
Its:

STATE OF TENNESSEE)
COUNTY OF WILLIAMSON)

Before me, the undersigned, a Notary Public of said County and State, personally appeared _____, with whom I am personally acquainted (or who proved to me his identity on the basis of satisfactory evidence), and who, upon oath, acknowledged himself to be the Authorized Signer of ENCOMPASS LAND GROUP, LLC, a Tennessee limited liability company, the within named bargainor, a Tennessee limited liability company, and that he as such Authorized Signer executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as Authorized Signer.

Witness my hand and seal this ___ day of _____, 2024.

My Commission Expires: _____
Notary Public

EXHIBIT "A"
LEGAL DESCRIPTION

EXHIBIT "B"

AMENDED AND RESTATED
BY-LAWS OF
HOMEOWNER'S ASSOCIATION FOR OLD ZION, INC.

These are the By-Laws (the "By-Laws") of the Homeowner's Association for Old Zion, Inc., a Tennessee non-profit corporation (the "Association") whose members are comprised of those certain Owners who hold the interest(s) in Lots at the Old Zion Subdivision, Maury County, Tennessee, required for membership by that certain DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR HOMEOWNER'S ASSOCIATION FOR OLD ZION, INC., as amended (collectively, the "Declaration").

ARTICLE I
NAME, PRINCIPAL OFFICE, AND DEFINITIONS

Section 1. Name. The name of the Association shall be Homeowner's Association for Old Zion, Inc.

Section 2. Principal Office. The principal office of the Association in the State of Tennessee shall be located in the County of Maury. The Association may have such other offices, either within or outside the State of Tennessee, as the Board of Directors may determine or as the affairs of the Association may require.

Section 3. Definitions. The words used in these By-Laws shall have the same meaning as set forth in that Declaration of Covenants, Conditions and Restrictions for Homeowner's Association for Old Zion, Inc. (said Declaration, as amended, renewed, or extended from time to time, is hereinafter sometimes referred to as the "Declaration"), unless the context shall prohibit.

ARTICLE II
ASSOCIATION:
MEMBERSHIP, MEETINGS, QUORUM, VOTING, PROXIES

Section 1. Membership. Every Owner of a Lot which is subject to assessment shall be a Member of the Association. Membership shall be appurtenant to and may not be separated from ownership of any Lot which is subject to assessment.

Section 2. Classes of Membership. The Association shall have two (2) classes of membership, Class "A" and Class "B", as is more fully set forth in the Declaration, the terms of which pertaining to membership are specifically incorporated herein by reference.

Section 3. Place of Meetings. Meetings of the Association shall be held at the principal office of the Association or at such other suitable place convenient to the Voting Members as may be designated by the Board of Directors either within the Properties or as convenient thereto as possible and practical. Meetings may also be conducted electronically, either via telephone conference or video conference call technology, at the discretion of the Board of Directors.

Section 4. Annual Meetings. The first meeting of the Association, whether a regular or special meeting, shall be held within one (1) year from the date of incorporation of the Association or as rescheduled by the board. Meetings shall be of the Voting Members or their alternates. Subsequent regular annual meetings shall be set by the Board so as to generally occur at least ninety (90) but not more than one hundred twenty (120) days before the close of the Association's fiscal year on a date and at a time set by the Board of Directors. However annual meetings are optional during the Declarant's Class B Control period not withstanding any other language.

Section 5. Special Meetings. The President may call special meetings. In addition, it shall be the duty of the President to call a special meeting of the Association if so directed by resolution of a majority of a quorum of the Board of Directors or upon a petition signed by Voting Members representing at least sixty-five (65%) percent of the total votes of the Association. The notice of any special meeting shall state the date, time, and place of such meeting and the purpose thereof. No business shall be transacted at a special meeting except as stated in the notice.

Section 6. Notice of Meetings. Written or printed notice stating the place, day, and hour of any meeting of the Voting Members, including telephone or video conferencing instructions, if applicable, shall be delivered, either personally or by mail, to each Voting Member entitled to vote at such meeting, not less than ten (10) nor more than fifty (50) days before the date of such meeting, by or at the direction of the President or the Secretary or the officers or persons calling the meeting. In the case of a special meeting or when required by statute or these By-Laws, the purpose, or purposes for which the meeting is called shall be stated in the notice. No business shall be transacted at a special meeting except as stated in the notice. If mailed, the notice of a meeting shall be deemed to be delivered when deposited in the United States mail addressed to the Voting Member at his or her address as it appears on the records of the Association, with postage thereon prepaid.

Section 7. Waiver of Notice. Waiver of notice of a meeting of the Voting Members shall be deemed the equivalent of proper notice. Any Voting Member may, in writing, waive notice of any meeting of the Voting Members, either before or after such meeting. Attendance at a meeting by a Voting Member or alternate shall be deemed waiver by such Voting Member of notice of the time, date, and place thereof, unless such Voting Member specifically objects to lack of proper notice at the time the meeting is called to order. Attendance at a special meeting shall also be deemed waiver of notice of all business transacted thereat unless objection to the calling of convening of the meeting, of which proper notice was not given, is raised before the business is put to a vote.

Section 8. Adjournment of Meetings. If any meeting of the Association cannot be held because a voting quorum is not present, a majority of the Voting Members who are present at such meeting, either in person or by alternate, may adjourn the meeting to a time not less than five (5) nor more than thirty (30) days from the time the original meeting was called. At the reconvened meeting, if a quorum is present, any business which might have been transacted at the meeting originally called may be transacted. If a time and place for reconvening the meeting is not fixed by those in attendance at the original meeting or if for any reason a new date is fixed for reconvening the meeting after adjournment, notice of the time and place for reconvening the meeting shall be given to Voting Members in the manner prescribed for regular meetings.

The voting Members present at a duly called or held meeting at which a quorum is present may continue to do business until adjournment, notwithstanding the withdrawal of enough Voting Members to leave less than a quorum, provided that any action taken is approved by at least a majority of the Members required to constitute a quorum.

Section 9. Voting. The voting rights of the Members shall be as set forth in the Declaration, and such voting rights provisions are specifically incorporated herein.

Section 10. Proxies. Voting Members may vote by proxy or in person or through their designated alternates.

Section 11. Majority. As used in these By-Laws, the term "majority" shall mean those votes, owners, or other group as the context may indicate totaling more than fifty-one (51%) percent of the total number.

Section 12. Quorum. Except as otherwise provided in these By-Laws or in the Declaration, the presence in person or by alternate of the Voting Members representing fifteen (15%) percent of the total vote of the Association shall constitute a quorum at all meetings of the Association. Any provision in the Declaration concerning quorums is specifically incorporated herein.

Section 13. Conduct of Meetings. The President shall preside over all meetings of the Association, and the Secretary shall keep the minutes of the Meeting and a record in a minute book of all resolutions adopted at the meeting, as well as a record of all transactions occurring at the meeting.

Section 14. Action Without a Meeting. Any action required by law to be taken at a meeting of the Voting Members, or any action which may be taken at a meeting of the Voting Members, may be taken without a meeting if written consent setting forth the action so taken is signed by eighty percent (80%) of the Voting Members entitled to vote with respect to the subject matter thereof, and any such consent shall have the same force and effect as a unanimous vote of the Voting Members.

ARTICLE III
BOARD OF DIRECTORS:
NUMBER, POWERS, MEETINGS, COMPOSITION AND SELECTION

Section 1. Governing Body; Composition. A Board of Directors, each of whom shall have one (1) vote, shall govern the affairs of the Association. Except with respect to Directors appointed by the Declarant, the Directors shall be Members or spouses of such Members; provided, however, no person and his or her spouse may serve on the Board at the same time. In the case of an Owner, which is a corporation or partnership, the person designated in writing to the Secretary of the Association as the representative of such corporation or partnership shall be eligible to serve as a Director.

Section 2. Directors. During the Class B Control period, the Directors shall be selected by the Class B Member acting in its sole discretion, subject only to Article III, Section 6, hereof, and shall serve at the pleasure of the Class B Member until the first to occur of the following:

(a) when ninety-five (95%) percent of the Lots planned for the property described on **Exhibit "A"** of the Declaration have certificates of occupancy issued thereon and have been conveyed to Persons other than the Declarant or builders holding title solely for purposes of development and sale; or

(b) when, in its discretion, the Class B Member so determines.

Within thirty (30) days thereafter, the Class B Member shall cause the Board to call a meeting, as provided in Article II, Section 5, of these By-Laws for special meetings, to advise the membership of termination of the Class B Control Period.

Section 3. Declarant Participation. This Section 3 may not be amended without the express, written consent of the Declarant, until the sixth (6th) year after the Class B Control Period. After termination of the Class B Control Period, the Declarant shall have the right to participate in the decision-making process and the right to disapprove all actions of the Board, as is more fully provided in this Section. These rights shall be exercisable only by the Declarant, its successors, and assigns who specifically take this power in a recorded instrument and shall terminate after five (5) years after the date of termination of the Class B Control Period. Declarant participation shall be as follows: No action authorized by the Board of Directors shall become effective, nor shall any action, policy, or program be implemented until and unless:

(a) The Declarant shall have been given written notice of all meetings and proposed actions approved at meetings of the Board or any committee thereof by certified mail, return receipt requested, or by personal delivery at the address it has registered with the Secretary of the Association, as it may change from time to time, which notice complies as to the Board of Directors meetings with Article III, Sections 8, 9, and 10, of these By-Laws and which notice shall, except in the case of the regular meetings held pursuant to the By-Laws, set forth in reasonable particularity the agenda to be followed at said meeting; and

(b) The Declarant shall be given the opportunity at any such meeting to join in or to have its representatives or agents join in discussion from the floor of any prospective action, policy, or program to be implemented by the Board, any committee thereof, or the Association. The Declarant, its representatives or agents shall make its concerns, thoughts, and suggestions known to the members of the subject committee and/or the Board. The Declarant shall have the right to disapprove any policy or program authorized by the Board of Directors or any committee thereof, and any action to be taken by the Board, any committee thereof, the Association, or any individual member of the Association, if Board, committee, or Association approval is necessary for such action. This right may be exercised by the Declarant, its representatives, or agents at any time within ten (10) days following the meeting held pursuant to the terms and provisions hereof. Notwithstanding any provision herein to the contrary, the Declarant shall not have the right to require any action or counteraction on behalf of any committee, the Board, or the Association, and shall not exercise its rights hereunder to reduce the level of services which the Association is

obligated to provide or to prevent capital repairs or any expenditure required to comply with applicable laws and regulations.

Section 4. Number of Directors. The number of directors in the Association shall be five (5). The Class B Member shall appoint the first Board.

Section 5. Nomination of Directors. Except with respect to Directors selected by the Class B Member, nominations for election to the board of Directors shall be made by a Nominating Committee. The Nominating Committee shall consist of a Chairman, who shall be a member of the Board of Directors, and three (3) or more Members of the Association, with at least one (1) Member from each Possible Voting Group. The Nominating Committee shall be appointed by the board of Directors not less than thirty (30) days prior to each annual meeting of the Voting Members to serve a term of one (1) year or until their successors are appointed, and such appointment shall be announced at each such annual meeting. The Nominating Committee shall make as many nominations for election to the Board of Directors as it shall in its discretion determine, but in no event less than the number of positions to be filled. The Nominating Committee shall nominate slates for Directors to be elected at-large by all Possible Voting Members, and for the Directors to be elected by and from each Voting Group. Nominations for each slate shall also be permitted from the floor. All candidates shall have a reasonable opportunity to communicate their qualifications to the Members and to solicit votes.

Section 6. Election and Term of Office. Notwithstanding any other provision contained herein:

(a) Within thirty (30) days after the termination of the Class B Control Period, or sooner in the discretion of the Class B Member, the Class B Member shall cause the Board to call a meeting, as provided in Article II, Section 5, of these By-Laws for special meetings, to advise the membership of termination of the Class B Control Period. At the first annual meeting of the Members, or at a special meeting called for the purpose of electing directors, after the termination of the Class B Control Period, five (5) directors shall be elected by the Members. One (1) director shall be elected to serve for a term of one (1) year, two (2) directors to serve for two (2) years, and two (2) directors to serve for three (3) years. At all subsequent elections, members of the Board shall be elected for a term of three (3) years.

(b) The candidate receiving a plurality of the votes cast for the office shall be declared elected. In the case of members of the Board, those receiving the greater number of votes out of the number to be cast shall be declared elected, and in case of a tied vote as to the last place to be filled, a new ballot shall be cast in order to determine the last successful candidate.

(c) No member who has failed to pay any dues or assessments to the Association, nor any member against whom a lien therefor is being prosecuted, shall be eligible for election as an officer or a member of the Board of Directors.

(d) Directors elected to fill any vacancy due to death, resignation, or removal shall serve for the remaining unexpired term of the Director they replace.

(e) If the number of Directors shall have been increased, they shall be elected at the annual or a special meeting called for that purpose in the manner prescribed herein.

Section 7. Removal of Directors and Vacancies. Any Director elected by the Voting Members may be removed, with or without cause, by the vote of Voting Members representing a majority of the votes entitled to be cast for the election of such Director. Any Director whose removal is sought shall be given notice prior to any meeting called for that purpose. A Director who was elected at large solely by the votes of Voting Members may be removed from office prior to the expiration of his or her term only by the votes of a majority of Voting Members. Upon removal of a Director, a successor shall then and there be elected by the Voting Members entitled to elect the Director so removed to fill the vacancy for the remainder of the term of such Director. However, any Director appointed by the Class B Member can only be removed by the Class B member.

Any Director elected by the Voting Members who has three (3) consecutive unexcused absences from Board meetings or who is delinquent in the payment of any assessment or other charge due the Association for more than thirty (30) days may be removed by a majority of the Directors present at a regular or special meeting at which a quorum is present, and a successor may be appointed by the Board to fill the vacancy for the remainder of the term. In the event of the death, disability, sale of property, or resignation of a Director, the Board may declare a vacancy and it may appoint a successor. Any Director appointed by the Board shall be selected from the Voting Group represented by the Director who vacated the position and shall serve for the remainder of the term of such Director.

Section 8. Organization Meetings. The first meeting of the Board of Directors following each annual meeting of the membership shall be held within ten (10) days thereafter at such time and place as shall be fixed by the Board.

Section 9. Regular Meetings. Regular meetings of the Board of Directors may be held at such time and place as shall be determined from time to time by a majority of the Directors, but at least two (2) such meetings shall be held during each fiscal year with at least one (1) per half year. Notice of the time and place of the meeting shall be communicated to Directors not less than four (4) days prior to the meeting; provided, however, notice of a meeting need not be given to any Director who has signed a waiver, notice or a written consent to holding of the meeting. Such waiver of notice may be deemed as written if placed in the meeting minutes approved by a majority of the Board.

Section 10. Special Meetings. Special meetings of the Board of Directors shall be held when called by written notice signed by the President of the Association or by a majority of Directors. The notice shall specify the time and place of the meeting and the nature of any special business to be considered. The notice shall be given to each Director by one of the following methods: (a) by personal delivery; (b) written notice by first class mail, postage prepaid; (c) by telephone or e-mail communication, either directly to the Directors or to a person at the Director's office or home who would reasonably be expected to communicate such notice promptly to the Director; or (d) by telegram, charges prepaid. All such notices shall be given at the Director's telephone number or sent to the Director's address as shown on the record of the Association.

Notices sent by first class mail shall be deposited into a United States mailbox at least four (4) days before the time set for the meeting. Notices given by personal delivery, telephone, or telegraph shall be delivered, telephoned, or given to the telegraph company at least seventy-two (72) hours before the time set for the meeting.

Section 11. Waiver of Notice. The transactions of any meetings of the Board of Directors, however called and noticed or wherever held, shall be as valid as though taken at a meeting duly held after regular call and notice if: (a) a quorum is present, and (b) either before or after the meeting each of the Directors not present signs a written waiver of notice, a consent to holding the meeting, or an approval of the minutes. The waiver of notice or consent need not specify the purpose of the meeting. Notice of a meeting shall also be deemed given to any Director who attends the meeting without protesting before or at its commencement about the lack of adequate notice.

Section 12. Quorum of Board of Directors. At all meetings of the Board of Directors, a majority of the Directors shall constitute a quorum for the transaction of business, and the votes of a majority of the Directors present at a meeting at which a quorum is present shall constitute the decision of the Board of Directors. A meeting at which a quorum is initially present may continue to transact business, notwithstanding the withdrawal of Directors, if any action taken is approved by at least a majority of the required quorum for that meeting. If any meeting of the Board cannot be held because a quorum is not present, a majority of the Directors who are present at such meeting may adjourn the meeting to a time not less than five (5) nor more than thirty (30) days from the date of the originally called meeting, and business may be transacted at such following meeting without further notice. Such following meeting may be adjourned without a Quorum at the President's decision.

Section 13. Compensation. No Director shall receive any compensation from the Association for acting as such unless approved by the Voting Members representing a majority of the total vote of the Association at a regular or special meeting of the Association; provided any Director may be reimbursed for expenses incurred on behalf of the Association upon unanimous approval of the other Directors.

Section 14. Conduct of Meetings. The President shall preside over all meetings of the Board of Directors, and the Secretary shall keep a minute book of meetings of the Board of Directors, recording therein all resolutions adopted by the Board of Directors and all transactions and proceedings occurring at such meetings.

Section 15. Limited Open Meetings. Subject to the provisions of Section 16 of this Article, all meetings of the Board shall be open in a limited manner to all Voting Members but Voting Members other than Directors may not participate in any discussion or deliberation unless permission to speak is requested on his or her behalf by a Director. In such case, the President will limit the time any Voting Member may speak to two (2) minutes.

Section 16. Action without a Formal Meeting. Any action to be taken at a meeting of the Directors or any action that may be taken at a meeting of the Directors may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the Directors, and such consent shall have the same force and effect as a unanimous vote.

Section 17. Powers and Duties. The Board of Directors shall be responsible for the affairs of the Association and shall have all of the powers and duties necessary for the administration of the Association's affairs and, as provided by law, may do all acts and things implied or stated by the Declaration, Articles, or these By-Laws directed to be done and exercised exclusively for the Voting Members or the membership generally.

The Board of Directors can delegate to one of its members the authority to act on behalf of the Board of Directors on all matters relating to the duties of the managing agent or manager, if any, which might arise between meetings of the Board of Directors.

In addition to the duties imposed by these By-Laws or by any resolution of the Association that may hereafter be adopted, the Board of Directors shall have the power to and shall be responsible for the following, In way of explanation, but not limitation:

(a) preparation and adoption of annual budgets in which there shall be established the contribution of each Owner to the Common Expenses and Neighborhood Expenses;

(b) making assessments to defray the Common Expenses and Neighborhood Expenses, establishing the means and methods of collecting such assessments, and establishing the period of the installment payments of the annual assessment; provided, unless otherwise determined by the Board of Directors, the annual assessment for each Lot’s proportionate share of the Common Expenses shall be payable in equal monthly installments, each such installment to be due and payable in advance on the first day of each month for said month;

(c) providing for the operation, care, upkeep, and maintenance of all of the Area of Common Responsibility;

(d) designating, hiring, and dismissing the personnel necessary for the maintenance, operation, repair, and replacement of the Association, its property, and the Area of Common Responsibility and, where appropriate, providing for the compensation of such personnel and for the purchase of equipment, supplies, and materials to be used by such personnel in the performance of their duties;

(e) collecting the assessments, depositing the proceeds thereof in a bank depository, which it shall approve, and using the proceeds to administer the Association.

(f) reserve funds may not be deposited in depositories other than banks;

(g) making and amending rules and regulations, but not the initial restriction without a vote, opening of bank accounts on behalf of the Association and designating the two (2) signatures required on any and all checks and payments;

(h) making or contracting for the making of repairs, additions, and improvements to or alterations of the Common Area in accordance with the other provisions of the Declaration and these By-Laws after damage or destruction by fire or other casualty;

(i) enforcing by legal means the provisions of the Declaration, these By-Laws, and the rules and regulations adopted by it and bringing any proceedings, which may be instituted on behalf of or against the Owners concerning the Association;

(j) obtaining and carrying Insurance against casualties and liabilities, as provided in the Declaration, and paying the premium cost thereof;

(k) paying the cost of all services rendered to the Association or its Members and not chargeable directly to specific Owners;

(l) keeping books with detailed accounts of the receipts and expenditures affecting the Association and its administration, specifying the maintenance and repair expenses and any other expenses incurred;

(m) making available to any prospective purchaser of a Lot or Residence, any Owner of a Lot or Residence, any first mortgagee, and the holders, insurers, and guarantors of a first Mortgage on any Lot or Residence, current copies of the Declaration, the Article of Incorporation, the By-Laws, rules governing the Properties and all other books, records, and financial statements of the Association: and

(n) permitting utility suppliers to use portions of the Common Area reasonably necessary to the ongoing development or operation of the Properties.

Section 18. Management Agent. The Board of Directors may employ for the Association a professional management agent or agents at a compensation established by the Board of Directors to perform such duties and services as the Board of Directors shall authorize. The Board of Directors may delegate to the managing agent or manager, subject to the Board's supervision, all of the powers granted to the Board of Directors by these By-Laws, other than the powers set forth in subparagraphs (a), (b) and (f), of Section 17 of this Article. The Declarant, or an affiliate of the Declarant, may be employed as managing agent or manager. However, the Class B Member may employ an agency to manage the Association at the Class B Member’s discretion. Unless earlier removed by the Class B member, this initial agency would then remain as the original agency until one (1) full year after end of the Class B Control Period. No management contract after the initial one (1) year term in the above paragraph may have a term in excess of three (3) years and must permit termination by either party only with cause and without a termination fee on sixty (60) days or less written notice. The Class B Member may authorize the managing agent or manager as the signatory on Association checks.

Section 19. Accounts and Reports. The following management standard of performance will be followed unless the Board by resolution specifically determines otherwise: accrual or cash accounting, as defined by generally accepted accounting principles, shall be employed; accounting and controls should conform to generally accepted accounting principles; cash accounts of the

Association shall not be commingled with any other accounts, but Association may use an agent that uses a bank designated lock box type control; no remuneration shall be accepted by the managing agent from vendors, independent contractors, or others providing goods or services to the Association, whether in the form of commissions, finder's fees, service fees, prized, gifts, or otherwise; anything of value received shall only benefit the Association; any financial or other interest which the managing agent may have in any firm providing goods or services to the Association shall be disclosed promptly to the Board of Directors; commencing at the end of the month in which the first Residence is sold and closed, financial reports shall be prepared for the Association at least every six (6) months containing: (i) an income statement reflecting all income and expense activity for the preceding period on an accrual basis; (ii) a statement reflecting all cash receipts and disbursements for the preceding period; (iii) a variance report reflecting the status of all accounts in an "actual" versus "approved" budget format; (iv) a balance sheet as of the last day of the preceding period; and (v) a delinquency report listing all Owners who are delinquent thirty (30) days or more in paying the monthly installments of assessments at the time of the report and describing the status of any action to collect such installments which remain delinquent [a monthly installment of the assessment shall be considered to be delinquent on the fifteenth (15th) day of each month unless otherwise determined by the Board of Directors]; an annual report consisting of at least the following shall be distributed to all Members who request a reply by written request each year within one hundred twenty (120) days after the close of the fiscal year: (i) a balance sheet; (ii) an operating (income) statement; and (iii) a statement of changes in financial position for the fiscal year. The annual report referred to above shall be prepared on an audited or reviewed basis, or if determined by the Board, by an independent public accountant; provided, during the Class B Control Period, the annual report and, statements shall include financial statements but do not have to be prepared by an independent accountant plus does not have to be audited or reviewed.

Section 20. Borrowing. The Board of Directors, with unanimous agreement in writing shall have the power to borrow money for the purpose of maintenance, repair, or restoration of the Area of Common Responsibility without the approval of the Voting Members of the Association. The Board shall also have the power to borrow money for other purposes; provided, the Board shall obtain Voting Member approval in the same manner provided in the Declaration for special assessments in the event that the proposed borrowing is for the purpose of modifying, improving, or adding amenities.

Section 21. Rights of the Association. With respect to the Area of Common Responsibility, and in accordance with the Articles of Incorporation and By-Laws of the Association, the Association shall have the right to contract with any person for the performance of various duties and functions. Without limiting the foregoing, this right shall entitle the Association to enter into common management, operations, or other agreements with trusts, condominiums, cooperatives, or Neighborhood and other owners or residents' Associations, both within and without the Properties. Such agreements shall require the consent of two-thirds (2/3) of all Directors of the Association.

The Association after the Class B Control Period expires, shall not be bound, either directly or indirectly, by any contract, lease, or other agreement (excluding any management contract) executed during the Class B Control Period unless such contract, lease or other agreement contains

a right of termination exercisable by either party without penalty at any time, with or without cause, upon not more than sixty (60) days' notice to the other party. The Class B member can at their sole choice elect to do all the maintenance work or part thereof at no charge to the Association.

Section 22. Enforcement. The Board shall have the power to impose reasonable fines against Owners or occupants, which shall be an assessment on the Lot, shall constitute a lien upon the property of the violating Owner, and may be collected in the same manner provided for the collection of assessments in Article X of the Declaration. The Board also shall have the authority to suspend an Owner's right to vote, or to use the Common Area, for violation of any duty imposed under the Declaration, these By-Laws, or any rules and regulations duly adopted hereunder; provided, however, nothing herein shall authorize the Association or the Board of Directors to limit ingress and egress to or from a Lot. In the event that any occupant of the Lot violates the Declaration, By-Laws, or a rule or regulation and a fine is imposed, the fine shall be assessed against the owner. The fine may be paid by the occupant within the time period set by the Board, but the Owner shall pay the fine upon notice from the Association. The failure of the Board to enforce any provision of the Declaration, By-Laws, or any rule or regulation shall not be deemed a waiver of the right of the Board to do so thereafter.

Section 23. Notice. Prior to imposition of any sanction hereunder, the Board or its delegate shall serve the alleged violator with written notice describing: (i) the nature of the alleged violation, (ii) the proposed sanction to be imposed, (iii) a period of not less than ten (10) days within which the alleged violator may present a written request to the Covenants Committee, if any, or Board of Directors for a hearing; and (iv) a statement that the proposed sanction shall be imposed as contained in the notice unless a challenge is begun within ten (10) days of the notice. If a timely challenge is not made, the sanction stated in the notice shall be imposed.

Section 24. Hearing. If a hearing is requested in a timely manner, the hearing shall be held in executive session affording the Owner a reasonable opportunity to be heard. Prior to the effectiveness of any sanction hereunder, proof of proper notice shall be placed in the minutes of the meeting. Such proof shall be deemed adequate if a copy of the notice, together with a statement of the date and manner of delivery, is entered by the officer, Director, or agent who delivered such notice. The notice requirement shall be deemed satisfied if the alleged violator appears at the meeting. The minutes of the meeting shall contain a written statement of the results of the hearing and the sanction, if any, imposed. The Board of Directors or the Covenants Committee, if any, may, but shall not be obligated to, suspend any proposed sanction if the violation is cured within the ten (10) day period. Such suspension shall not constitute a waiver of the right to sanction future violations of the same or other provisions and rules by any Person.

Section 25. Additional Enforcement Rights. Notwithstanding anything to the contrary herein contained, the Association, acting through the Board of Directors, may elect to enforce any provision of the Declaration these By-Laws, or the rules and regulations of the Association by self-help (specifically including, but not limited to, the towing of vehicles that are in violation of parking rules and regulations) or by suit at law or in equity to enjoin any violation or to recover monetary damages or both without the necessity of compliance with the procedure set forth above. In any such action, to the maximum extent permissible, the Owner or occupant responsible for the

violation of which abatement is sought shall pay all costs, including reasonable court and/or attorney's fees actually incurred.

ARTICLE IV
OFFICERS

Section 1. Officers. The officers of the Association shall be a President, Vice President, Secretary, and Treasurer, to be elected from among the members of the Board. The Board of Directors may appoint such other officers, including one or more Assistant Secretaries and one or more Assistant Treasurers, as it shall deem desirable, with such officers having the authority to perform the duties prescribed from time to time by the Board of Directors. Any two (2) or more offices may be held by the same person, except the offices of President and Secretary.

Section 2. Election, Term of Office, and Vacancies. The officers of the Association shall be elected annually by the Board of Directors at the first meeting of the Board of Directors following each annual meeting of the Members, as herein set forth in Article III. A vacancy in any office arising because of death, resignation, removal, or otherwise may be filled by the Board of Directors for the unexpired portion of the term.

Section 3. Removal. The Board of Directors, by a majority vote of the entire Board, may remove any officer whenever in its judgment the best interests of the Association will be served thereby.

Section 4. Powers and Duties. The officers of the Association shall each have such powers and duties as generally pertain to their respective offices, as well as such powers and duties as may from time to time specifically be conferred or imposed by the Board of Directors. The President shall be the chief executive officer of the Association. The Treasurer shall have primary responsibility for the preparation of the budget as provided for in the Declaration and may delegate all or part of the preparation and notification duties to a finance committee, management agent, or both.

Section 5. Duties of President. The President shall be the Chief Executive Officer of the Association and, when present, shall preside at all meetings of the membership and, unless a chairman of the Board of Directors has been elected and is present, shall preside at the meetings of the Board of Directors. The President or Vice President, unless some other person is specifically authorized by vote of the Board of Directors, shall sign all documents on behalf of the Association, including, but not limited to, deeds, mortgages, leases and contracts of the Association.

Section 6. Duties of Vice President. The Vice President shall perform the duties and have the powers of the President during the absence or disability of the President.

Section 7. Duties of Secretary. The Secretary shall keep accurate minutes for all meetings of the membership and the Board of Directors and, to the extent ordered by the Board of Directors or the President, the minutes of meetings of all committees. He shall cause notice to be given of meetings of stockholders, of the Board of Directors and, when requested to do so, of any committee appointed by the Board. He shall have general charge of the records, documents and

papers of the Association which shall, at all reasonable times, be open to examination by any Director or member. He may sign or execute contracts with the President or a Vice President thereunder authorized in the name of the Association.

Section 8. Duties of Treasurer. The Treasurer, subject to the order of the Board of Directors, shall be responsible for the money and funds of the Association and shall deposit such monies and funds in the name of the Association in such banks as the Board of Directors may designate. No payment for any purpose in excess of the amount budgeted for that purpose shall be made without approval of the Board of Directors. If required by the Board of Directors, he shall give such bond as shall be determined appropriate for the faithful performance of his duties.

Section 9. Resignation. Any officer may resign at any time by giving written notice to the Board of Directors, the President, or the Secretary. Such resignation shall take effect on the date of the receipt of such notice or at any later time specified therein, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 10. Agreements, Contracts, Deeds, Leases, Checks, Etc. All agreements, contracts, deeds, leases, checks, and other instruments of the Association approved by the Board of Directors shall be executed by at least one (1) officer or by such other person or persons as may be designated by resolution of the Board of Directors.

Section 11. Compensation of Officers. The officers shall serve without compensation.

ARTICLE V
COMMITTEES

Section 1. General. Committees are hereby authorized to perform such tasks and to serve for such periods as may be designated by a resolution adopted by a majority of the Directors present at a meeting at which a quorum is present. Each committee shall operate in accordance with the terms of the resolution of the Board of Directors designating the committee or with rules adopted by the Board of Directors.

Section 2. Covenants Committee. In addition to any other committees, which may be established by the Board pursuant to Section 1 of this Article, the Board of Directors may appoint a Covenants Committee consisting of at least five (5) and no more than seven (7) members. Acting in accordance with the provisions of the Declaration, these By-Laws, and resolutions the Board may adopt, the Covenants Committee, if established, shall be the hearing tribunal of the Association and shall conduct all hearings held pursuant to Article III, Section 24 of these By-Laws.

ARTICLE VI
MISCELLANEOUS

Section 1. Fiscal Year. The fiscal year of the Association shall be set by resolution of the Board of Directors.

Section 2. Parliamentary Rules. Except as may be modified by Board resolution, Robert's Rules of Order (current edition) shall govern the conduct of Association proceedings when not in conflict with Tennessee law, the Articles of Incorporation, the Declaration, or these By-Laws.

Section 3. Conflicts. If there are conflicts between the provisions of Tennessee law, the Articles of Incorporation, the Declaration, and these By-Laws, the provisions of Tennessee law, the Declaration, the Articles of Incorporation, and the By-Laws (in that order) shall prevail.

Section 4. Books and Records.

(a) Inspection by Members and Mortgagees. The Declaration and By-Laws, membership register, books of account, and minutes of meetings of the Members, the Board, and committees shall be made available for inspection and copying by any Mortgagee, Member of the Association, or by his or her duly appointed representative at any reasonable time and for a purpose reasonably related to his or her interest as a Member at the office of the Association or at such other place within the Properties as the Board shall prescribe.

(b) Rules for Inspection. The Board shall establish reasonable rules with respect to:

(i) notice to be given to the custodian of the records;

(ii) hours and days of the week when such an inspection may be made; and

(iii) payment of the cost of reproducing copies of documents requested.

(c) Inspection by Directors. Every Director shall have the absolute right at any reasonable time to inspect all books, records, and documents of the Association and the physical properties owned or controlled by the Association. The right of inspection by a Director includes the right to make extracts and a copy of relevant documents at the expense of the Association.

Section 5. Notices. Unless otherwise provided in these By-Laws, all notices, demands, bills, statements, or other communications under these By-Laws shall be in writing and shall be deemed to have been duly given if delivered personally or if sent by United States Mail, first class postage prepaid as follows:

(a) if to a Member or Voting Member, at the address which the Member or Voting Member has designated in writing and filed with the Secretary or, if no such address has been designated, at the address of the Lot or Residence of such Member or Voting Member; or

(b) if to the Association, the Board of Directors, or the managing agent, at the principal office of the Association or the managing agent, if any, or at such other address as shall be designated by notice in writing to the Members pursuant to this Section.

Section 6. Amendment. Until such time as one hundred percent (100%) of all Lots within the Property and any other properties annexed in accordance with the Declaration have been conveyed to an Owner other than the Declarant or a builder holding title to one or more Lots solely for development, construction and resale, the Declarant may unilaterally amend these By-Laws. Thereafter, these By-Laws may only be amended by the affirmative vote (whether by proxy, upon written consent, in person, or other permitted means) of the Members representing at least seventy-five percent (75%) of the total votes of the Association. If an Owner consents to any amendment to these By-Laws, it shall be conclusively presumed that such Owner has the authority to so consent and no contrary provision in any Mortgage or contract between such Owner and any third party will affect the validity of such amendment. No amendment may remove, revoke, or modify any right or privilege of the Declarant without the written consent of Declarant or the assignee of such right or privilege. The percentage of votes necessary to amend a specific clause shall never be less than the prescribed percentage of affirmative votes required for action to be taken under that clause. No amendment shall be effective until recorded in the public records of Maury County, Tennessee.

[The remainder of this page has been left blank intentionally.]

IN WITNESS WHEREOF, the undersigned has executed these By-Laws this the ____ day of _____, 2024.

HOMEOWNER'S ASSOCIATION FOR OLD ZION, INC.,
a Tennessee nonprofit corporation

_____
By:
Its: Authorized Signer

STATE OF TENNESSEE)
COUNTY OF WILLIAMSON)

Before me, the undersigned, a Notary Public of said County and State, personally appeared _____, with whom I am personally acquainted (or who proved to me his identity on the basis of satisfactory evidence), and who, upon oath, acknowledged himself to be the Authorized Signer of HOMEOWNER'S ASSOCIATION FOR OLD ZION, INC., a Tennessee nonprofit corporation, the within named bargainor, and that he as such Authorized Signer executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as Authorized Signer.

Witness my hand and seal this ___ day of _____, 2024.

My Commission Expires: _____
Notary Public

EXHIBIT "C"

PERMITTED FENCE EXHIBIT

March 6, 2024

Ms. Kelsey Magee
T-Square Engineering
1329 W Main St.
Franklin, TN 37064
Sent via email: kelsey.magee@t2-eng.com

RE: Water Availability Letter
Old Zion Road PUD
Tax Map 112, Parcel 2.03, 9.00, 10.01, 10.07
Columbia, Maury County, TN

Dear Ms. Magee:

Columbia Power and Water Systems ("the Utility"/CPWS) is a municipal corporation authorized to provide water services in accordance with State law. CPWS has adopted rules, regulations, and standard operation procedures, prescribing the conditions under which CPWS will furnish water service. In addition, certain State laws delegate authority to the Tennessee Department of Environment and Conservation, various Planning Commissions and other authorities in Cities and Counties. These Cities and Counties have also adopted rules and regulations. Subject to the payment of all charges and fees imposed by CPWS and the approval of any and all required governmental agencies, water service will be made available on a first-come, first-served basis, subject to availability of all CPWS furnished equipment and materials appropriate for the development and provided the applicant complies with all rules and regulations of CPWS and conditions set out herein.

The proposed development consists of 765 units. CPWS has evaluated the projected water demands for the proposed residential development in the water system hydraulic model and is able to meet a fire-flow capacity of 1,000 gpm at 20 psi while maintaining the existing level of service and pressures in this portion of the distribution system. CPWS can provide water for the proposed development according to the following requirements:

- Water availability for the proposed 765 units is contingent upon the schedule of development as provided by the applicant. Any acceleration of the schedule (start, finish, or increased unit count per phase) will require re-evaluation of water availability. Acceptance of an accelerated schedule is not guaranteed. The schedule as provided by the applicant is as follows:

Project Phase	Number of Lots	Begin Site Work	Deliver Lots	Finished Homes
Phase 1A	95	April 2024	April 2025	August 2025
Phase 1B	76	April 2025	April 2026	August 2026
Phase 1C	64	April 2026	April 2027	August 2027
Phase 1D	87	April 2027	April 2028	August 2028
Phase 2A	78	April 2028	April 2029	August 2029
Phase 2B	54	April 2029	April 2030	August 2030
Phase 2C	85	April 2030	April 2031	August 2031
Phase 2D	77	April 2031	April 2032	August 2032
Phase 3A	78	April 2032	April 2033	August 2033
Phase 3B	72	April 2033	April 2034	August 2034

- This Water Availability Letter represents water availability for the entire development, but a new water service application and fee is required for subsequent phases. Water service is not guaranteed until the relevant impact fees are paid for each meter to be installed.
- Each Phase of the development will be considered individually to ensure water infrastructure including all related CPWS furnished equipment and appurtenances are available to support additional homes at the time application is made to proceed to construction for that Phase.
- System capacity for individual Phases of the development is reserved when CPWS has provided approval to proceed to construction and appropriate Impact Fees are paid.
- Based on State requirements, project phases will be delivered and activated as whole units. CPWS will not accept ownership of or activate portions of the water system that are smaller than the entirety of the infrastructure approved by the State on a single set of drawings. Phase boundaries should be defined with this in mind, as no water connections in the Phase will be activated until the entire Phase of construction is complete.
- Domestic waterline connections will be made to the existing 12-inch water main located on Trotwood Avenue, to the existing 8-inch water main at the Ridley Sports Complex, and to the existing 6-inch water main on Old Zion Road. Available fire flow will be evaluated at each phase of construction and may require these additional connections to be made "early" compared to the schedule for the phase of construction where they would otherwise occur.
- Minimum size 8-inch water mains will be required throughout the development, with 10-inch diameter mains potentially required along the primary roadways of the development.

All of the above requirements are to be constructed and paid for by the Applicant and dedicated to CPWS once complete up to and including the meter. No construction of CPWS infrastructure shall be initiated until final construction plans have been approved by TDEC and all parties have fully executed a water service agreement.

Once you have received this Water Availability Letter, next steps in the process to obtain water service from CPWS are as follows:

- Prior to expiration of this water availability letter in 120 days, remit to CPWS new water service fees for Phase 1A as follows:

New Water Service Fee: $1,500 + $370 per SFU (95 SFUs)	$36,650.00

- Provide site base CAD files in DWG format, including roads, lot lines, existing and proposed contours, and other existing and proposed utilities, for use in development of water construction drawings.
- CPWS will then develop water construction drawings and submit to TDEC for approval. Upon approval by TDEC and payment of meter and impact fees by the applicant, applicant may then schedule a pre-construction meeting with CPWS. Pre-construction meeting will not be scheduled until fees are paid in full or surety is provided in lieu of full payment. Final meter and impact fees are subject to change based on final design and meter size determination. Meter fees are subject to change based on market costs at time of purchase. Meters will not be set until meter and impact fees are paid. Meter and Impact Fees for Phase 1A are as follows:

Meter Fee: $540 per 3/4" meter (95 meters)	$51,300.00
Impact Fee: $4,500 per 3/4" meter (95 meters)	$427,500.00
Total Meter and Impact Fees Due =	**$478,800.00**

- After the pre-construction meeting, CPWS will then issue a formal notice to proceed. No construction of CPWS infrastructure may take place prior to the pre-construction meeting.
- Applicant is then required to construct all public water infrastructure per CPWS standard specifications and provide CPWS personnel unregulated access to the site to inspect the construction of the water infrastructure.
- Subsequent Phases will require individual applications and associated fees. Should this letter expire prior to payment of the New Water Service Fee for Phase 1A of the development, a new application will be required to evaluate current conditions before proceeding.

If you have any questions, please feel free to contact me at 423-774-0349 or eric.king@inflodesign.com. This letter is valid for one-hundred twenty (120) days from the date of this letter.

Sincerely,



Eric King, P.E.
Inflo Design Group, LLC
on behalf of Columbia Power and Water Systems

cc: Jonathan Hardin, CPWS
File 22-042

CITY OF COLUMBIA
TENNESSEE

WASTEWATER DEPARTMENT

15 March 2022

Andrew Ethridge
Vice President, Encompass Land Group
1718 General George Patton Drive
Brentwood, TN 37027

RE: Old Zion Rd

Andrew,

This letter serves as confirmation that the City of Columbia Wastewater Department has the available capacity to service the above-referenced development. Major or minor improvements to existing infrastructure may or may not be necessary in the case of the above-referenced development. Any extension to the existing sewer infrastructure will be initiated by the owner/developer, reviewed by our department and approved by the State of Tennessee. The project must be advanced in accordance with local, state and federal rules, regulations and policies. Funding and construction of those improvements will remain the responsibility of the owner/developer. New customers will be required to pay all fees applicable at the time of connection. No detailed design plan for an extension of the sewer has been proposed at this time.

Donnie Boshers, Director
City of Columbia, TN
Wastewater Department

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Preliminary Plat, Site Development Plan, and PUD Checklist

Development: Old Zion Rd Development

This checklist shall be completed, and included with the submittal documents. If the submittal does not contain a completed checklist, it shall be deemed incomplete. All below listed items shall be included in the submittal documents and plans, as well as any further information required by the City of Columbia to evaluate compliance and to perform a full and complete review. See Zoning Ordinance Article 8 and Subdivision Regulations.

General

- ☒ Name of development
- ☒ Contact info for the owner and licensed design professional(s) preparing plan: name, address, email, phone
- ☒ Plan sealed by a design professional licensed in the State of Tennessee.
- ☒ North Arrow, legend, and site vicinity map
- ☒ Graphic Scale: between 1 in. = 10 ft. and 1 in. =100 ft.
- ☒ Survey stamped by a State of Tennessee Licensed Professional Land Surveyor, with all project boundaries including bearings and angles to the nearest hundredth, utilities, and existing streets and rights-of-way.
- ☒ Note referencing Tennessee State Plane Coordinate System, NAD 83 Datum
- ☒ All property boundaries, existing easements, and encumbrances
- ☒ Parcel identification, owner, and deed and plat references of adjoining properties
- ☒ Proposed phasing and timetable for all phases of development
- ☒ Traffic Impact Study, as required.
- ☒ The substance of all existing and proposed covenants, easements, or other restrictions.

Lots and Land-Use

- ☒ The size of total property to be developed in square feet and acres
- ☒ Lot numbers of all proposed lots, with dimensions, locations, and square footage
- ☒ A tabulation of the land area to be devoted to various uses and activities and overall densities.
- ☒ Typical lot layout depicting proposed setbacks, yards, and easements, where applicable

Structures

- ☒ Location and approximate dimensions of all existing and proposed structures.
- ☒ Location of all earth retaining structures, with approximate top and bottom of wall elevations.
- ☒ Existing and intended use of all buildings and structures on site, including the number of dwelling units and density, where applicable
- ☒ Location, type, and size of proposed signs
- ☒ Approximate height, bulk, and the utilization of structures including activities and the number of living units.

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

Grading, Drainage, and Storm

- ☒ Existing conditions and contours at vertical intervals of not more than two (2) feet
- ☒ General proposed contours at vertical intervals of not more than two (2) feet
- ☒ FEMA Special Flood Hazard Area (SFHA), 100-year Floodplain (F-P), and Floodway (F-W) boundaries with elevations and the exact location of the nearest benchmark. Indicate the Flood Insurance Rate Map (FIRM) panel number, its effective date, and flood insurance zones
- ☒ Location and dimension of aquatic buffer zones
- ☒ General layout of the proposed storm drainage system including surface and subsurface drainage systems, areas for detention, and water quality devices.
- ☒ Identification of all critical lots

Streets, Parking, and Pedestrian Elements

- ☒ Proposed street and alley rights-of-way, typical sections, widths, classification, names, and proposed ownership and maintenance responsibility
- ☒ Proposed connections to existing and proposed streets (including classification) located outside the development
- ☒ Proposed improvements as identified in the Traffic Impact Study, as required
- ☒ Existing and proposed sidewalks, trails, and other pedestrian elements
- ☒ Existing and proposed on-street and off-street parking and loading areas
- ☒ Summary of all provided and required parking

Landscaping, Open Space, and Amenities

- ☒ Natural features on site including, but not limited to, wetlands, streams, ponds, springs, sinkholes, wells, rock outcroppings, excessive slopes, and forested areas
- ☒ Landscaped areas and buffers with details on proposed plantings, existing vegetation, and other features.
- ☒ The location and size of all common open space, parkland dedications, and dedications and reservations of land for public uses.
- ☒ Any amenity features and structures for private or public benefit.
- ☒ Location, dimension, and materials of fences and walls
- ☒ Tree Canopy retention

Utilities

- ☒ General layout and location of existing and proposed utilities and utility features including, but not limited to potable water, fire hydrants, sanitary sewer, storm sewer, and power and communication facilities.
- ☒ Acknowledgement from water, sewer, and power utility providers that the proposed development may be adequately served with existing infrastructure, or if improvements are required to adequately serve the development, a general statement of the improvements.

CITY OF
COLUMBIA
TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PUD Specific Items

- ☒ List of all deviations from PUD Standards requested
- ☒ The nature of the landholder's interest in the land proposed to be developed and a written statement of concurrence from all parties having a beneficial interest in the affected property.
- ☒ Location and approximate dimensions of all existing and proposed structures including approximate height, bulk, and the utilization of structures including activities and the number of living units. Include architectural renderings of all proposed structures with materials listed.
- ☒ The substance of covenants, grants of easements or other restrictions to be imposed upon the use of the land, buildings and structures including proposed easements for public utilities on the property or documentation of off-site easements.
- ☒ Exterior lighting plan.

If the application is deemed incomplete by the Zoning Administrator, a written request shall be made within ten days after the original submittal, for further information. In such case the application shall be held in abeyance until deemed complete for final review. No plan shall be formally presented for Planning Commission action until such plan is found complete, compliant with City standards, and ready for review.

Checklist Completed By:

Kelsey Magee	[signature]	3/15/2024
Print Name	Signature	Date

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy of submittal on USB thumb drive or CD*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	6150 Trotwood Ave. - Primary Site Entrance		
	TAX MAP: 112 112	GROUP: -	PARCEL: 2.03, 9.00, 10.01, & 10.07
SUMMARY OF NATURE OF REQUEST AND WORK	765-lot single family development with accesses onto Old Zion and Trotwood Rds. Lots will be served by CPWS for water and power, and the City of Spring Hill for sewer. The Preliminary PUD was approved in April 2023 by Planning Commission and then subsequently by City Council in May and June 2023.		

REQUEST DATE FOR PRE-APPLICATION CONFERENCE	Pre-App Held: 3/13/2024	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Sketch Plat – *Must be submitted at least two weeks prior to Preliminary Plat submittal* ☒ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan + Checklist ☒ PUD Final Site Plan + Checklist ❑ Multi-Family Site Plan ❑ Other: _____ **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat* *Freedom Point Elevations*	<u>Annexations/Rezoning:</u> ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards <u>Plats/PUDs:</u> • Project Name (include Sections & Phases) Old Zion Subdivision • Total Number of Lots 765 • Total acreage +/- 413 ac.

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Patrick Carey	PHONE	615-594-4366
ADDRESS	1720 General George Patton Dr., Suite A Brentwood, TN 37027	EMAIL	patrick@willowbranchpartners.com

PROPERTY OWNER NAME	Old Zion, LLC	PHONE	615-594-4366
ADDRESS	121 First Ave S, Ste 120 Franklin, TN 37064	EMAIL	patrick@willowbranchpartners.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Patrick Carey	Patrick Carey	03|18|2024
APPLICANT NAME	APPLICANT SIGNATURE	DATE
~same as applicant~	Patrick Carey	03|18|2024
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	



T-SQUARE ENGINEERING
CIVIL-SITE | TRAFFIC | WASTEWATER

111 Southeast Pkwy Ct
Franklin, TN 37064
615.678.8212

www.T2-eng.com

City of Columbia Planning and Zoning
700 N Garden St
Columbia, TN 38401

April 22, 2024

RE: Response Letter to Comments Received April 9 & 15, 2024
Old Zion Road Development
24-0138 – Preliminary Plat

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he and City Planner Kevin McCarthy will jointly prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments. At least one of the two planners working on this item should be copied on all communication with other city staff.
   Understood
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal.
   As provided
3. Please revise note on cover sheet to indicate that the City of Columbia will be providing sanitary sewer.
   Revised to City of Columbia and correct address.
4. Please remove building elevations and other exhibits from the Preliminary Plat. The Final PUD Master Plan will establish bulk ad design standards for the development. The subdivision documents establish lots, infrastructure, grading, and utilities.
   Understood
5. Preliminary Plat contains two sections of phase 1 B with master plan having one phase of 1 B for 76 lots. See engineering comment regarding phasing to match PUD master plan.
   Phase 1 breakdown has been revised to add a phase 1E
6. Comments on case 24-0137 (Final PUD Master Plan) may apply to this request. Please revise subdivision document accordingly.
   All comments are being applied to both documents as applicable.
7. Due to the complexity of this request, the item will be reviewed again by the Development Review Committee following resubmittal.
   Understood

Columbia Water

8. A water availability letter was issued on March 18, 2024, it remains valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All public water system improvements are subject

to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements.
Understood; thank you.

Maury County E911

9. Contact Maury County 911 for any road names to be reserved.
   Names were submitted via road name request form to Crystal Gideon on 4/17/24.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0138

DESCRIPTION: 765-lot single family development with accesses onto Old Zion and Trotwood Rds. Lots will be served by CPWS for water and power, and the City of Spring Hill for sewer. The Preliminary PUD was approved in April 2023 by Planning Commission and then subsequently by City Council in May and June 2023.

COMMENTS:

Columbia Water

1. A water availability letter was issued on March 18, 2024, it remains valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All public water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements.

Maury County E911

2. Contact Maury County 911 for any road names to be reserved.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0138

DESCRIPTION: 765-lot single family development with accesses onto Old Zion and Trotwood Rds. Lots will be served by CPWS for water and power, and the City of Spring Hill for sewer. The Preliminary PUD was approved in April 2023 by Planning Commission and then subsequently by City Council in May and June 2023.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he and City Planner Kevin McCarthy will jointly prepare the staff report for this item. Please contact abrass@columbiatn.com with question about the development review process or technical comments. At least one of the two planners working on this item should be copied on all communication with other city staff.
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal.
3. Please revise note on cover sheet to indicate that the City of Columbia will be providing sanitary sewer.
4. Please remove building elevations and other exhibits from the Preliminary Plat. The Final PUD Master Plan will establish bulk ad design standards for the development. The subdivision documents establish lots, infrastructure, grading, and utilities.
5. Preliminary Plat contains two sections of phase 1 B with master plan having one phase of 1 B for 76 lots. See engineering comment regarding phasing to match PUD master plan.
6. Comments from other reviewers (e.g. Engineering) on case 24-0137 (Final PUD Master Plan) may apply to this request. Please revise subdivision document accordingly.
7. Due to the complexity of this request, the item will be reviewed again by the Development Review Committee following resubmittal.

Wastewater

8. Minimum sanitary sewer easement width is 20ft. Easement width goes up to 30ft at 10ft+ depth. Note at lots 284 & 285, possibly elsewhere.

• Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Schools

20. Currently Woodard Elementary, Whitthorne Middle, Central High School *The number of homes will more than likely result in a portion or all of this neighborhood to eventually be zoned to Mt. Pleasant. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Columbia Water

21. "A water availability letter was issued on March 18, 2024, it remains valid for 120 days. The availability of capacity to serve is based on a determination by the Fire Marshal of fire flow requirements and the information submitted on the Water Service Availability Request application. Any off-site improvements detailed in the availability letter are the responsibility of the developer/owner. All public water system improvements are subject to the preparation and approval of detailed construction plans prepared in accordance with CPWS and Tennessee Department of Environment and Conservation requirements."

Atmos Energy

22. No comments provided.

Maury County E911

23. Contact Maury County 911 for any road names to be reserved.

Duck River Electric Membership Corp

24. No comments.

Maury County Highway Dept.

25. No comments provided.

CPWS BB

Plan to Serve.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity
Elementary	Baker	1960	43,920	12	340
	Battle Creek	2019	90,000	30	700
	Brown	1968	56,720	20	405
	Highland	1986	47,800	4.5	380
	Howell	1999	81,600	17.5	700
	Mt. Pleasant	1978	80,021	22	630
	Riverside	1984	71,150	14	500
	Spring Hill	1984	69,000	10	540
	Woodard	1990	76,200	17	600
	Wright	2005	97,765	18	740
					5535
Middle	Battle Creek	2019	125,000	45	900
	Cox	1997	137,200	25	900
	Mt. Pleasant	2001	113,938	29.2	550
	Spring Hill	2010	158,106	39.49	950
	Whitthorne	1979	175,600	17	1050
					4350
High	Central	2016	296,740	55	1700
	Mt. Pleasant	1969	110,759	31	600
	Spring Hill	1993	181,800	57	1200
					3500
Unit	Culleoka	1969	205,800	34	1020
	Hampshire	1978	83,410	13.12	500
	Santa Fe	1964	94,225	24	650
					2170
Other	Central Office	1960	15,400	1.5	
	College Hill	1958	42,211	2.26	
	Maintenance	1987	9,400	4.7	
	McDowell		46,165	7	
			2,509,930	**550.27**	**15555**

Current Enrollment	Capacity Used
320	94.1%
638	91.1%
366	90.4%
319	83.9%
595	85.0%
571	90.6%
402	80.4%
449	83.1%
565	94.2%
601	81.2%
4826	***87.2%***
732	81.3%
646	71.8%
415	75.5%
523	55.1%
980	93.3%
3296	***75.8%***
1372	80.7%
366	61.0%
1195	99.6%
2933	***83.8%***
873	85.6%
415	83.0%
512	78.8%
1800	***82.9%***
174	
13029	

GENERAL NOTES

1. BEARINGS SHOWN HEREON ARE BASED ON THE TENNESSEE COORDINATE SYSTEM OF 1983. GPS EQUIPMENT WAS USED TO DETERMINE THE POSITION OF TWO (2) CONTROL POINTS FOR THE SURVEYED PROPERTY TO ESTABLISH AS BASIS FOR BEARING FOR THE SURVEY.
2. TYPE OF GPS EQUIPMENT USED: TRIMBLE, MODEL R12, DUAL FREQUENCY RECEIVER. TYPE OF GPS SURVEY: TDOT NETWORK ADJUSTED REAL TIME KINEMATIC. THE AVERAGE POSITIONAL QUALITY IS 0.05'.
3. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONE "X", AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NO. 47119C0260E & 47119C0280E, WITH EFFECTIVE DATES OF APRIL 16, 2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NO. 470123 & 475423, PANEL NO. 0260 & 0280, SUFFIX E, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "X" UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
4. THIS SURVEYOR HAS NOT BEEN PROVIDED A ZONING REPORT OR LETTER FROM THE CLIENT OR THE CLIENT'S REPRESENTATIVE.
5. NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WERE FOUND AT THE TIME OF THIS SURVEY.
6. NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES OR OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WERE FOUND AT THE TIME OF THIS SURVEY.
7. THIS SURVEYOR HAS NOT BEEN FURNISHED WITH A COPY OF A TITLE COMMITMENT. THE SURVEYED PROPERTY IS, THEREFORE, SUBJECT TO THE FINDINGS OF A COMPLETE AND ACCURATE TITLE SEARCH.

PROPERTY MAP REFERENCE

BEING PARCEL NUMBERS 29.00, 29.05, AND 29.06 AS SHOWN ON MAURY COUNTY PROPERTY MAP NUMBER 111.

BEING PARCEL NUMBERS 9.00, 10.01, AND 10.07 AS SHOWN ON MAURY COUNTY PROPERTY MAP NUMBER 111.

PLAT REFERENCE (MAP 111, PARCEL 29.00)

BEING TRACT 4 AS SHOWN ON THE FINAL PLAT ENTITLED "ANNIE BARTON ARMSTRONG PARTNERSHIP (ASHWOOD DIVISION)" OF RECORD IN PLAT BOOK 11, PAGE 15, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

PLAT REFERENCE (MAP 111, PARCEL 29.05)

BEING PART OF TRACT 2 AS SHOWN ON THE FINAL PLAT ENTITLED "ANNIE BARTON ARMSTRONG PARTNERSHIP (ASHWOOD DIVISION)" OF RECORD IN PLAT BOOK 11, PAGE 15, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

PLAT REFERENCE (MAP 111, PARCEL 29.06)

BEING TRACT 3 AS SHOWN ON THE FINAL PLAT ENTITLED "ANNIE BARTON ARMSTRONG PARTNERSHIP (ASHWOOD DIVISION)" OF RECORD IN PLAT BOOK 11, PAGE 15, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

DEED REFERENCE (MAP 111, PARCEL 29.00)

BEING PART OF THE SAME PROPERTY CONVEYED TO SPENCE M. ARMSTRONG, TRUSTEE OF THE SPENCE M. ARMSTRONG TRUST OF APRIL 12, 1996 FROM SPENCE MCFALL ARMSTRONG BY QUITCLAIM DEED OF RECORD IN DEED BOOK R1983, PAGE 804, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

DEED REFERENCE (MAP 111, PARCEL 29.05)

BEING PART OF THE SAME PROPERTY CONVEYED TO ADALINE A. PASOUR FROM ANNIE BARTON ARMSTRONG PARTNERSHIP BY WARRANTY DEED OF RECORD IN DEED BOOK 1358, PAGE 833, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

DEED REFERENCE (MAP 111, PARCEL 29.06)

BEING THE SAME PROPERTY CONVEYED TO DANA C. MCLENDON, JR. FROM MARY HUSTON ARMSTRONG MCLENDON BY QUITCLAIM DEED OF RECORD IN DEED BOOK R2734, PAGE 1072, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

DEED REFERENCE (MAP 112, PARCEL 9.00)

BEING PART OF THE SAME PROPERTY CONVEYED TO DOBUAL SPRING CREEK PARTNERS FROM WILLIAM P. HALLIDAY, JR. BY QUITCLAIM DEED OF RECORD IN DEED BOOK 1239, PAGE 865, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

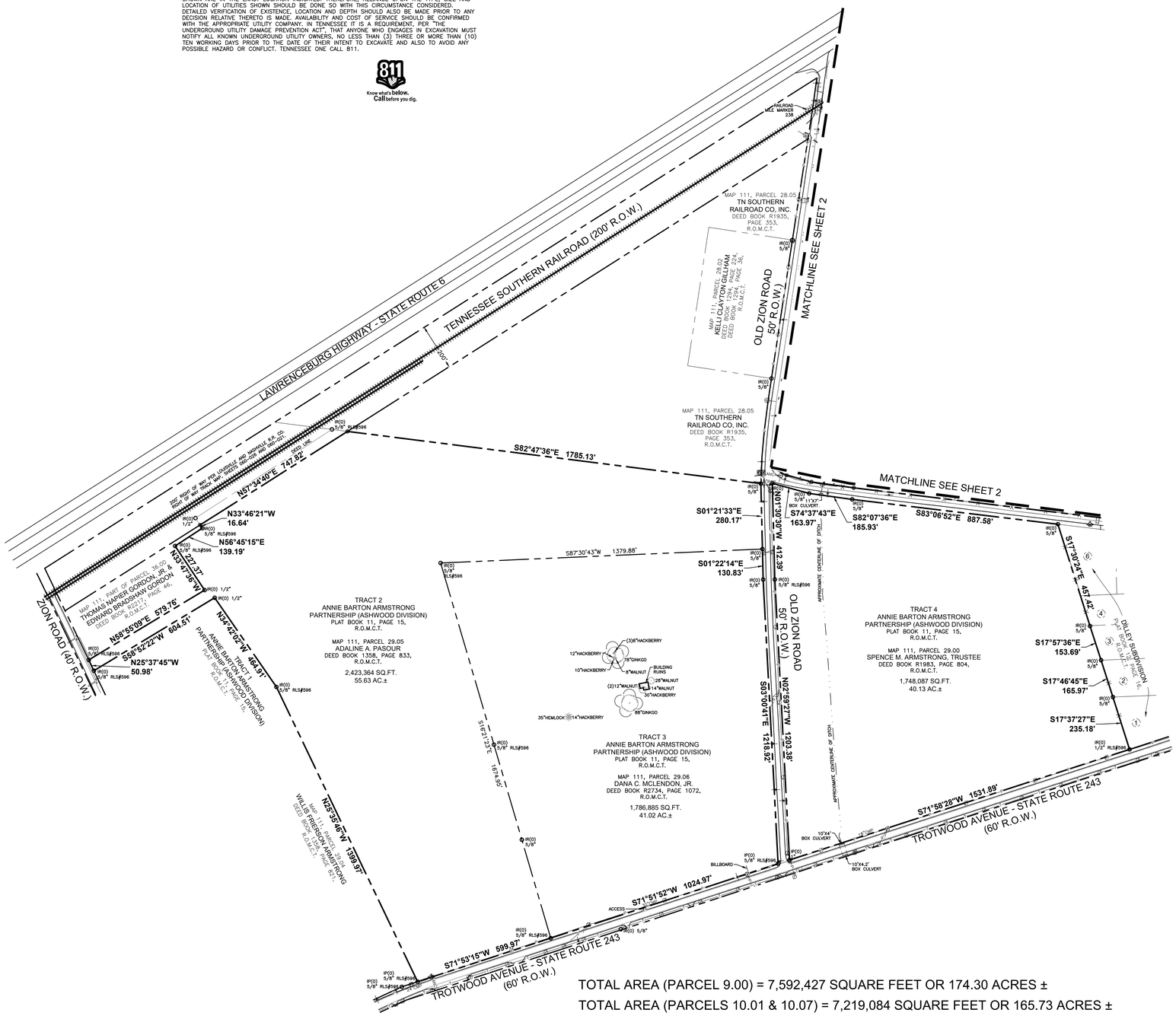
DEED REFERENCE (MAP 112, PARCELS 10.01 & 10.07)

BEING THE SAME PROPERTY CONVEYED TO OLD ZION, LLC FROM SUELLEN LEE BY WARRANTY DEED OF RECORD IN DEED BOOK R2600, PAGE 96, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE.

UTILITY NOTE

THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN (3) THREE OR MORE THAN (10) TEN WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL 811.

811 Know what's below. Call before you dig.



TOTAL AREA (PARCEL 9.00) = 7,592,427 SQUARE FEET OR 174.30 ACRES ±
TOTAL AREA (PARCELS 10.01 & 10.07) = 7,219,084 SQUARE FEET OR 165.73 ACRES ±
TOTAL AREA (PARCEL 29.00) = 1,748,087 SQUARE FEET OR 40.13 ACRES ±
TOTAL AREA (PARCEL 29.05) = 2,423,364 SQUARE FEET OR 55.63 ACRES ±
TOTAL AREA (PARCEL 29.06) = 1,786,885 SQUARE FEET OR 41.02 ACRES ±
TOTAL AREA (ALL PARCELS) = 20,769,847 SQUARE FEET OR 476.81 ACRES ±

0 200 400



LOCATION MAP
NTS

SURVEYOR'S STATEMENT

TO: ENCOMPASS LAND GROUP;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 6(B), 7(a), 8, 9, 11(B), 13, 14, 16, 17, AND 18, OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON OCTOBER 27, 2021.

I FURTHER CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH CHAPTER 0820-4, STANDARDS OF PRACTICE AS ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS, CONFORMS TO THE ACCURACY OF A CATEGORY I SURVEY AS DEFINED IN THE STANDARDS, AND THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY IS 1:80,051.

THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON OR ENTITY NAMED IN THIS CERTIFICATE AND DOES NOT EXTEND TO ANY UNNAMED PERSON OR ENTITY WITHOUT AN EXPRESS RE-CERTIFICATION BY THE SURVEYOR NAMING SAID PERSON OR ENTITY.

RAGAN-SMITH-ASSOCIATES, INC.

BY: _____
KEVIN L. BIRDWELL, TN. R.L.S. NO. 1797

RaganSmith

Nashville - Murfreesboro - Chattanooga
ragansmith.com

OLD ZION ROAD

FOR

ENCOMPASS LAND GROUP

OLD ZION ROAD, MAURY COUNTY, TENNESSEE

Scale: 1" = 200'

Date: PROJ_DATE

Approved By: KLB

Revisions:

- – –
- – –
- – –
- – –
- – –
- – –

Drawing Title:

ALTA/NSPS LAND TITLE SURVEY

Drawing No.

1 OF 2

Project No.

21-0244

P:\21-0244\1-SURVEY\ALTA\21-0244 ALTA.DWG
C:\Users\kbirdwell\Documents\21-0244 ALTA.DWG
LAST UPDATED BY KBIRDWELL ON 2/18/2022 11:30 AM

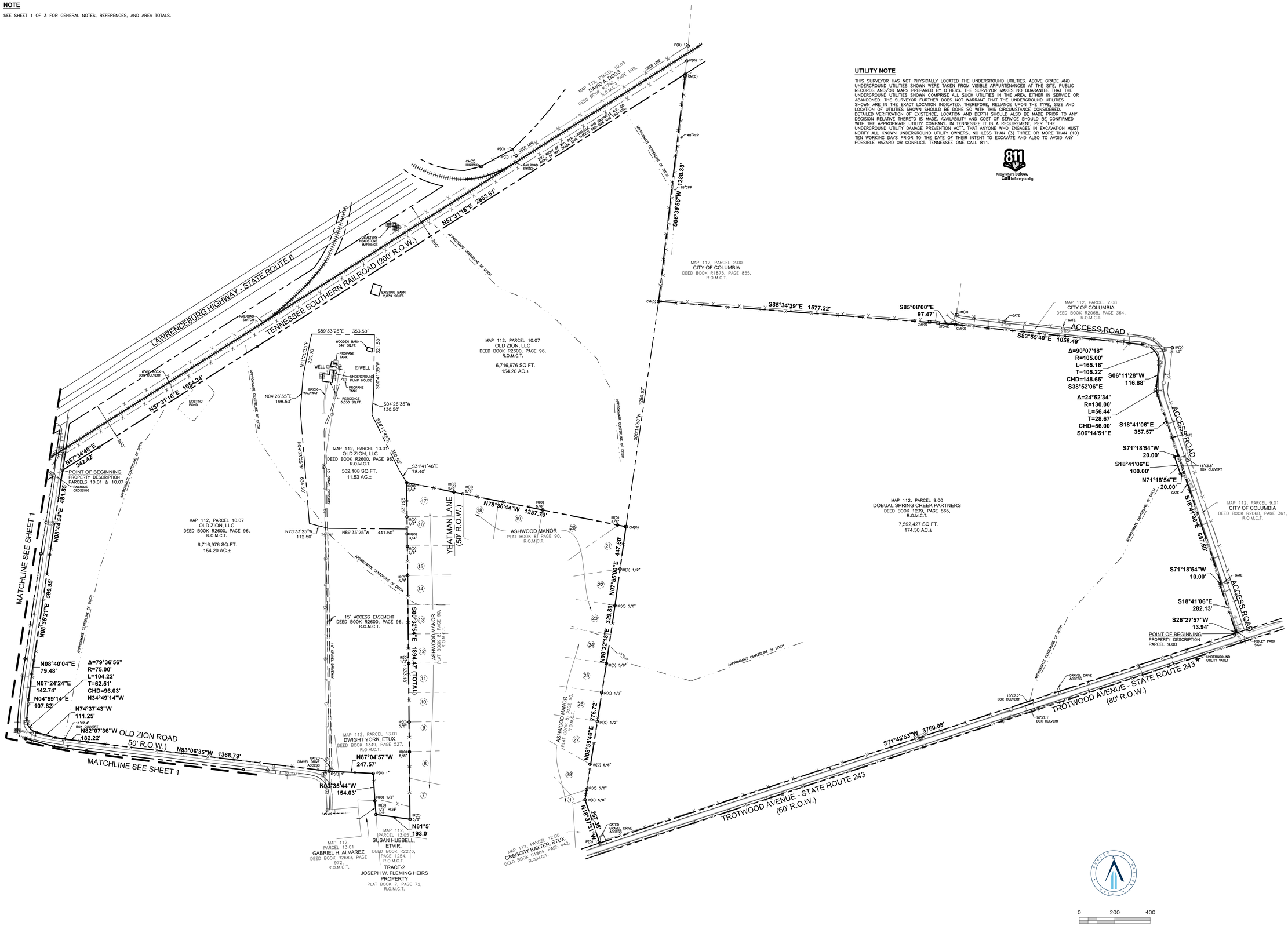
NOTE

SEE SHEET 1 OF 3 FOR GENERAL NOTES, REFERENCES, AND AREA TOTALS.

UTILITY NOTE

THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE IT IS A REQUIREMENT, PER THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN (3) THREE OR MORE THAN (10) TEN WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL 811.

811 Know what's below. Call before you dig.



RaganSmith

Nashville - Murfreesboro - Chattanooga
ragansmith.com

OLD ZION ROAD

FOR

ENCOMPASS LAND GROUP

OLD ZION ROAD, MAURY COUNTY, TENNESSEE

Scale: 1" = 200'

Date: PROJ_DATE

Approved By: KLB

Revisions:

- – –
- – –
- – –
- – –
- – –
- – –

Drawing Title:

ALTA/NSPS LAND TITLE SURVEY

Drawing No.

2 OF 2

Project No.

21-0244

P:\21-0244\A SURVEY\ALTA\21-0244 ALTA.DWG
LAST UPDATED BY KHUDSPETH ON 3/18/2022 11:30 AM

Columbia Fire & Rescue

Fire Flow Requirements

Water Purveyor: Columbia Power & Water System

Date: 01/08/24
Name: Kelsey Magee
Phone: 615-678-8212
Email: kelsey.magee@t2-eng.com
Address/Parcel ID: Old Zion Rd - Map 112, Parcels 2.03, 9.00, 10.01, and 10.07
Property Type: ○ Residential ◉ Commercial ○ Industrial
Construction Type: VB
Enclosed Area (ft²): <3,600

FILLED OUT BY COLUMBIA FIRE AND RESCUE

NFPA Sprinkler Type: NFPA 13

Water System Demand without Sprinkler Credit
Fire flow Requirements (International Fire Code Appendix B)

Fire Flow: 1,500 gpm Duration: 2 hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

Minimum number of hydrants: 1

Average spacing between hydrants: 500 ft.

Maximum distance from frontage to hydrant: 250 ft.

Water System Demand with Sprinkler Credit
Fire flow requirements (International Fire Code Appendix B)

Fire Flow: 1,000 gpm Duration: 2 hours

Fire Hydrant Location and Distribution (International Fire Code Appendix C)

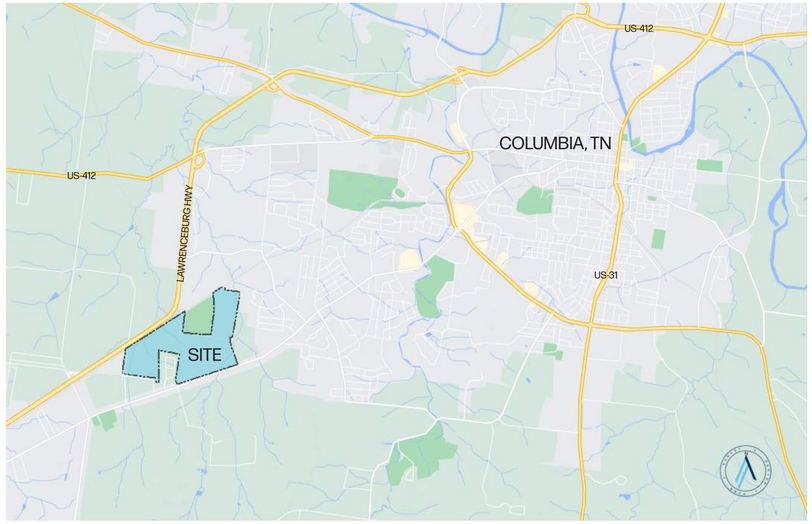
Minimum number of hydrants: 1

Average spacing between hydrants: 500 ft.

Maximum distance from frontage to hydrant: 250 ft.

Fire Plan Reviewer: Brad Massey Date: 1/10/2023







EXISTING HOME TO REMAIN

PRELIMINARY PUD PLANS
FOR
OLD ZION ROAD
FOR
ENCOMPASS LAND GROUP

DRAWING TITLE:
COVER SHEET

DRAWING NUMBER:
CVR

RaganSmith

CITY OF COLUMBIA, TN | MAURY COUNTY
21-0244 | 01/26/2022

CONTACTS

OWNER/ DEVELOPER
ANDREW ETHRIDGE, VICE PRESIDENT
Willow Branch Homes
1718 General George Patton Dr.
Brentwood, TN, 37027
(615) 499-9887
aethridge@elg-tn.com

CIVIL ENGINEERING
MARK MERRILL
RaganSmith
315 Woodland St
Nashville, TN 31206
(615) 244-8591
mmerrill@ragansmith.com

TRANSPORTATION ENGINEERING
BRANDON BAXTER, P.E.
RaganSmith
315 Woodland St
Nashville, TN 37206
(615) 244-8591
bbaxter@ragansmith.com

LAND PLANNING
JAY EASTER
RaganSmith
315 Woodland St
Nashville, TN 37206
(615) 244-8591
jeaster@ragansmith.com

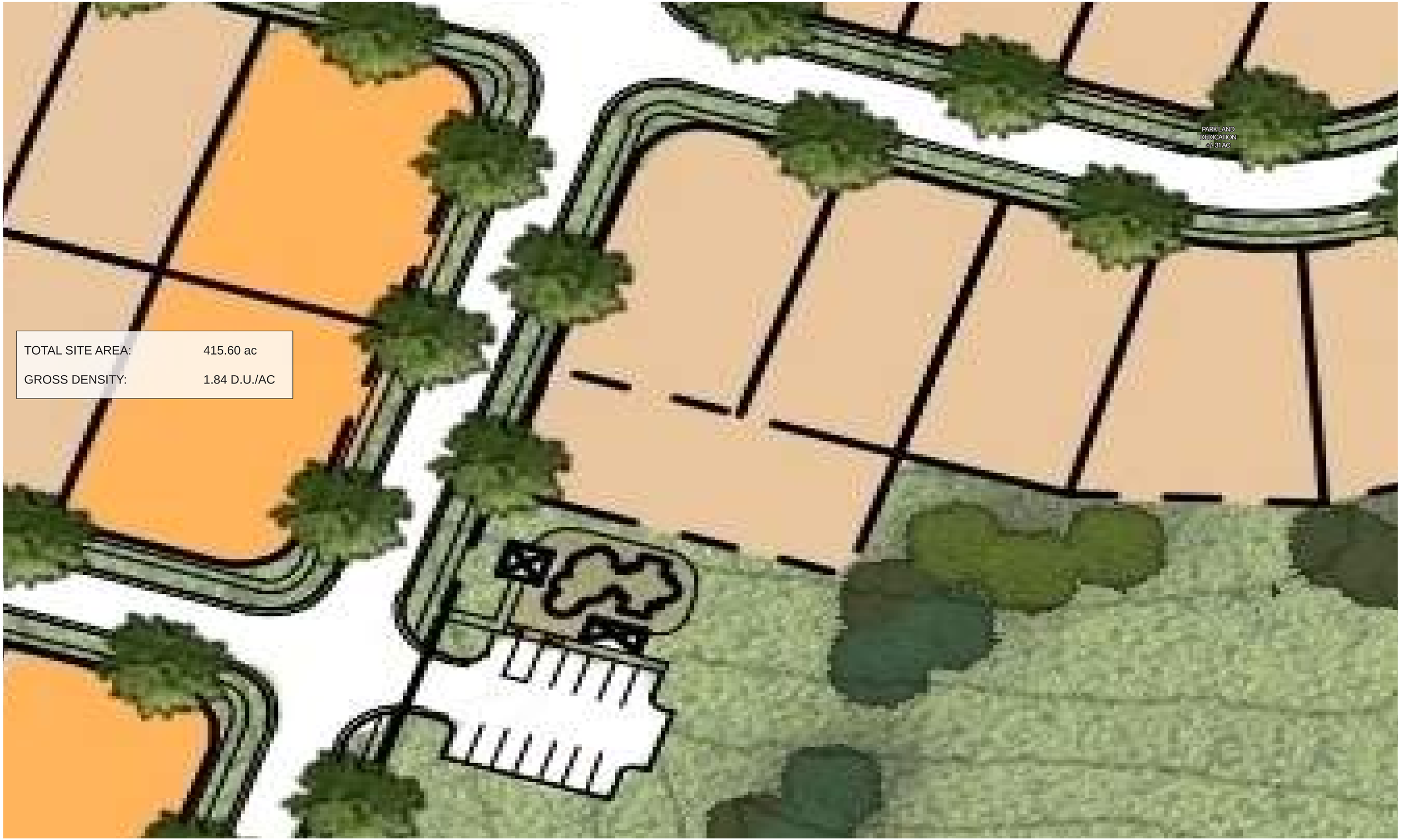
INDEX OF SHEETS

SHEET	DESCRIPTION
CVR	COVER SHEET
EXHIBITS	
1.0	PARCELS
2.0	LOCATION MAP
3.0	ANNEXATION EXHIBIT
4.0	LAND USE
5.0	REZONING EXHIBIT
6.0	OVERALL MASTERPLAN
7.0	OPEN SPACE AND PEDESTRIAN PLAN
8.0	OPEN SPACE - AMENITY PLAN A
9.0	OPEN SPACE - AMENITY PLAN B
10.0	BUFFER PLAN
11.0	LOT TYPICALS AND SETBACKS
12.0	TYPICAL ROADWAY CROSS-SECTIONS
13.0	MASTERPLAN ENLARGEMENT
14.0	MASTERPLAN ENLARGEMENT
15.0	MASTERPLAN ENLARGEMENT
16.0	MASTERPLAN ENLARGEMENT
17.0	MASTERPLAN ENLARGEMENT
ARCHITECTURAL IMAGERY & EXHIBITS	
A1	ARCHITECTURAL IMAGERY - SINGLE FAMILY
A2	ARCHITECTURAL IMAGERY - SINGLE FAMILY
A3	STREETSCAPE CHARACTER - 60' LOTS
A4	STREETSCAPE CHARACTER - 75' LOTS
E1	SPORTS LIGHTING PHOTOMETRIC IMPACT
SITE PLANS	
C0.0	EXISTING CONDITIONS
C1.0	OVERALL SITE PLAN
C1.1	SITE PLAN ENLARGEMENT
C1.2	SITE PLAN ENLARGEMENT
C1.3	SITE PLAN ENLARGEMENT
C1.4	SITE PLAN ENLARGEMENT
C1.5	SITE PLAN ENLARGEMENT
C2.1	GRADING PLAN
C2.2	GRADING PLAN
C2.3	GRADING PLAN
C2.4	GRADING PLAN

SITE DATA

SITE INFORMATION	
Project Name:	Old Zion Road PUD
Address:	6150 Trotwood Ave. Columbia, TN 38120
Map:	112
Parcels:	9.00, 10.01, 10.07, 2.03
TotalAcreage of Site:	**415.69 ac**
(total) Internal Right of Way Dedication:	55.98 ac
(total) Adjusted Site Acreage:	359.71 ac
(total) Area Within Lots	170.23 ac
Dedicated Open Space:	189.48 ac (+/- 45% of total site area)
Gross Density:	**1.84 D.U./ AC**
REGULATIONS	
Current Zoning:	A2 (Maury County)
Proposed Zoning:	PUD-R (RS6 base)
Unit Counts:	
Single Family Lots:	± 765 (one existing)

NOTE:
ALL CONNECTIONS TO EXISTING COUNTY ROADS AND ROW ARE SUBJECT TO THE APPLICABLE PERMITS, FEES, APPROVALS, AND STANDARDS/ SPECIFICATIONS SET FORTH BY THE MAURY COUNTY HIGHWAY DEPARTMENT



TOTAL SITE AREA:	415.60 ac
GROSS DENSITY:	1.84 D.U./AC

RaganSmith

OLD ZION ROAD
PRELIMINARY PUD MASTERPLAN

DRAWING TITLE: OVERALL MASTERPLAN

DRAWING NUMBER: 6.0

0 600 1200

SCALE = 1"=300'

CBU PARKING CALCULATIONS - MAIL KIOSK "A"

REQUIREMENT:
2 SPACES FOR FIRST 25 MAILBOXES + 1 SPACE FOR EVERY ADDITIONAL 25 MAILBOXES

MAILBOXES: 615
FIRST 25 MAILBOXES - 2 SPACES
590 REMAINING MAILBOXES/ 25 = 24

TOTAL REQUIRED: 286SPACES
PROVIDED: 49 SPACES MIN (SHARED WITH AMENITY)

AMENITY BREAKDOWN

PAVILION & RESTROOM:	+/- 1500 SF
POOL:	+/- 3500 SF WET AREA
PLAYGROUNDS:	+/- 4000 SF
DOG PARK:	+/- 8000 SF

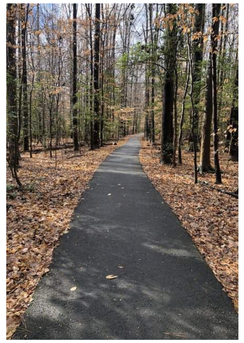
NOTE: AMENITY DRAWINGS ARE CONCEPTUAL AND SUBJECT TO MODIFICATION DURING DEVELOPMENT OF FINAL PUD PLANS. AMENITIES SHOWN WILL BE OF EQUAL OR GREATER SIZE AND QUALITY TO WHAT IS SHOWN.



POOL



PAVILION/ RESTROOM



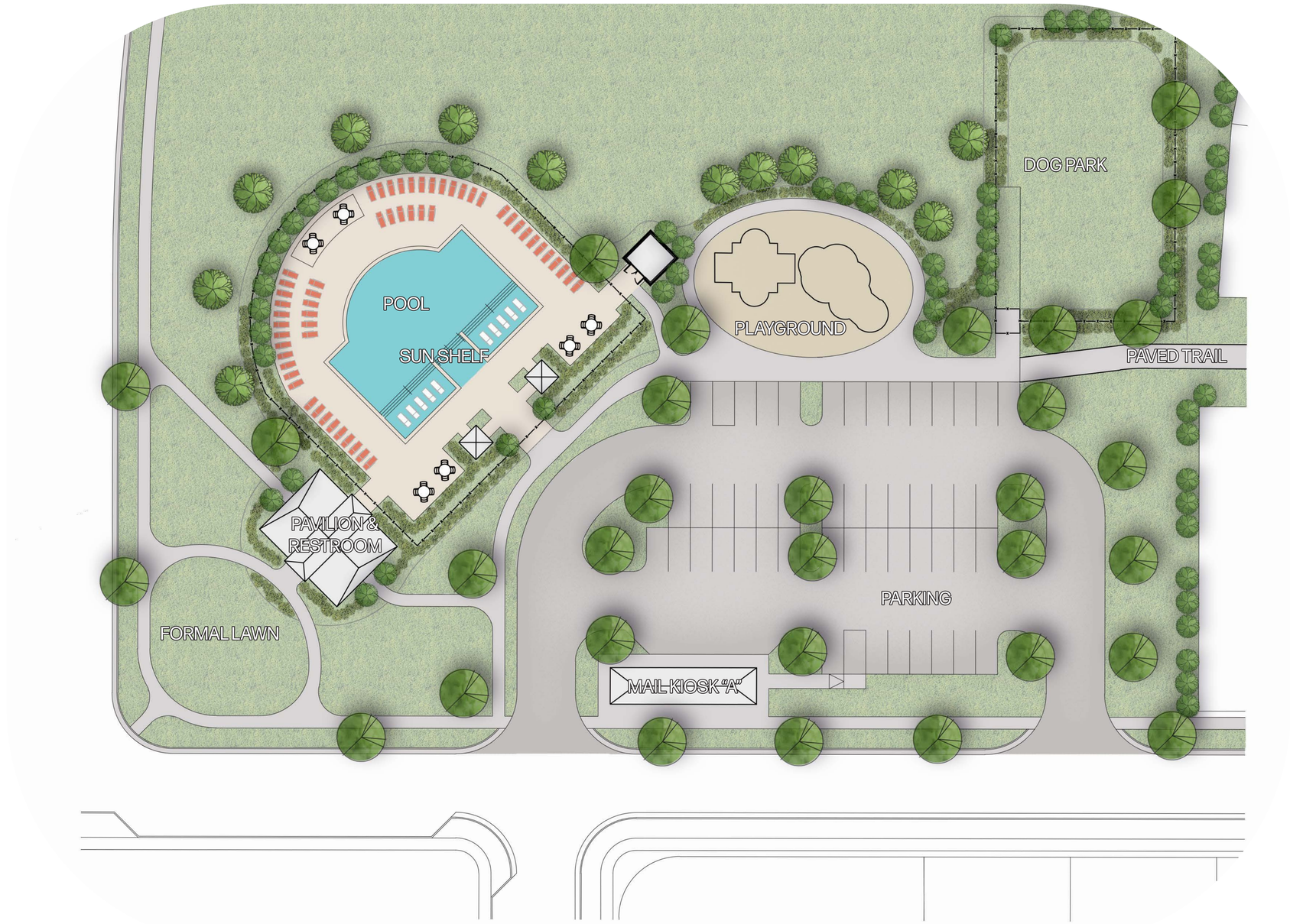
PAVED TRAIL



DOG PARK



PLAYGROUND



RaganSmith

OLD ZION ROAD
PRELIMINARY PUD MASTERPLAN

DRAWING TITLE: OPEN SPACE - AMENITY PLAN A

DRAWING NUMBER: 8.0

NOT TO SCALE

CBU PARKING CALCULATIONS - MAIL KIOSK "B"

REQUIREMENT:
2 SPACES FOR FIRST 25 MAILBOXES + 1 SPACE FOR EVERY ADDITIONAL 25 MAILBOXES

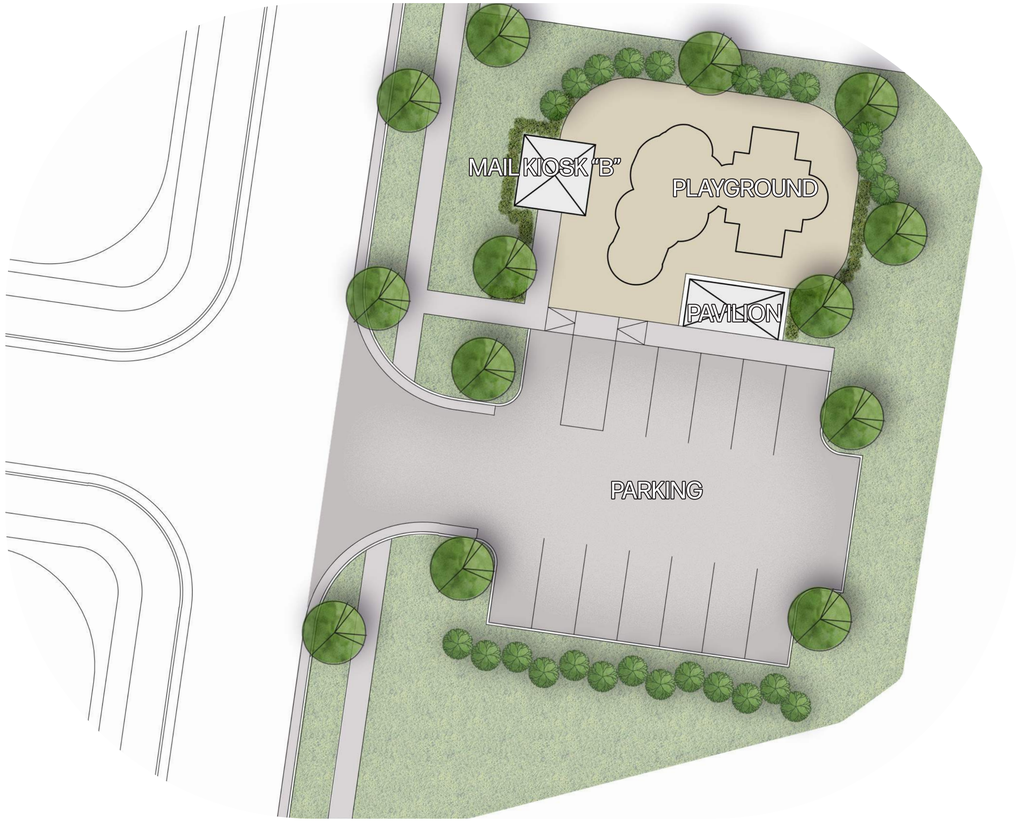
MAILBOXES: 150
FIRST 25 MAILBOXES - 2 SPACES
123 REMAINING MAILBOXES/ 25 = 5

TOTAL REQUIRED: 7 SPACES
PROVIDED: 13 SPACES MIN (SHARED WITH AMENITY)

AMENITY BREAKDOWN

PAVILION & RESTROOM:	+/- 200 SF
MAIL PAVILION:	+/- 225 SF MIN
PLAYGROUND:	+/- 2500 SF

NOTE: AMENITY DRAWINGS ARE CONCEPTUAL AND SUBJECT TO MODIFICATION DURING DEVELOPMENT OF FINAL PUD PLANS. AMENITIES SHOWN WILL BE OF EQUAL OR GREATER SIZE AND QUALITY TO WHAT IS SHOWN.





PAVILIONS



PLAYGROUND

RaganSmith

OLD ZION ROAD
PRELIMINARY PUD MASTERPLAN

DRAWING TITLE: OPEN SPACE - AMENITY PLAN B

DRAWING NUMBER: 9.0

NOT TO SCALE

Register Return to: 19-1-650
Land Title South, Inc.
3326 Aspen Grove Dr.
Suite 400
Franklin, TN 37067

PREPARED BY:
Land Title South, Inc.
3326 Aspen Grove Drive, Suite 400
Franklin, TN 37067

WARRANTY DEED

THIS INDENTURE is made and entered into this 6 day of December, 2019 by and between Suellen Lee, hereinafter referred to as GRANTOR, and Old Zion, LLC, a Tennessee limited liability company, hereinafter referred to as GRANTEE.

W I T N E S S E T H: That for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, the GRANTOR does hereby bargain, sell, transfer and convey unto the GRANTEES the following described property lying in City of Columbia, County of Maury, State of Tennessee, more particularly described as follows:

TRACT 1:

Being a tract of land located in the Eighth Civil District of Maury County, Tennessee, and being bounded on the south and west by Old Zion Road, north by US Highway 43, east by Campbell Ridley as shown on Map 112, parcel 2, Halliday as of record in Deed Book 435, page 176, and Ashwood Manor subdivision as of record in Plat Book 8, page 90, and on the south by Tract 2 of this Division, and being more particularly described as follows:

Beginning at a PK nail in the right of way of US Highway 43, the northwest corner of the herein described tract; thence with said right of way N 58 deg. 28' 38" E 2766.76 feet to a monument; thence with same N 61 deg. 11' 04" E 201.02 feet to a monument; thence with same S 29 deg. 18' 36" E 41.68 feet to an iron rod; thence with same N 58 deg. 04' 25" E 1147.92 feet to an iron rod; thence with Ridley as shown on Map 112, Parcel 2 S 6 deg. 23' 47" W 83.96 feet to an iron rod; thence with same S 7 deg. 08' W 1363.29 feet to an iron rod; thence with Halliday as of record in Deed Book 435, page 176 S 8 deg. 44' 22" W 1280.89 feet to a monument; thence with Ashwood Manor subdivision N 78 deg. 07' 10" W 1257.80 feet to an iron rod; thence with same S 0 deg. 03' 00" E 1894.67 feet to an iron rod; thence with Bobby G. Cockrell N 81 deg. 29' 47" W 193.61 feet to an iron rod; thence with Douglas A. Johnson N 3 deg. 19' 34" W 231.04 feet to an iron rod; thence with same N 86 deg. 34' 04" W 247.49 feet to an iron rod; thence with same S 1 deg. 53' 19" East 35.73 feet to a spike; thence with the center line of Old Zion Road N 81 deg. 31' 42" W 548.64 feet to a PK nail; thence with same N 82 deg. 52' 11" W 1198.24 feet to a PK nail; thence with same N 8 deg 16" 53" E 1774.30 feet to the beginning containing 183.85 acres more or less by survey of W.A. Richardson, Jr. (RLS #689), 403 Oakwood Drive, Columbia, TN 38401, February 3, 1993.

INCLUDED IN THE ABOVE DESCRIPTION BUT EXCLUDED FROM THE CONVEYANCE is the following described tract conveyed to Zene V. Jasaitis and wife, by deed of record in Book 567, page 702, Register's Office for Maury County, Tennessee. Point of beginning an iron pipe in Jones S.E. and Fleming's N.W. corner, follow their fence line S. 8 deg. 00 E. 283.8 feet to an iron pin in fence line; thence S 85 deg. 15' W 441.5 feet to an iron pipe near entrance road; thence crossing road N 80 deg. 45' W 112.5 feet to an iron pipe; thence, N 9 deg. 45' W 634.5 feet to an iron pipe; thence N 0 deg. 45' W 198.5 feet to an iron pipe; thence N 6 deg. 15' E 239.7 feet to an iron pipe; thence N 85 deg. 15' East 353.5 feet to an iron pipe; thence, S 4 deg. 30' E 321.5 feet to an iron pipe; thence S 0 deg. 45' E 130.5 feet to an iron pipe; thence S 39 deg. 45' W 350.5 feet to an iron pipe; thence S 34 deg. 15' W 78.4 feet to an iron pipe, containing by survey 10.806 acres more or less, said survey by Lewis Hayes dated July 8, 1974.

Being the same property conveyed to Suellen Lee by Warranty Deed from James H. Jones, Jr. and wife, Mrs. Louise Epps Jones, dated February 12, 1993, recorded February 12, 1993, of record in Book 1172, page 906, Register's Office for Maury County, Tennessee.

TRACT 2:

Located in the Eighth (8th) Civil District of Maury County, Tennessee, described as follows:

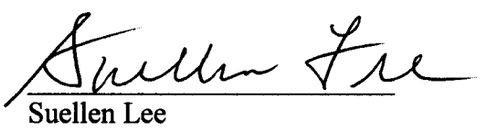
Point of beginning an iron pipe in Jones S.E. and Fleming's N.W. corner, follow their fence line S. 8 deg. 00' E. 283.8 feet to an iron pin in fence line; thence S 85 deg. 15' W 441.5 feet to an iron pipe near entrance road; thence crossing road N 80 deg. 45' W 112.5 feet to an iron pipe; thence, N 9 deg. 45' W 634.5 feet to an iron pipe; thence N 0 deg. 45' W 198.5 feet to an iron pipe; thence N 6 deg. 15' E 239.7 feet to an iron pipe; thence N 85 deg. 15' East 353.5 feet to an iron pipe; thence, S 4 deg. 30' E 321.5 feet to an iron pipe; thence S 0 deg. 45' E 130.5 feet to an iron pipe; thence S 39 deg. 45' W 350.5 feet to an iron pipe; thence S 34 deg. 15' W 78.4 feet to an iron pipe, containing by survey 10.806 acres more or less, said survey by Lewis Hayes dated July 8, 1974. Also conveyed is a permanant easement along and over the driveway now connecting said property to the county road, said easement not to exceed 15 feet in width.

Being the same property conveyed to Suellen Lee by Deed from Zene V. Jasaitis and Celestia Jasaitis, individually and as Co-Trustees of the Zene V. and Celestia Jasaitis Living trust, under the Declaration of Trust dated November 17, 1982, deed dated July 3, 1992, recorded July 8, 1992, of record in Book 1153, page 440, Register's Office for Maury County, Tennessee.

This is [X]improved [ ]unimproved property known as: 6432 Old Zion Road, Columbia, TN 38401

TO HAVE AND TO HOLD said land with the appurtenances, hereditaments, estate, title and interest unto GRANTEE, GRANTEE'S heirs, successors and assigns forever. The GRANTOR does covenant and agree with the said GRANTEE that GRANTOR is lawfully seized and possessed of the said real estate and that GRANTOR has a good and lawful right to sell the same. The GRANTOR further covenants that the same is unencumbered except as otherwise set forth herein, and that the title and quiet possession thereto GRANTOR will forever warrant and defend against the lawful claims of all persons whomsoever.

WITNESS MY HAND on the day and year first above written.



Suellen Lee

INDIVIDUAL
STATE OF TENNESSEE
COUNTY OF Maury

Personally appeared before me, a Notary Public of said county and state, Suellen Lee, to me known to be the person(s) described in and who executed the foregoing instrument, and acknowledged that such person(s) executed the same as such person's free act and deed.

Witness my hand, at office, this 6 day of December, 2019.

Notary Public

My Commission Expires: 6-10-23

M. TODD JACKSON
STATE OF TENNESSEE NOTARY PUBLIC
WILLIAMSON COUNTY
My Commission Expires 06-10-2023

Name and Address of Property Owner:
Old Zion, LLC
121 First Ave South, Ste 220
Franklin, TN 37064

Send Tax Statements to:
Old Zion, LLC
121 First Ave South, Ste 220
Franklin, TN 37064

Map & Parcel:112 010.01 & 112 010.07

AFFIDAVIT OF VALUE

STATE OF TENNESSEE
COUNTY OF Maury

I hereby swear or affirm that the actual consideration for this transfer, or value of the property or interest in property transferred, whichever is greater is $1,250,000.00 which amount is equal to, or greater than, the amount which the property, or interest in property transferred, would command at a fair and voluntary sale.

Affiant

Sworn to and subscribed before me, a Notary Public, this 6 day of December, 2019.

Notary Public

My Commission Expires: 6-10-23

M. TODD JACKSON
STATE OF TENNESSEE NOTARY PUBLIC
WILLIAMSON COUNTY
My Commission Expires 06-10-2023

RETURN TO:

Land Title South, Inc.
3326 Aspen Grove Drive, Suite 400
Franklin, TN 37067
19-1-656

BK/PG: R2600/96-98
19019275

3 PGS:AL-WARRANTY DEED	
NANCY BATCH: 222161	12/09/2019 - 09:45 AM
VALUE	1250000.00
MORTGAGE TAX	0.00
TRANSFER TAX	4625.00
RECORDING FEE	15.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	4643.00

STATE OF TENNESSEE, MAURY COUNTY
Book R2600 Page 98
REGISTER OF DEEDS

WARRANTY DEED	STATE OF TENNESSEE COUNTY OF Williamson THE ACTUAL CONSIDERATION OR VALUE, WHICHEVER IS GREATER, FOR THIS TRANSFER IS $1,500,000.00. Affiant SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE 14TH DAY OF AUGUST, 2023. Notary Public MY COMMISSION EXPIRES: _____ (AFFIX SEAL)

PATRICIA D. CAVITT
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY
My Commission Expires 03-03-2026

THIS INSTRUMENT WAS PREPARED BY
Foundation Title & Escrow Series, LLC, 277 Mallory Station Road, Suite 102, Franklin, TN 37067

ADDRESS NEW OWNER(S) AS FOLLOWS:	SEND TAX BILLS TO:	MAP-PARCEL NO.(S)
Old Zion, LLC	New Owner	112 002.03
(NAME) 121 1st Avenue South	(NAME)	
(ADDRESS) Franklin, TN 37064	(ADDRESS)	
(CITY) (STATE) (ZIP)	(CITY) (STATE) (ZIP)	

For and in consideration of the sum of Ten and No/100 Dollars ($10.00), cash in hand paid by the hereinafter named Grantees, and other good and valuable considerations, the receipt of which is hereby acknowledged, I/WE, **William P. Ridley and Charlotte M. Ridley, Trustees of William P. Ridley Revocable Trust UAD August 19, 2011 as amended November 12, 2020 and Eunice Ridley Colmore**, hereinafter called the Grantor, has bargained and sold, and by these presents does transfer and convey unto **Old Zion, LLC, a Tennessee Limited Liability Company**, hereinafter called the Grantees, their heirs and assigns, a certain tract or parcel of land in Maury County, State of Tennessee, described as follows, to-wit:

A certain parcel of tract of land in Maury County, State of Tennessee, described as follows:

BEING BOUNDED ON THE NORTH BY WELTON INVESTMENTS LLC OF RECORD IN DEED BOOK R2077, PAGE 1007, AND BY CSX TRANSPORTATION AND TENNESSEE SOUTHERN RAILROAD SHORTLINE PARTNER (200' RIGHT-OF-WAY WIDTH), ON THE EAST BY WESTFIELD ESTATES SECTION 3 OF RECORD IN PLAT BOOK 7, PAGE 224, R.O.M.C.T., KCS PROPERTY LLC OF RECORD IN DEED BOOK R2706, PAGE 1040, R.O.M.C.T., THE SAME BEING THE WESTERLY LINE OF OPEN SPACE A-1 AS SHOWN ON THE FINAL PLAT ENTITLED "MORGAN MEADOWS PHASE 1" OF RECORD IN PLAT BOOK P22, PAGE 478, R.O.M.C.T. AND THE WESTERLY LINE OF OPEN SPACE A-2 AS SHOWN ON THE FINAL PLAT ENTITLED "MORGAN MEADOWS PHASE 2" OF RECORD IN PLAT BOOK P23, PAGE 30, R.O.M.C.T., ON THE SOUTH BY JOHN R. NEAL OF RECORD IN DEED BOOK R2018, PAGE 400, R.O.M.C.T., AND BY THE CITY OF COLUMBIA (RIDLEY PARK ROAD) OF RECORD IN DEED BOOK R2068, PAGE 364, R.O.M.C.T., ON THE WEST BY THE CITY OF COLUMBIA OF RECORD IN DEED BOOK R1875, PAGE 855, R.O.M.C.T. BEING DESCRIBED ACCORDING TO A SURVEY PREPARED

BY KEVIN L. BIRDWELL, RLS #1797 WHOSE ADDRESS IS RAGAN-SMITH ASSOCIATES, 315 WOODLAND STREET, NASHVILLE, TENNESSEE 37206, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A FOUND 5" X 8" STONE, SAID STONE BEING THE SOUTHWEST CORNER OF SAID OPEN SPACE A-2 ON SAID FINAL PLAT ENTITLED "MORGAN MEADOWS PHASE 2", AND IN THE NORTH LINE OF SAID JOHN R. NEAL PROPERTY, AND BEING THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND AND PROCEEDING AS FOLLOWS:

THENCE, WITH THE NORTH LINE OF JOHN R. NEAL THE FOLLOWING THREE CALLS (1 THROUGH 3)

1. NORTH 84 DEGREES 08 MINUTES 53 SECONDS WEST, 59.63 FEET TO A 1-1/2" IRON PIPE (OLD),
2. SOUTH 27 DEGREES 39 MINUTES 07 SECONDS WEST, 4.82 FEET TO A 1/2" IRON ROD (NEW) WITH CAP STAMPED "RAGAN SMITH ASSOC" (TYPICAL);
3. NORTH 84 DEGREES 46 MINUTES 53 SECONDS WEST, 50.22 FEET TO AN IRON ROD (NEW) IN THE EAST LINE OF SAID CITY OF COLUMBIA PROPERTY;

THENCE WITH THE NORTHERLY LINE OF SAID CITY OF COLUMBIA (RIDLEY PARK ROAD), THE FOLLOWING TWO CALLS (1 AND 2):

1. ALONG THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 155.00 FEET, AN ARC LENGTH OF 135.15 FEET, A DELTA ANGLE OF 49 DEGREES 57 MINUTES 34 SECONDS, HAVING A CHORD BEARING AND DISTANCE OF NORTH 58 DEGREES 58 MINUTES 30 SECONDS WEST, 130.91 FEET TO AN IRON ROD (NEW);
2. NORTH 83 DEGREES 41 MINUTES 30 SECONDS WEST, 1055.12 FEET TO A CONCRETE MONUMENT (OLD) IN THE EASTERLY LINE OF SAID CITY OF COLUMBIA PROPERTY AND THE SOUTHWEST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND;

THENCE, WITH SAID EASTERLY LINE THE FOLLOWING TWO CALLS (1 AND 2):

1. NORTH 07 DEGREES 19 MINUTES 21 SECONDS EAST, 1463.36 FEET TO A CONCRETE MONUMENT (OLD);
2. NORTH 03 DEGREES 54 MINUTES 07 SECONDS WEST, 943.41 FEET TO A CONCRETE MONUMENT (OLD) IN THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID RAILROAD;

THENCE, WITH SAID SOUTHERLY RIGHT-OF-WAY OF SAID RAILROAD, NORTH 57 DEGREES 33 MINUTES 05 SECONDS EAST, 817.31 FEET TO AN IRON ROD (NEW), SAID IRON ROD BEING THE MOST NORHTERLY CORNER OF THE HEREIN DESCRIBED TRACT OF LAND;

THENCE, LEAVING SAID SOUTHERLY RIGHT-OF-WAY LINE OF SAID RAILROAD WITH THE WEST AND SOUTH LINE OF SAID WELTON INVESTMENTS LLC, THE FOLLOWING TWO (2) CALLS;

1. SOUTH 05 DEGREES 47 MINUTES 30 SECONDS WEST 236.81 FEET TO A 3/4" IRON PIPE (OLD);
2. SOUTH 83 DEGREES 25 MINUTES 37 SECONDS EAST 945.93 FEET TO A 3/4" IRON PIPE (OLD) AT THE NORTHWEST CORNER OF SAID WESTFIELD ESTATES;

THENCE, WITH WESTERLY LINE OF SAID WESTFIELD ESTATES AND SAID KCS PROPERTY LLC THE FOLLOWING THREE CALLS (1 THROUGH 3):

1. SOUTH 09 DEGREES 22 MINUTES 15 SECONDS WEST, 1128.93 FEET TO A 1" IRON PIPE (OLD);
2. SOUTH 10 DEGREES 41 MINUTES 37 SECONDS WEST, 666.07 FEET TO A 1" IRON PIPE (OLD);
3. SOUTH 09 DEGREES 14 MINUTES 47 SECONDS WEST, 920.67 FEET TO THE **POINT OF BEGINNING** HAVING AN AREA OF 3,710,585 SQUARE FEET OR 85.18 ACRES, MORE OR LESS.

Being the same property conveyed to William P. Ridley, III, and Eunice Ridley Colmore, by Quitclaim Deed from First Farmers & Merchants Bank, Trustee of the William P. Ridley Trust A & B, and Executor of the Estate of Eunice Ridley, dated July 21, 2008, filed of record on July 22, 2008, of record in Book R2046, Page 429, Register's Office for Maury County, Tennessee.

Being also the same property conveyed to William P. Ridley and Charlotte R. Ridley, Trustees of the William P. Ridley Revocable Trust dated August 19, 2011, by Quitclaim Deed from William P. Ridley, III, dated August 30, 2011, filed of record on October 4, 2011, of record in Book R2165, Page 239, Register's Office for Maury County, Tennessee.

This conveyance is subject to (a) all restrictions of record; (b) all easements of record; (c) all visible easements; (d) all matters appearing on the plan(s) of record; and (e) all matters referenced in the master deed and by-laws; and (f) all applicable government and zoning regulations.

unimproved ☒

This is improved ☐ property, known as N of Trotwood Avenue, Columbia, TN 38401

To have and to hold the said tract or parcel of land, with the appurtenances, estate, title and interest thereto belonging to the said Grantees, their heirs and assigns forever; and we do covenant with the said Grantees that we are lawfully seized and possessed of said land in fee simple, have a good right to convey it and the same is unencumbered, unless otherwise herein set out; and we do further covenant and bind ourselves, our heirs and representatives, to warrant and forever defend the title to the said land to the said Grantees, their heirs and assigns, against the lawful claims of all persons whomsoever. Wherever used, the singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

[SIGNATURES ON FOLLOWING PAGES]

Witness our hands this 11 day of August, 2023.

William P. Ridley Revocable Trust UAD August 19, 2011
as amended November 12, 2020

BY: William P. Ridley, Trustee
William P. Ridley, Trustee

BY: Charlotte M. Ridley, Trustee
Charlotte M. Ridley, Trustee

STATE OF MO

COUNTY OF St. Louis

Before me, the undersigned, a Notary Public of the State and County aforesaid, personally appeared William P. Ridley and Charlotte M. Ridley with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who, upon oath, acknowledged themselves to be the Trustees and are authorized to execute the instrument on behalf of William P. Ridley Revocable Trust UAD August 19, 2011, as amended November 12, 2020, the within named bargainor, and that they as such Trustees, executed the foregoing instrument for the purposes therein contained, by signing the name of the Trust by themselves as Trustees.

Witness my hand and official seal, this the 11 day of August, 2023.

Notary Public

My Commission Expires: 8-8-24

NOTARY (SEAL) PUBLIC NOTARY SEAL STATE OF MISSOURI

NICK A CORRENTI
My Commission Expires
August 8, 2024
St. Louis County
Commission #16724195

Eunice Ridley Colmore

Eunice Ridley Colmore

STATE OF Montana

COUNTY OF Park

Personally appeared before me, the undersigned authority, a Notary Public in and for the said County and State, the within-named Eunice Ridley Colmore, the bargainor(s), with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the within instrument for the purposes therein contained.

WITNESS my hand and official seal of office, this 10 day of August, 2023.

Anna S Smith

Notary Public

My Commission Expires: March 7 2025

(SEAL)

ANNA S SMITH
Notary Public
for the State of Montana
Residing at:
Livingston, Montana
My Commission Expires:
March 7, 2025

BK/PG: R2939/1340-1344

23011336

5 PGS:AL-WARRANTY DEED	
BECKY BATCH: 310189	08/15/2023 - 09:30 AM
VALUE	1500000.00
MORTGAGE TAX	0.00
TRANSFER TAX	5550.00
RECORDING FEE	25.00
ARCHIVE FEE	0.00
DP FEE	2.00
REGISTER'S FEE	1.00
TOTAL AMOUNT	5578.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

****This Quitclaim Deed was prepared from information furnished from the Grantor****

PREPARED BY:
Phoenix Title Services, LLC
121 First Avenue South, Suite 200
Franklin, TN 37064

STATE OF TN
COUNTY OF Williamson

ADDRESS OF NEW OWNER:
Old Zion, LLC
121 First Ave. S, Suite 220
Franklin, TN 37064

The actual consideration for this transfer is **$0.00.**

AFFIANT

SEND TAX BILLS TO:
SAME

Subscribed and sworn to before me this 6 day of September, 2023.

NOTARY PUBLIC
My Commission Expires: 1-21-26

Map/Parcel:
112009.00 000
112009.00-001

File # 2022-0183

QUITCLAIM DEED

KNOW ALL PERSONS BY THESE PRESENTS that for the sum of Ten and No/100 ($10.00) Dollars, cash in hand paid, **DOBUAL SPRING CREEK PARTNERS, A TENNESSEE GENERAL PARTNERSHIP**, hereinafter called the Grantor, hereby remises, releases and quitclaims unto **OLD ZION, LLC, A TENNESSEE LIMITED LIABILITY COMPANY,** hereinafter called the Grantee, all of the Grantor's interests in and to the real property in the State of Tennessee more particularly described on **Exhibit "A"** attached hereto and incorporated herein by reference.

Said property is quitclaimed subject to such limitations, restrictions and encumbrances as may affect the premises.

Grantor makes no warranties as to the state of the title to the property but acquits any claim that Grantor has to said property and for that purpose thereof, makes this conveyance to Grantee.

WITNESS our hands this 1ST day of September, 2023.

SIGNATURE PAGES TO FOLLOW

GRANTOR:

DOBUAL SPRING CREEK PARTNERS, a Tennessee general partnership

By: _____
Name: William P. Halliday III
Title: General Partner

STATE OF TENNESSEE)
COUNTY OF Shelby)

Before me, the undersigned, a Notary Public in and for the County and State aforesaid, personally appeared William P. Halliday III, with whom I am personally acquainted, (or proved to me on the basis of satisfactory evidence), and who upon oath acknowledged himself to be a general partner of Dobual Spring Creek Partners, the within named bargainor, a general partnership, and that he, as such general partner being authorized so to do, executed the foregoing instrument for the purposes therein contained.

Witness my hand and seal, at office in Shelby County Tennessee, this the 1st day of September 2023.

_____
Notary Public

My Commission Expires: 2/2/24

ASHLEY M. BURROW
STATE OF TENNESSEE NOTARY PUBLIC
SHELBY COUNTY

By: Dorothy Butler
Name: Dorothy Butler
Title: General Partner

STATE OF ~~TENNESSEE~~ New Jersey)
COUNTY OF Union)

Before me, the undersigned, a Notary Public in and for the County and State aforesaid, personally appeared Dorothy Butler, with whom I am personally acquainted, (or proved to me on the basis of satisfactory evidence), and who upon oath acknowledged herself to be a general partner of Dobual Spring Creek Partners, the within named bargainor, a general partnership, and that she, as such general partner being authorized so to do, executed the foregoing instrument for the purposes therein contained.

Witness my hand and seal, at office in Summit, NJ, this the 1st day of September, 2023.

Notary Public

My Commission Expires:

PAULINA F JIMENEZ LEON
Notary Public
State of New Jersey
My Commission Expires Oct. 1, 2023
I.D.# 2458375

By: Allen Halliday
Name: Allen Halliday
Title: General Partner

STATE OF TENNESSEE)
COUNTY OF Shelby)

Before me, the undersigned, a Notary Public in and for the County and State aforesaid, personally appeared Allen Halliday, with whom I am personally acquainted, (or proved to me on the basis of satisfactory evidence), and who upon oath acknowledged himself to be a general partner of Dobual Spring Creek Partners, the within named bargainor, a general partnership, and that he, as such general partner being authorized so to do, executed the foregoing instrument for the purposes therein contained.

Witness my hand and seal, at office in Shelby County, Tennessee this the 1st day of September 2023.

Ashley M Burrow
Notary Public

My Commission Expires: 2/2/26

ASHLEY M. BURROW
STATE OF TENNESSEE NOTARY PUBLIC
SHELBY COUNTY

By: Eleanor Halliday
Name: Eleanor Halliday
Title: General Partner

STATE OF TENNESSEE)
COUNTY OF Shelby)

Before me, the undersigned, a Notary Public in and for the County and State aforesaid, personally appeared Eleanor Halliday, with whom I am personally acquainted, (or proved to me on the basis of satisfactory evidence), and who upon oath acknowledged herself to be a general partner of Dobual Spring Creek Partners, the within named bargainor, a general partnership, and that she, as such general partner being authorized so to do, executed the foregoing instrument for the purposes therein contained.

Witness my hand and seal, at office in Shelby County, Tennessee this the 1st day of September 2023.

Ashley M Burrow
Notary Public

My Commission Expires: 2/2/26

ASHLEY M. BURROW
STATE OF TENNESSEE
NOTARY PUBLIC
SHELBY COUNTY

EXHIBIT "A"

BEING A CERTAIN TRACT OF LAND LOCATED IN THE 9TH CIVIL DISTRICT OF MAURY COUNTY, TENNESSEE. BEING PART OF THE SAME PROPERTY DEEDED TO DOBUAL SPRING CREEK PARTNERS OF RECORD IN DEED BOOK 1239, PAGE 865, REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE (R.O.M.C.T.). BEING BOUNDED ON THE NORTH AND EAST BY CITY OF COLUMBIA OF RECORD IN DEED BOOK R1875, PAGE 855, DEED BOOK R2068, PAGE 364, AND DEED BOOK R2068, PAGE 361, R.O.M.C.T., ON THE SOUTH BY TROTWOOD AVENUE – STATE ROUTE 243 (60' RIGHT OF WAY WIDTH), ON THE WEST BY GREGORY BAXTER, ETUX. OF RECORD IN DEED BOOK R1884, PAGE 442, R.O.M.C.T., LOTS 1 AND LOTS 21-28 AS SHOWN ON THE FINAL PLAT ENTITLED "ASHWOOD MANOR" OF RECORD IN PLAT BOOK 8, PAGE 90, R.O.M.C.T., AND OLD ZION, LLC OF RECORD IN DEED BOOK R2600, PAGE 96, R.O.M.C.T. BEING DESCRIBED ACCORDING TO A SURVEY PREPARED BY KEVIN L. BIRDWELL, RLS #1797 WHOSE ADDRESS IS RAGAN-SMITH ASSOCIATES, 315 WOODLAND STREET, NASHVILLE, TENNESSEE 37206, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2" IRON ROD (NEW) WITH A PLASTIC CAP STAMPED "RAGAN-SMITH ASSOCIATES" (TYPICAL) IN THE NORTHERLY RIGHT OF WAY OF TROTWOOD AVENUE – STATE ROUTE 243, SAID IRON ROD BEING THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND AND PROCEEDING AS FOLLOWS:

THENCE, WITH THE NORTHERLY RIGHT OF WAY OF TROTWOOD AVENUE – STATE ROUTE 243, SOUTH 71 DEGREES 43 MINUTES 53 SECONDS WEST, 3760.08 FEET TO A 1" IRON PIPE (OLD) AT THE SOUTHEAST CORNER OF SAID BAXTER PROPERTY;

THENCE, WITH THE EAST LINE OF SAID BAXTER PROPERTY, NORTH 18 DEGREES 37 MINUTES 31 SECONDS WEST, 257.38 FEET TO A 5/8" IRON ROD (OLD) AT THE COMMON CORNER OF SAID BAXTER AND LOT 1;

THENCE, WITH THE EASTERLY LINES OF LOT 1 AND LOTS 21-28 THE FOLLOWING THREE CALLS (1 THROUGH 3):

1. NORTH 08 DEGREES 55 MINUTES 46 SECONDS EAST, 775.72 FEET TO A 5/8" IRON ROD (OLD);
2. NORTH 08 DEGREES 22 MINUTES 18 SECONDS EAST, 329.80 FEET TO A 5/8" IRON ROD (OLD);
3. NORTH 07 DEGREES 55 MINUTES 00 SECONDS EAST, 447.60 FEET TO A CONCRETE MONUMENT (OLD) AT A SOUTHEAST CORNER OF OLD ZION, LLC PROPERTY;

THENCE, WITH AN EASTERLY LINE OF SAID OLD ZION, LLC PROPERTY, NORTH 08 DEGREES 14 MINUTES 58 SECONDS EAST, 1280.67 FEET TO A CONCRETE MONUMENT (OLD) AT THE SOUTHWEST CORNER OF SAID CITY OF COLUMBIA PROPERTY;

THENCE, WITH THE SOUTHERLY AND WESTERLY LINES OF SAID CITY OF COLUMBIA PROPERTY THE FOLLOWING FOURTEEN CALLS (1 THROUGH 14):

1. SOUTH 85 DEGREES 34 MINUTES 39 SECONDS EAST, 1577.22 FEET TO A PLANTED STONE;
2. SOUTH 85 DEGREES 08 MINUTES 00 SECONDS EAST, 97.47 FEET TO A CONCRETE MONUMENT (OLD);
3. SOUTH 83 DEGREES 55 MINUTES 40 SECONDS EAST, 1056.49 FEET TO AN IRON ROD (NEW);
4. ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 105.00 FEET, AN ARC LENGTH OF 165.16 FEET, A DELTA ANGLE OF 90 DEGREES 07 MINUTES 18 SECONDS, HAVING A CHORD BEARING AND DISTANCE OF SOUTH 38 DEGREES 52 MINUTES 06 SECONDS EAST, 148.65 FEET TO AN IRON ROD (NEW);
5. SOUTH 06 DEGREES 11 MINUTES 28 SECONDS WEST, 116.88 FEET TO AN IRON ROD (NEW);
6. ALONG THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 130.00 FEET, AN ARC LENGTH OF 56.44 FEET, A DELTA ANGLE OF 24 DEGREES 52 MINUTES 34 SECONDS,

HAVING A CHORD BEARING AND DISTANCE OF SOUTH 06 DEGREES 14 MINUTES 51 SECONDS EAST, 56.00 FEET TO AN IRON ROD (NEW);

7. SOUTH 18 DEGREES 41 MINUTES 06 SECONDS EAST, 357.57 FEET TO AN IRON ROD (NEW);
8. SOUTH 71 DEGREES 18 MINUTES 54 SECONDS WEST, 20.00 FEET TO AN IRON ROD (NEW);
9. SOUTH 18 DEGREES 41 MINUTES 06 SECONDS EAST, 100.00 FEET TO AN IRON ROD (NEW);
10. NORTH 71 DEGREES 18 MINUTES 54 SECONDS EAST, 20.00 FEET TO AN IRON ROD (NEW);
11. SOUTH 18 DEGREES 41 MINUTES 06 SECONDS EAST, 657.60 FEET TO AN IRON ROD (NEW);
12. SOUTH 71 DEGREES 18 MINUTES 54 SECONDS WEST, 10.00 FEET TO AN IRON ROD (NEW);
13. SOUTH 18 DEGREES 41 MINUTES 06 SECONDS EAST, 282.13 FEET TO AN IRON ROD (NEW);
14. SOUTH 26 DEGREES 27 MINUTES 57 SECONDS WEST, 13.94 FEET TO THE **POINT OF BEGINNING** AND HAVING AN AREA OF 7,592,427 SQUARE FEET OR 174.30 ACRES, MORE OR LESS.

Being part of the same property conveyed to Dobual Spring Creek Partners, a Tennessee general partnership, by Quitclaim Deed from William P. Halliday, Jr., a married person, of record in Book 1239, Page 865, in the Register's Office for Maury County, Tennessee, dated July 26, 1994, and recorded on December 7, 1994.

CERTIFICATE OF AUTHENTICITY

I, K. Thomas Sidwell, do hereby make oath that I am a licensed attorney and/or custodian of the original version of the electronic document tendered for registration herewith, and that this electronic document is a true and exact copy of the original document executed and authenticated according to law on 1st day of September, 2023.

K. Thomas Sidwell
Date: 9-1-23

STATE OF TN

COUNTY OF Williamson

Sworn to and subscribed before me this 1st day of September, 2023.

Notary Public
My Commission Expires: 1-21-26



BK/PG:R2944/1256-1264
23012544

9 PGS : QUITCLAIM DEED	
BECKY BUCHANAN 311946 - 23012544	
09/06/2023 - 02:09 PM	
VALUE	
MORTGAGE TAX	0.00
TRANSFER TAX	0.00
RECORDING FEE	45.00
DP FEE	2.00
REGISTER'S FEE	0.00
TOTAL AMOUNT	47.00

STATE of TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy of submittal on USB thumb drive or CD*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	6150 Trotwood Ave. - Primary Site Entrance		
	TAX MAP: 112 112	GROUP: -	PARCEL: 2.03, 9.00, 10.01, & 10.07
SUMMARY OF NATURE OF REQUEST AND WORK	765-lot single family development with accesses onto Old Zion and Trotwood Rds. Lots will be served by CPWS for water and power, and the City of Spring Hill for sewer. The Preliminary PUD was approved in April 2023 by Planning Commission and then subsequently by City Council in May and June 2023.		

REQUEST DATE FOR PRE-APPLICATION CONFERENCE	Pre-App Held: 3/13/2024	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Sketch Plat – *Must be submitted at least two weeks prior to Preliminary Plat submittal* ☒ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan + Checklist ☒ PUD Final Site Plan + Checklist ❑ Multi-Family Site Plan ❑ Other: _____ **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat* *Freedom Point Elevations*	<u>Annexations/Rezoning:</u> ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards <u>Plats/PUDs:</u> • Project Name (include Sections & Phases) Old Zion Subdivision • Total Number of Lots 765 • Total acreage +/- 413 ac.

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Patrick Carey	PHONE	615-594-4366
ADDRESS	1720 General George Patton Dr., Suite A Brentwood, TN 37027	EMAIL	patrick@willowbranchpartners.com

PROPERTY OWNER NAME	Old Zion, LLC	PHONE	615-594-4366
ADDRESS	121 First Ave S, Ste 120 Franklin, TN 37064	EMAIL	patrick@willowbranchpartners.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Patrick Carey		03|18|2024
APPLICANT NAME	APPLICANT SIGNATURE	DATE
~same as applicant~		03|18|2024
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

CITY OF COLUMBIA
TENNESSEE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0142

DESCRIPTION: This request is for final platting 24 lots in Bear Creek Overlook Phase 2.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. If Development Services receives a complete and timely resubmittal responsive to all comments and conditions on or before April 15th, this item will be forwarded to the Planning Commission. If a complete and responsive resubmittal is not received by April 15th, this item will automatically be added to the May Development Review Committee agenda for additional review. If the application remains incomplete on May 20th, the project will be closed.
2. Provide Zoning note that provided current zoning and note providing previous zoning in which the subject property is vested upon.

Engineering

3. Provide surety calculation form and surety by resubmittal date.
4. Record and reference stormwater maintenance agreement
5. Asphalt binder and curbing shall be installed prior to resubmittal date.

Fire

6. No comments

Building

7. No comments.

Police

8. No comments provided.

ATT

9. ATT DOES NOT SERVE THE DEVELOPMENT

Columbia Power

10. Columbia Power System does not have existing power facilities near your proposed development within our service territory. DREMC will be the service provider for this area.

Maury County Schools

11. Howell Elementary, Cox Middle School, Battle Creek High School 24/25 SY 9-10th 25/26 SY 9-11th, 26/27 9-12th. Spring Hill High School 24/25 11-12th, 25/26 12th. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Public Works

12. No comments.

Duck River Electric Membership Corp

13. No comments provided.

Maury County Highway Dept.

14. No comments provided.

Maury County E911

15. Contact Maury County 911 for any road names to be reserved.

Columbia Water

16. It's our understanding this project will be pushed to next month. "Complete any remaining infrastructure, conduct bacteria and pressure testing, and be prepared to

deed over infrastructure to CPWS at time of plat signing. Water system must be active in order for plat signing"

CPWS BB

17. Do Not Plan to Serve

ATTACHMENTS: Final Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity
Elementary	Baker	1960	43,920	12	340
	Battle Creek	2019	90,000	30	700
	Brown	1968	56,720	20	405
	Highland	1986	47,800	4.5	380
	Howell	1999	81,600	17.5	700
	Mt. Pleasant	1978	80,021	22	630
	Riverside	1984	71,150	14	500
	Spring Hill	1984	69,000	10	540
	Woodard	1990	76,200	17	600
	Wright	2005	97,765	18	740
					5535
Middle	Battle Creek	2019	125,000	45	900
	Cox	1997	137,200	25	900
	Mt. Pleasant	2001	113,938	29.2	550
	Spring Hill	2010	158,106	39.49	950
	Whitthorne	1979	175,600	17	1050
					4350
High	Central	2016	296,740	55	1700
	Mt. Pleasant	1969	110,759	31	600
	Spring Hill	1993	181,800	57	1200
					3500
Unit	Culleoka	1969	205,800	34	1020
	Hampshire	1978	83,410	13.12	500
	Santa Fe	1964	94,225	24	650
					2170
Other	Central Office	1960	15,400	1.5	
	College Hill	1958	42,211	2.26	
	Maintenance	1987	9,400	4.7	
	McDowell		46,165	7	
			2,509,930	**550.27**	**15555**

Current Enrollment	Capacity Used
320	94.1%
638	91.1%
366	90.4%
319	83.9%
595	85.0%
571	90.6%
402	80.4%
449	83.1%
565	94.2%
601	81.2%
4826	***87.2%***
732	81.3%
646	71.8%
415	75.5%
523	55.1%
980	93.3%
3296	***75.8%***
1372	80.7%
366	61.0%
1195	99.6%
2933	***83.8%***
873	85.6%
415	83.0%
512	78.8%
1800	***82.9%***
174	
13029	

PURPOSE NOTE

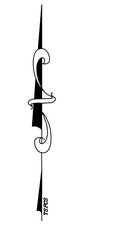
THE PURPOSE OF THIS PLAT IS TO CREATE 24 RESIDENTIAL LOTS, AND TO DEDICATE OPEN SPACE AREAS.

Surveyor's Notes

1. The property shown hereon is located within the City of Columbia, Maury County, TN. All matters pertaining to construction, use, location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the City of Columbia's Zoning Regulations as interpreted and regulated by the Department of Development Services.
2. This property currently identified as a portion of Parcel Number 053.00 per Tax Map No. 72.
3. Deed reference: Record Book R2704, Page 868, Register's Office of Maury County, Tennessee.
4. Bearings based on: Tennessee State Plane, as determined by GPS observation.
5. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
6. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
7. Total area of property surveyed is 6.15 Acres ±.
8. New Right-Of-Way dedication: 0.97 Acres ±.
9. There is a 10 foot easement on property lines parallel to the public road for public utility and drainage easements. Additional requirements may apply based on actual field conditions.
10. Subject property does not lie in a FEMA/FIRM "Special Flood Hazard Area" as shown on Map 47119C0195E dated April 16, 2007.
11. Unless otherwise noted, all lot corners are marked with iron rods.

Utility Notes

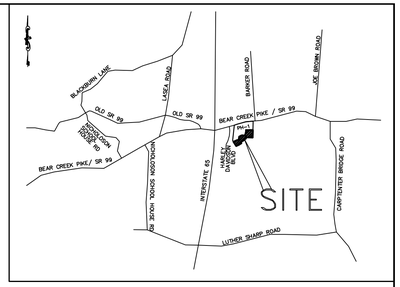
Stormwater appurtenances as depicted on this Final Plat shall be maintained as directed in the "Inspection and Maintenance Agreement of Private Stormwater Management Facilities" as recorded in Record Book _____, pages _____ in the Register's Office of Maury County, Tennessee.



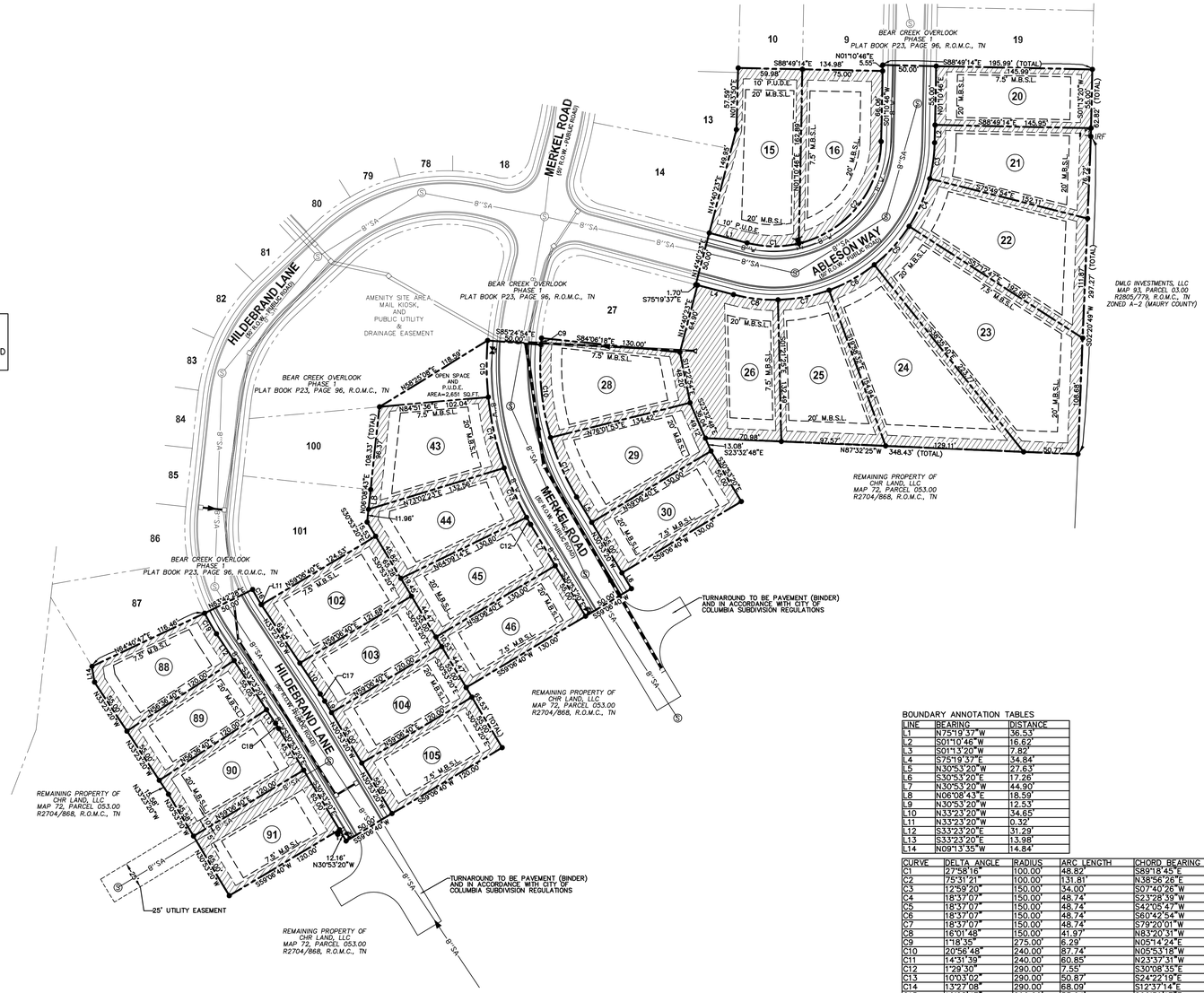
Scale : 1" = 60'

0' 30' 60' 120'

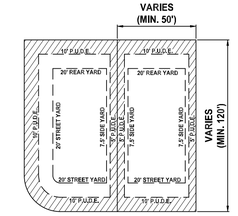
GRAPHIC SCALE



VICINITY MAP
NOT TO SCALE



LOT TABLE	
LOT NO.	AREA (SF)
15	11,137
16	10,335
20	8,028
21	9,916
22	12,885
23	19,567
24	14,539
25	10,095
26	11,475
28	9,483
29	9,149
30	7,150
43	9,221
44	8,176
45	7,565
46	7,150
88	7,274
89	6,600
90	7,654
91	7,800
102	8,036
103	6,633
104	6,600
105	6,600



TYPICAL LOT CONFIGURATION FOR LOTS 15-16, 20-26, 28-30, 43-46, 88-91, & 102-105
P.U.D.E.=PUBLIC UTILITY AND DRAINAGE EASEMENT
=P.U.D.E.

LEGEND

These standard symbols will be found in the drawing.

- STORM LINE
- SA SANITARY SEWER LINE
- W WATER LINE
- FIRE HYDRANT COMPLETE ASSEMBLY
- WV WATER VALVE
- BUILDING SETBACK
- EASEMENT
- PROPERTY LINE
- IRON ROD (SET) (UNLESS OTHERWISE NOTED)
- IRF IRON ROD (FOUND)
- CMF CONCRETE MONUMENT (FOUND)

BOUNDARY ANNOTATION TABLES

LINE	BEARING	DISTANCE
L1	N75°19'37"W	58.53'
L2	S01°10'46"W	16.62'
L3	S01°13'20"W	7.82'
L4	S75°19'37"E	34.84'
L5	N30°53'20"W	27.63'
L6	S30°53'20"E	17.26'
L7	N30°53'20"W	44.90'
L8	N06°08'43"E	18.59'
L9	N30°53'20"W	12.53'
L10	N33°23'20"W	34.65'
L11	N33°23'20"W	0.32'
L12	S33°23'20"E	31.28'
L13	S33°23'20"E	13.98'
L14	N09°13'35"W	14.84'

CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	27°58'16"	100.00'	48.82'	S89°18'45"E	48.34'
C2	75°31'21"	100.00'	131.81'	N38°56'26"E	122.47'
C3	12°59'20"	150.00'	34.00'	S07°40'26"W	33.93'
C4	18°37'07"	150.00'	48.74'	S23°28'39"W	48.53'
C5	18°37'07"	150.00'	48.74'	S42°05'47"W	48.53'
C6	18°37'07"	150.00'	48.74'	S60°42'54"W	48.53'
C7	18°37'07"	150.00'	48.74'	S79°20'01"W	48.53'
C8	16°01'48"	150.00'	41.97'	N83°20'31"W	41.83'
C9	1°18'35"	275.00'	6.29'	N05°14'24"E	6.29'
C10	20°56'48"	240.00'	87.74'	N05°53'18"W	87.25'
C11	14°31'39"	240.00'	60.85'	N23°37'31"W	60.69'
C12	1°29'30"	290.00'	7.55'	S30°08'35"E	7.55'
C13	10°03'02"	290.00'	50.87'	S24°22'19"E	50.81'
C14	13°27'08"	290.00'	68.09'	S12°37'14"E	67.93'
C15	10°28'47"	290.00'	53.04'	S00°39'17"E	52.97'
C16	7°05'17"	130.14'	16.10'	S29°50'20"E	16.09'
C17	2°30'00"	180.00'	7.85'	S32°08'20"E	7.85'
C18	2°30'00"	130.00'	5.67'	S32°08'20"E	5.67'
C19	7°05'49"	180.00'	22.30'	S29°50'27"E	22.28'

Owner:
CHR LAND, LLC
1081 CRANFORD HOLLOW ROAD
COLUMBIA, TN 38401

Certificate of Ownership and Dedication

I (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2704, Page 868, Maury County Register's Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

_____, 2024 _____
Date

_____
Title (CHR Land, LLC.)

Certificate of Survey Accuracy

I (we) hereby certify that to the best of my (our) knowledge and belief that this is a true and accurate survey of the property shown hereon; that this is a Class "I" Land Survey as defined in Title 62, Chapter 18, Tennessee Code Annotated, and that the ratio of precision is greater than or equal to 1:10,000.

3/6/24, 2024 David Lee Cyphers 2779
Date Registered Land Surveyor Number
DAVID LEE CYPHERS, RLS
TENNESSEE RLS NO. 2779

DAVID LEE CYPHERS REGISTERED LAND SURVEYOR AGRICULTURE SURVEYING COMMERCE STATE OF TENNESSEE 2779 3/6/24

Certificate of Approval of Water System

I hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled "Final Plat – Bear Creek Overlook – Phase 2" has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

_____, 2024 _____
Date Superintendent, Columbia Water System

Certificate of Approval of Streets, Drainage, and Utilities

I hereby certify that the streets, drainage, and utilities designated in Bear Creek Overlook – Phase 2 have been installed in accordance with City specifications, or a performance bond in the amount of $_____ for streets and drainage has been posted with the City of Columbia, Tennessee, to assure completion of such improvements.

_____, 2024 _____
Date City Engineer, Columbia, Tennessee

Certificate of Approval for Recording

I hereby certify that the subdivision plat shown hereon has been found to comply with the Columbia Subdivision Regulations, with the exceptions of such variances, if any, as noted in the minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register.

_____ _____
Secretary, Planning Commission Columbia, Tennessee Date

Certificate of Approval of Subdivision Name and Street Names

Subdivision name and street names approved by Maury County E-911,

_____, 2024 _____
Date Maury County E-911

Certificate of Approval for Sewer System

I hereby certify that the sewer system outlined or indicated on this final subdivision plat has been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

_____, 2024 _____
Date Superintendent, Columbia Wastewater System

Certificate of Compliance

I hereby certify that the subdivision plat shown hereon has been found to comply with the Columbia Subdivision Regulations and other adopted ordinances and policies.

_____ _____
City Engineer Columbia, Tennessee Date

Final Plat
Bear Creek Overlook - Phase 2

3rd CIVIL DISTRICT OF MAURY COUNTY, TN
CITY OF COLUMBIA, MAURY COUNTY, TENNESSEE

SHEET 1 OF 1

TAX MAP 72, P/O PARCEL 53.00
ZONED: MRC

SCALE: 1"= 60'
AREA: 6.15 ACRES±
DATE: MARCH 6, 2024

H & H LAND SURVEYING, INC.
612A FITZHUGH BOULEVARD
SMYRNA, TENNESSEE 37167
(615) 831-0756 (FAX) 355-6928
H & H Project No. 2023-0437

Appendix B: Subdivision Development Agreement

This DEVELOPMENT AGREEMENT is made and entered into on this

18 day of March, 20 24 ,
between THE CITY OF COLUMBIA, TENNESSEE, (hereinafter the "CITY"), and

CHR Land LLC, the DEVELOPER (hereinafter the "DEVELOPER") named on the Addendum to this Agreement attached hereto and by this reference made a part hereof (hereinafter the "ADDENDUM").

WITNESSETH:

WHEREAS, the DEVELOPER desires to develop the property described on the ADDENDUM (hereinafter the "PROJECT"); and,

WHEREAS, the Development Plan of the PROJECT has been approved by the Columbia Municipal Planning Commission (hereinafter the “CMPC”) on the

_____ day of _____, 20_____ ,
pursuant to Tennessee Code Annotated Title 13, Chapter 4, and the Subdivision Regulations of Columbia, Tennessee (hereinafter the "SUBDIVISION REGULATIONS”); and,

WHEREAS, the DEVELOPER is the owner of the PROJECT and has authority to engage in such development; and,

WHEREAS, the DEVELOPER desires to develop and improve said PROJECT; and,

WHEREAS, in order to provide for the health, safety, and welfare of future residents of the PROJECT, it will be necessary for certain improvements to the CITY'S utility systems, public infrastructure, and common areas to be constructed within and to serve the PROJECT including but not be limited to roads, bridges, sidewalks, pedestrian facilities, stormwater facilities, street signs, markings, signals, street lighting, recreation and park facilities, landscaping, and the like (hereinafter the “IMPROVEMENTS”); and,

WHEREAS, in order for the IMPROVEMENTS to be fully integrated with the utility systems and public infrastructure of the CITY and to function in a satisfactory manner, the DEVELOPER has agreed to construct, in accordance with the Subdivision Regulations and other rules, regulations, and ordinances of the CITY, the IMPROVEMENTS in said PROJECT and extend utilities to the PROJECT at their own cost; and,

WHEREAS, the CITY is willing to accept the dedication of the streets, utilities, and other improvements as determined in the Development Plan of the PROJECT, subject to the City of Columbia City Council approval by resolution, and subject to the applicant's compliance with all requirements in this agreement and applicable existing laws of the CITY of Columbia and the State of Tennessee,

NOW, THEREFORE, it is agreed and understood as follows:

B1 General Conditions

B1.1 Construction Costs

The DEVELOPER shall pay for all material and labor necessary to install and complete the roads, sidewalks, sewers, utilities, and other facilities in accordance with this agreement.

B1.2 City Ordinances, Rules and Regulations

All currently existing CITY ordinances, rules and regulations, and the Subdivision Regulations adopted by the CMPC are made a part of this agreement. In the event of a conflict between the terms of this agreement and a CITY ordinance, the ordinance shall prevail. In the event of a conflict between the terms of this agreement and the Subdivision Regulations, the Subdivision Regulations shall prevail. All work done under this agreement is to be performed in accordance with plans and specifications approved by the City and made a part, hereof.

B1.3 Fees

Review fees, inspection fees, and other amounts established by the CITY shall be paid prior to any review of the plans. If the DEVELOPER fails to install the facilities in accordance with the terms of this Agreement, no portion of the review fees, inspection fees, or other amounts paid to the CITY shall be refundable to the DEVELOPER.

B1.4 Inspection

The CITY shall have a continuous right to inspect the work and facilities to assure that the work and facilities are in accordance with the Subdivision Regulations, approved Construction Plans, and other rules, regulations, and ordinances of the CITY.

B1.5 Right of Entry

The CITY shall have the right, in case of breach of the Performance Agreement, to enter upon any property of the DEVELOPER and take all necessary actions to complete the work and obligations not completed.

B1.6 Easements

The DEVELOPER shall obtain and dedicate to the CITY or cause to be dedicated to the CITY, either by dedication on the plat or by easement deed, in either case in a form acceptable to the CITY, permanent easements of such widths as required by the CITY and noted on the Plans. The DEVELOPER further agrees to grant the necessary easements and rights-of-way across the DEVELOPER’s properties without expense to the CITY and waive any claim for damages.

B1.7 Stormwater Maintenance Agreement

If the PROJECT includes any detention or retention ponds, common drainage ditches, water quality facilities, or stormwater facilities outside of the CITY rights-of-way, the DEVELOPER will submit a Stormwater Maintenance Agreement, to be filed with and recorded with the Final Plat.

B1.8 Attorney Fees and Other Expenses

The DEVELOPER shall pay all reasonable costs and expenses incurred by the CITY in enforcing or completing this agreement. The DEVELOPER shall pay all costs and expenses, including the CITY'S attorney fees, of any legal proceedings brought by the CITY against the DEVELOPER seeking remedies for the DEVELOPER'S failure to perform any of its obligations hereunder, whether or not any proceedings are prosecuted to judgment.

B1.9 Agreement Not Assignable

No third party shall obtain any benefits or rights under this agreement nor shall the rights or duties be assigned by either party.

B1.10 Revocation and Interpretation

This agreement shall bind the DEVELOPER when executed by the DEVELOPER and may not be revoked by the DEVELOPER without permission of the CITY, even if the agreement has not been executed by the CITY, or does not bind CITY, for other reasons. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Chancery Court or Circuit Court or Court of competent jurisdiction of Maury County, Tennessee, and Tennessee Appellate Courts.

B1.11 No Oral Agreement

This agreement may not be orally amended and supersedes all prior negotiations, commitments, or understandings.

B1.12 Separability

If any portion of this agreement is held to be unenforceable, the CITY shall have the right to determine whether the remainder of the agreement shall remain in effect, or whether the agreement shall be void and all rights of the DEVELOPER pursuant to this agreement terminated.

B 1.13 Transferability

The DEVELOPER agrees to not transfer the property on which this PROJECT is to be located without first providing the CITY with written notice. The transferee shall provide the CITY an Assumption Agreement of this Agreement, whereby the transferee agrees to perform the IMPROVEMENTS required under this agreement and to provide a performance surety. The DEVELOPER understands that if the DEVELOPER transfers said property without providing the notice of transfer and Assumption Agreement as required herein, they will be in breach of this agreement and in violation of the Subdivision Regulations.

B1.14 Indemnity

The DEVELOPER shall indemnify and hold the CITY harmless from all loss, costs, expenses, liability, money damages, penalties, or claims arising out of any work covered by this agreement, including any attorney fees incurred by the CITY in connection therewith. Inspection of the IMPROVEMENTS by an authorized representative of the CITY shall not constitute a waiver by the CITY of any defect or of any of the DEVELOPER'S obligations hereunder.

B1.15 Binding Effect

This agreement shall be binding upon the DEVELOPER and the DEVELEPOR's heirs, administrators, executors, assigns, and any other successors in interest.

B1.16 Entire Agreement

This document contains the entire agreement between the parties, and there are no collateral understandings or agreements between them. No variations or alterations of the terms of this agreement shall be binding upon either of the parties, unless the same be reduced to writing and made an amendment to this agreement.

B1.17 Headings

Paragraph titles and headings contained herein are inserted for convenience only and shall not be deemed a part of the agreement and in no way shall define, limit, extend, or describe the scope or intent of any provision, hereof.

B2 Performance Surety

At the time of execution of this agreement, the DEVELOPER shall provide the CITY a performance surety, in an amount determined by the City Engineer for the IMPROVEMENTS and other items specified by the Construction Plans, plats, and plans approved by the CMPC. This performance surety shall secure performance of all obligations of the DEVELOPER under this agreement. The performance surety shall meet all requirements established in Chapter 4: Performance Agreement of the Subdivision Regulations and secure full compliance with all terms and conditions of this agreement. The performance surety may be called for failure to comply with the provisions of this agreement in whole or in part according to the terms of the performance surety. The performance surety will not be released, except and until there has been full compliance with this agreement.

B3 Construction

B3.1 Construction Plans

The DEVELOPER shall submit to the CITY, Construction Plans describing in reasonable detail all utility systems, all storm water management systems, all street systems, pedestrian facilities, and all IMPROVEMENTS. The Construction Plans shall be designed according to the Engineering Standards and Specifications, all other codes and ordinances enforced by the City, and sound engineering judgment. The design of all utility systems shall follow the State of Tennessee and utility provider design criteria and specifications. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. The Construction Plans shall be prepared by a design professional licensed by the State of Tennessee to design all systems and shall bear the seal, signature, date, and license number of the professional preparing the Construction Plans.

B3.2 Commencement of Construction

Construction of IMPROVEMENTS may not begin until the following events have occurred:

A. The Preliminary Plat has been approved by the CMPC;
B. The Construction Plans are approved by the CITY;
C. The Tennessee Department of Environment and Conservation has approved the applicable portions of the Plans and has confirmed its approval to the CITY and/or DEVELOPER in writing;
D. The CITY shall have received an appropriately executed Development Agreement; and
E. The DEVELOPER shall give the CITY notice of commencement of construction, in writing at least one (1) working day prior to commencement.

B3.3 Site Grading

The DEVELOPER, hereby, agrees to construct all site grading to comply with the approved Construction Plans, including the approved Erosion Control Plan for the PROJECT and to comply with the Engineering Standards and Specifications, Stormwater Ordinance, and all other codes and ordinances enforced by the CITY.

B3.4 Storm Water Management Systems

The DEVELOPER shall be responsible for all storm water management work made necessary by the development of this PROJECT. It is understood and agreed that the CITY in its proprietary function is not and could not be expected to oversee, supervise, or direct the construction of all drainage improvements, and the excavation incident thereto. Neither is the CITY vested with the original design responsibility nor the means to formally survey elevations or the locations of improvements at every stage of the construction process. The CITY is vested with the right of periodic inspections, stop work order, and final approval as a measure of secondary or subsequent enforcement. The DEVELOPER has and shall retain the responsibility to properly anticipate, survey, design and construct the subdivision storm water improvements and give full assurance that same shall not adversely affect the flow or quality of surface water from or upon any property. In providing technical assistance, plan and design review, the CITY does not and shall not relieve or accept any liability from the DEVELOPER.

B3.5 Street Construction

The DEVELOPER, hereby, agrees to construct and improve the streets shown on the Construction Plans to comply with the CITY's specifications and to the satisfaction and approval of the City Engineer by grading, draining, subgrade preparation, base preparation, curbing, signage, striping, signalization, sidewalk installation, and paving with the required preparation, amounts, and types of material. The DEVELOPER further agrees to pay the cost of all engineering, inspection and laboratory cost incidental to the construction of subdivision streets including but not limited to material and density testing. The DEVELOPER further agrees to make all necessary adjustments to manholes and valve boxes to meet finished surface grade and to repair subsurface or base material, as required, in areas directed by the CITY Engineer, prior to application of final surface.

B3.6 Time Period for Construction

The DEVELOPER agrees to be bound to complete, within three (3) years of commencement of construction, all IMPROVEMENTS shown on the plat and plans and all things required by this agreement.

The DEVELOPER further agrees that if due to unforeseen circumstances, he is unable to complete all work included in this agreement within the time specified above, but desires to complete said agreement to the satisfaction of the CITY, the DEVELOPER shall submit a written request for extension of the agreement period to the CITY at least sixty (60) days prior to the expiration of the existing agreement period, specifying the reason for the DEVELOPER's failure to complete the work as agreed and a prospective date for such completion. The DEVELOPER further agrees that if the performance surety executed to secure the value of the work to be performed under this agreement, due to inflation or rising costs, is determined to be inadequate by the City Engineer to secure the cost of said IMPROVEMENTS at the time an extension is sought, the DEVELOPER will provide the additional security to bring the performance surety amount in line with current cost projections as made by the CITY. The DEVELOPER understands that the DEVELOPER's failure to follow the extension procedure constitutes a breach of this agreement and places the DEVELOPER in violation of the Subdivision Regulations. The DEVELOPER further understands, that should the DEVELOPER fail to complete any part of the work outlined in this agreement in a good and workmanlike manner as approved, the CITY shall reserve the right to withhold and withdraw all building permits within the PROJECT until all items of this Agreement have been fulfilled by the DEVELOPER.

B3.7 Off-Site Improvements

The DEVELOPER shall construct any and all off-site facilities that may be required to serve the PROJECT. Unless specifically noted in the Construction Plans and made a part of separate agreement with the CITY, the CITY shall not be required to reimburse the DEVELOPER for construction of off-site improvements.

B3.9 Inspection and Compliance

After construction begins, the CITY shall provide on-site construction inspection as the CITY deems necessary to ensure that all work is performed and completed in accordance with the Construction Plans, CITY specifications, and the contents of this agreement. In the event of a disagreement as to compliance with or interpretation of the Construction Plans and the CITY'S specifications, the decision of the CITY shall be final and binding on the DEVELOPER. If the DEVELOPER fails to construct in accordance with the approved Construction Plans or to comply with the CITY'S specifications, the CITY may issue a stop-work order and DEVELOPER, hereby, agrees to be bound by such order.

B3.10 Testing

The DEVELOPER agrees to pay the cost of all engineering, inspection, and laboratory cost incidental to construction of the streets, sidewalks, utilities, sewers, compacted fill material, and other facilities included within this agreement. Such testing includes, but is not limited to, material and density testing.

B3.11 Scrap Removal

The DEVELOPER agrees to comply with all local, state, and federal rules and regulations regarding waste material and debris disposal.

B3.12 Traffic Control

The DEVELOPER, hereby, agrees to prepare a traffic control/detour plan where required and shall submit said plan to the CITY for review and approval. All traffic control and safety devices, including

signs, lane markings, and barriers necessitated by construction activity undertaken pursuant to this agreement shall be installed and maintained by the DEVELOPER. All traffic control devices shall meet the standards and be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the United States Department of Transportation.

B3.13 Temporary Facilities

The DEVELOPER shall provide all temporary facilities including but not limited to utilities and roadways, that are determined by the CITY to be required in connection with or as a result of interruption of service or access that occurs as a consequence of construction activity associated with the work covered by this agreement. Such temporary services shall in all regards and at all points in time be adequate to assure emergency access and adequate fire flows.

B4 Acceptance of Improvements

B4.1 Completion of Improvements

At such time as the improvements have been constructed and installed, in accordance with the Constructions Plans and specifications, required testing and inspections completed and found satisfactory, and all clean-up and cover-up has been done to the satisfaction the City Engineer, a letter requesting preliminary acceptance of the PROJECT will be provided by the DEVELOPER. Formal acceptance shall follow the procedure established in the Subdivision Regulations.

The DEVELOPER agrees the DEVELOPER shall have no claim, direct or implied, in the title or ownership of the IMPROVEMENTS specified in this agreement when the IMPROVEMENTS are complete and thereafter accepted by the CITY. The DEVELOPER will be responsible for construction failures and defects in PROJECT prior to final acceptance. During this period, it shall remain the responsibility of the DEVELOPER to correct and cure these defects and failures.

B4.2 As-Built Drawings and Post-Completion Items

The DEVELOPER agrees to furnish to the CITY as-built plans, on a reproducible, stable media, of the sanitary sewer, storm water management, water mains and service system, and streets within the subdivision before the CITY shall accept the subdivision.

B4.3 Acceptance of Facilities

Upon final acceptance of all or part of the IMPROVEMENTS in the PROJECT, then those IMPROVEMENTS shall become the property of the CITY free from all claims from any person or entity without the necessity of any further writing, agreement, or deed. The DEVELOPER further agrees that any facilities placed within a public or platted right-of-way or dedicated public easement are irrevocably dedicated to the public use without any right of reimbursement or compensation of any kind.

B4.4 Failure to Install

In the event the DEVELOPER fails to install the facilities in accordance with the terms of this agreement, the CITY may, in its sole discretion, elect to accept all or a portion of the IMPROVEMENTS in the PROJECT. Should the CITY choose to accept all or a portion of these IMPROVEMENTS, the CITY shall become the sole owner of these facilities. The CITY may give notice of acceptance by writing delivered to the DEVELOPER or recorded in the Register’s Office of Maury County, Tennessee. No further writing or deed shall be required.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in multiple originals by persons properly authorized so, to do on or as of the day and year first given.

Bear Creek Overlook Phase 2

PROJECT

Completed by the Developer	*Completed by the City*
CHR Land LLC DEVELOPER NAME	
Gary Martin AUTHORIZED AGENT NAME	_____ CITY ENGINEER
_____ SIGNATURE	_____ SIGNATURE
March 18, 2024 DATE	_____ DATE
818 S. Main Street STREET	
Columbia, TN 38401 CITY, STATE, ZIP	
615-812-2147 PHONE	
gary@martinengrg.com EMAIL	
Attest	*Attest*
_____ ATTEST NAME	_____ ATTEST NAME
_____ ATTEST SIGNATURE	_____ ATTEST SIGNATURE
_____ DATE	_____ DATE

DOCUMENT PREPARED BY:
Name: Gary Martin
Company Martin Engineering & Surveying, LLC

Address: 818 S. Main Street
Columbia, TN 38401

After recording return copy to City of Columbia, Development Services

INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES

Map & Parcel Number: Map 72 Parcel 53.00
Project Name: Bear Creek Overlook Phase 2 and 3

Recorded by deed in the Register of Deeds Office of Maury County in Deed Book _____, Page(s) _____.

THIS AGREEMENT, made this _____ day of _____, 20____ , by and between _____ hereinafter referred to as the "OWNER(S)" of the following property and City of Columbia, Tennessee, hereinafter referred to as the "CITY",

WE, the OWNER(S), with full authority to execute deeds, mortgages, other covenants, all rights, titles, and interests in the property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that the OWNER(S) shall provide for adequate long term maintenance and continuation of stormwater control measures described in the Long Term Maintenance Plan and shown on the location map, deed of easement drawing or plat attached hereto to ensure that the facilities, are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventative maintenance activities at intervals described in the schedule attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall perform routine inspections to ensure that all long term stormwater management facilities are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at the site. The OWNER(S) or operators shall maintain documents of these inspections.

3. The OWNER(S) shall perform comprehensive inspections of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect.

4. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility within the CITY.

5. The OWNER(S) shall record and grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from public rights-of-way to the facility for the CITY or its agent and contractor.

6. If, upon inspection, the CITY finds that the OWNER(S) has failed to properly maintain the facilities, the CITY may order the work performed within ten (10) days. In the event the work is not performed within the specified time, the ONWER(S) agrees to allow the CITY to enter the property and take whatever steps it deems necessary to maintain the stormwater control facilities. This provision shall not be construed to allow the CITY to erect any structure of a permanent nature on the PROPERTY without first obtaining written approval of the OWNER(S)

7. The CITY is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any obligation on the CITY. The OWNER(S) shall reimburse the CITY upon demand the costs incurred in the maintenance of the facilities.

8. If the OWNER(S) fails to pay the CITY for the above expensive after forty-five (45) days written notice, the OWNER(S) authorizes the CITY to collect said expenses from the OWNER(S) through appropriate legal action and the OWNER(S) shall be liable for the reasonable expenses of collection, court costs, and attorney fees.

9. The OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold harmless the CITY and its officers, agents and employees for any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part,

against the CITY from the construction, presence, existence, or maintenance of the stormwater control facilities subject to this AGREEMENT. In the event a claim is asserted against the CITY, its officers, agents or employees, the CITY shall notify OWNER(S) and the OWNER(S) shall defend at OWNER(S) expense any suit based on such claim. If any judgment or claims against the CITY, its officers, agents or employees, shall be allowed, the OWNER(S) shall pay all costs and expenses in connection therewith. The CITY will not indemnify, defend or hold harmless in any fashion the OWNER(S) from any claims arising from any failure, regardless of any language in any attachment or other document that the OWNER(S) may provide

10. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

11. No waiver of any provision of this AGREEMENT shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any default.

12. The OWNER(S) shall record a plat showing and accurately defining the easements for stormwater control facilities. The plat must reference the Instrument Number where this AGREEMENT and its attachments are recorded and contain a note that the OWNER(S) is responsible for maintaining the stormwater management facilities.

13. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the county of Maury, Tennessee, and the AGREEMENT shall constitute a covenant running with the land, and shall be binding upon the OWNER(S) and the OWNER(S) heirs, administrators, executors, assigns, and any other successors in interest

ATTEST BY OWNER(S):

Print Name Gary Martin

Title _____

Signature _____

Owner CHR Land, LLC

Address 808 S. Main Street

City, State ZIP Columbia, TN 38401

STATE OF _____
COUNTY OF _____

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted and who acknowledged that he/she executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public

My Commission Expires:_____

CITY OF COLUMBIA, TENNESSEE
ENGINEERING DEPARTMENT APPROVED BY :_____

STATE OF TENNESSEE
COUNTY OF MAURY

Before me, _____ of the state and county mentioned, personally appeared _____, with whom I am personally acquainted, and who acknowledged themselves to be the City Engineer of the City of Columbia or his designee and as such, being authorized so to do, executed the foregoing instrument of the purposes therein contained.

Witness my hand this the _____ day of _____, 20_____.

_____
Notary Public
My Commission Expires:_____

POST CONSTRUCTION LONG TERM MAINTENANCE PLAN

BEAR CREEK OVERLOOK PHASE 2 AND 3

SOUTH OF BEAR CREEK PIKE & EAST OF HARLEY DAVIDSON BOULEVARD
COLUMBIA, TENNESSEE

PREPARED FOR:
CHR LAND, LLC
818 S. MAIN STREET
COLUMBIA, TENNESSEE 38401

MARCH 2024

Martin Engineering and Surveying, LLC.
818 S. Main Street, Columbia, TN 38401, 615-812-2147
gary@martinengrg.com

Table of Contents

SECTION 1: INTRODUCTION....1

SECTION 2: SYSTEM DESCRIPTION....1

SECTION 3: MAINTENANCE PROCEDURES....1

3.1 Storm Pipes and Storm Inlets....2

SECTION 1: INTRODUCTION

The project is to construct 46 single-family residential lots for Phases 2 and 3 of the proposed Bear Creek Overlook development in Columbia, Maury County, Tennessee. This post construction long term maintenance plans addresses Phases 2 and 3 of the development which consist of 11.80 acres in which utility infrastructures (water, sewer, and storm) will be installed. Proposed construction for Phases 2 and 3 consists primarily of site grading related to the installation of roadway pavements, curbs sidewalks, residential lots, utility infrastructure, and storm water conveyance system located within the permitted project area.

SECTION 2: SYSTEM DESCRIPTION

Phases 2 and 3 construction consists of stormwater conveyance inlets and pipes.

1. 574 lf 18" pipe, 244 lf 24" pipe, 336 lf of 30" pipe, and 8 storm inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

SECTION 3: MAINTENANCE PROCEDURES

3.1 Storm Pipes and Storm Inlets:

These structures to be inspected annually and cleaned monthly of accumulated debris and sediment. All sediment to be disposed of per TDEC disposal procedures. All debris (paper products, floatables) to be disposed of per Maury County Waste Management requirements.

Grass Channel Inspections and Maintenance Checklist

Site Name: _____Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address: _____ Phone Number: _____

Site Status: _____

Date: _____ Time: _____Site conditions:

Inspection Frequency Key: A=annual (required); M=monthly (recommended); S=after major storms (recommended)

Inspection Items	Inspection	Inspected?	Maintenance Needed? (Yes/No)	Comments/Description
Debris Removal				
Facility and adjacent area free of debris?	*A/M*			
Inlets and outlets free of debris?	*A/M*			
Any dumping of yard wastes into facility?	*A/M*			
Litter (branches) removed?	*A/M*			
Vegetation				
Surrounding area fully stabilized? (no evidence of eroding material into swale, channel or filter strip)	*A/M*			
Grass mowed?	*A/M*			
Grass height not less than 3 to 4 inches?	*A/M*			
Fertilized per specifications?	*A/M*			
Grasses planted according to approved plan?	*A/M*			
Unauthorized or inappropriate plantings?	*A*			
Grasses healthy? (no diseased or dying vegetation)	*A/M*			
Evidence of grasses stressed from inadequate watering?	*A/M*			
Filtration Capacity				
Clogging from oil or grease?	*A/M*			
Facility dewaters between storms?	*A/M*			
Check dams and energy dissipaters/sumps				
Any evidence of sedimentation buildup?	*A/S*			
Are sumps greater than 50% full of sediment?	*A/S*			
Any evidence of erosion and downstream	*A/S*			

Inspection Items	Inspection	Inspected?	Maintenance Needed? (Yes/No)	Comments/Description
toe of drop structures?				
Any trash or blockages at weep holes?	*A/S*			
Sediment Deposition				
Swale clean of sediments?	*A*			
Sediment not > 25% of swale design depth?	*A*			
Outlet/Overflow Spillway				
In good condition?	*A*			
Any evidence of erosion?	*A*			
Any evidence of blockages?	*A*			
Has facility been filled or blocked inappropriately?	*A*			
Hazards				
Have there been complaints from residents?	*A/M*			
Public hazards noted?	*A/M*			
Maintenance accesses free of hazards and fully operational?	*A/M*			

Inspector Comments: _____

_____

_____

Overall Condition of Facility: □ Acceptable □ Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	**Due Date**

The next routine inspection is scheduled for approximately: _____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____

Storm Sewer Inspections and Maintenance Checklist

Site Name: _____ Owner Change since last inspection? Y N

Location: _____

Owner Name: _____

Address: Phone Number: _____

Site Status: _____

Date: _____ Time: _____ Site conditions: _____

Indicate Features Present: Catch Basins fl Storm Pipe fl Headwalls fl Outfalls fl Catch Basin Inlets fl

Inspection Frequency Key: A=annual; M=monthly; S=after major storms

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Catch Basins				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition ensure all are set properly in place over inlets	*A/S*			
Check for sediment, leaf, or debris clogging grates and remove	*A/S*			
Catch Basin Inlets				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment accumulation and remove when capacity is diminished by 20% or greater	*A/S*			
Pipes				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment accumulation and remove when capacity is diminished by 20% or greater.	*A/S*			
Concrete/masonry condition of pipes and joints? (Cracks or displacement? Spalling?)	*A/S*			

Inspection Items	Inspection Frequency	Inspected? (Yes/No)	Maintenance Needed? (Yes/No)	Comments/Description
Headwalls and Endwalls				
Ensure all are structurally sound and in good condition. Note any deficiencies and repair to proper working condition	*A/S*			
Inspect for blockage or sediment	*A/S*			
Check for erosion or scouring around headwall inlets and repair	*A/S*			
Evidence of staining?	*A/S*			
If flowing water is present does it appear to contain anything other than stormwater? I.e. Discoloration, odors, sheens, etc? Note location and describe.	*A/S*			
Hazards				
Have there been complaints from residents?	*A/S*			

Inspector Comments: _____

_____

_____

_____

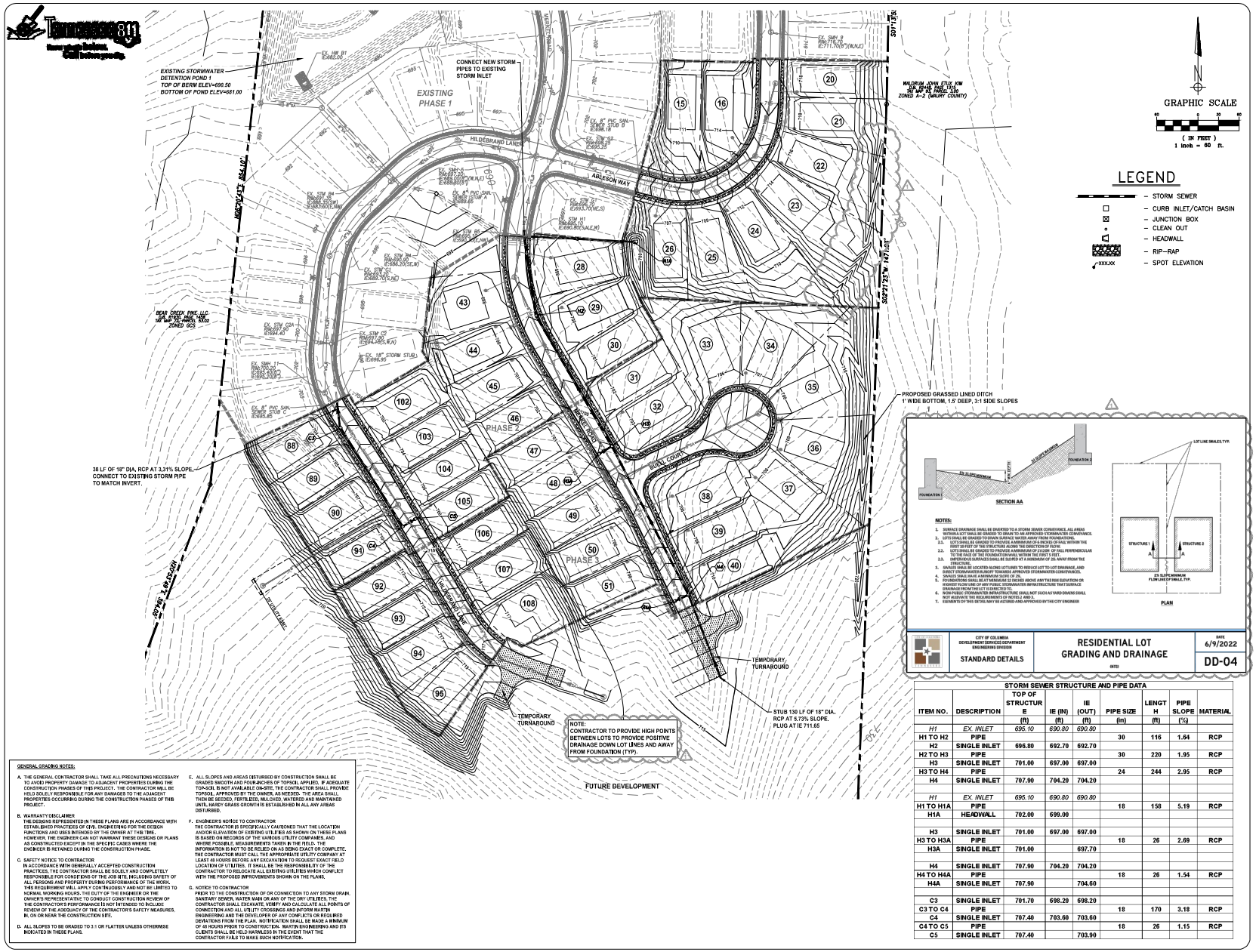
Overall Condition of Facility: [ ] Acceptable [ ] Unacceptable

If any of the above Inspection Items are checked "Yes" for "Maintenance Needed," list Maintenance actions and their completion dates below:

Maintenance Action Needed	Due Date

The next routine inspection is scheduled for approximately:_____
(date)

Inspected by: (signature) _____
Inspected by: (printed) _____



GENERAL GRADING NOTES:

A. THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

B. WARRANTY/DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, THE ENGINEER CAN NOT WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER IS RETAINED DURING THE CONSTRUCTION PHASE.

C. SAFETY NOTICE TO CONTRACTOR
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR THE OWNER'S REPRESENTATIVE TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

D. ALL SLOPES TO BE GRADED TO 3:1 OR FLATTER UNLESS OTHERWISE INDICATED IN THESE PLANS.

E. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR-INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOP-SOIL IS NOT AVAILABLE ON-SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL ANY AREAS DISTURBED.

F. ENGINEER'S NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

G. NOTICE TO CONTRACTOR
PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE ORY UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM MARTIN ENGINEERING AND THE DEVELOPER OF ANY CONFLICTS OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. MARTIN ENGINEERING AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.

STORM SEWER STRUCTURE AND PIPE DATA

ITEM NO.	DESCRIPTION	TOP OF STRUCTURE (ft)	IE (IN) (ft)	IE (OUT) (ft)	PIPE SIZE (in)	LENGTH (ft)	PIPE SLOPE (%)	MATERIAL
H1	EX. INLET	695.10	690.80	690.80				
H1 TO H2	PIPE				30	116	1.64	RCP
H2	SINGLE INLET	696.80	692.70	692.70				
H2 TO H3	PIPE				30	220	1.95	RCP
H3	SINGLE INLET	701.00	697.00	697.00				
H3 TO H4	PIPE				24	244	2.95	RCP
H4	SINGLE INLET	707.90	704.20	704.20				
H1	EX. INLET	695.10	690.80	690.80				
H1 TO H1A	PIPE				18	158	5.19	RCP
H1A	HEADWALL	702.00	699.00					
H3	SINGLE INLET	701.00	697.00	697.00				
H3 TO H3A	PIPE				18	26	2.69	RCP
H3A	SINGLE INLET	701.00		697.70				
H4	SINGLE INLET	707.90	704.20	704.20				
H4 TO H4A	PIPE				18	26	1.54	RCP
H4A	SINGLE INLET	707.90		704.60				
C3	SINGLE INLET	701.70	698.20	698.20				
C3 TO C4	PIPE				18	170	3.18	RCP
C4	SINGLE INLET	707.40	703.60	703.60				
C4 TO C5	PIPE				18	26	1.15	RCP
C5	SINGLE INLET	707.40		703.90				

MARTIN ENGINEERING & SURVEYING, LLC
818 S. Main Street
Columbia, TN 38401
615.812.2147
garry@martinengrg.com

GARY W. MARTIN
REGISTERED ENGINEER
No. 15156
STATE OF TENNESSEE

GRADING AND DRAINAGE PLAN
BEAR CREEK OVERLOOK
PHASE 2 AND 3
COLUMBIA, TENNESSEE
MAURY COUNTY

General Notes

No.	Revision/Issue	Date
1	Revised per City comments	3/29/23

Date: 4/29/22
Scale: 1"= 60'

C3.0

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

Final Plat: * *1 hard copy of all materials for submittal + PDF copy on a USB flash drive (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"
All Others: * Please submit the Application online at City of Columbia | Permitting (onlama.com)

ADDRESS/LOCATION	Bear Creek Overlook Phase II		
	TAX MAP: 72	GROUP:	PARCEL: 53.00
SUMMARY OF NATURE OF REQUEST AND WORK	To obtain Final Plat approval for Phase 2 of Bear Creek Overlook development consisting of 24 single-family lots		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Comprehensive Plan Amendment ❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☒ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Site Development Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations:** ❑ Annexation Permission Form **Annexations/Rezoning/Plan Amendments:** ❑ Requested Zone Listed ❑ Statement of Compliance with Comprehensive Plan ❑ Concept Plan **Preliminary Plats/Site Development Plans:** ❑ Plans and/or Plats conforming to City standards with signed and completed check list **All Annexations/Rezoning/Preliminary Plats/Site Development Plans and PUDS:** ❑ Receipt of Payment for Pre-Application Meeting ❑ Written Legal Description copy ❑ Columbia Water System Availability Letter ❑ Columbia Waste Water Department Will Serve Letter

	Plats/PUDs: ☒ Project Name (include Sections & Phases) Bear Creek Overlook Phase 2 ☒ Total Number of Lots/Residential Units 24 single-family lots ☐ Square Footage of Non-Residential Floor Space ☒ Total acreage 6.15 acres

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application. Any requests to defer or move the item to future meeting dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT
All communications go to the Applicant's email that is provided.

NAME	TKC Architecture & Engineering LLC	PHONE	615-617-7477
ADDRESS	818 S. Main Street,Columbia, TN 38401	EMAIL	cole@tkc-ae.com

PROPERTY OWNER NAME	CHR Land LLC	PHONE	615-812-2147
ADDRESS	818 S. Main St., Columbia, TN 38401	EMAIL	gary@martinengrg.com

If owner is not a natural person, documentation must be provided showing signing authority on behalf of the entity. If multiple persons are listed as owners in the records of the Maury County Assessor, all owners must sign or the signatory must provide documentation of authority to apply on behalf of record owner (i.e., Power of Attorney or notarized Letter of Authorization). In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Cole Newton	Cole Newton	3/18/24
APPLICANT NAME	APPLICANT SIGNATURE	DATE
CHR Land LLC Gary Martin		3/18/24
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0143

DESCRIPTION: Final Plat for The Landings at Greens Mill Road Phase 1A. The purpose of this plat is to create 33 buildable lots, 3 open space lots, dedications of Right of Way, and Easements.

COMMENTS:

Columbia Water

1. It's our understanding this project will be pushed to next month. Complete any remaining infrastructure, conduct bacteria and pressure testing by the resubmittal deadline. Be prepared to deed over infrastructure to CPWS at time of plat signing. Water system must be active at time of Final Plat approval. Water system must be active.

Maury County E911

2. Contact Maury County 911 for any road names to be reserved.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0143

DESCRIPTION: Final Plat for The Landings at Greens Mill Road Phase 1A. The purpose of this plat is to create 33 buildable lots, 3 open space lots, dedications of Right of Way, and Easements.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. Please indicate whether the name of the development is "Landing at Greens Mill" or "Landing at Green Mills" and correct documents accordingly.
2. If Development Services receives a complete and timely resubmittal responsive to all comments and conditions on or before April 15th, this item will be forwarded to the Planning Commission. If a complete and responsive resubmittal is not received by April 15th, this item will automatically be added to the May Development Review Committee agenda for additional review. If the application remains incomplete on May 20th, the project will be closed.
3. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal. 8.3.7; 8.5.4
4. All necessary infrastructure, including the roundabout and water line extensions, must be complete and functional at the time of resubmittal. "Complete and functional" shall be determined by the City Engineer.
5. This phase is being submitted in accordance to an approved final PUD master plan and preliminary plat this includes a subsequent item of revision for the entirety of the final PUD master plan on this (April 2024) Planning Commission agenda with case 24-0146
6. This final plat is not within a phase that is being proposed with changes that include roadway exclusions and inclusions and reconfiguration of lots in case 24-0146 within the southern half of the development site.
7. Provide note indicating that this final plat is vested under the previous zoning code within Zoning Ordinance 3638 as an RS-10 Planned Unit Development.
8. Provide clarity for Lots 1043, 1040, 1006 to indicates lot widths have a minimum of 73' per approved lot standards in the PUD master plan
9. Amenity center and associated parking will require separate permit and site plan review.
10. Correct phase lines in the final PUD master plan to reflect this final plat that is dividing phase 1 and phase 2.
11. Are current roadways installed to provide connectivity and circulation?

12. Provide FEMA panel note indicating what zone this subject plat lies within.
13. Provide specific Road names on Plat
14. Clarify 10' PUDE on rears and 5' on sides.

Wastewater

15. The maintenance access easement between lots 1002 and 1003 per emails comments has not been added in. There has to be a 10' maintenance access easement for access to the sewer infrastructure behind these lots. There cannot be anything built in this easement, including fencing.

Fire

16. All dead end roads over 150' will need an approved temporary turnaround, please show on plans. Road "A"

Engineering

1. Provide MOU with all parties involved in improvements at the Greens Mill/Nashville Hwy intersection.
2. Conaway driveway to be relocated per field locations.
3. Binder and curbing to be installed by resubmittal date. Roundabout, bridge, and appurtenances to be completed by resubmittal date.
4. Surety provided ($1,040,000).
5. Provide all required testing and reports data
6. Record stormwater maintenance agreement by resubmittal date
7. Temporary turnarounds shall be installed per ESS.
8. E-911 approved road names should be labeled on the final plat

Building

17. No comments.

ATT

18. PLAN TO SERVE

Columbia Power

19. Columbia Power System has an existing power line near your proposed development. We are willing to serve this commercial development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Maury County Schools

20. Battle Creek Elementary, Battle Creek Middle, Battle Creek High 24/25 SY 9-10th 25/26 SY 9-11th, 26/27SY 9-12th, Spring Hill High 24/25SY 11-12th, 25/26SY. The development combined with current neighborhoods and additional approved developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Public Works

21. No comments.

Columbia Water

22. It's our understanding this project will be pushed to next month. "Complete any remaining infrastructure, conduct bacteria and pressure testing, and be prepared to deed over infrastructure to CPWS at time of plat signing. Water system must be active in order for plat signing"

Atmos Energy

23. No comments.

Maury County E911

24. Contact Maury County 911 for any road names to be reserved.

Duck River Electric Membership Corp

25. No comments provided.

Maury County Highway Dept.

26. No comments provided.

CPWS BB

27. Plan to Serve

ATTACHMENTS: Preliminary Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

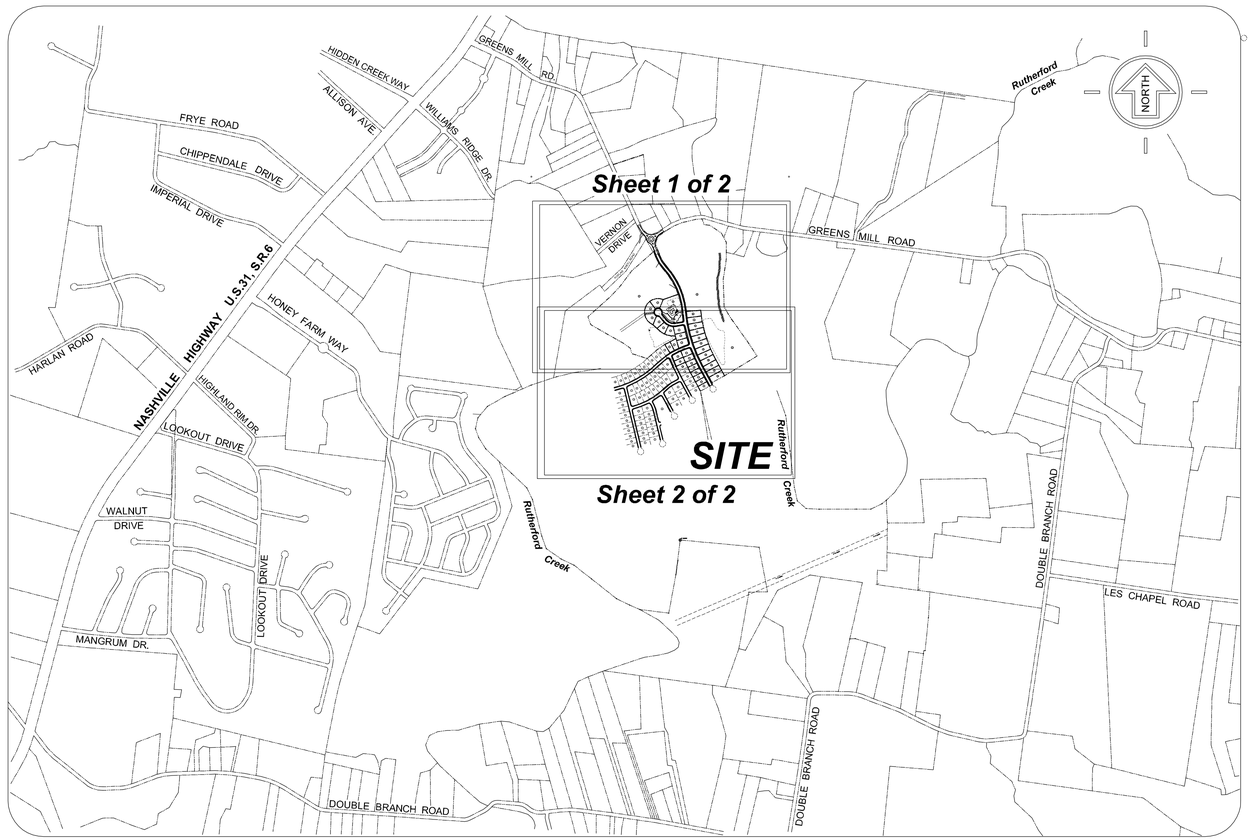
	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity
Elementary	Baker	1960	43,920	12	340
	Battle Creek	2019	90,000	30	700
	Brown	1968	56,720	20	405
	Highland	1986	47,800	4.5	380
	Howell	1999	81,600	17.5	700
	Mt. Pleasant	1978	80,021	22	630
	Riverside	1984	71,150	14	500
	Spring Hill	1984	69,000	10	540
	Woodard	1990	76,200	17	600
	Wright	2005	97,765	18	740
					5535
Middle	Battle Creek	2019	125,000	45	900
	Cox	1997	137,200	25	900
	Mt. Pleasant	2001	113,938	29.2	550
	Spring Hill	2010	158,106	39.49	950
	Whitthorne	1979	175,600	17	1050
					4350
High	Central	2016	296,740	55	1700
	Mt. Pleasant	1969	110,759	31	600
	Spring Hill	1993	181,800	57	1200
					3500
Unit	Culleoka	1969	205,800	34	1020
	Hampshire	1978	83,410	13.12	500
	Santa Fe	1964	94,225	24	650
					2170
Other	Central Office	1960	15,400	1.5	
	College Hill	1958	42,211	2.26	
	Maintenance	1987	9,400	4.7	
	McDowell		46,165	7	
			2,509,930	**550.27**	**15555**

Current Enrollment	Capacity Used
320	94.1%
638	91.1%
366	90.4%
319	83.9%
595	85.0%
571	90.6%
402	80.4%
449	83.1%
565	94.2%
601	81.2%
4826	***87.2%***
732	81.3%
646	71.8%
415	75.5%
523	55.1%
980	93.3%
3296	***75.8%***
1372	80.7%
366	61.0%
1195	99.6%
2933	***83.8%***
873	85.6%
415	83.0%
512	78.8%
1800	***82.9%***
174	
13029	

TOTAL AREA: 2,940,359.84 SQUARE FEET OR 67.50 ACRES ±

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAT IS TO CREATE 100 BUILDABLE LOTS, 4 OPEN SPACE LOTS, DEDICATION OF RIGHT OF WAY AND EASEMENTS.
2. PROPERTY SHOWN HEREON IS PART OF PARCEL (55.00) ON MAURY COUNTY PROPERTY MAP 51.
3. BEARINGS SHOWN HEREON ARE BASED ON TENNESSEE STATE PLANE COORDINATE SYSTEM, ZONE 5301, FIPZONE 4100, NAD 83 DATUM.
4. BEING PART OF THE SAME PROPERTY CONVEYED TO 2558 GREENS MILL, LLC AS OF RECORD IN BOOK R2799, PAGE 298 REGISTERS' OFFICE, MAURY COUNTY, TENNESSEE.
5. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, A PORTION OF THIS PROPERTY IS LOCATED WITHIN AN AREA OF FLOOD INUNDATION AS SHOWN ON FEMA MAP NUMBER: 47119C0180E, DATED: 4/16/2007.
6. THIS PROPERTY IS CURRENTLY ZONED: RS 10.
7. WATER AND SANITARY SEWER SERVICES TO BE PROVIDED BY COLUMBIA PUBLIC UTILITIES.
8. THERE IS A 20' PUBLIC UTILITY & DRAINAGE EASEMENT ALONG THE REAR PROPERTY LINE AND ALONG ALL STREET R.O.W. UNLESS SHOWN OTHERWISE.
9. XXX INDICATES STREET ADDRESS.
10. ALL UTILITIES ARE TO BE UNDERGROUND.
11. NO MOBILE HOMES SHALL BE PERMITTED.
12. NO DRIVEWAY TO BE CONSTRUCTED OVER SANITARY SEWER SERVICE LINE.
13. FOR MINIMUM YARD LINES SEE THE TYPICAL LOT DETAILS.
14. ALL NOTES AND CERTIFICATES APPLY TO ALL SHEETS.
15. SIDEWALKS ARE 5' WIDE, UNLESS OTHERWISE NOTED.
16. EXISTING USE: VACANT, PROPOSED USE : ONE-FAMILY, DETACHED DWELLINGS
17. ALL OPEN SPACE TRACTS SHALL BE OWNED AND MAINTAINED BY THE LANDING AT GREENS MILL ROAD HOMEOWNERS ASSOCIATION.
18. ROADS, UTILITIES, AND OTHER FACILITIES HAVE BEEN FILED AS REQUIRED BY THE MAURY COUNTY SUBDIVISION REGULATIONS.
19. THIS SUBDIVISION IS SUBJECT TO THE TERMS AND CONDITIONS OF THE RECORDED STORMWATER INSPECTION AND MAINTENANCE AGREEMENT FOR THESE FACILITIES AS RECORDED IN BOOK _____, PAGE _____, R.O.M.C., TN.
20. SEE DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR THE LANDING AT GREENS MILL ROAD, AS RECORDED IN BOOK _____, PAGE _____, REGISTERS' OFFICE FOR MAURY COUNTY, TENNESSEE.
21. A STREAM BUFFER AS SHOWN ON THIS PLAN IS TO BE A PERMANENT WATER QUALITY BUFFER IN ACCORDANCE WITH ARTICLE 6 SECTION 9 OF THE CITY OF COLUMBIA STORMWATER ORDINANCE. THIS STREAM BUFFER IS TO REMAIN IN A NATURAL VEGETATED STATE FREE OF OBSTRUCTIONS, STRUCTURES, AND INTRUSIONS. BUFFER IS TO BE A NO MOW BUFFER AREA, AND THE MAINTENANCE WITHIN STREAM BUFFERS TO BE LIMITED TO HAND OPERATED TOOLS AND BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF COLUMBIA STORMWATER ORDINANCE AND OR AT THE DIRECTION OF THE CITY OF COLUMBIA ENGINEERING DIVISION.
22. NO OBSTRUCTIONS OR ENCROACHMENTS WHICH IMPEDE THE FLOW OF STORMWATER SHALL BE PERMITTED WITHIN PUBLIC DRAINAGE EASEMENTS. THE CITY OF COLUMBIA IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY ENCROACHMENTS THAT ARE DAMAGED OR REMOVED IN THE COURSE OF MAINTENANCE ACTIVITY WITHIN EASEMENTS AS REFERENCED IN THE COLUMBIA GENERAL MANAGEMENT CODE, CHAPTER 15, ARTICLE 1, SECTION 15-8.



LOCATION & KEY MAP
Scale 1" = 1000'

E-911 PROGRAM CERTIFICATION OF APPROVAL

This is to certify that this plat has been reviewed and is in compliance with the Maury County E-911 Program.

_____ _____
(Date) E-911 Director

CERTIFICATE OF APPROVAL OF PUBLIC SEWER SYSTEM

I hereby certify that the sewer system(s) outlined or indicated on the final subdivision plat entitled The Landing at Greens Mills Road - Phase 1 has / have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

_____ _____
(Date) Name, Title, and Agency or Authorized Approving Agent

CERTIFICATE OF APPROVAL OF PUBLIC WAYS OR BOND POSTING

I hereby certify: (1) that all designated public ways on this final subdivision plat have been installed in an acceptable manner and according to the specifications of the Maury County Subdivision Regulations, or (2) that a performance bond or other surety has been posted with the Planning Commission to guarantee completion of all required improvements in case of default.

_____ _____
(Date) Appropriate Governmental Representative

CERTIFICATE OF APPROVAL OF PUBLIC SEWER SYSTEM

I hereby certify that the sewer system(s) outlined or indicated on the final subdivision plat entitled The Landing at Greens Mill has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

_____ _____
(Date) Name, Title, and Agency or Authorized Approving Agent

CERTIFICATE FOR APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the Maury County Subdivision Regulations, with the exception of such variances, if any, as are noted in the minutes of the Planning Commission, and that it has been approved for recording in the office of the County Register.

_____, _____ _____
Date Secretary
Maury County Regional Planning Commission

CERTIFICATE OF COMMON AREAS DEDICATION

2558 Greens Mill, LLC, in recording this plat has designated certain areas of land shown hereon as common areas intended for use by the homeowners within The Landing At Green Mills Road - Phase 1, for recreation and related activities. The above-described areas are not dedicated for use by the general public, but are dedicated to the common use of the homeowners within the named subdivision.

"Declaration of Covenants and Restrictions", applicable to the above named subdivision, is hereby incorporated and made part of this plat.

_____, _____, _____
Date Owner

CERTIFICATE OF SURVEY ACCURACY

I hereby certify that to the best of my knowledge and belief the hereon shown subdivision plat represents a Category "1" Survey having an unadjusted ration of precision of 1:10,000 and is true and correct. Approved monuments have been placed as indicated. All side lot lines are perpendicular or radial to a street unless otherwise noted.

Last Revised: 2-19-2024
~~12-15-2023~~
(Date) M. Trevor Gorman, R.L.S. # 2875

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (we) hereby certify that I am (we are) the owners of the property shown and described hereon as evidenced in Book R2799, Page 298, Maury County Register's Office and I (we) adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, public easements, utilities, and other facilities have been filed.

_____ _____
(Date) (Owner)

_____
Title (If Acting for Partnership or Corporation)

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled The Landing at Greens Mill Road - Phase 1 has / have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

_____ _____
(Date) Name, Title, and Agency or Authorized Approving Agent

ZONING: RS10

Dwg.Name: Landing-At-Greens-Mill-Ph1-COVER.dwg

REVISIONS:
1. By:MTG Date: 2-15-2024. Revise Sewer Easements.
2. By:MTG Date: 2-19-2024. Revise Phase Lines.

OWNER:
2558 Greens Mill, LLC
308 Letterman Road
Knoxville, TN 37919

DEVELOPER:
Safe Harbor Residential
105 Westpark Drive, Suite 365
Brentwood, TN 37027

SITE DATA:
Property Location / Address:
2558 Greens Mill Road
Columbia, TN 38401

Prepared By:
JTA
LAND SURVEYING, INC.
2608 Hwy Hill Pike, Suite K Nashville, TN 37214
Phone: 615-490-6920

FINAL PLAT
THE LANDING AT GREEN MILLS ROAD PHASE 1A

2558 GREENS MILL ROAD
Property Map # 51 - P/O Parcel (55.00)
CITY OF COLUMBIA,
MAURY COUNTY, TENNESSEE

Scale : 1" = 1000'

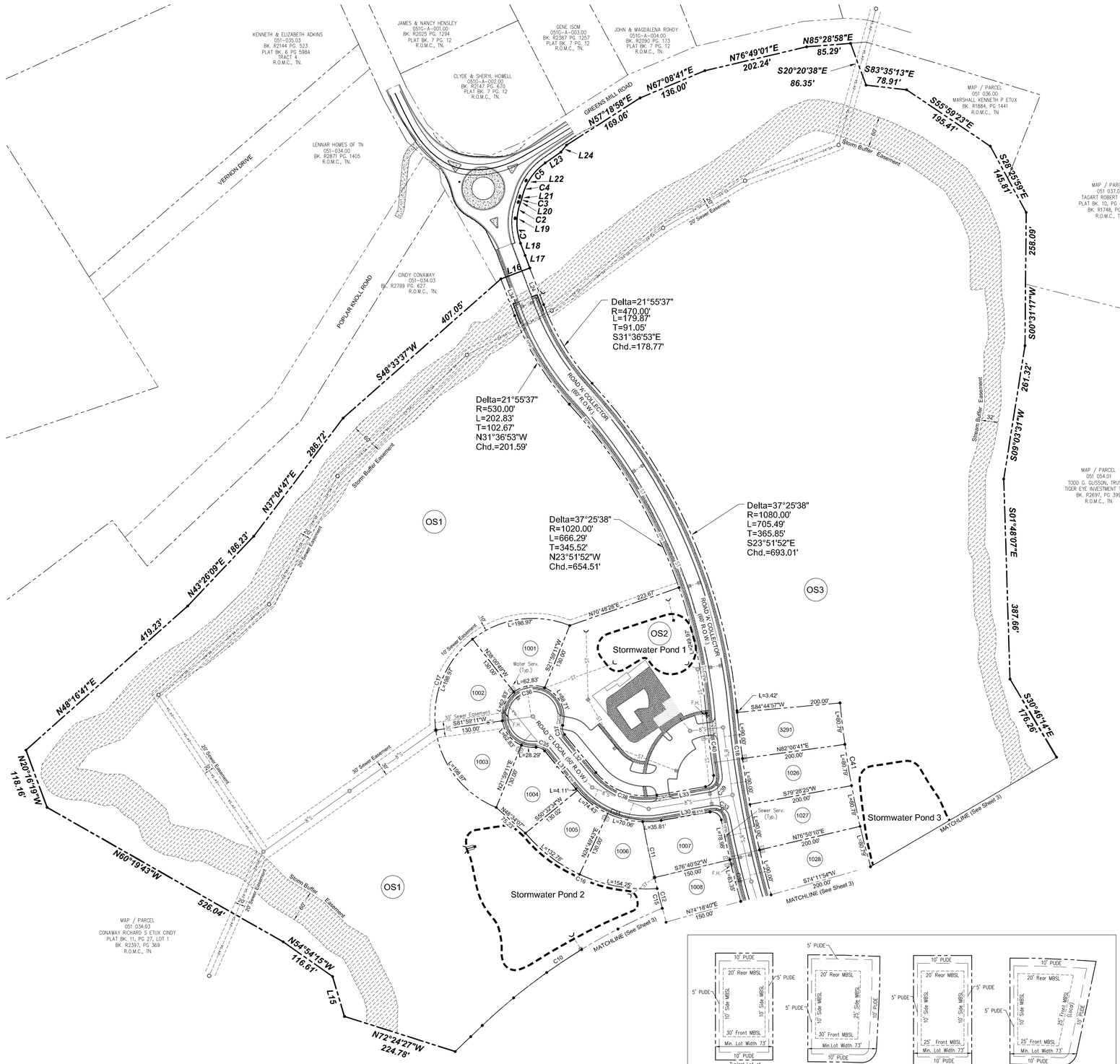
(See Revisions)
DATE: ~~DEC. 15, 2023~~
JOB NUMBER: 2023-507

SHEET 1 OF 3

TOTAL AREA THIS RECORDING = 2,940,359.84 S.F. or 67.50 Acres ±

NORTH
(NAD83)

1" = 100'
0' 50' 100' 200'
GRAPHIC SCALE



CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHD BEARING	CHORD
C1	23°39'02"	115.00'	24.08'	47.47'	S08°21'52"E	47.13'
C2	15°29'22"	115.00'	15.64'	31.09'	S12°07'46"W	30.99'
C3	4°47'41"	77.00'	3.22'	6.44'	N16°50'16"E	6.44'
C4	15°23'18"	115.00'	15.54'	30.89'	S21°56'26"W	30.79'
C5	23°56'55"	115.00'	24.39'	48.07'	S42°31'42"W	47.72'
C6	04°08'59"	2153.00'	78.00'	155.93'	N26°25'09"W	155.90'
C7	03°08'27"	2340.00'	64.15'	128.27'	N22°46'26"W	128.26'
C8	104°27'39"	19.00'	24.52'	34.64'	N73°26'02"W	30.04'
C9	04°14'22"	1025.00'	37.94'	75.84'	N56°27'33"E	75.83'
C10	08°38'59"	1162.00'	87.85'	175.37'	N62°54'09"E	175.20'
C11	2°55'14"	2165.00'	55.19'	110.35'	S11°51'31"E	110.34'
C12	2°22'12"	2165.00'	44.78'	89.56'	S14°30'14"E	89.55'
C13	2°54'34"	2165.00'	54.98'	109.94'	S17°08'37"E	109.92'
C14	3°38'56"	2165.00'	68.96'	137.88'	S16°46'26"E	137.86'
C15	1°03'01"	2165.00'	19.84'	39.69'	S14°25'27"E	39.68'
C16	53°55'09"	305.00'	155.13'	287.03'	S67°11'18"E	276.55'
C17	180°00'00"	190.00'	INFINITE	596.90'	S21°59'11"W	380.00'
C18	23°20'35"	1955.00'	403.85'	796.49'	S16°49'20"E	790.99'
C19	8°04'28"	2015.00'	142.22'	283.96'	S24°27'24"E	283.73'
C20	88°45'38"	19.00'	18.59'	29.43'	N64°47'58"W	26.58'
C21	11°05'26"	975.00'	94.66'	188.73'	S65°16'29"W	188.43'
C22	80°28'12"	19.00'	16.08'	26.68'	S19°29'40"W	24.55'
C23	7°45'11"	2290.00'	155.18'	309.88'	S24°37'02"E	309.64'
C24	1°57'45"	2153.00'	36.87'	73.74'	S27°30'45"E	73.74'
C25	2°04'24"	2153.00'	38.96'	77.91'	S25°29'41"E	77.91'
C26	2°04'24"	2153.00'	38.96'	77.91'	S23°25'17"E	77.91'
C27	2°28'44"	2153.00'	46.58'	93.14'	S21°08'43"E	93.14'
C28	2°26'04"	2153.00'	45.75'	91.48'	S21°07'23"E	91.47'
C29	2°00'14"	2153.00'	37.66'	75.30'	S23°20'32"E	75.30'
C30	12°14'28"	1025.00'	109.91'	218.99'	N64°41'58"E	218.57'
C31	88°45'38"	19.00'	18.59'	29.43'	N26°26'23"E	26.58'
C32	6°52'03"	2015.00'	120.90'	241.52'	S14°30'24"E	241.38'
C33	88°45'38"	19.00'	18.59'	29.43'	N55°27'11"W	26.58'
C34	60°22'34"	175.00'	101.80'	184.41'	S69°38'43"E	175.99'
C35	56°09'15"	19.00'	10.14'	18.62'	N67°32'03"W	17.89'
C36	292°18'29"	60.00'	40.24'	306.10'	S50°32'34"W	66.84'
C37	56°09'15"	19.00'	10.14'	18.62'	S11°22'49"E	17.89'
C38	60°22'34"	125.00'	72.72'	131.72'	S69°38'43"E	125.71'
C39	88°45'38"	19.00'	18.59'	29.43'	N35°47'11"E	26.58'
C40	03°26'35"	2015.00'	60.56'	121.08'	S06°52'20"E	121.07'
C41	23°14'34"	1755.00'	360.93'	711.94'	S16°52'21"E	707.07'

AREA SUMMARY		
LOT	SQ. FT.	ACREAGE
1001	17,017	0.39
1002	17,017	0.39
1003	17,017	0.39
1004	14,912	0.34
1005	13,469	0.31
1006	14,496	0.33
1007	15,290	0.35
1008	12,968	0.30
1009	15,357	0.35
1010	11,104	0.25
1011	10,417	0.24
1027	17,079	0.39
1028	17,079	0.39
1029	17,079	0.39
1030	17,079	0.39
1031	17,079	0.39
1032	17,079	0.39
1033	17,252	0.40
1034	17,000	0.39
1035	17,000	0.39
1036	17,000	0.39
1040	12,511	0.29
1041	10,407	0.24
1042	10,407	0.24
1043	10,397	0.24
1044	10,212	0.23
1045	10,212	0.23
1046	10,212	0.23
1047	10,212	0.23
1051	11,912	0.27
1052	10,645	0.24
3291	17,079	0.39
OS1	883,083	20.27
OS2	93,107	2.14
OS3	1,313,084	30.14

LINE TABLE		
LINE	BEARING	LENGTH
L16	N69°20'56"E	60.00'
L17	N20°39'04"W	26.09'
L18	N20°38'34"W	25.14'
L19	N03°55'22"E	1.85'
L20	N19°53'25"E	2.30'
L21	N13°50'52"E	3.22'
L22	N30°05'40"E	1.85'
L23	N55°12'21"E	36.94'
L24	N39°03'31"E	17.26'
L25	N70°49'12"E	52.74'
L29	S70°49'12"W	52.74'
L30	S80°10'00"W	95.81'
L31	N39°27'26"W	95.39'
L32	S39°27'26"E	95.39'
L33	N80°10'00"E	95.81'
L34	N20°39'04"W	75.86'
L35	N28°29'38"W	74.00'
L36	N28°29'38"W	74.00'
L37	N28°29'38"W	74.00'
L38	N28°29'38"W	74.00'
L39	N28°29'38"W	3.96'

LEGEND:

- IP(0)○ Existing Iron Pipe – IP(0)
- IR(0)○ Existing Iron Rod – IR(0)
- IR(N)● Iron Rod (New) – IR(N)
- Sanitary Manhole
- Fire Hydrant (F.H.)
- Catch Basin
- Storm Manhole
- Concrete Headwall
- PUDE Public Utility & Drainage Easement
- MBSL Minimum Building Setback Line
- R.O.M.C. Registers' Office Maury County

Prepared By:
JTA
LAND SURVEYING, INC.
2403 Elm Hill Pike, Suite K - Nashville, TN. 37214
Phone 615-450-9525

REVISIONS:
1. By:MTG Date: 2-15-2024. Revise Sewer Easements.
2. By:MTG Date: 2-19-2024. Revise Phase Lines.

Typical Lot Layouts
Not to Scale

FINAL PLAT
THE LANDING AT GREENS MILL ROAD
PHASE 1A
GREEN MILLS ROAD
Property Map # 51 - Parcel (55.00)

CITY OF COLUMBIA,
MAURY COUNTY, TENNESSEE

DRAWN BY: MTG, TMF, RR
Scale : 1" = 100'
(See Revisions)
DATE: DECEMBER 15, 2023

Job No. 2023-507

SHEET 2 OF 3

TOTAL AREA THIS RECORDING = 2,940,359.84 S.F. or 67.50 Acres ±

NORTH

(NAD83)

1" = 100'

0' 50' 100' 200'

GRAPHIC SCALE


MATCHLINE (See Sheet 2)
MATCHLINE (See Sheet 2)
Stormwater Pond 3
OS3
S35°29'23"E 396.48'
S33°29'09"E 255.11'
S58°52'38"W 531.47'
S61°30'22"W 200.00'
S61°30'22"W 198.00'
S65°39'21"W 187.00'
N31°25'16"W 137.00'
N35°05'14"W 50.00'
S74°11'54"W 200.00'
N71°33'39"E 200.00'
S65°55'23"W 200.00'
N65°17'08"E 200.00'
S63°38'55"W 200.00'
N61°30'22"E 200.00'
S61°30'22"W 200.00'
N61°30'22"E 200.00'
S61°30'22"W 200.00'
N61°30'22"E 200.00'
S28°29'38"E 85.00'
S28°29'38"E 271.92'
N74°18'40"E 150.00'
S12°07'46"W 137.00'
N67°39'55"E 137.00'
S65°32'31"W 138.00'
N63°28'07"E 138.00'
S61°30'22"W 138.00'
N61°30'22"E 138.00'
S61°30'22"W 138.00'
N61°30'22"E 138.00'
S61°30'22"W 138.00'
N61°30'22"E 138.00'
S28°29'38"E 74.00'
S28°29'38"E 74.00'
S28°29'38"E 74.00'
S28°29'38"E 74.00'
S28°29'38"E 74.00'
S28°29'38"E 74.00'
S28°29'38"E 3.96'
R=470.00'
R=530.00'
R=470.00'
R=530.00'
R=470.00'
R=530.00

Post Construction Long Term Maintenance Plan

Project Name: Landing at Greens Mill – Phase 1A

Columbia, TN

February 19, 2024

Table of Contents

Section Name

System Description
Maintenance Procedures

System Description

The site consists of a series of stormwater conveyances both open channel and piped, detention / retention and water quality ponds.

- There are 5 stormwater detention ponds sized to detain through the 100 year peak event. The orifice is designed to contain the first flush, 1 inch, for 24 hour.
- 2,907 feet of grass lined open channel.
- 306 feet of 36 in ADS pipe, 834 feet 30 in ADS pipe, 2,763 feet of 24 in ADS pipe, 6,048 feet of 18 in ADS pipe and 118 storm inlets.

Upon completion of the site construction, 'Record Drawings' in a version not less than AutoCAD 2006 LT (NAD83, NAVD88) of the stormwater controls will be provided to the City of Columbia for verification.

A copy of the INSPECTION AND MAINTENANCE AGREEMENT OF PRIVATE STORMWATER MANAGEMENT FACILITIES that has been completed, notarized, and recorded in the Land Records of the County of Maury, Tennessee will be kept on site with this document.

Maintenance Procedures

1. **STORMWATER DETENTION PONDS**
    - **a.** The outlet structures shall be checked regularly for clogging and shall be cleaned and repaired as necessary---monthly after it is first built then a regular sequence should be established or at least quarterly or after a large rain event.
    - **b.** Check banks and bottom surface of basins for erosion and correct as necessary.
    - **c.** Check at least quarterly and after each extreme storm event, the facility should be cleaned of accumulated debris. The banks of surface ponds should be checked and areas of erosion repaired. Remove nuisance wetland species and take appropriate measures to control mosquitos.
    - **d.** This maintenance typically includes sediment, floatable, and debris removal from inlets, outlets and skimmers.
    - **e.** Pond vegetation to be trimmed or harvested as appropriate, grassy areas, frequently mowed. Grass should be mowed so that it does not get over 12.
    - **f.** Remove sediment when accumulation reached 6 inches, or if re-suspension is observed or probable.
    - **g.** Some sediment may contain contaminants which the Tennessee Department of Environment and Conservation (TDEC) requires special disposal procedure. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then TDEC should be consulted and their disposal recommendations followed. The TDEC Division of Water Pollution Control should be contacted at (931) 380-3371. Generally, special attention or sampling should be given to sediment accumulated in facilities serving industrial, manufacturing or heavy commercial sites, Page 2 of 4 Rev. 9/26/2016 fueling centers or automotive maintenance areas, large parking areas, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.
    - **h.** Some sediment collected may be innocuous (free of pollutants) and can be used as fill material, cover or land spreading. It is important that this material not be placed in any way that will promote or allow re-suspension in storm runoff.
2. **306 feet of 36 in ADS pipe, 834 feet 30 in ADS pipe, 2,763 feet of 24 in ADS pipe, 6,048 feet of 18 in ADS pipe and 118 storm inlets.**
    a. These structures will be inspected and cleaned quarterly to ensure pipes and drain inlets do not fill with sediment or trash.

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	2558 Greens Mill Rd., Columbia, TN 38401		
	TAX MAP: 51	GROUP:	PARCEL: 55.00
SUMMARY OF NATURE OF REQUEST AND WORK	The purpose of this plat is to create 33 build-able lots, 3 open space lots, dedication of Right of Way, and Easements.		

DATE OF PRE-APPLICATION CONFERENCE		*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ❑ Preliminary Plat ☒ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ❑ Project Name (include Sections & Phases) The Landing at Greens Mill Rd. - Phase 1A ❑ Total Number of Lots 33 Lots ❑ Total acreage 33 acres

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Crunk Engineering, LLC	PHONE	615-873-1795
ADDRESS	7112 Crossroads Blvd., #201, Brentwood, TN 37027	EMAIL	alex@crunkeng.com

PROPERTY OWNER NAME	Safe Harbor Residential	PHONE	865-622-1774
ADDRESS	105 Westpark Dr., #365, Brentwood, TN 37027	EMAIL	taylor@safeharborresidential.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Adam Crunk, PE	Adam Crunk	12/18/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Kelsey DuMont		12/18/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	

GREENS MILL ROAD

2558 GREENS MILL RD., COLUMBIA, TN 38401

PRELIMINARY PLAT

GENERAL INFORMATION

DEVELOPER

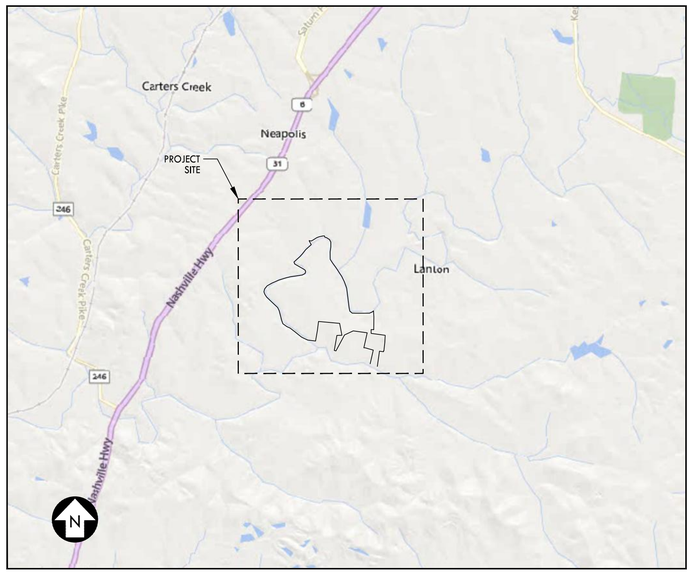
SAFE HARBOR RESIDENTIAL
105 WESTPARK DRIVE, SUITE 365
BRENTWOOD, TN 37027

CIVIL ENGINEER

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD, SUITE 201
BRENTWOOD, TN 37027
CONTACT: PATRICK CARROLL, PE
PHONE: 615.873.1795
EMAIL: patrick@crunkeng.com

NOTE:

THIS MASTER PLAN IS BEING REVIEWED UNDER THE PREVIOUS ZONING CODE 3638 AS AN RS-10 PUD.



LOCATION MAP
NOT TO SCALE

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	OVERALL SITE LAYOUT PLAN
C1.0A	EXHIBIT OF CHANGES
C1.1	SITE LAYOUT PLAN
C1.2	SITE LAYOUT PLAN
C1.3	SITE LAYOUT PLAN
C1.4	SITE LAYOUT PLAN
C1.5	SITE LAYOUT PLAN
C1.6	SITE LAYOUT PLAN
C1.7	TYPICAL LOT LAYOUT
C1.8	PARCEL TABLES
C1.9	OFFSITE IMPROVEMENTS
C2.0	OVERALL GRADING, DRAINAGE, & UTILITY PLAN
C2.1	GRADING, DRAINAGE, & UTILITY PLAN
C2.2	GRADING, DRAINAGE, & UTILITY PLAN
C2.3	GRADING, DRAINAGE, & UTILITY PLAN
C2.4	GRADING, DRAINAGE, & UTILITY PLAN
C2.5	GRADING, DRAINAGE, & UTILITY PLAN
C2.6	GRADING, DRAINAGE, & UTILITY PLAN
C2.7	MCWS WATERMAIN EXTENSION EXHIBIT
C3.0	ROADWAY CROSS SECTIONS

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH CARROLL
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C0.0
COVER SHEET

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

LOCATION OF NEW 100 YR FLOODPLAIN

LOCATION OF NEW 100 YR FLOODPLAIN

REFER TO SHEET C1.3
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.5
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.4
FOR DETAILED INFORMATION
IN THIS AREA.

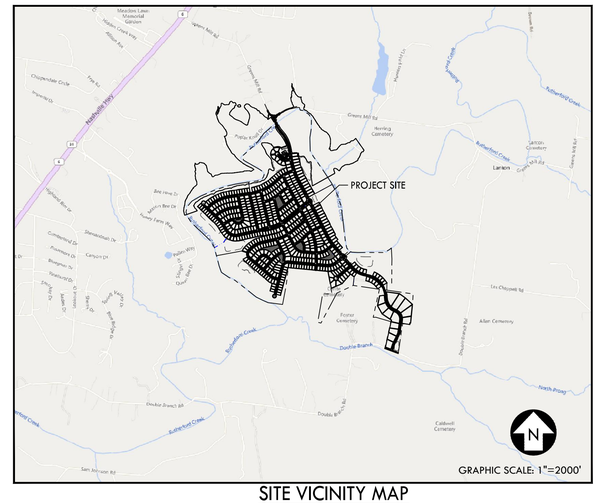
REFER TO SHEET C1.6
FOR DETAILED INFORMATION
IN THIS AREA.

0 350 700
GRAPHIC SCALE

N

FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/16/2007



SITE VICINITY MAP

NOTES:
1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

SITE DATA TABLE

PROJECT: GREENS MILL ROAD PUD	
ADDRESS: GREENS MILL ROAD 2558	
PARCEL ID: 051 055.00	
SITE ACREAGE: 376.96 ACRES	
PROPOSED DENSITY: 1.46 DUA	
PROPOSED ZONING: RS10	
ZONING DISTRICT:	RS10
AREA:	376.96 AC
LOT TYPE:	
10,000 SQ-FT	528 LOTS
1-ACRE	22 LOTS
PROPOSED LOTS:	
PHASE 1 LOTS:	100
PHASE 2 LOTS:	218
PHASE 3: LOTS:	232
TOTAL	550
MIN. LOT SIZE:	10,000 SF
MIN. LOT WIDTH:	73 FT
FRONT YARD:	
MINOR COLLECTOR:	30 FT
LOCAL STREET:	25 FT
SIDE SETBACK:	
10,000 SQ-FT	10 FT
1-ACRE	25 FT
REAR SETBACK:	20 FT
OPEN SPACE REQ'D:	6% OF TOTAL AREA (22.62 AC)
OPEN SPACE PROVIDED:	165.98 AC (44.03%)
REQUIRED USABLE OPEN SPACE (33% OF REQUIRED OPEN SPACE):	7.46 AC
USABLE OPEN SPACE PROVIDED:	9.20 AC

***REFER TO SHEET C1.8 FOR OPEN SPACE PARCEL TABLE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

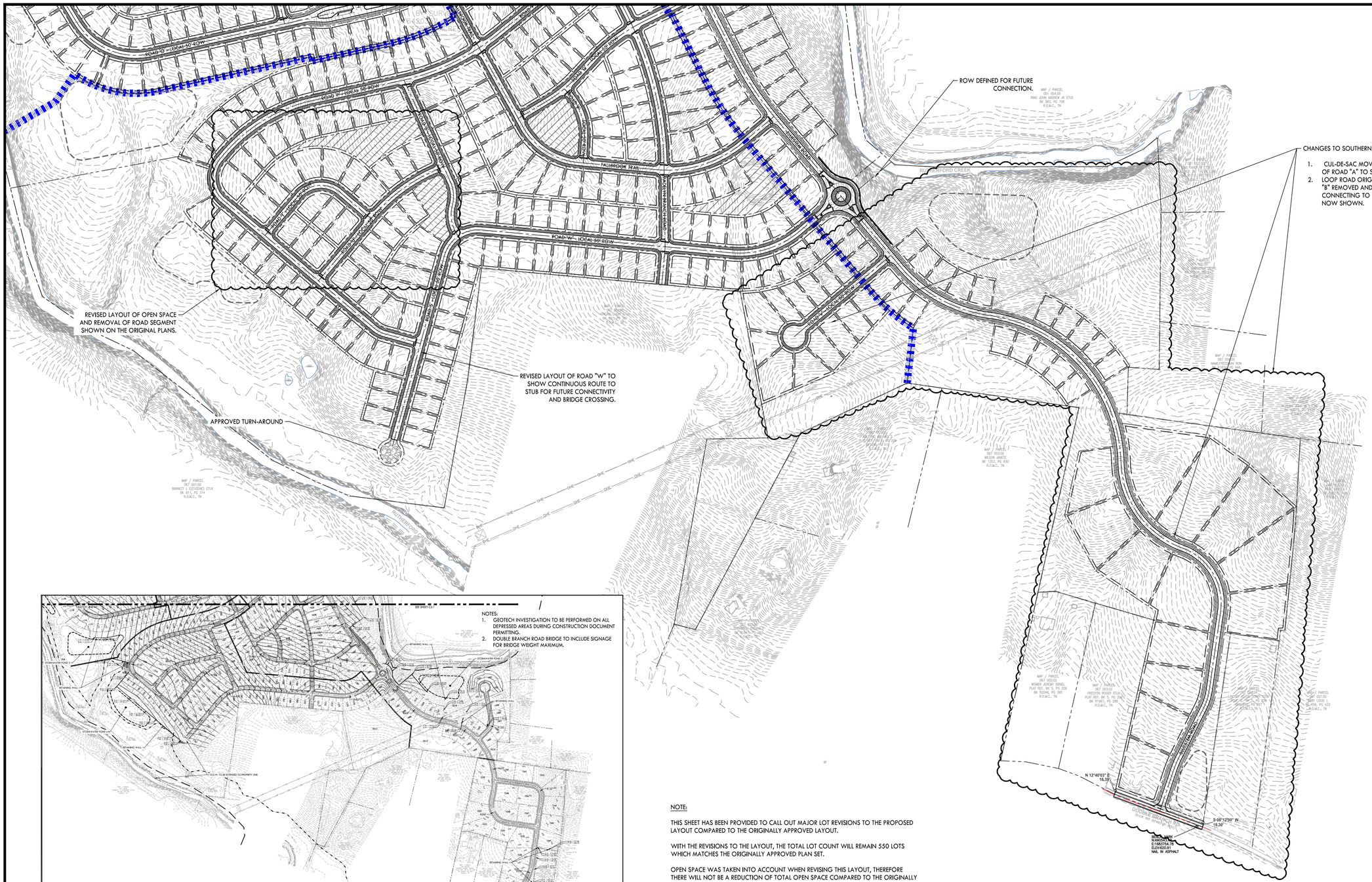
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.0
OVERALL SITE LAYOUT PLAN



ORIGINAL APPROVED LAYOUT

NOTE:

THIS SHEET HAS BEEN PROVIDED TO CALL OUT MAJOR LOT REVISIONS TO THE PROPOSED LAYOUT COMPARED TO THE ORIGINALLY APPROVED LAYOUT.

WITH THE REVISIONS TO THE LAYOUT, THE TOTAL LOT COUNT WILL REMAIN 550 LOTS WHICH MATCHES THE ORIGINALLY APPROVED PLAN SET.

OPEN SPACE WAS TAKEN INTO ACCOUNT WHEN REVISING THIS LAYOUT, THEREFORE THERE WILL NOT BE A REDUCTION OF TOTAL OPEN SPACE COMPARED TO THE ORIGINALLY APPROVED PLANS.

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

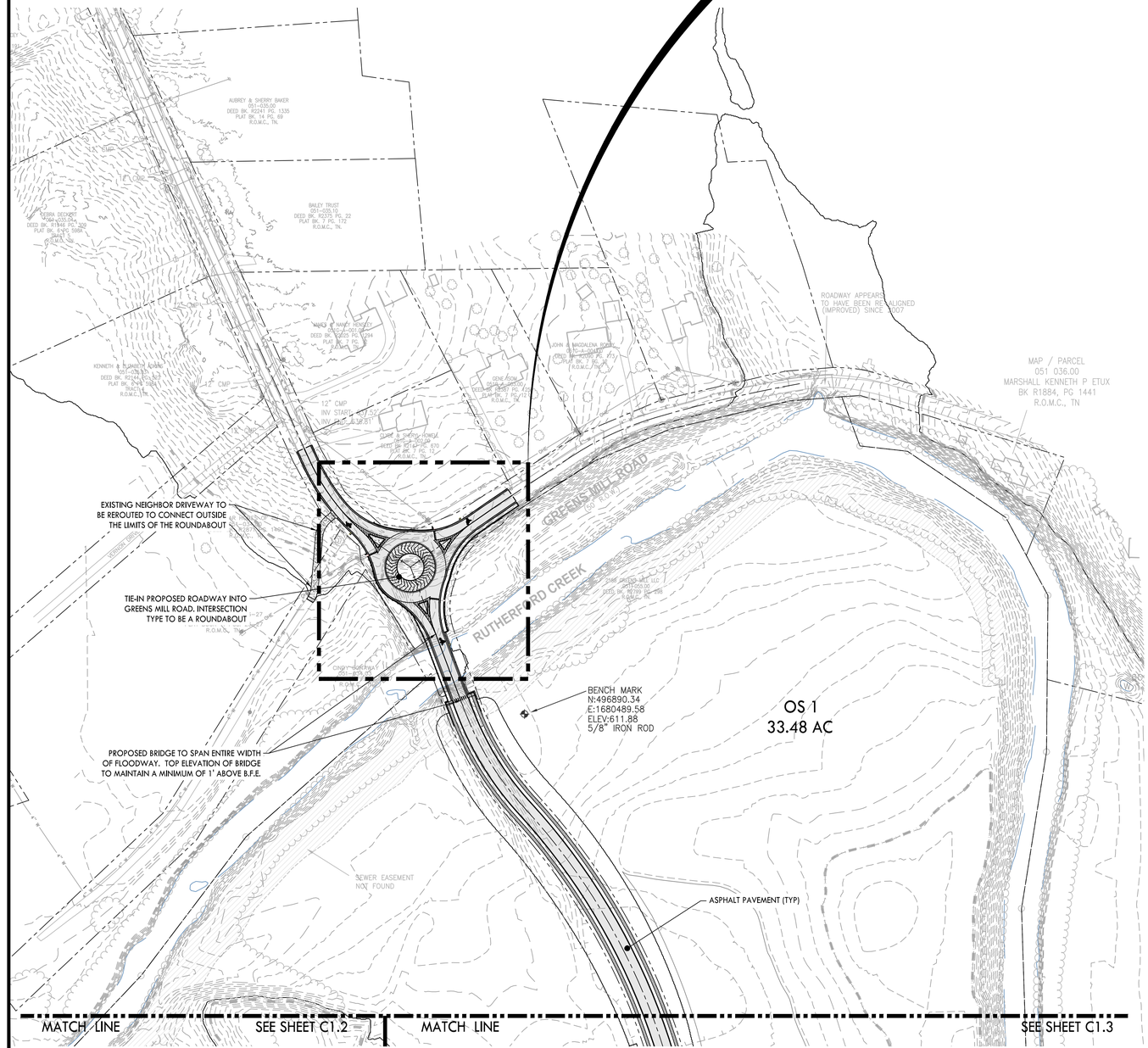
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

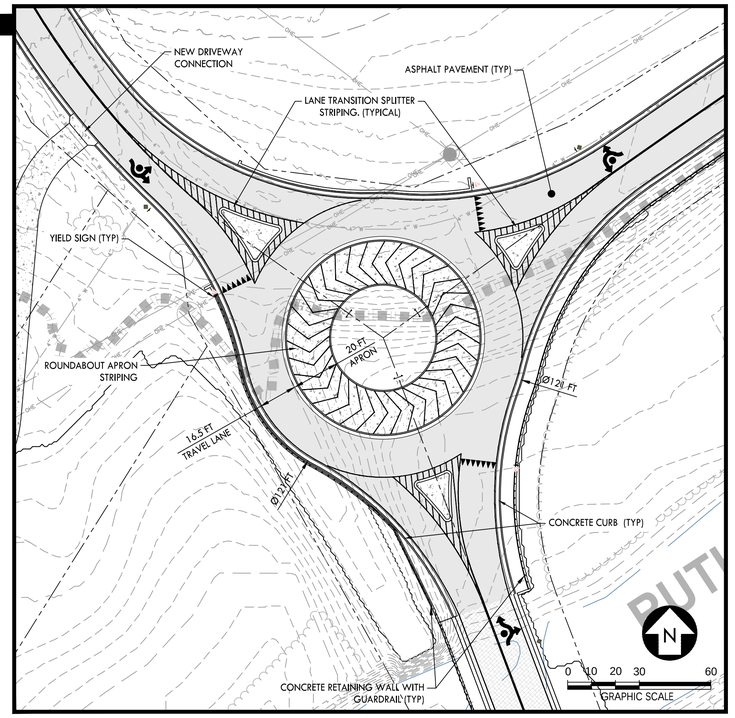
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.0A
EXHIBIT OF CHANGES





GREENS MILL ROAD - ROAD A ROUNDABOUT - DETAILED LAYOUT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

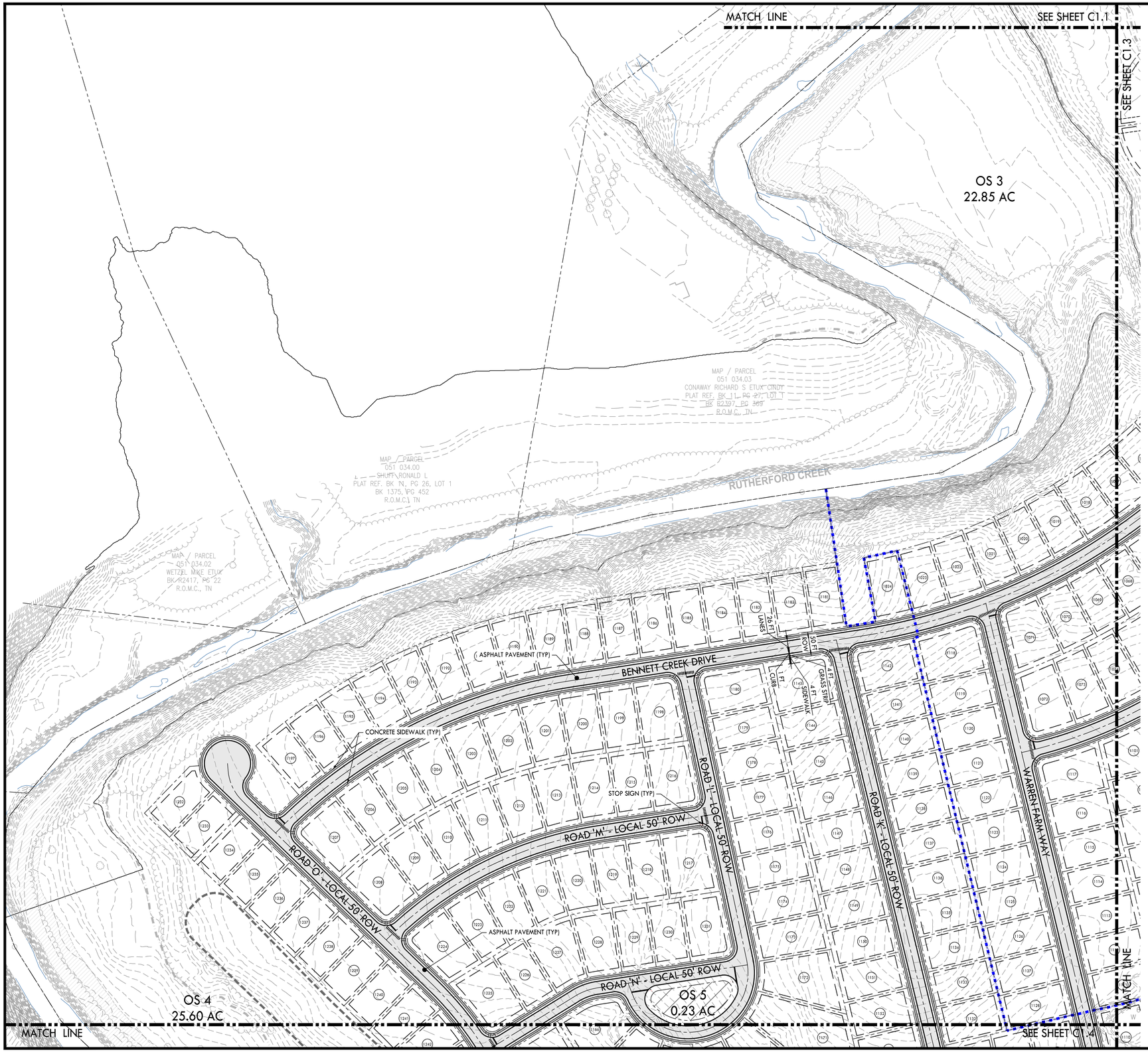
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.1
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.2
SITE LAYOUT PLAN

MATCH LINE

SEE SHEET C1.1

SEE SHEET C1.2

OS 2
1.82 AC

LAURA RIDGE COURT

SEE DETAIL B THIS SHEET FOR DETAILED LAYOUT

STORMWATER POND 1

CONCRETE SIDEWALK (TYP)

BENNETT CREEK DRIVE

STOP SIGN (TYP)

BLUESTEM ROAD

MADELYN BRANCH ROAD

MAY-LOU-WAY

CHASE BEND COURT

FALLBROOK TRAIL

WINTERWARM DRIVE

OS 6
1.14 AC

SEE DETAIL A THIS SHEET FOR DETAILED LAYOUT

ROAD 'O' - BOULEVARD 100' ROW

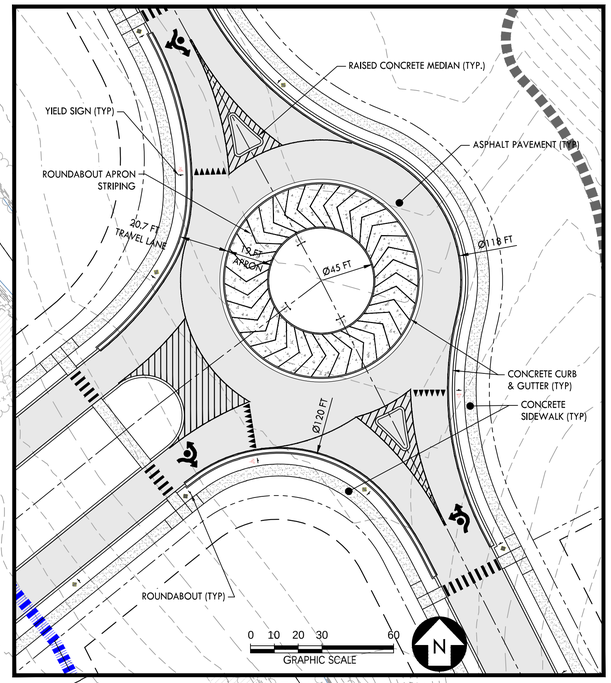
OS 7
17.39 AC

CONCRETE SIDEWALK (TYP)

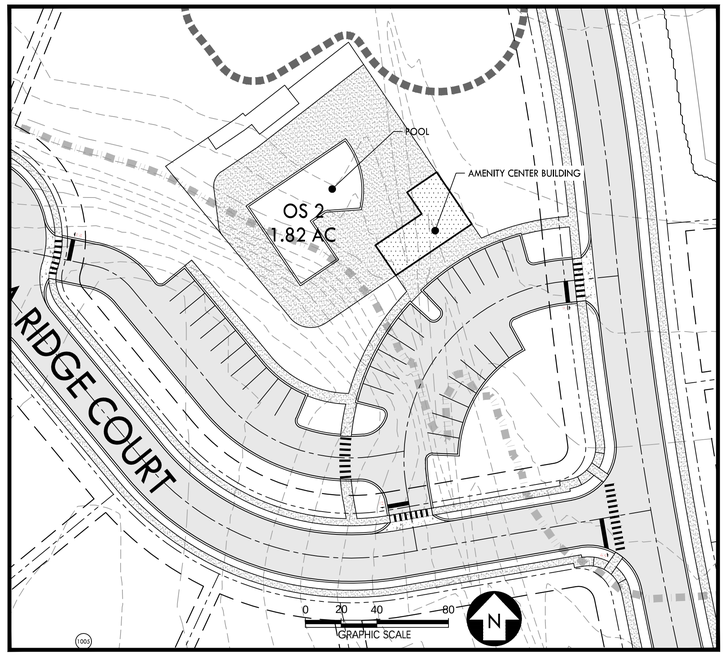
ASPHALT PAVEMENT (TYP)

MATCH LINE

SEE SHEET C1.4



DETAILED LAYOUT A



DETAILED LAYOUT B

SITE DATA TABLE (AMENITY CENTER):

EXISTING ZONING: RS-10
PROPOSED ZONING: RS-10

AMEINTY CENTER	
AREA:	1.82 AC
PARKING SPACE:	31 SPACES
USAGE:	AMENITY CENTER AND POOL
BUILDING AREA:	1,340 SQ-FT
POOL AREA:	2,400 SQ-FT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

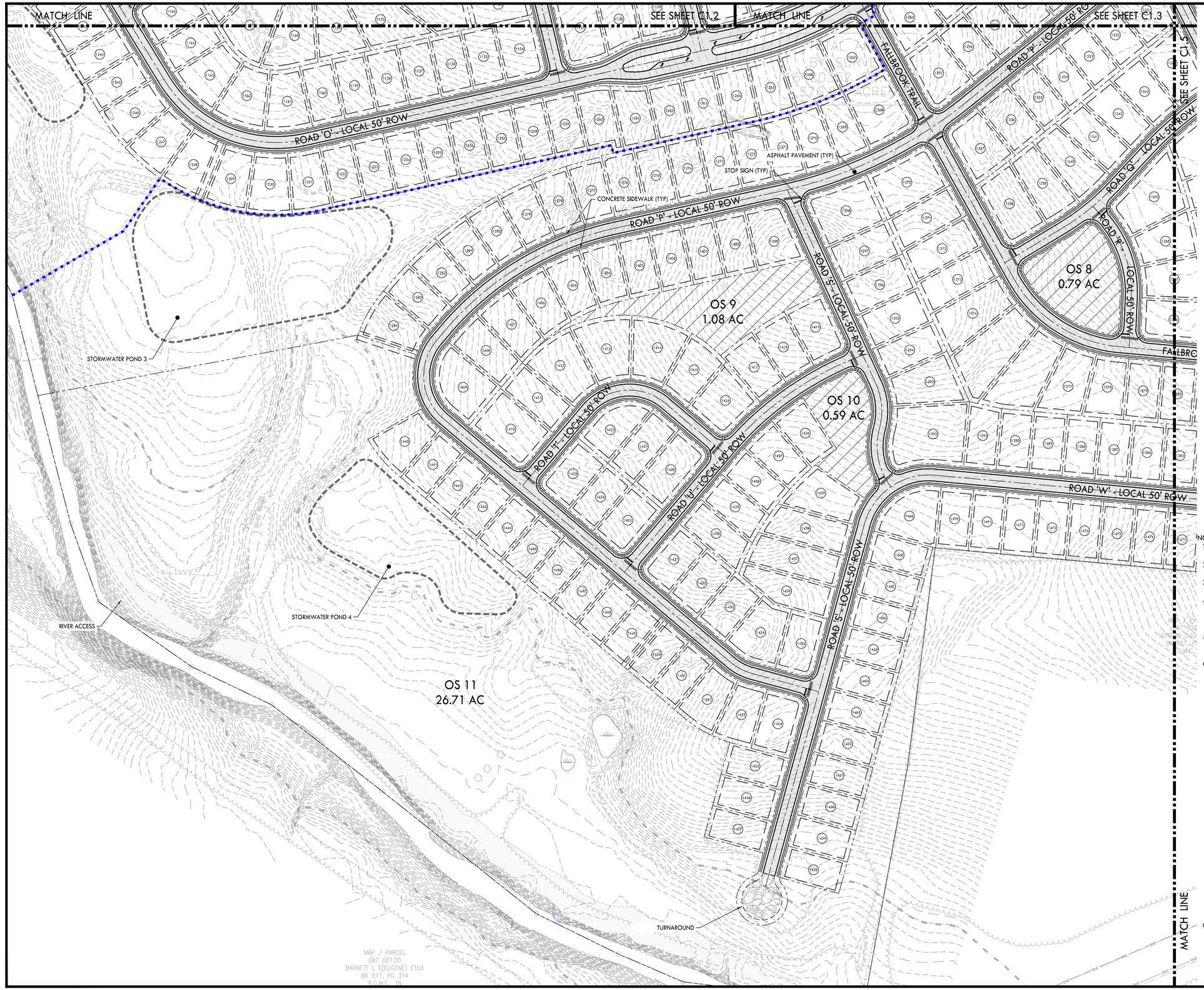
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.3
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.4
SITE LAYOUT PLAN

MATCH LINE

SEE SHEET C1.4

SEE SHEET C1.3

BLUESTEM ROAD

MADELYN BRANCH ROAD

OK TRAIL

CONCRETE SIDEWALK (TYP)

ASPHALT PAVEMENT (TYP)

STOP SIGN (TYP)

RIVER ACCESS

RETAINING WALL

STORMWATER POND 5

RETAINING WALL

ROAD VI - LOCAL 50' ROW

OS 12
1.09 AC

OS 15
16.15 AC

OS 14
3.41 AC

RUTHERFORD CREEK

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

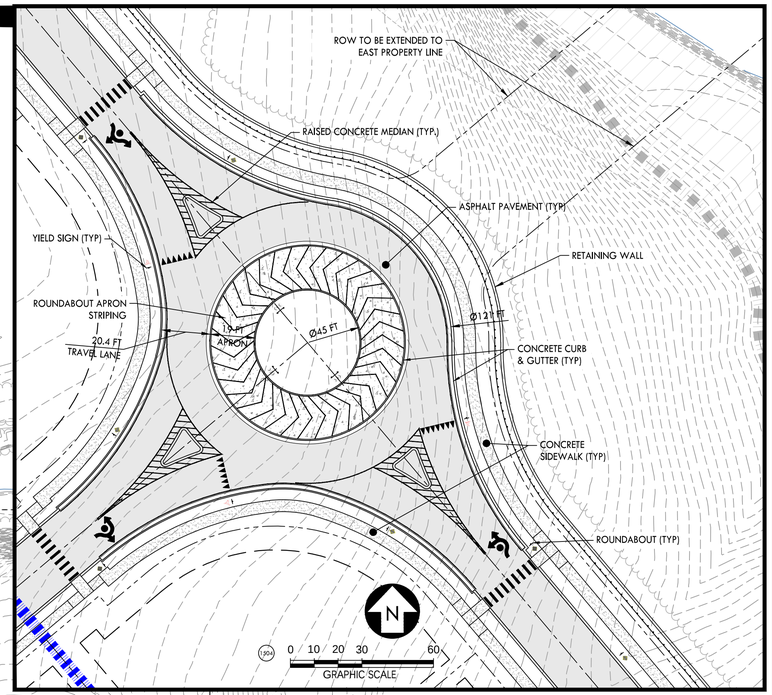
MAP / PARCEL
067 004.00
NAME:FREEDMAN RON
BK R1824, PG 946
R.O.M.C., TN

MAP / PARCEL
067 003.00
SIMMONS MICHAEL C
BK/PG: BK/V 1564 / PG 208
BK/PG: BK/V 1564 / PG 208
R.O.M.C., TN

CEMETERY

SEE SHEET C1.6

MATCH LINE



ROAD A - ROAD W ROUNDABOUT - DETAILED LAYOUT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

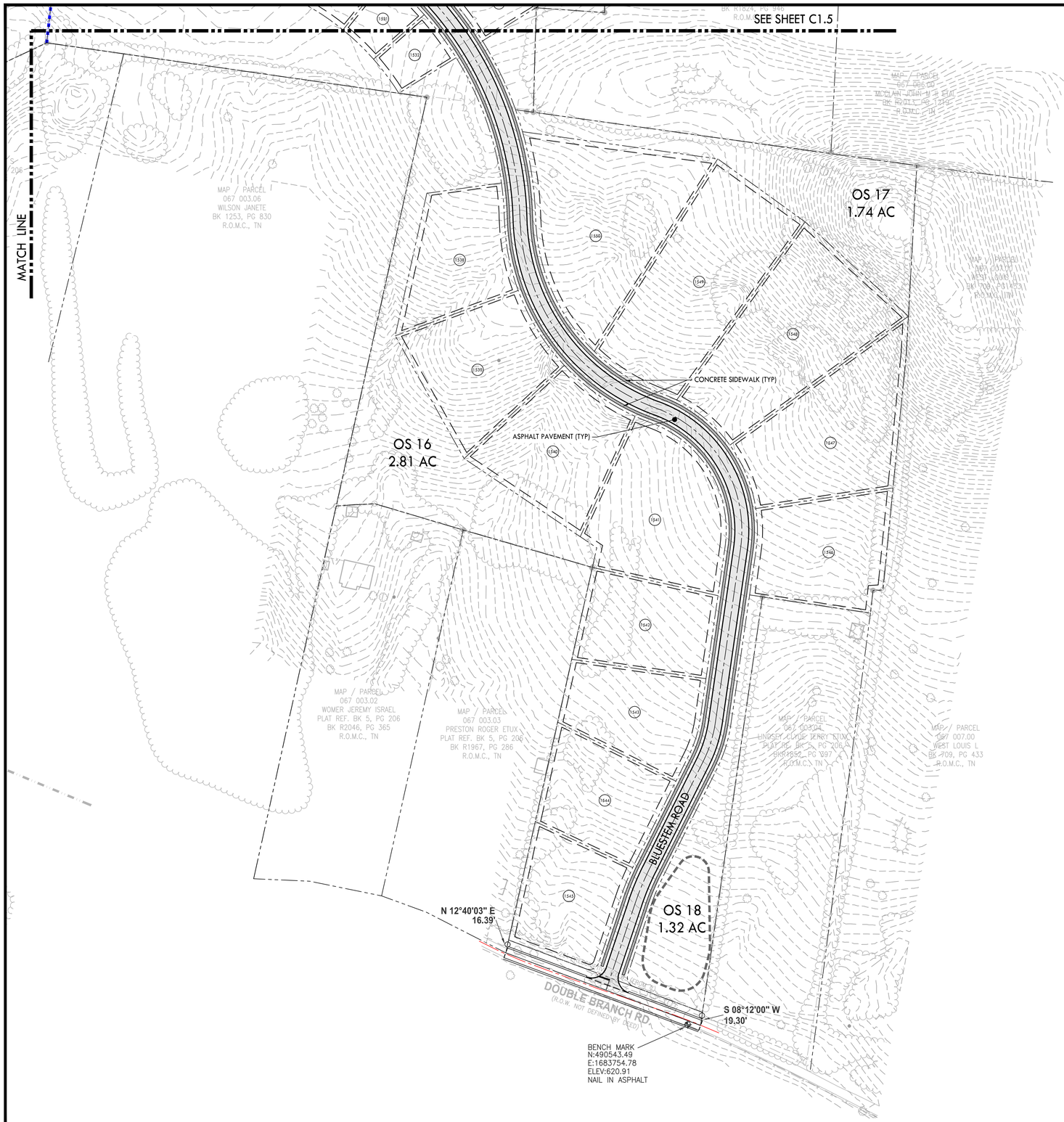
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.5
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

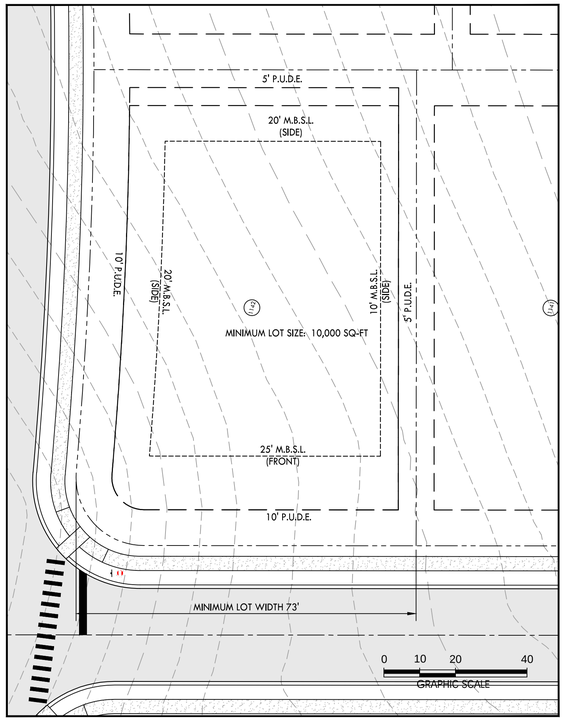
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

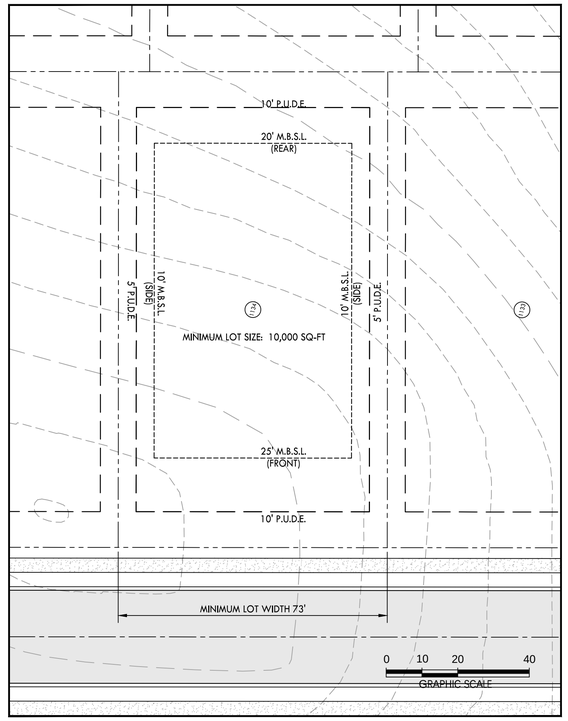
No.	DATE

04/15/2024 17067

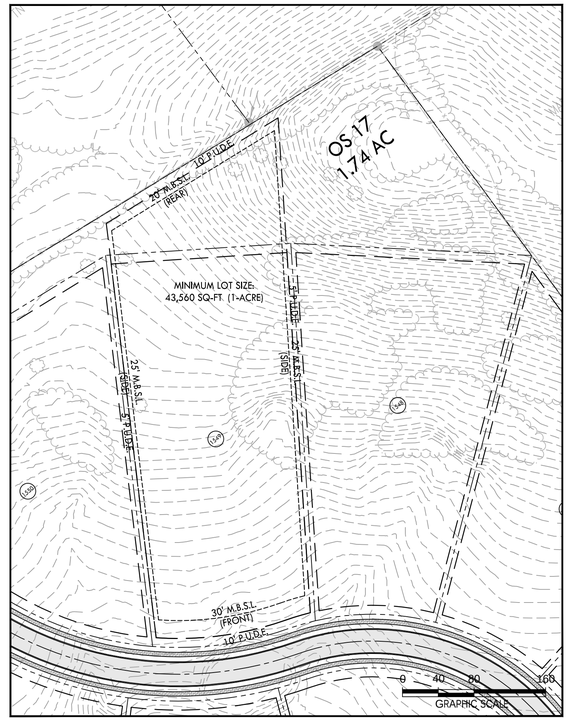
C1.6
SITE LAYOUT PLAN



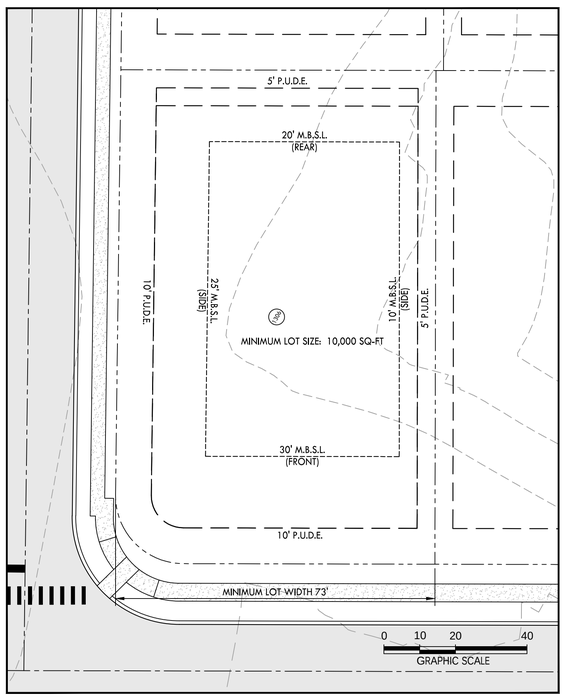
TYPICAL CORNER LOT LAYOUT AT LOCAL ROADWAYS



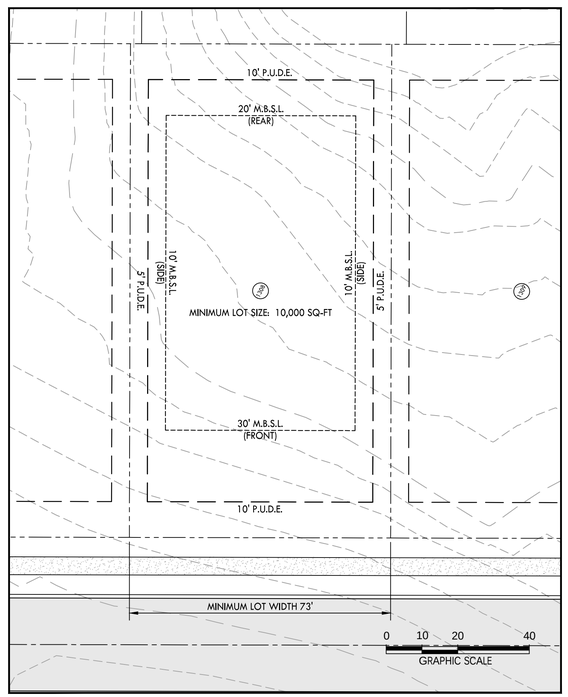
TYPICAL LOT LAYOUT AT LOCAL ROADWAYS



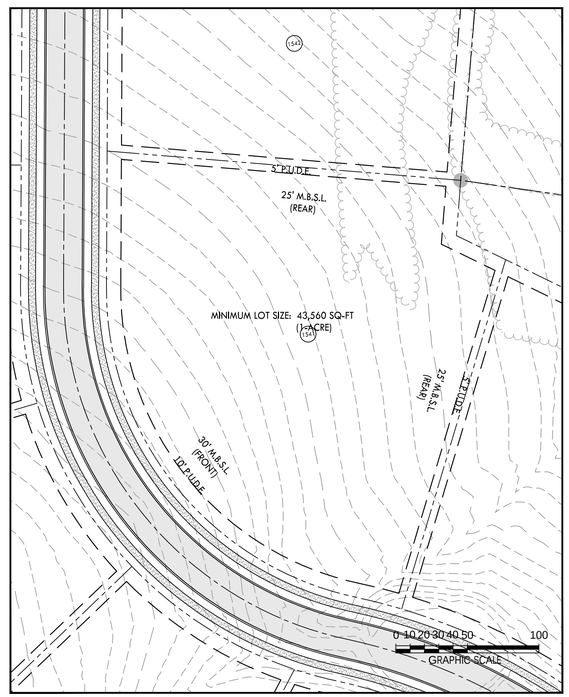
TYPICAL 1-ACRE LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL CORNER LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL 1-ACRE LOT CORNER LAYOUT AT COLLECTOR ROADWAYS

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.7

TYPICAL LOT LAYOUT

PHASE 1 LOTS	
LOT NUMBER	AREA (SQ-FT)
1001	17,017
1002	17,017
1003	17,017
1004	14,912
1005	13,469
1006	14,496
1007	15,290
1008	12,968
1009	15,357
1010	11,104
1011	10,417
1012	10,417
1013	10,417
1014	10,417
1015	10,066
1016	10,422
1017	10,422
1018	10,422
1019	10,422
1020	10,422
1021	10,422
1022	10,422
1023	10,422
1025	17,079
1026	17,079
1027	17,079
1028	17,079
1029	17,079
1030	17,079
1031	17,079
1032	17,079
1033	17,252
1034	17,000
1035	17,000
1036	17,000
1040	12,511
1041	10,407
1042	10,407
1043	10,397
1044	10,212
1045	10,212
1046	10,212
1047	10,212
1051	11,912
1052	10,645
1053	10,645
1054	10,645
1055	10,428
1056	10,412
1057	10,412
1058	10,412
1063	14,309
1064	10,242
1065	10,325
1066	10,325
1067	10,325
1068	10,325
1069	10,233
1070	10,233
1071	13,240
1072	13,199
1073	11,412
1074	11,614
1075	11,632
1076	11,468
1077	11,118
1078	10,741
1079	11,609
1080	19,233
1081	13,477
1082	11,692
1083	14,621
1084	14,553
1085	11,805
1086	15,013
1101	12,377
1102	10,001
1103	10,001
1104	10,001
1105	10,001
1106	10,001
1107	11,400
1111	10,330
1112	10,138
1113	10,138
1114	10,138
1115	10,138
1116	10,138
1117	12,950
1118	14,369
1119	10,575
1120	10,575
1121	10,575
1122	10,575
1123	10,575
1124	10,575
1125	10,575
1126	10,575
1127	10,575
1128	10,575

PHASE 1: 100 LOTS

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1024	10,422
1037	17,000
1038	17,000
1039	17,000
1048	10,212
1049	10,212
1050	21,033
1108	13,627
1109	12,515
1110	13,458
1129	13,142
1130	11,363
1131	14,589
1132	11,080
1133	10,000
1134	10,000
1135	10,000
1136	10,000
1137	10,000
1138	10,000
1139	10,000
1140	10,000
1141	10,000
1142	12,197
1143	14,491
1144	10,686
1145	10,686
1146	10,686
1147	10,686
1148	10,686
1149	10,686
1150	10,686
1151	10,686
1152	10,686
1153	10,596
1154	12,335
1155	10,138
1156	10,138
1157	10,138
1158	10,138
1159	10,138
1160	10,138
1161	12,028
1162	12,884
1163	12,813
1164	10,001
1165	12,566
1166	14,743
1167	15,953
1168	15,175
1169	12,843
1170	17,613
1171	26,172
1172	16,613
1173	11,994
1174	11,307
1175	11,163
1176	11,018
1177	10,874
1178	10,730
1179	10,585
1180	12,589
1181	10,001
1182	10,001
1183	10,001
1184	10,001
1185	10,001
1186	10,001
1187	10,001
1188	10,001
1189	10,550
1190	10,381
1191	10,381
1192	10,381
1193	10,381
1194	10,381
1195	10,381
1196	10,381
1197	10,381
1198	12,488
1199	10,686
1200	10,855
1201	11,187
1202	11,218
1203	11,237
1204	11,245
1205	11,240
1206	11,222
1207	14,934
1208	13,726
1209	11,237
1210	11,237
1211	11,237
1212	11,237
1213	11,237
1214	10,915
1215	10,686
1216	13,080
1217	14,112
1218	10,001

PHASE 2: 218 LOTS

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1219	10,165
1220	10,430
1221	10,358
1222	10,775
1223	10,989
1224	13,203
1225	13,566
1226	10,046
1227	12,710
1228	11,056
1229	10,001
1230	10,001
1231	11,904
1232	10,289
1233	10,001
1234	10,001
1235	10,001
1236	10,001
1237	10,001
1238	10,001
1239	10,001
1240	10,001
1241	10,000
1242	10,000
1243	10,000
1244	10,001
1245	10,001
1246	11,766
1247	12,142
1248	12,142
1249	12,142
1250	12,142
1251	11,339
1252	10,001
1253	10,001
1254	10,001
1255	10,001
1256	10,001
1257	10,001
1258	10,001
1259	10,001
1260	11,300
1261	11,027
1262	10,000
1263	10,000
1264	10,000
1265	10,216
1266	13,453
1267	13,313
1306	12,173
1307	10,074
1308	10,074
1309	10,074
1310	10,074
1311	10,074
1312	10,074
1313	19,125
1314	17,000
1315	17,000
1316	17,000
1317	17,000
1318	17,000
1319	17,000
1320	17,000
1321	17,000
1322	17,000
1323	17,000
1324	17,000
1325	16,824
1326	15,140
1327	15,140
1328	11,113
1329	11,050
1330	11,050
1343	13,979
1346	11,830
1347	11,830
1348	12,096
1349	12,142
1350	13,963
1491	14,121
1492	11,050
1493	11,050
1494	12,933
1504	13,998
1505	9,782
1506	11,447
1520	12,625
1521	10,832
1522	10,828
1523	11,103
1524	12,148
1525	12,148
1526	12,148
1527	12,343
1528	12,039
1529	12,039
1530	12,039
1531	12,039
1532	12,039

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1533	11,595
1534	11,595
1535	11,595
1536	11,595
1537	11,595
1538	44,013
1539	54,701
1540	54,636
1541	64,578
1542	43,560
1543	43,560
1544	43,560
1545	42,380
1546	51,402
1547	69,933
1548	83,516
1549	83,554
1550	86,701

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1381	10,549
1382	13,236
1383	13,283
1384	10,138
1385	10,138
1386	10,138
1387	10,138
1388	10,138
1389	10,138
1390	10,138
1391	10,315
1392	23,386
1393	14,553
1394	10,975
1395	12,450
1396	12,450
1397	12,450
1398	17,223
1399	13,417
1400	10,001
1401	10,001
1402	10,001
1403	10,017
1404	10,888
1405	11,043
1406	11,320
1407	11,939
1408	12,343
1409	13,135
1410	16,736
1411	11,509
1412	15,571
1413	15,707
1414	15,003
1415	11,860
1416	13,554
1417	10,922
1418	10,916
1419	12,183
1420	14,047
1421	11,714
1422	11,981
1423	11,979
1424	10,001
1425	11,979
1426	10,742
1427	10,742
1428	10,247
1429	10,556
1430	11,790
1431	11,183
1432	11,261
1433	11,261
1434	13,875
1435	11,183
1436	13,756
1437	15,131
1438	13,708
1439	13,624
1440	12,162
1441	10,001
1442	10,001
1443	10,001
1444	10,001
1445	10,001
1446	10,001
1447	10,001
1448	10,001
1449	10,001
1450	10,001
1451	10,001
1452	11,560
1453	11,049
1454	11,961
1455	10,001
1456	10,001
1457	10,001
1458	10,001
1459	10,001
1460	10,001
1461	10,001
1462	10,001
1463	10,001
1464	10,001
1465	10,001
1466	10,001
1467	10,001
1468	10,001
1469	14,251
1470	10,001
1471	10,001
1472	10,001
1473	10,001
1474	10,001
1475	10,001
1476	10,001
1477	10,001
1478	10,001
1479	11,979
1480	10,800

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1059	10,412
1060	10,412
1061	10,412
1062	14,594
1067	13,310
1088	10,138
1089	10,138
1090	10,138
1091	10,138
1092	11,168
1093	14,266
1094	15,338
1095	10,686
1096	10,686
1097	10,686
1098	10,686
1099	10,686
1100	13,799
1268	13,723
1269	10,000
1270	10,000
1271	10,000
1272	10,220
1273	10,220
1274	10,220
1275	10,220
1276	10,218
1277	10,516
1278	10,587
1279	10,587
1280	10,587
1281	10,587
1282	10,587
1283	10,413
1284	12,238
1285	14,363
1286	11,960
1287	11,960
1288	11,960
1289	11,960
1290	15,305
1291	14,579
1292	10,549
1293	10,549
1294	10,549
1295	10,549
1296	10,549
1297	13,820
1298	14,636
1299	10,138
1300	10,138
1301	10,138
1302	10,138
1303	10,138
1304	10,138
1305	12,185
1331	13,840
1332	10,686
1333	10,001
1334	10,001
1335	10,001
1336	11,722
1337	13,741
1338	15,280
1339	13,241
1340	13,493
1341	11,980
1342	11,512
1343	11,211
1344	14,642
1351	12,438
1352	13,541
1353	14,839
1354	15,337
1355	17,114
1356	14,971
1357	13,500
1358	12,409
1359	14,257
1360	15,369
1361	10,368
1362	10,368
1363	10,368
1364	10,368
1365	13,193
1366	13,877
1367	12,355
1368	12,396
1369	18,871
1370	16,393
1371	12,508
1372	12,968
1373	13,428
1374	16,150
1375	20,090
1376	18,313
1377	13,637
1378	11,552
1379	10,549
1380	10,549

PHASE 3: 232 LOTS

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1481	10,800
1482	10,800
1483	13,003
1484	12,263
1485	10,275
1486	10,275
1487	11,566
1488	12,250
1489	12,250
1490	10,382
1495	11,979
1496	10,001
1497	10,001
1498	10,741
1499	10,980
1500	10,980
1501	10,980
1502	10,980
1503	10,938
1507	10,366
1508	10,513
1509	11,275
1510	12,781
1511	13,332
1512	23,417
1513	15,113
1514	28,236
1515	18,573
1516	16,343
1517	16,700
1518	15,428
1519	14,309

OPEN SPACE	
OPEN SPACE NUMBER	AREA (SQ-FT)
OS1	1,458,307
OS2	79,170
OS3	995,488
OS4	1,115,170
OS5	10,007
OS6	49,797
OS7	757,551
OS8	34,518
OS9	47,158
OS10	25,754
OS11	1,163,526
OS12	47,626
OS13	338,907
OS14	148,353
OS15	703,561
OS16	122,226
OS17	75,646
OS18	57,342

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

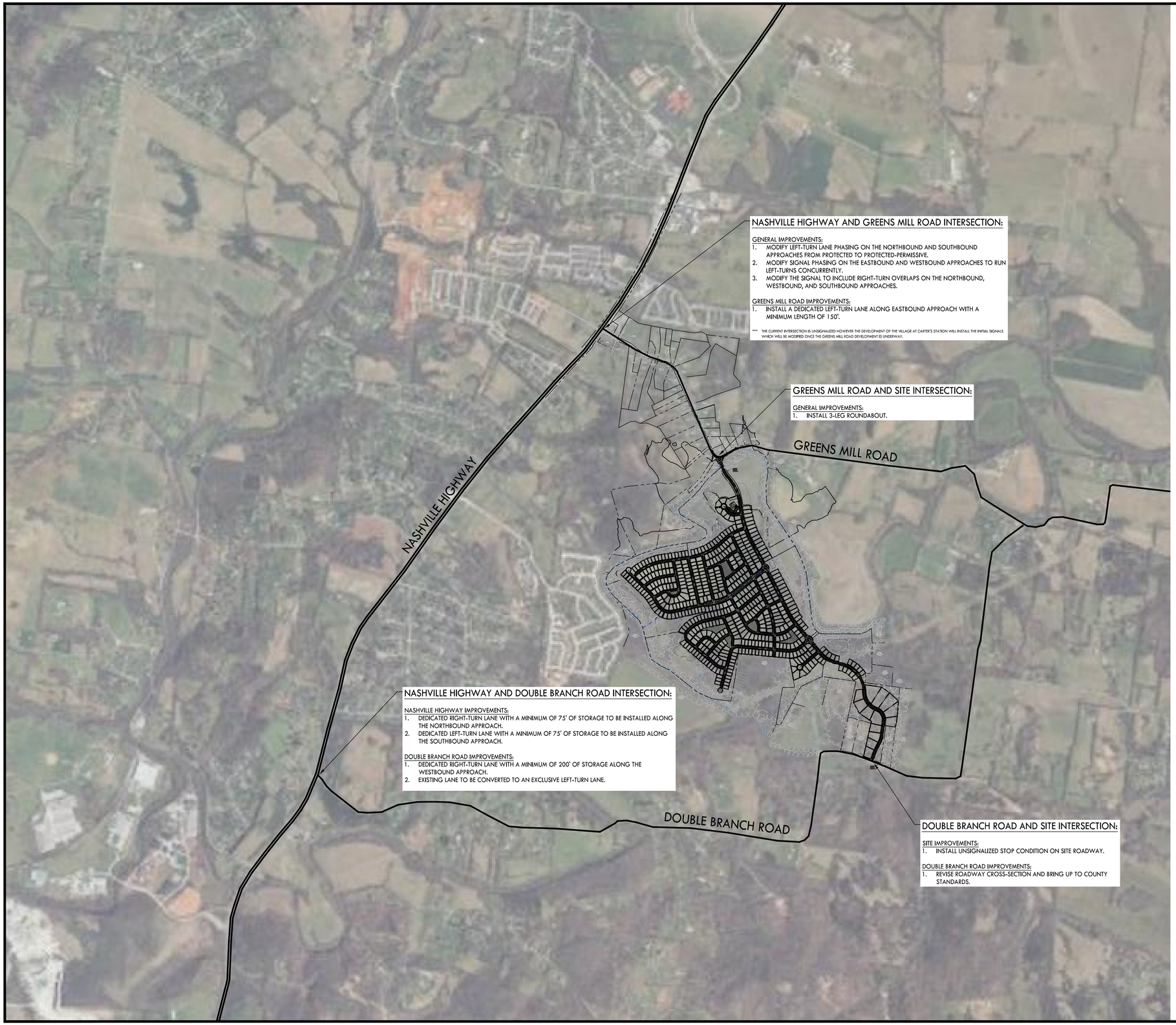
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.8
PARCEL TABLES



NASHVILLE HIGHWAY AND GREENS MILL ROAD INTERSECTION:

GENERAL IMPROVEMENTS:
1. MODIFY LEFT-TURN LANE PHASING ON THE NORTHBOUND AND SOUTHBOUND APPROACHES FROM PROTECTED TO PROTECTED-PERMISSIVE.
2. MODIFY SIGNAL PHASING ON THE EASTBOUND AND WESTBOUND APPROACHES TO RUN LEFT-TURNS CONCURRENTLY.
3. MODIFY THE SIGNAL TO INCLUDE RIGHT-TURN OVERLAPS ON THE NORTHBOUND, WESTBOUND, AND SOUTHBOUND APPROACHES.

GREENS MILL ROAD IMPROVEMENTS:
1. INSTALL A DEDICATED LEFT-TURN LANE ALONG EASTBOUND APPROACH WITH A MINIMUM LENGTH OF 150'.

*** THE CURRENT INTERSECTION IS UNSIGNALIZED HOWEVER THE DEVELOPMENT OF THE VILLAGE AT CARTER'S STATION WILL INSTALL THE INITIAL SIGNALS WHICH WILL BE MODIFIED ONCE THE GREENS MILL ROAD DEVELOPMENT IS UNDERWAY.

GREENS MILL ROAD AND SITE INTERSECTION:

GENERAL IMPROVEMENTS:
1. INSTALL 3-LEG ROUNDABOUT.

NASHVILLE HIGHWAY AND DOUBLE BRANCH ROAD INTERSECTION:

NASHVILLE HIGHWAY IMPROVEMENTS:
1. DEDICATED RIGHT-TURN LANE WITH A MINIMUM OF 75' OF STORAGE TO BE INSTALLED ALONG THE NORTHBOUND APPROACH.
2. DEDICATED LEFT-TURN LANE WITH A MINIMUM OF 75' OF STORAGE TO BE INSTALLED ALONG THE SOUTHBOUND APPROACH.

DOUBLE BRANCH ROAD IMPROVEMENTS:
1. DEDICATED RIGHT-TURN LANE WITH A MINIMUM OF 200' OF STORAGE ALONG THE WESTBOUND APPROACH.
2. EXISTING LANE TO BE CONVERTED TO AN EXCLUSIVE LEFT-TURN LANE.

DOUBLE BRANCH ROAD AND SITE INTERSECTION:

SITE IMPROVEMENTS:
1. INSTALL UNSIGNALIZED STOP CONDITION ON SITE ROADWAY.

DOUBLE BRANCH ROAD IMPROVEMENTS:
1. REVISE ROADWAY CROSS-SECTION AND BRING UP TO COUNTY STANDARDS.

NOTES:

ALL IMPROVEMENTS SHOWN WERE RECOMMENDED BY THE GREENS MILL MASTER PLAN, TRAFFIC IMPACT STUDY CONDUCTED BY KCI TECHNOLOGIES IN NOVEMBER, 2020.

SCHEDULE OF IMPROVEMENTS:

GREENS MILL ROAD AND SITE IMPROVEMENTS:
- TO BE INSTALLED PRIOR TO PHASE 1 COMPLETION.

DOUBLE BRANCH ROAD AND SITE IMPROVEMENTS:
- TO BE INSTALLED AFTER PHASE 1 COMPLETION AND PRIOR TO PHASE 2 COMPLETION.

NASHVILLE HIGHWAY AND GREENS MILL ROAD IMPROVEMENTS:
- TO BE INSTALLED AFTER PHASE 1 COMPLETION AND PRIOR TO PHASE 2 COMPLETION.

NASHVILLE HIGHWAY AND DOUBLE BRANCH ROADIMPROVEMENTS:
- TO BE INSTALLED PRIOR TO PHASE 2 COMPLETION.

0 50 1,000 2,000
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

PATRICK JOSEPH PARR
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

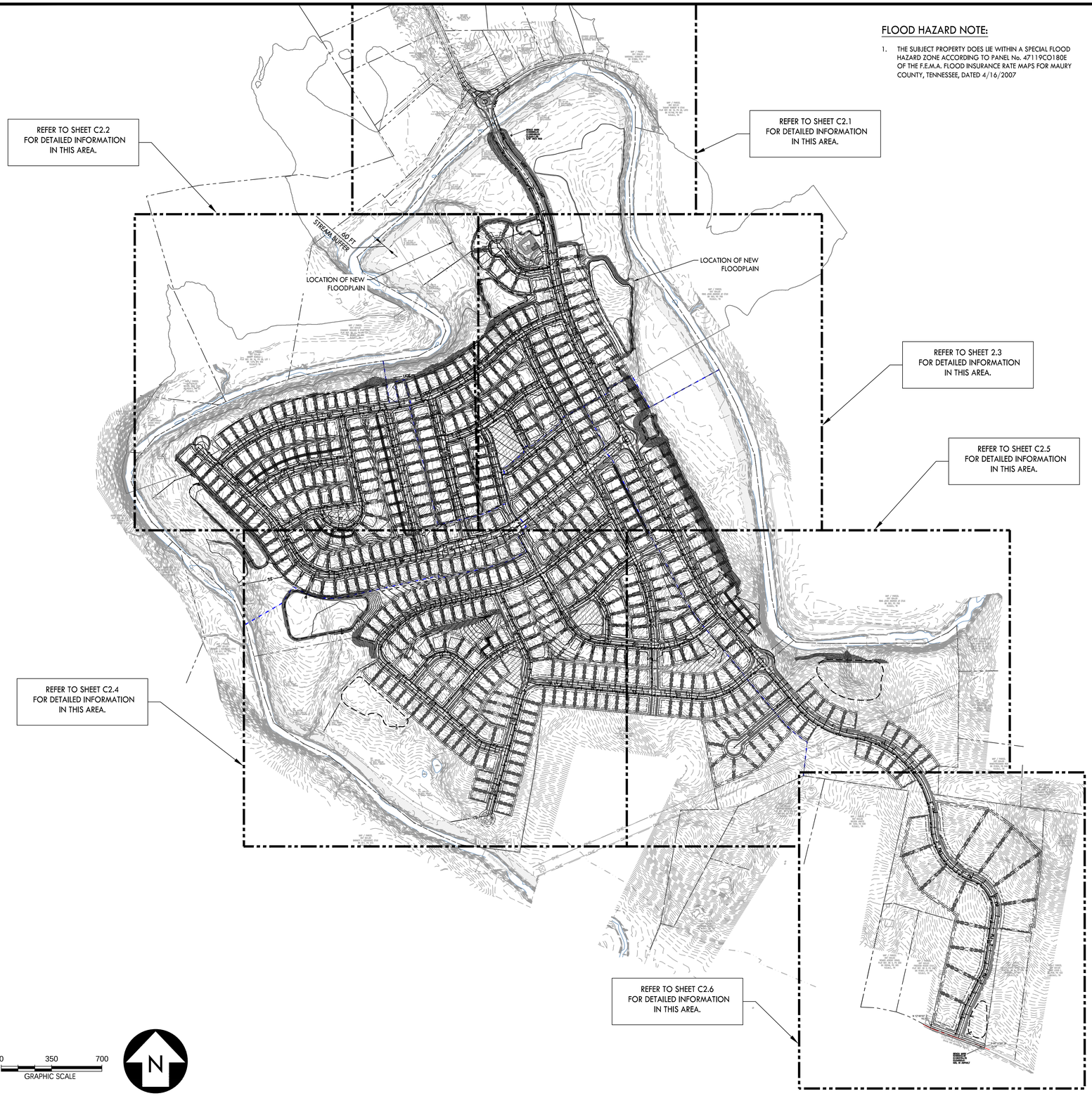
No.	DATE

04/15/2024 17067

C1.9
OFFSITE IMPROVEMENTS

FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/16/2007



CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

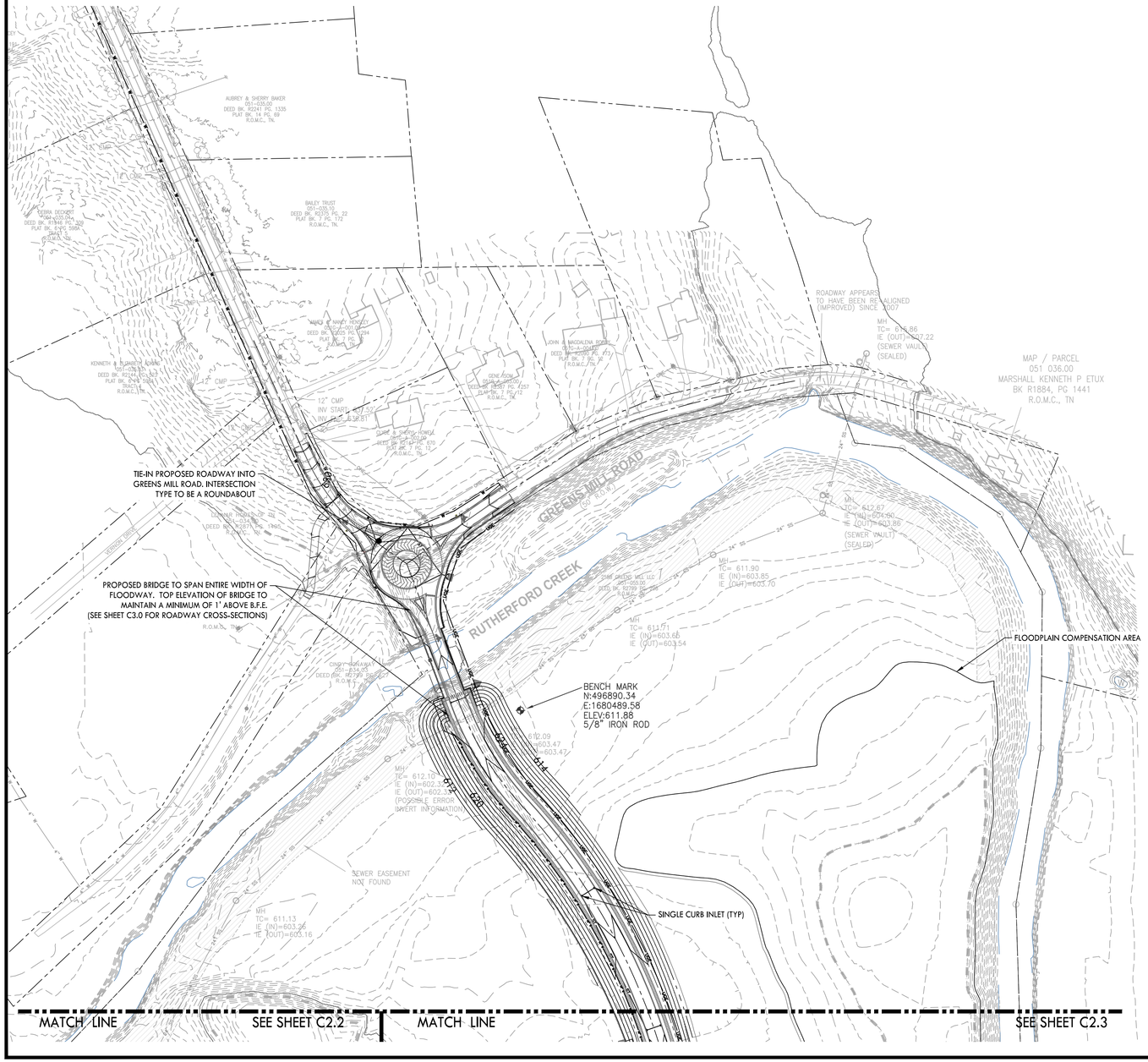
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C2.0
OVERALL GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

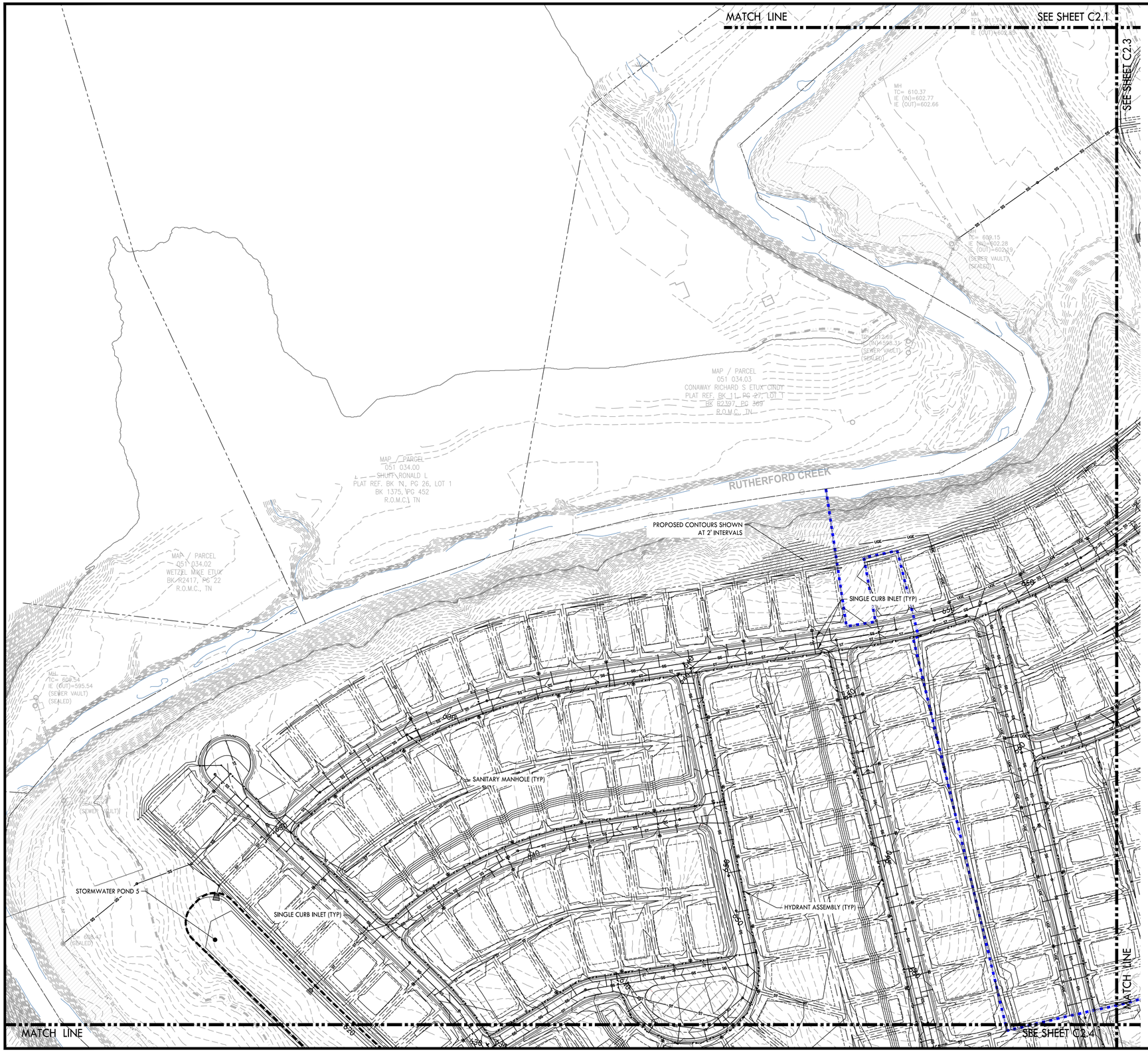
PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS
No. | DATE

04/15/2024 17067

C2.1
GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SANITARY SEWER LINE
- WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
4/15/24
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C2.2
GRADING, DRAINAGE, & UTILITY PLAN

MATCH LINE

SEE SHEET C2.1

SEE SHEET C2.4

MATCH LINE

STORMWATER POND 1

SINGLE CURB INLET (TYP)

STORM JUNCTION MANHOLE (TYP)

POND 1 OUTLET STRUCTURE (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 2

8" X 10" TEE AND GATE VALVES (3) (TYP)

SANITARY MANHOLE (TYP)

STORMWATER POND 3

PROPOSED CONTOURS SHOWN AT 2' INTERVALS

CONCRETE HEADWALL (TYP)

8" TEE AND GATE VALVES (3) (TYP)

HYDRANT ASSEMBLY (TYP)

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 4

SANITARY MANHOLE (TYP)

PROPOSED CONTOURS SHOWN AT 2' INTERVALS

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.3
GRADING, DRAINAGE, & UTILITY PLAN

MATCH LINE

SEE SHEET C2.2

MATCH LINE

SEE SHEET C2.3

MATCH LINE

SEE THIS SHEET

STORMWATER POND 5

20' PUBLIC UTILITY EASEMENT

STORMWATER POND 6

POND OUTLET STRUCTURE (TYP)

CONCRETE HEADWALL (TYP)

20' PUBLIC UTILITY EASEMENT

SINGLE CURB INLET (TYP)

SANITARY MANHOLE (TYP)

STORMWATER POND 7

SANITARY MANHOLE (TYP)

POND OUTLET STRUCTURE (TYP)

CONCRETE HEADWALL (TYP)

20' PUBLIC UTILITY EASEMENT

CONNECT TO EXISTING SANITARY MANHOLE

CONNECT TO EXISTING SANITARY MANHOLE

MAP / PARCEL
067 001.00
BARNETT L E(EUGENE) ETUX
BK 811, PG 314
R.O.M.C., TN

MATCH LINE

SEE THIS SHEET

MATCH LINE

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:

1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200

GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD

PRELIMINARY PLAT

COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.4

GRADING, DRAINAGE, & UTILITY PLAN

MATCH LINE

SEE SHEET C2.3

SEE SHEET C2.4

SINGLE CURB INLET (TYP)

HYDRANT ASSEMBLY (TYP)

SANITARY MANHOLE (TYP)

HYDRANT ASSEMBLY (TYP)

8" X 10" TEE AND GATE VALVES (3) (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 8

RUTHERFORD CREEK

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

MAP / PARCEL
051 052.00
RING TANDY VF ETUX
BK/PG: BK 151/PG 189
BK 583/PG 708
R.O.M.C., TN

MAP / PARCEL
067 005.00
HALL MARSHALL HEIRS
BK R1196, PG 647
R.O.M.C., TN

MAP / PARCEL
067 004.00
NAME:FREEDMAN RON
BK R1824, PG 946
R.O.M.C., TN

MAP / PARCEL
067 003.00
SULLIVAN MICHAEL S
ELKINS REF / BK 5, PG/208
BK/1056/PG 918
R.O.M.C., TN

75' TVA EASEMENT

CEMETERY

SEE SHEET C2.6

MATCH LINE

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

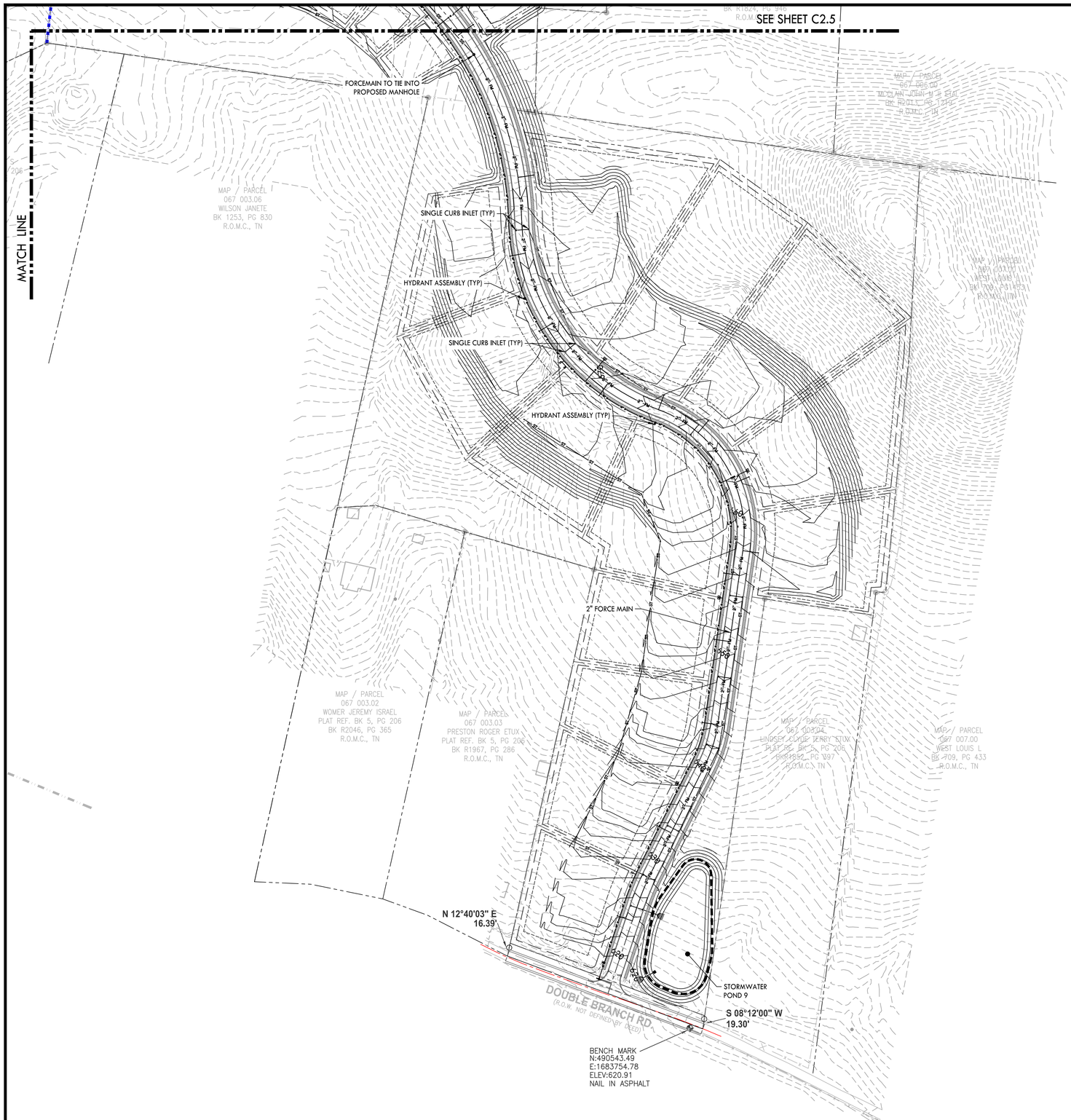
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C2.5
GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
4/15/24
STATE OF TENNESSEE

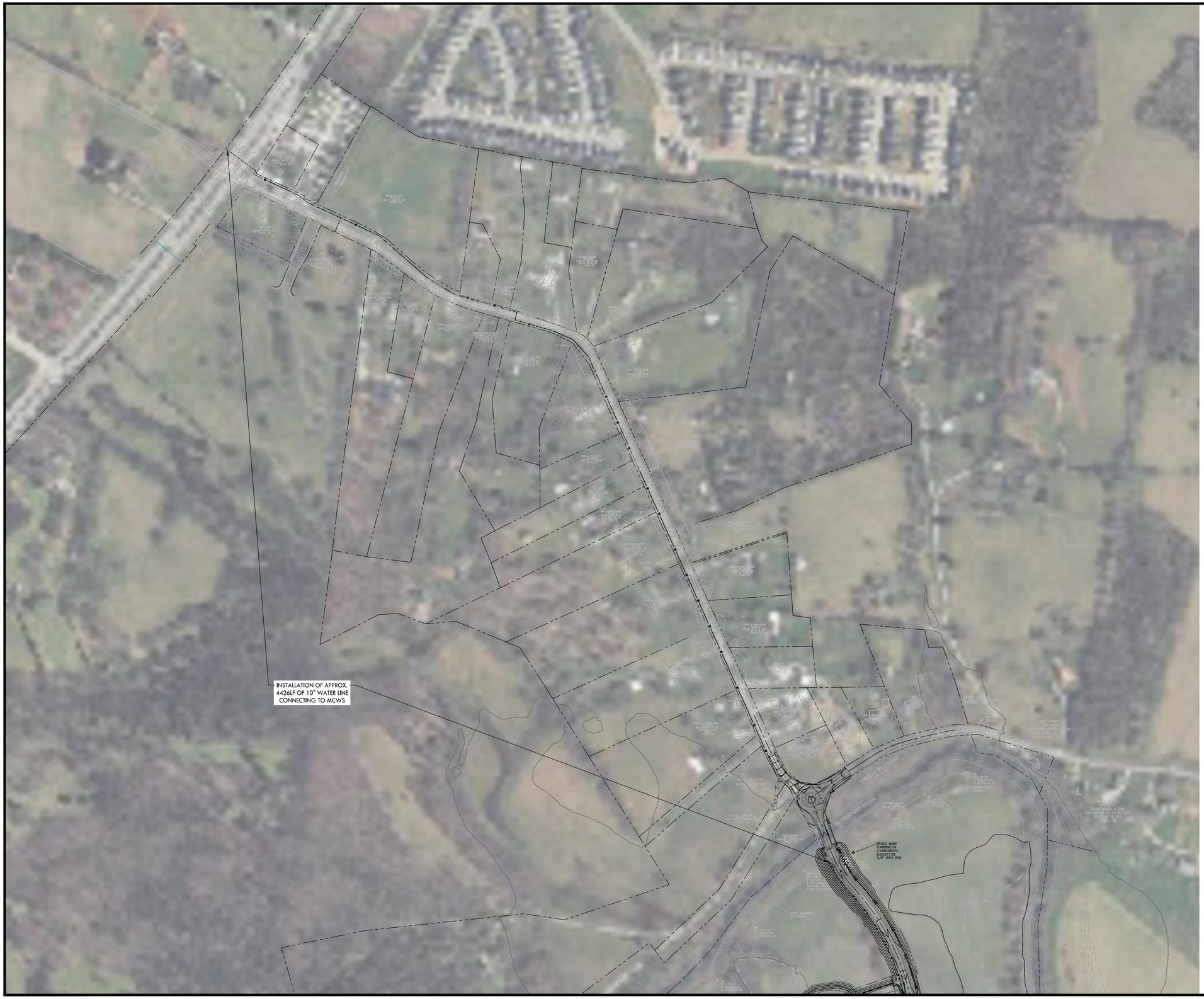
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.6
GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

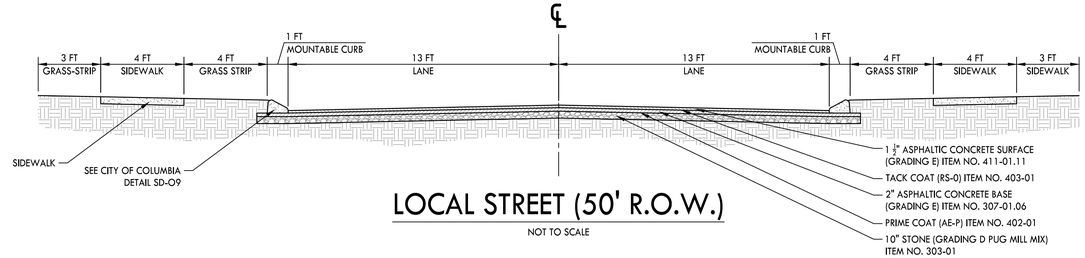
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

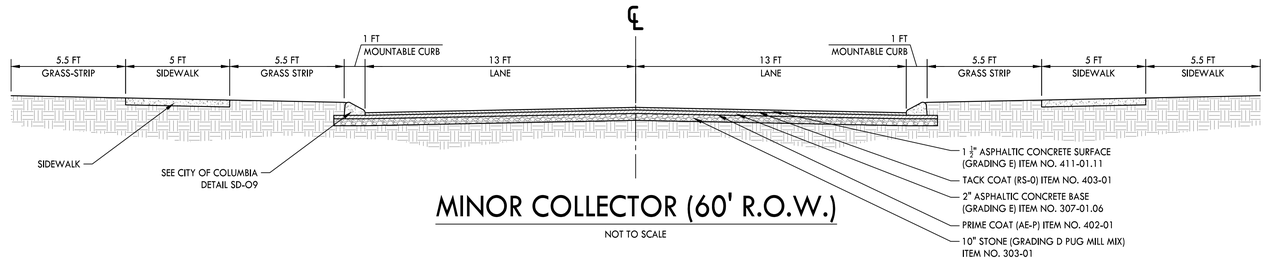
04/15/2024 17067

C2.7
CPWS WATERMAIN EXTENSION EXHIBIT



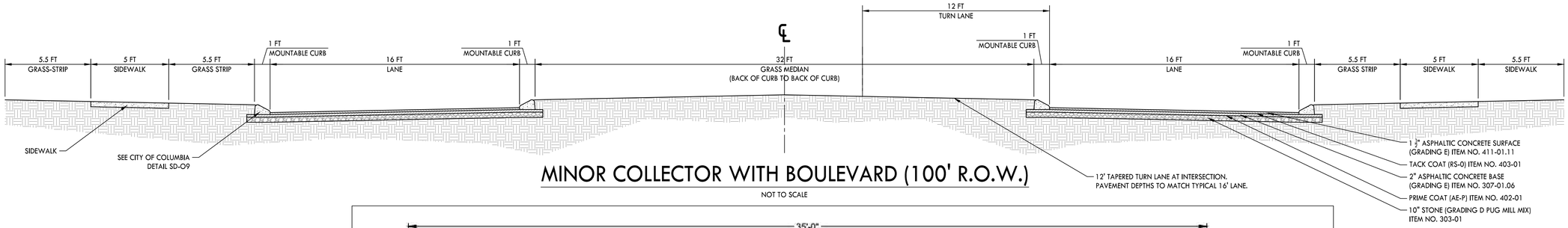
LOCAL STREET (50' R.O.W.)

NOT TO SCALE



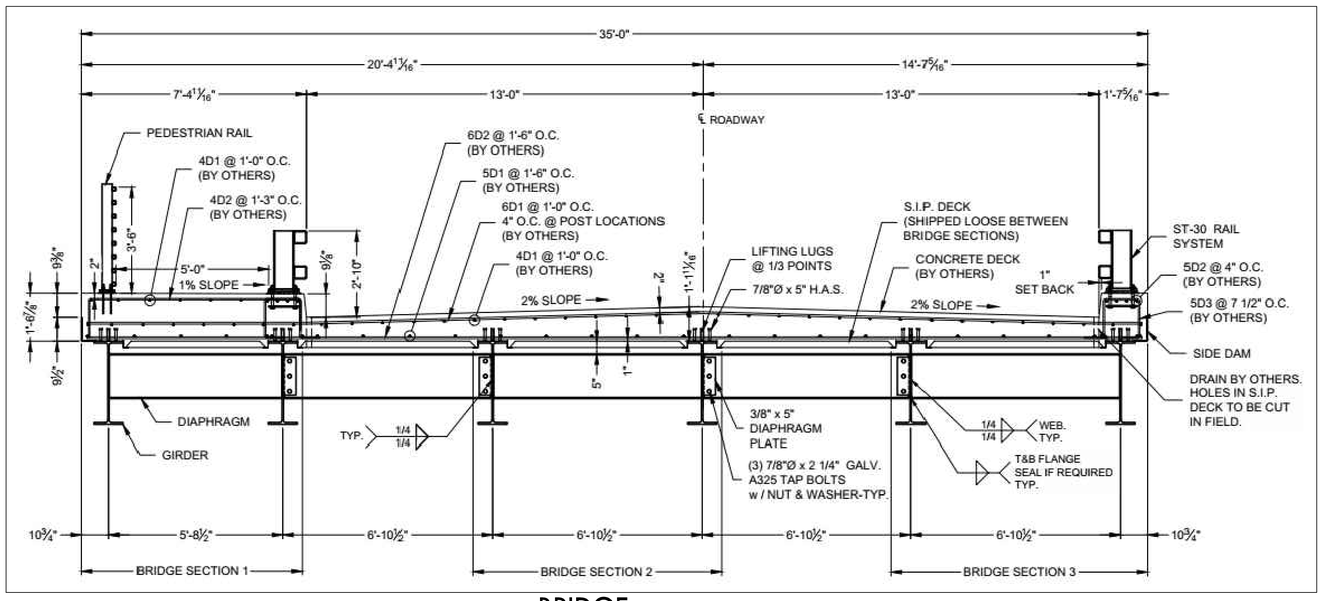
MINOR COLLECTOR (60' R.O.W.)

NOT TO SCALE



MINOR COLLECTOR WITH BOULEVARD (100' R.O.W.)

NOT TO SCALE



BRIDGE

NOT TO SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C3.0

ROADWAY CROSS SECTIONS

GREENS MILL ROAD

2558 GREENS MILL RD., COLUMBIA, TN 38401

FINAL PUD MASTER PLAN

GENERAL INFORMATION

DEVELOPER

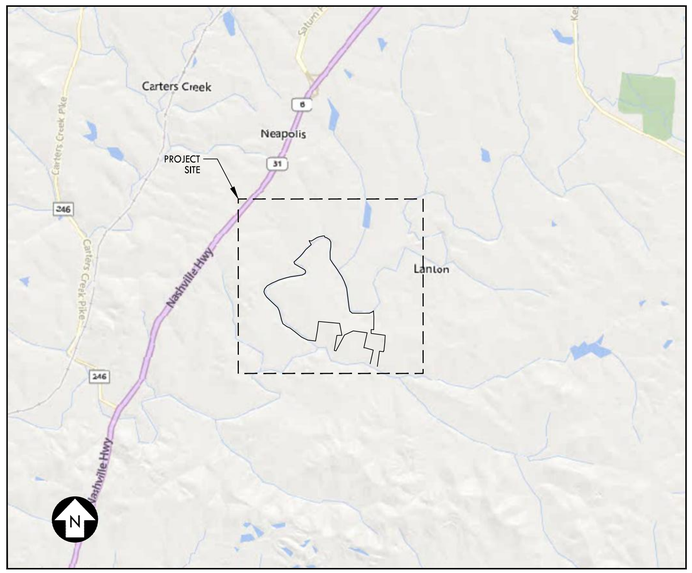
SAFE HARBOR RESIDENTIAL
105 WESTPARK DRIVE, SUITE 365
BRENTWOOD, TN 37027

CIVIL ENGINEER

CRUNK ENGINEERING LLC
7112 CROSSROADS BOULEVARD, SUITE 201
BRENTWOOD, TN 37027
CONTACT: PATRICK CARROLL, PE
PHONE: 615.873.1795
EMAIL: patrick@crunkeng.com

NOTE:

THIS MASTER PLAN IS BEING REVIEWED UNDER THE PREVIOUS ZONING CODE 3638 AS AN RS-10 PUD.



LOCATION MAP
NOT TO SCALE

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	OVERALL SITE LAYOUT PLAN
C1.0A	EXHIBIT OF CHANGES
C1.1	SITE LAYOUT PLAN
C1.2	SITE LAYOUT PLAN
C1.3	SITE LAYOUT PLAN
C1.4	SITE LAYOUT PLAN
C1.5	SITE LAYOUT PLAN
C1.6	SITE LAYOUT PLAN
C1.7	TYPICAL LOT LAYOUT
C1.8	PARCEL TABLES
C1.9	OFFSITE IMPROVEMENTS
C2.0	OVERALL GRADING, DRAINAGE, & UTILITY PLAN
C2.1	GRADING, DRAINAGE, AND UTILITY PLAN
C2.2	GRADING, DRAINAGE, AND UTILITY PLAN
C2.3	GRADING, DRAINAGE, AND UTILITY PLAN
C2.4	GRADING, DRAINAGE, AND UTILITY PLAN
C2.5	GRADING, DRAINAGE, AND UTILITY PLAN
C2.6	GRADING, DRAINAGE, AND UTILITY PLAN
C2.7	CPWS WATERMAIN EXTENSION EXHIBIT
C3.0	ROADWAY CROSS SECTIONS

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH CARROLL
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C0.0
COVER SHEET

REFER TO SHEET C1.2
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.1
FOR DETAILED INFORMATION
IN THIS AREA.

LOCATION OF NEW 100 YR FLOODPLAIN

LOCATION OF NEW 100 YR FLOODPLAIN

REFER TO SHEET C1.3
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.5
FOR DETAILED INFORMATION
IN THIS AREA.

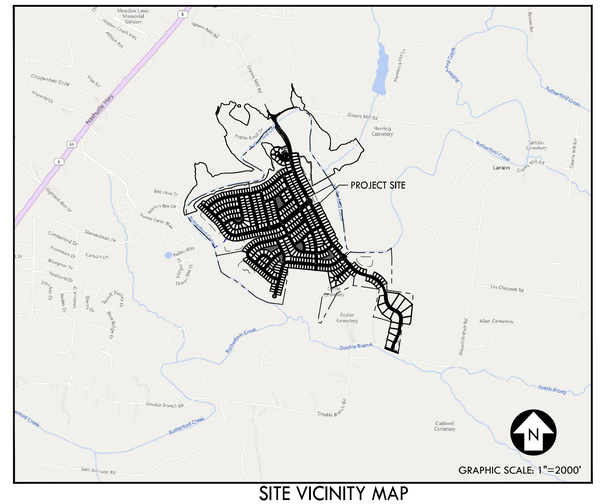
REFER TO SHEET C1.4
FOR DETAILED INFORMATION
IN THIS AREA.

REFER TO SHEET C1.6
FOR DETAILED INFORMATION
IN THIS AREA.

0 350 700
GRAPHIC SCALE

FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/16/2007



SITE VICINITY MAP

NOTES:
1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

SITE DATA TABLE

PROJECT: GREENS MILL ROAD PUD	
ADDRESS: GREENS MILL ROAD 2558	
PARCEL ID: 051 055.00	
SITE ACREAGE: 376.96 ACRES	
PROPOSED DENSITY: 1.46 DUA	
PROPOSED ZONING: RS10	
ZONING DISTRICT:	RS10
AREA:	376.96 AC
LOT TYPE:	
10,000 SQ-FT	528 LOTS
1-ACRE	22 LOTS
PROPOSED LOTS:	
PHASE 1 LOTS:	100
PHASE 2 LOTS:	218
PHASE 3: LOTS:	232
TOTAL	550
MIN. LOT SIZE:	10,000 SF
MIN. LOT WIDTH:	73 FT
FRONT YARD:	
MINOR COLLECTOR:	30 FT
LOCAL STREET:	25 FT
SIDE SETBACK:	
10,000 SQ-FT	10 FT
1-ACRE	25 FT
REAR SETBACK:	20 FT
OPEN SPACE REQ'D:	6% OF TOTAL AREA (22.62 AC)
OPEN SPACE PROVIDED:	165.98 AC (44.03%)
REQUIRED USABLE OPEN SPACE (33% OF REQUIRED OPEN SPACE):	7.46 AC
USABLE OPEN SPACE PROVIDED:	9.20 AC

***REFER TO SHEET C1.8 FOR OPEN SPACE PARCEL TABLE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

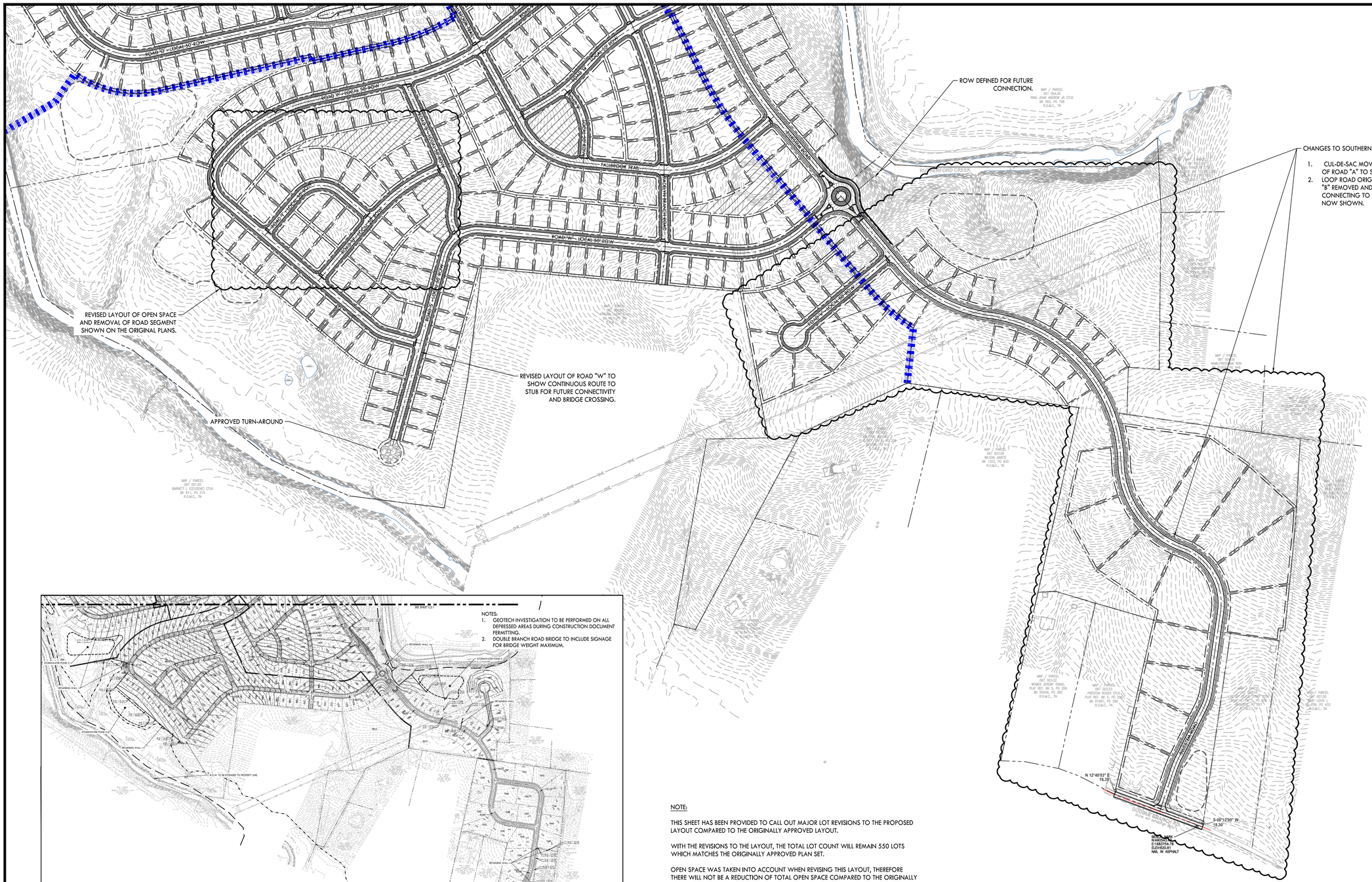
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

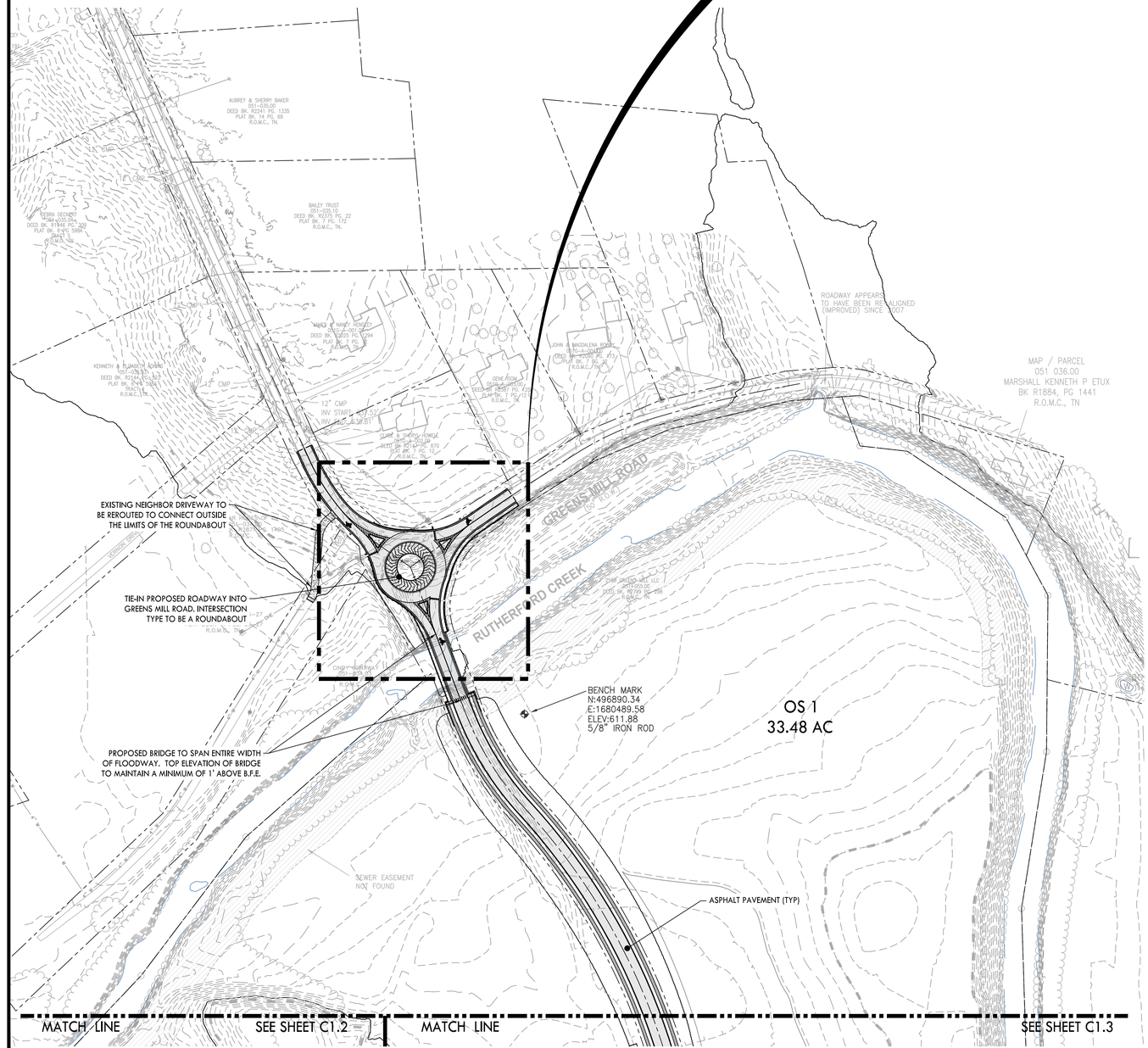
GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

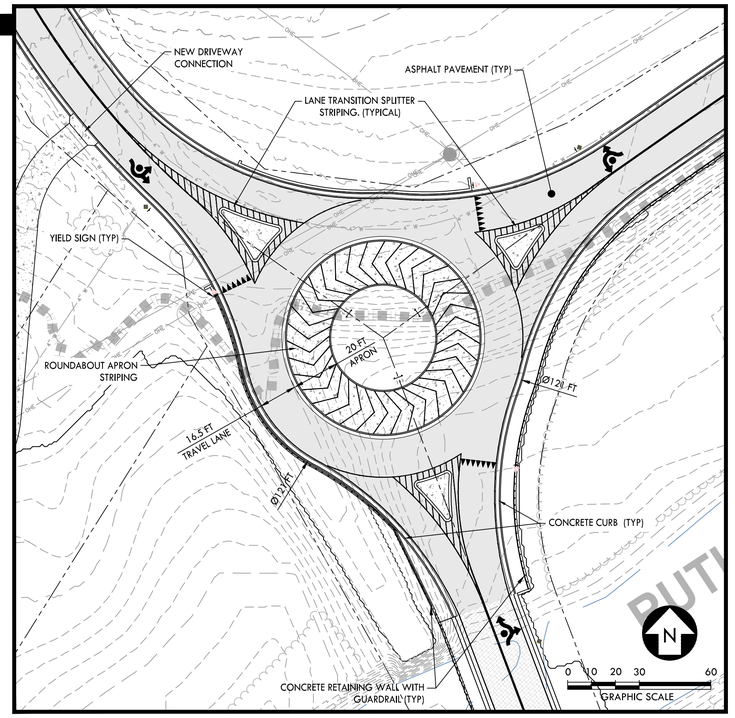
REVISIONS	
No.	DATE

04/15/2024 17067

C1.0
OVERALL SITE LAYOUT PLAN


ROAD "B" - LOCAL 50' ROW
ROAD "P" - LOCAL 50' ROW
ROAD "Q" - LOCAL 50' ROW
ROAD "R" - LOCAL 50' ROW
ROAD "S" - LOCAL 50' ROW
ROAD "T" - LOCAL 50' ROW
ROAD "U" - LOCAL 50' ROW
ROAD "V" - LOCAL 50' ROW
ROAD "W" - LOCAL 50' ROW
FALLBROOK TEAR
DOUBLE BRANCH ROAD
ROW DEFINED FOR FUTURE CONNECTION.
CHANGES TO SOUTHERN PORTION OF LAYOUT:
1. CUL-DE-SAC MOVED FROM NORTH SIDE OF ROAD "A" TO SOUTHERN SIDE.
2. LOOP ROAD ORIGINALLY LABELED ROAD "B" REMOVED AND CONTINUOUS ROAD CONNECTING TO DOUBLE BRANCH RD. NOW SHOWN.
REVISED LAYOUT OF OPEN SPACE AND REMOVAL OF ROAD SEGMENT SHOWN ON THE ORIGINAL PLANS.
REVISED LAYOUT OF ROAD "W" TO SHOW CONTINUOUS ROUTE TO STUB FOR FUTURE CONNECTIVITY AND BRIDGE CROSSING.
APPROVED TURN-AROUND
MAP / PARCEL 067 001.00 BARNETT G. EDGEMOND ETUX BK. 811, PG. 314 R.O.M.C., TN
MAP / PARCEL 051 054.00 RING JOHN ANDREW JR. ETUX BK. 563, PG. 708 R.O.M.C., TN
MAP / PARCEL 051 057.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 003.02 WONDER JERSEY SIGNEL PLAT REF. BK. 5, PG. 206 BK. R0046, PG. 365 R.O.M.C., TN
MAP / PARCEL 067 003.03 PRESTON ROGER STEVE PLAT REF. BK. 5, PG. 206 BK. R1067, PG. 286 R.O.M.C., TN
MAP / PARCEL 067 007.00 DOUBLE BRANCH LLC BK. R1067, PG. 286 R.O.M.C., TN
MAP / PARCEL 067 007.02 DOUBLE BRANCH LLC BK. R1067, PG. 286 R.O.M.C., TN
MAP / PARCEL 067 007.00 DOUBLE BRANCH LLC BK. R1067, PG. 286 R.O.M.C., TN
MAP / PARCEL 067 008.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 009.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 010.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 011.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 012.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 013.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 014.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 015.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 016.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 017.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 018.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 019.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 020.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 021.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 022.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 023.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 024.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 025.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 026.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 027.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 028.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 029.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 030.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 031.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 032.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 033.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 034.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 035.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 036.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 037.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 038.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 039.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 040.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 041.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 042.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 043.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 044.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 045.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 046.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 047.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 048.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 049.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 050.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 051.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 052.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 053.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 054.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 055.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 056.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 057.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 058.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 059.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 060.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 061.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 062.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 063.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 064.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 065.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 066.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 067.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 068.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 069.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 070.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 071.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 072.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 073.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 074.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 075.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 076.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 077.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 078.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 079.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 080.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 081.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 082.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 083.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 084.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 085.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 086.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 087.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 088.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 089.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 090.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 091.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 092.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 093.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 094.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 095.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 096.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 097.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 098.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 099.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 100.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 101.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 102.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 103.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 104.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 105.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 106.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 107.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 108.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 109.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 110.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 111.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 112.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 113.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 114.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 115.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 116.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 117.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 118.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 119.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 120.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 121.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 122.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 123.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 124.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 125.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 126.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 127.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 128.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 129.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 130.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 131.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 132.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 133.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 134.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 135.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 136.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 137.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 138.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 139.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 140.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 141.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 142.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 143.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 144.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 145.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 146.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 147.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 148.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 149.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 150.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 151.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 152.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 153.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 154.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 155.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 156.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 157.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 158.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 159.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 160.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 161.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 162.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 163.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 164.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 165.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 166.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 167.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 168.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 169.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 170.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 171.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 172.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 173.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 174.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 175.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 176.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 177.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 178.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 179.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 180.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 181.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 182.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 183.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 184.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 185.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 186.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 187.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 188.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 189.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 190.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 191.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 192.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 193.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 194.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 195.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 196.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 197.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 198.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 199.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 200.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 201.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 202.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 203.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 204.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 205.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 206.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 207.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 208.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 209.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 210.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 211.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 212.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 213.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 214.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 215.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 216.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 217.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 218.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 219.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 220.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 221.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 222.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 223.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 224.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 225.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 226.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 227.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 228.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 229.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 230.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 231.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 232.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 233.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 234.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 235.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 236.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 237.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 238.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 239.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 240.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 241.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 242.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 243.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 244.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 245.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 246.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 247.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 248.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 249.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 250.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 251.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 252.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 253.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 254.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 255.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 256.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 257.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 258.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 259.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 260.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 261.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 262.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 263.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 264.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 265.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 266.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 267.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 268.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 269.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 270.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 271.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 272.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 273.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 274.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 275.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 276.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 277.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 278.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 279.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 280.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 281.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 282.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 283.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 284.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 285.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 286.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 287.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 288.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 289.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 290.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 291.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 292.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 293.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 294.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 295.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 296.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 297.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 298.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 299.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 300.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 301.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 302.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 303.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 304.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 305.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 306.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 307.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 308.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 309.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 310.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 311.00 WILSON ROBERT BK. 1353, PG. 830 R.O.M.C., TN
MAP / PARCEL 067 312.00 WILSON ROBERT BK





GREENS MILL ROAD - ROAD A ROUNDABOUT - DETAILED LAYOUT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED PROFESSIONAL
AGRICULTURE
4/15/24
LICENSE No. 124695
STATE OF TENNESSEE

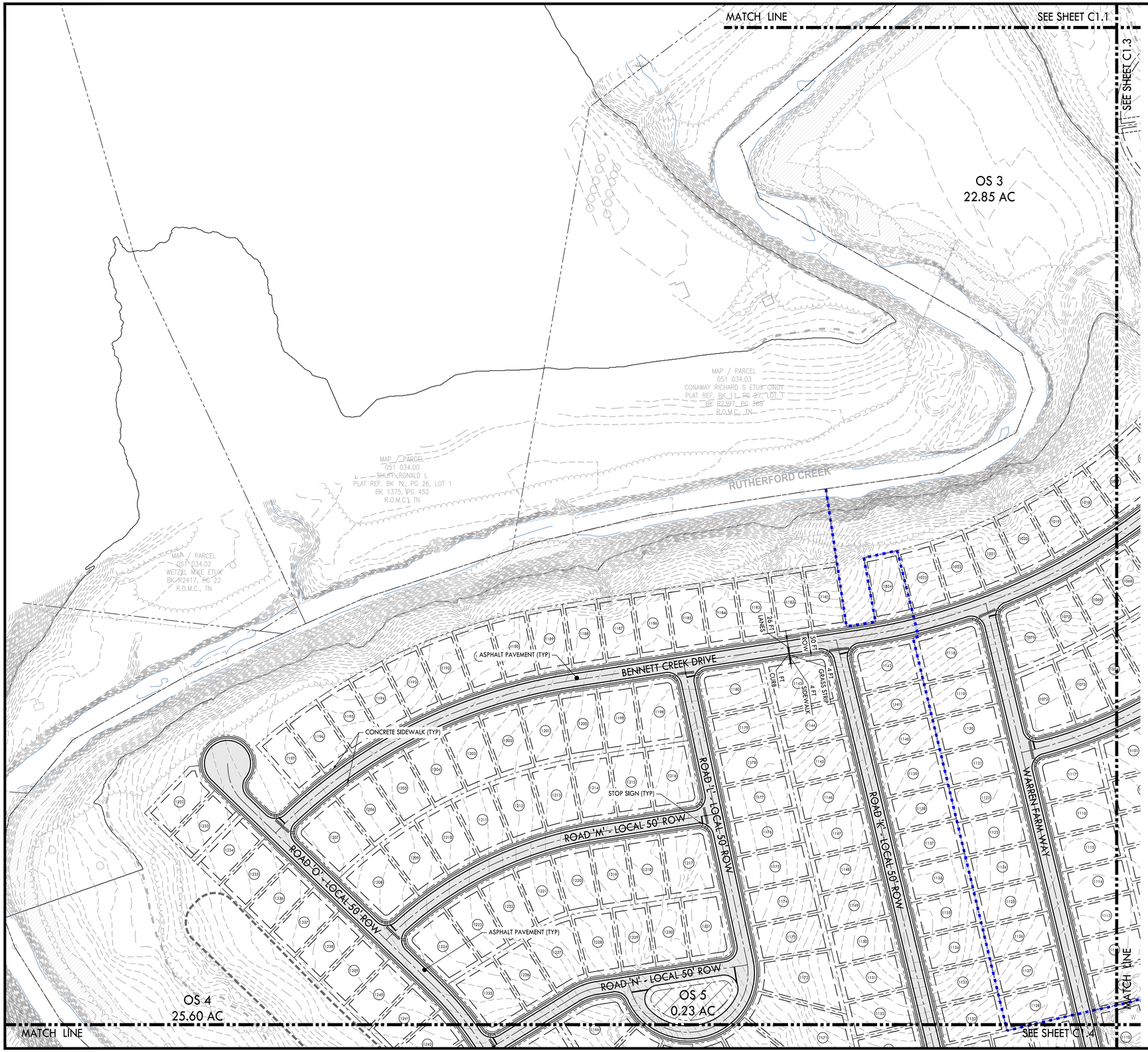
GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.1
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.2
SITE LAYOUT PLAN

MATCH LINE

SEE SHEET C1.1

SEE SHEET C1.2

OS 2
1.82 AC

LAURA RIDGE COURT

SEE DETAIL B THIS SHEET FOR DETAILED LAYOUT

STORMWATER POND 1

CONCRETE SIDEWALK (TYP)

BENNETT CREEK DRIVE

STOP SIGN (TYP)

BLUESTEM ROAD

MADELYN BRANCH ROAD

MARY LOU WAY

CHASE BEND COURT

FALLBROOK TRAIL

WINTERWARM DRIVE

OS 6
1.14 AC

SEE DETAIL A THIS SHEET FOR DETAILED LAYOUT

ROAD 'O' - BOULEVARD 100' ROW

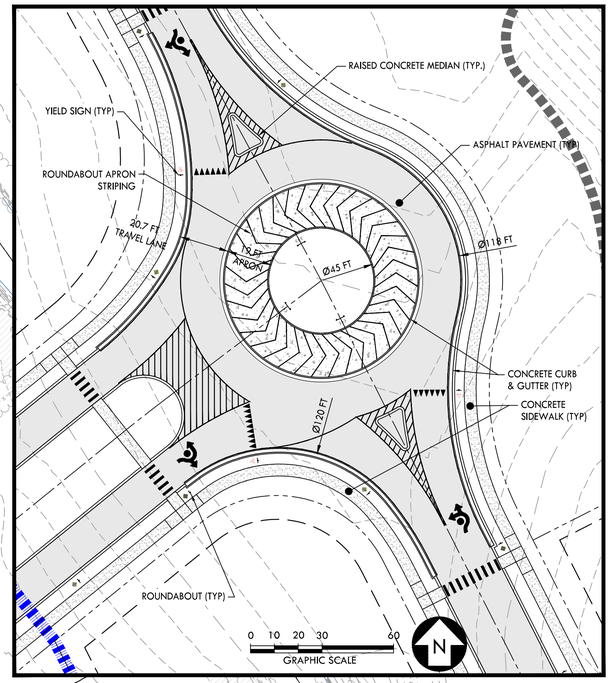
OS 7
17.39 AC

CONCRETE SIDEWALK (TYP)

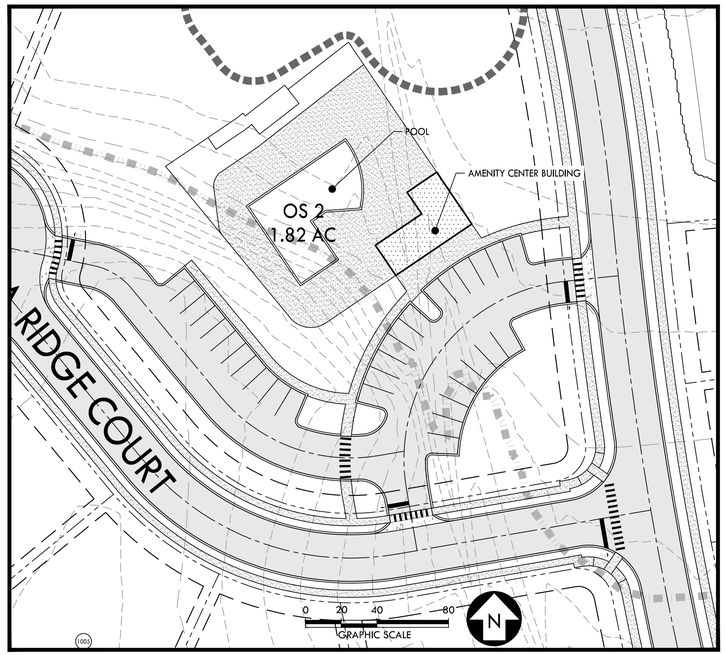
ASPHALT PAVEMENT (TYP)

MATCH LINE

SEE SHEET C1.4



DETAILED LAYOUT A



DETAILED LAYOUT B

SITE DATA TABLE (AMENITY CENTER):

EXISTING ZONING: RS-10
PROPOSED ZONING: RS-10

AMEINTY CENTER

AREA:	1.82 AC
PARKING SPACE:	31 SPACES
USAGE:	AMENITY CENTER AND POOL
BUILDING AREA:	1,340 SQ-FT
POOL AREA:	2,400 SQ-FT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
04/15/24
STATE OF TENNESSEE

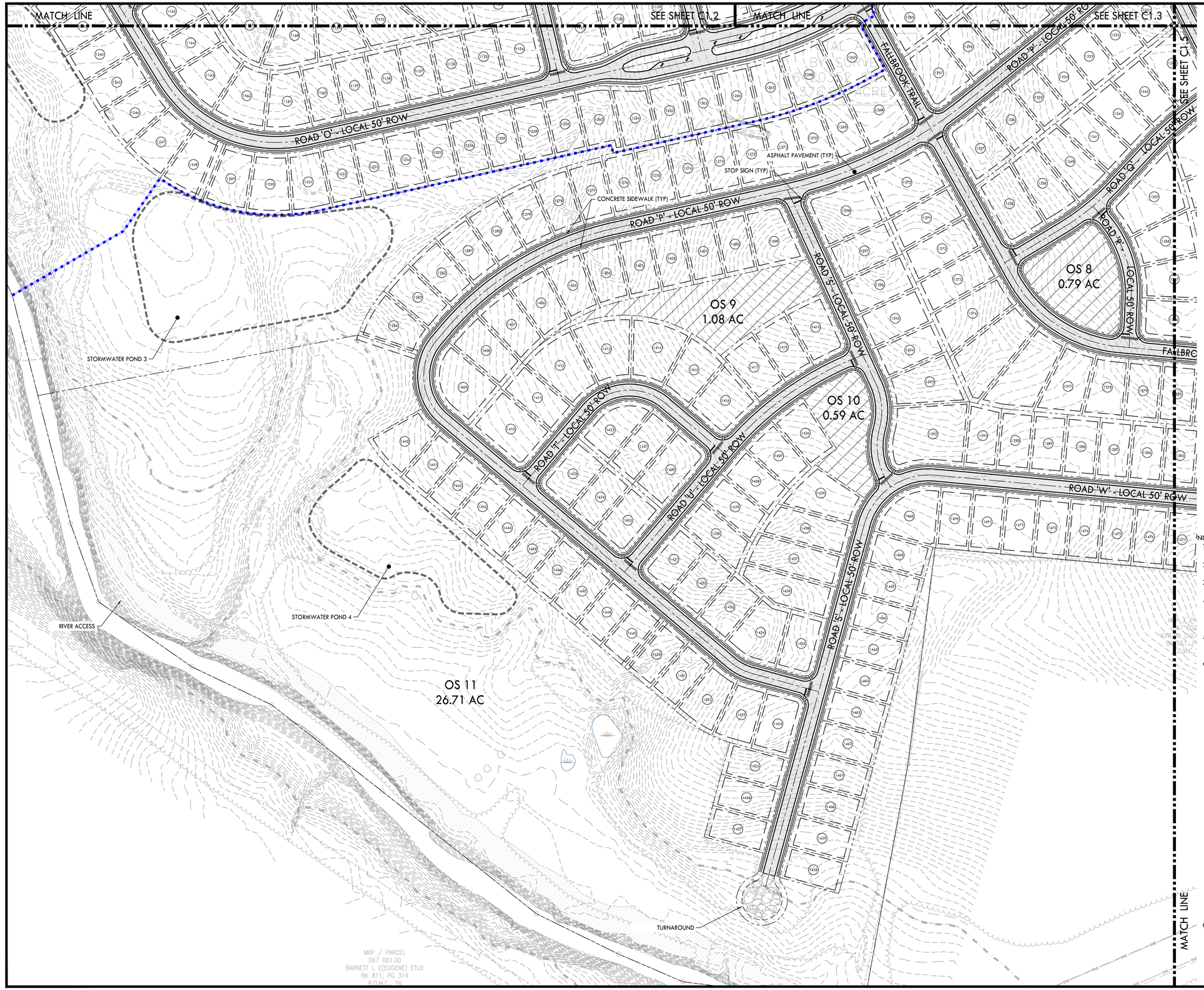
GREENS MILL ROAD
FINAL PUD MASTER PLAN

COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.3
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.4
SITE LAYOUT PLAN

MATCH LINE

SEE SHEET C1.4

SEE SHEET C1.3

BLUESTEM ROAD

MADELYN BRANCH ROAD

OK TRAIL

CONCRETE SIDEWALK (TYP)

ASPHALT PAVEMENT (TYP)

STOP SIGN (TYP)

RIVER ACCESS

RETAINING WALL

STORMWATER POND 5

RETAINING WALL

OS 12
1.09 AC

OS 15
16.15 AC

OS 14
3.41 AC

ROAD VI - LOCAL 50' ROW

RUTHERFORD CREEK

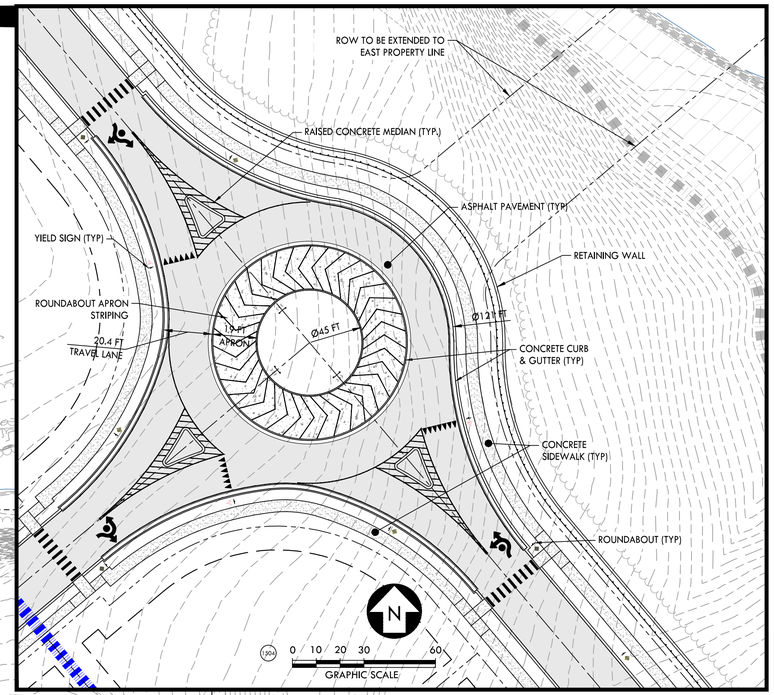
MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

MAP / PARCEL
067 004.00
NAME:FREEDMAN RON
BK R1824, PG 946
R.O.M.C., TN

MAP / PARCEL
067 005.00
SMITH D MICHAEL &
KELSEY L SMITH &
BK/PG:R1855/618
R.O.M.C., TN

CEMETERY

SEE SHEET C1.6



ROAD A - ROAD W ROUNDABOUT - DETAILED LAYOUT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

MATCH LINE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
FINAL PUD MASTER PLAN

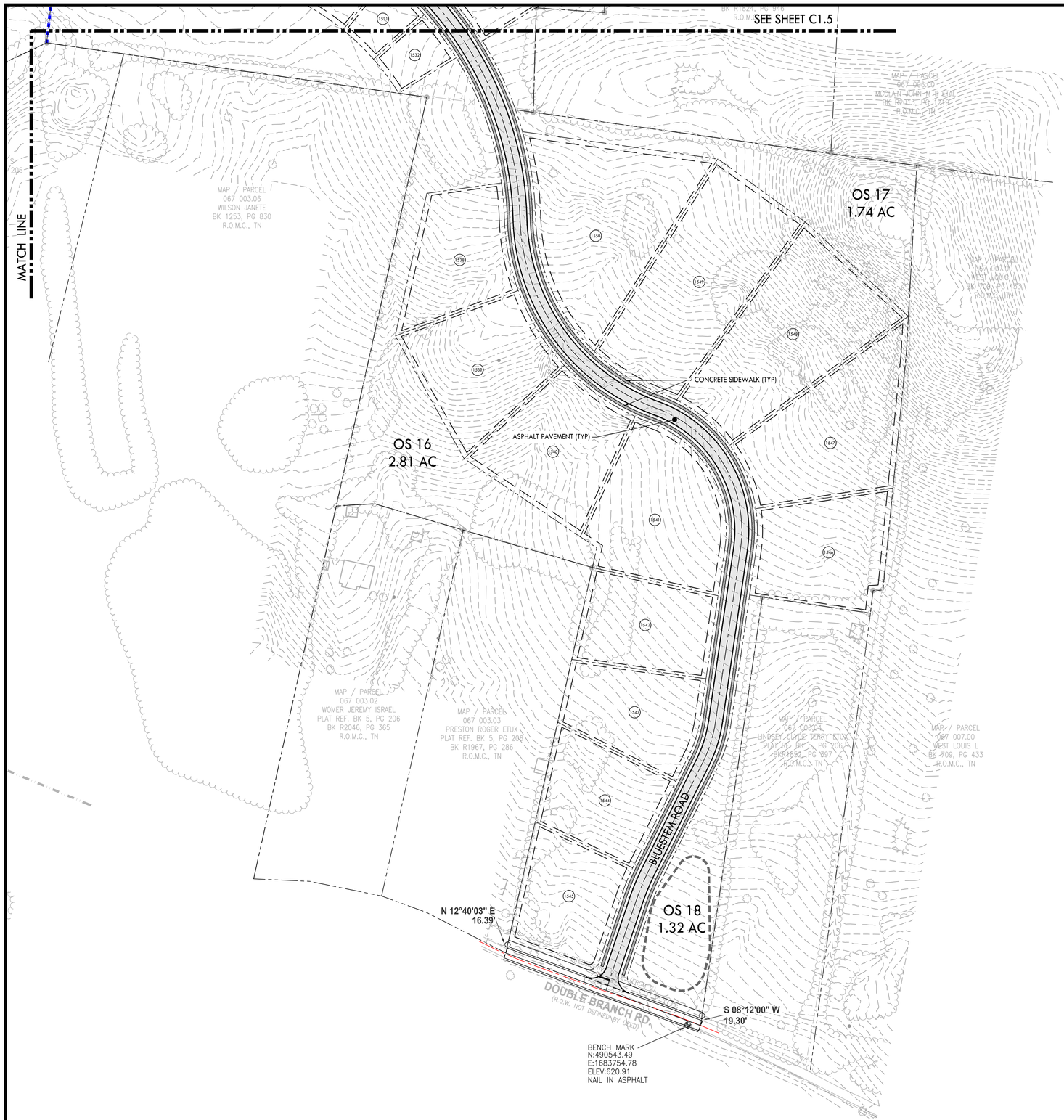
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.5
SITE LAYOUT PLAN



NOTES:
1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

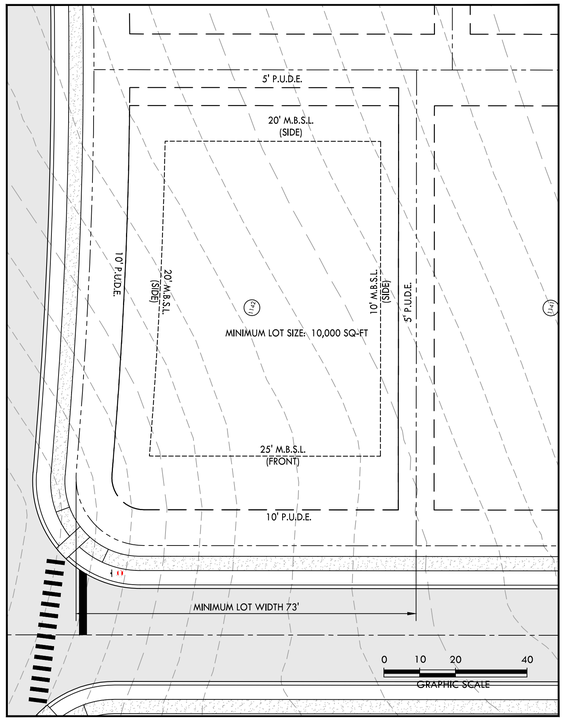
GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

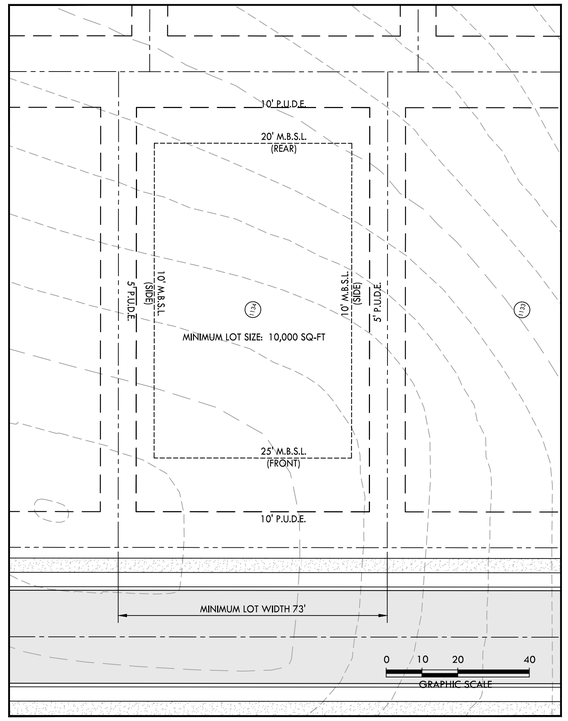
No.	DATE

04/15/2024 17067

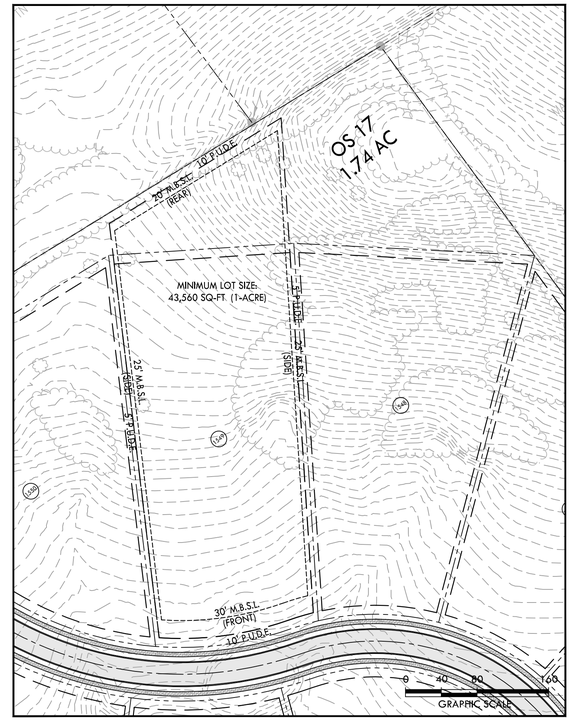
C1.6
SITE LAYOUT PLAN



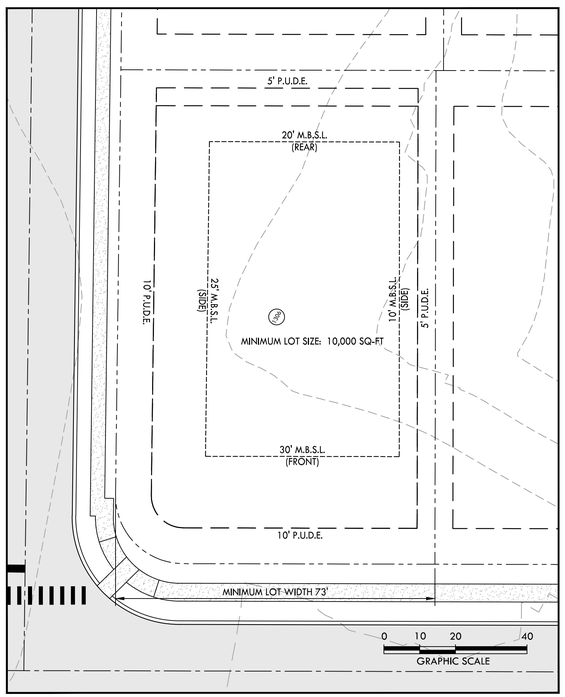
TYPICAL CORNER LOT LAYOUT AT LOCAL ROADWAYS



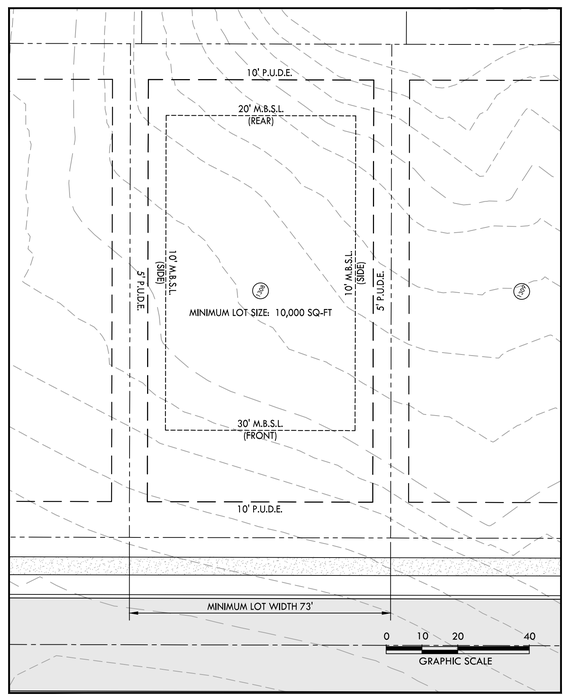
TYPICAL LOT LAYOUT AT LOCAL ROADWAYS



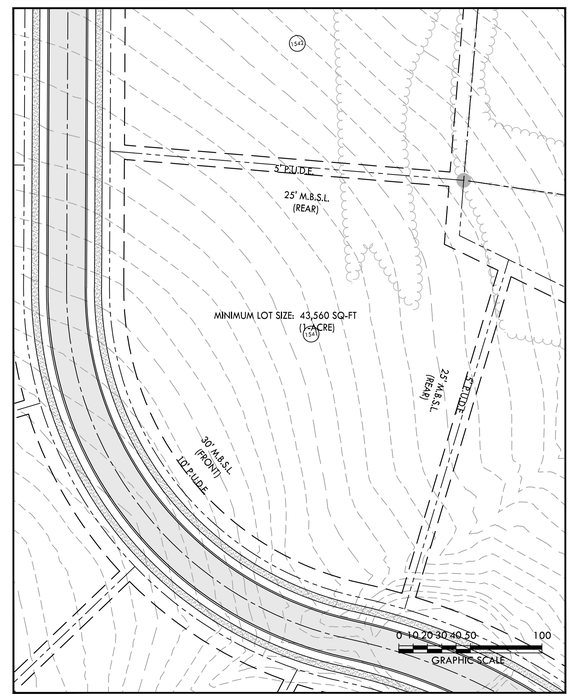
TYPICAL 1-ACRE LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL CORNER LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL 1-ACRE LOT CORNER LAYOUT AT COLLECTOR ROADWAYS

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT REGISTERED ENGINEER AGRICULTURE No. 124695 STATE OF TENNESSEE 4/15/24

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C1.7

TYPICAL LOT LAYOUT

PHASE 1 LOTS	
LOT NUMBER	AREA (SQ-FT)
1001	17,017
1002	17,017
1003	17,017
1004	14,912
1005	13,469
1006	14,496
1007	15,290
1008	12,968
1009	15,357
1010	11,104
1011	10,417
1012	10,417
1013	10,417
1014	10,417
1015	10,066
1016	10,422
1017	10,422
1018	10,422
1019	10,422
1020	10,422
1021	10,422
1022	10,422
1023	10,422
1025	17,079
1026	17,079
1027	17,079
1028	17,079
1029	17,079
1030	17,079
1031	17,079
1032	17,079
1033	17,252
1034	17,000
1035	17,000
1036	17,000
1040	12,511
1041	10,407
1042	10,407
1043	10,397
1044	10,312
1045	10,312
1046	10,312
1047	10,312
1051	11,912
1052	10,645
1053	10,645
1054	10,645
1055	10,428
1056	10,412
1057	10,412
1058	10,412
1063	14,209
1064	10,242
1065	10,325
1066	10,325
1067	10,325
1068	10,325
1069	10,325
1070	10,325
1071	13,240
1072	13,199
1073	11,413
1074	11,614
1075	11,632
1076	11,468
1077	11,118
1078	10,741
1079	11,609
1080	19,233
1081	13,477
1082	11,692
1083	14,601
1084	14,553
1085	11,803
1086	15,013
1101	12,377
1102	10,001
1103	10,001
1104	10,001
1105	10,001
1106	10,001
1107	11,490
1111	10,530
1112	10,138
1113	10,138
1114	10,138
1115	10,138
1116	10,138
1117	12,950
1118	14,369
1119	10,575
1120	10,575
1121	10,575
1122	10,575
1123	10,575
1124	10,575
1125	10,575
1126	10,575
1127	10,575
1128	10,575

PHASE 1: 100 LOTS

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1024	10,422
1037	17,000
1038	17,000
1039	17,000
1048	10,212
1049	10,212
1050	21,033
1108	13,627
1109	12,515
1110	13,458
1129	13,142
1130	11,363
1131	14,589
1132	11,080
1133	10,000
1134	10,000
1135	10,000
1136	10,000
1137	10,000
1138	10,000
1139	10,000
1140	10,000
1141	10,000
1142	12,197
1143	14,491
1144	10,686
1145	10,686
1146	10,686
1147	10,686
1148	10,686
1149	10,686
1150	10,686
1151	10,686
1152	10,686
1153	10,596
1154	12,335
1155	10,138
1156	10,138
1157	10,138
1158	10,138
1159	10,138
1160	10,138
1161	12,028
1162	12,884
1163	12,813
1164	10,001
1165	12,566
1166	14,743
1167	15,953
1168	15,175
1169	12,843
1170	17,613
1171	26,172
1172	16,613
1173	11,994
1174	11,307
1175	11,163
1176	11,018
1177	10,874
1178	10,730
1179	10,585
1180	12,589
1181	10,001
1182	10,001
1183	10,001
1184	10,001
1185	10,001
1186	10,001
1187	10,001
1188	10,001
1189	10,350
1190	10,381
1191	10,381
1192	10,381
1193	10,381
1194	10,381
1195	10,381
1196	10,381
1197	10,381
1198	12,488
1199	10,686
1200	10,855
1201	11,187
1202	11,218
1203	11,237
1204	11,245
1205	11,240
1206	11,222
1207	14,934
1208	13,726
1209	11,237
1210	11,237
1211	11,237
1212	11,237
1213	11,237
1214	10,915
1215	10,686
1216	13,080
1217	14,112
1218	10,001

PHASE 2: 218 LOTS

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1219	10,165
1220	10,430
1221	10,358
1222	10,775
1223	10,989
1224	13,203
1225	13,566
1226	10,046
1227	12,710
1228	11,056
1229	10,001
1230	10,001
1231	11,904
1232	10,289
1233	10,001
1234	10,001
1235	10,001
1236	10,001
1237	10,001
1238	10,001
1239	10,001
1240	10,001
1241	10,000
1242	10,000
1243	10,000
1244	10,001
1245	10,001
1246	11,766
1247	12,142
1248	12,142
1249	12,142
1250	12,142
1251	11,339
1252	10,001
1253	10,001
1254	10,001
1255	10,001
1256	10,001
1257	10,001
1258	10,001
1259	10,001
1260	11,300
1261	11,027
1262	10,000
1263	10,000
1264	10,000
1265	10,216
1266	13,453
1267	13,313
1306	12,173
1307	10,074
1308	10,074
1309	10,074
1310	10,074
1311	10,074
1312	10,074
1313	19,125
1314	17,000
1315	17,000
1316	17,000
1317	17,000
1318	17,000
1319	17,000
1320	17,000
1321	17,000
1322	17,000
1323	17,000
1324	17,000
1325	16,824
1326	15,140
1327	15,140
1328	11,113
1329	11,050
1330	11,050
1343	13,979
1346	11,830
1347	11,830
1348	12,096
1349	12,142
1350	13,963
1491	14,121
1492	11,050
1493	11,050
1494	12,923
1504	13,998
1505	9,782
1506	11,447
1520	12,625
1521	10,832
1522	10,828
1523	11,103
1524	12,148
1525	12,148
1526	12,148
1527	12,343
1528	12,039
1529	12,039
1530	12,039
1531	12,039
1532	12,039

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1533	11,595
1534	11,595
1535	11,595
1536	11,595
1537	11,595
1538	44,013
1539	54,701
1540	54,636
1541	64,578
1542	43,560
1543	43,560
1544	43,560
1545	42,380
1546	51,402
1547	69,933
1548	83,516
1549	83,554
1550	86,701

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1381	10,549
1382	13,236
1383	13,283
1384	10,138
1385	10,138
1386	10,138
1387	10,138
1388	10,138
1389	10,138
1390	10,138
1391	10,315
1392	23,386
1393	14,553
1394	10,975
1395	12,450
1396	12,450
1397	12,450
1398	17,223
1399	13,417
1400	10,001
1401	10,001
1402	10,001
1403	10,017
1404	10,888
1405	11,043
1406	11,320
1407	11,939
1408	12,343
1409	13,135
1410	16,736
1411	11,309
1412	15,571
1413	15,707
1414	15,003
1415	11,860
1416	13,554
1417	10,922
1418	10,916
1419	12,183
1420	14,047
1421	11,714
1422	11,981
1423	11,979
1424	10,001
1425	11,979
1426	10,742
1427	10,742
1428	10,247
1429	10,556
1430	11,790
1431	11,183
1432	11,261
1433	11,261
1434	13,875
1435	11,183
1436	13,756
1437	15,131
1438	13,708
1439	13,624
1440	12,162
1441	10,001
1442	10,001
1443	10,001
1444	10,001
1445	10,001
1446	10,001
1447	10,001
1448	10,001
1449	10,001
1450	10,001
1451	10,001
1452	11,560
1453	11,049
1454	11,961
1455	10,001
1456	10,001
1457	10,001
1458	10,001
1459	10,001
1460	10,001
1461	10,001
1462	10,001
1463	10,001
1464	10,001
1465	10,001
1466	10,001
1467	10,001
1468	10,001
1469	14,251
1470	10,001
1471	10,001
1472	10,001
1473	10,001
1474	10,001
1475	10,001
1476	10,001
1477	10,001
1478	10,001
1479	11,979
1480	10,800

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1059	10,412
1060	10,412
1061	10,412
1062	14,594
1087	13,310
1088	10,138
1089	10,138
1090	10,138
1091	10,138
1092	11,168
1093	14,266
1094	15,338
1095	10,686
1096	10,686
1097	10,686
1098	10,686
1099	10,686
1100	13,799
1268	13,723
1269	10,000
1270	10,000
1271	10,000
1272	10,220
1273	10,220
1274	10,220
1275	10,220
1276	10,218
1277	10,516
1278	10,587
1279	10,587
1280	10,587
1281	10,587
1282	10,587
1283	10,413
1284	12,238
1285	14,363
1286	11,960
1287	11,960
1288	11,960
1289	11,960
1290	15,305
1291	14,579
1292	10,549
1293	10,549
1294	10,549
1295	10,549
1296	10,549
1297	13,820
1298	14,636
1299	10,138
1300	10,138
1301	10,138
1302	10,138
1303	10,138
1304	10,138
1305	12,185
1331	13,840
1332	10,686
1333	10,001
1334	10,001
1335	10,001
1336	11,722
1337	13,741
1338	15,280
1339	13,241
1340	13,493
1341	11,980
1342	11,512
1343	11,211
1344	14,642
1351	12,438
1352	12,941
1353	14,839
1354	13,337
1355	17,114
1356	14,971
1357	13,500
1358	12,409
1359	14,257
1360	15,369
1361	10,368
1362	10,368
1363	10,368
1364	10,368
1365	13,193
1366	13,877
1367	12,355
1368	12,396
1369	18,871
1370	16,393
1371	12,508
1372	12,968
1373	13,428
1374	16,150
1375	20,090
1376	18,213
1377	13,637
1378	11,552
1379	10,549
1380	10,549

PHASE 3: 232 LOTS

OPEN SPACE	
OPEN SPACE NUMBER	AREA (SQ-FT)
OS1	1,458,307
OS2	79,170
OS3	995,488
OS4	1,115,170
OS5	10,007
OS6	49,797
OS7	757,551
OS8	34,518
OS9	47,158
OS10	25,754
OS11	1,163,526
OS12	47,626
OS13	338,907
OS14	148,353
OS15	703,561
OS16	122,226
OS17	75,646
OS18	57,342

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

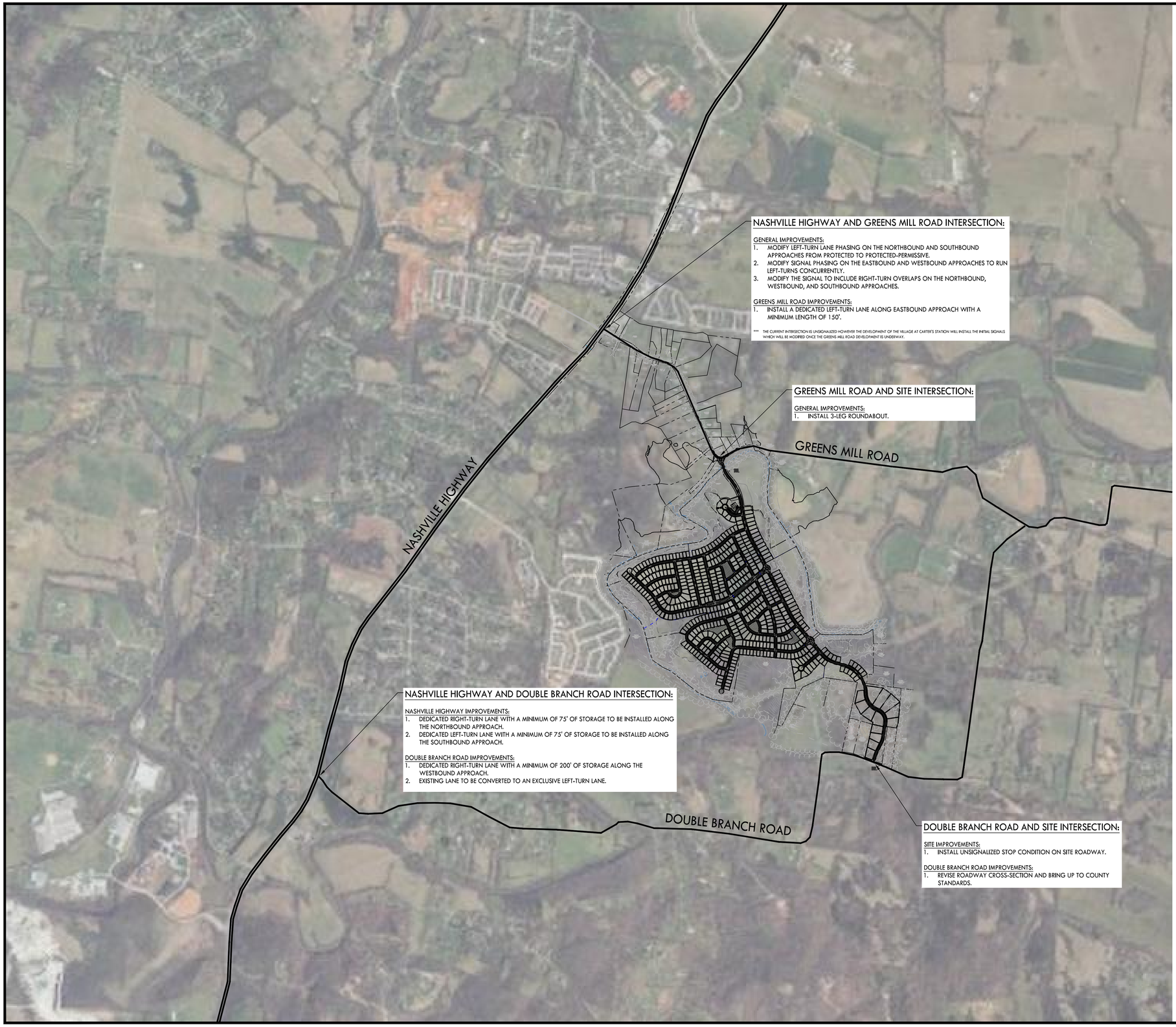
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.8
PARCEL TABLES



NASHVILLE HIGHWAY AND GREENS MILL ROAD INTERSECTION:

GENERAL IMPROVEMENTS:
1. MODIFY LEFT-TURN LANE PHASING ON THE NORTHBOUND AND SOUTHBOUND APPROACHES FROM PROTECTED TO PROTECTED-PERMISSIVE.
2. MODIFY SIGNAL PHASING ON THE EASTBOUND AND WESTBOUND APPROACHES TO RUN LEFT-TURNS CONCURRENTLY.
3. MODIFY THE SIGNAL TO INCLUDE RIGHT-TURN OVERLAPS ON THE NORTHBOUND, WESTBOUND, AND SOUTHBOUND APPROACHES.

GREENS MILL ROAD IMPROVEMENTS:
1. INSTALL A DEDICATED LEFT-TURN LANE ALONG EASTBOUND APPROACH WITH A MINIMUM LENGTH OF 150'.

*** THE CURRENT INTERSECTION IS UNSIGNALIZED HOWEVER THE DEVELOPMENT OF THE VILLAGE AT CARTER'S STATION WILL INSTALL THE INITIAL SIGNALS WHICH WILL BE MODIFIED ONCE THE GREENS MILL ROAD DEVELOPMENT IS UNDERWAY.

GREENS MILL ROAD AND SITE INTERSECTION:

GENERAL IMPROVEMENTS:
1. INSTALL 3-LEG ROUNDABOUT.

NASHVILLE HIGHWAY AND DOUBLE BRANCH ROAD INTERSECTION:

NASHVILLE HIGHWAY IMPROVEMENTS:
1. DEDICATED RIGHT-TURN LANE WITH A MINIMUM OF 75' OF STORAGE TO BE INSTALLED ALONG THE NORTHBOUND APPROACH.
2. DEDICATED LEFT-TURN LANE WITH A MINIMUM OF 75' OF STORAGE TO BE INSTALLED ALONG THE SOUTHBOUND APPROACH.

DOUBLE BRANCH ROAD IMPROVEMENTS:
1. DEDICATED RIGHT-TURN LANE WITH A MINIMUM OF 200' OF STORAGE ALONG THE WESTBOUND APPROACH.
2. EXISTING LANE TO BE CONVERTED TO AN EXCLUSIVE LEFT-TURN LANE.

DOUBLE BRANCH ROAD AND SITE INTERSECTION:

SITE IMPROVEMENTS:
1. INSTALL UNSIGNALIZED STOP CONDITION ON SITE ROADWAY.

DOUBLE BRANCH ROAD IMPROVEMENTS:
1. REVISE ROADWAY CROSS-SECTION AND BRING UP TO COUNTY STANDARDS.

NOTES:

ALL IMPROVEMENTS SHOWN WERE RECOMMENDED BY THE GREENS MILL MASTER PLAN, TRAFFIC IMPACT STUDY CONDUCTED BY KCI TECHNOLOGIES IN NOVEMBER, 2020.

SCHEDULE OF IMPROVEMENTS:

GREENS MILL ROAD AND SITE IMPROVEMENTS:
- TO BE INSTALLED PRIOR TO PHASE 1 COMPLETION.

DOUBLE BRANCH ROAD AND SITE IMPROVEMENTS.
- TO BE INSTALLED AFTER PHASE 1 COMPLETION AND PRIOR TO PHASE 2 COMPLETION.

NASHVILLE HIGHWAY AND GREENS MILL ROAD IMPROVEMENTS:
- TO BE INSTALLED AFTER PHASE 1 COMPLETION AND PRIOR TO PHASE 2 COMPLETION.

NASHVILLE HIGHWAY AND DOUBLE BRANCH ROADIMPROVEMENTS:
- TO BE INSTALLED PRIOR TO PHASE 2 COMPLETION.

0 50 1,000 2,000
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

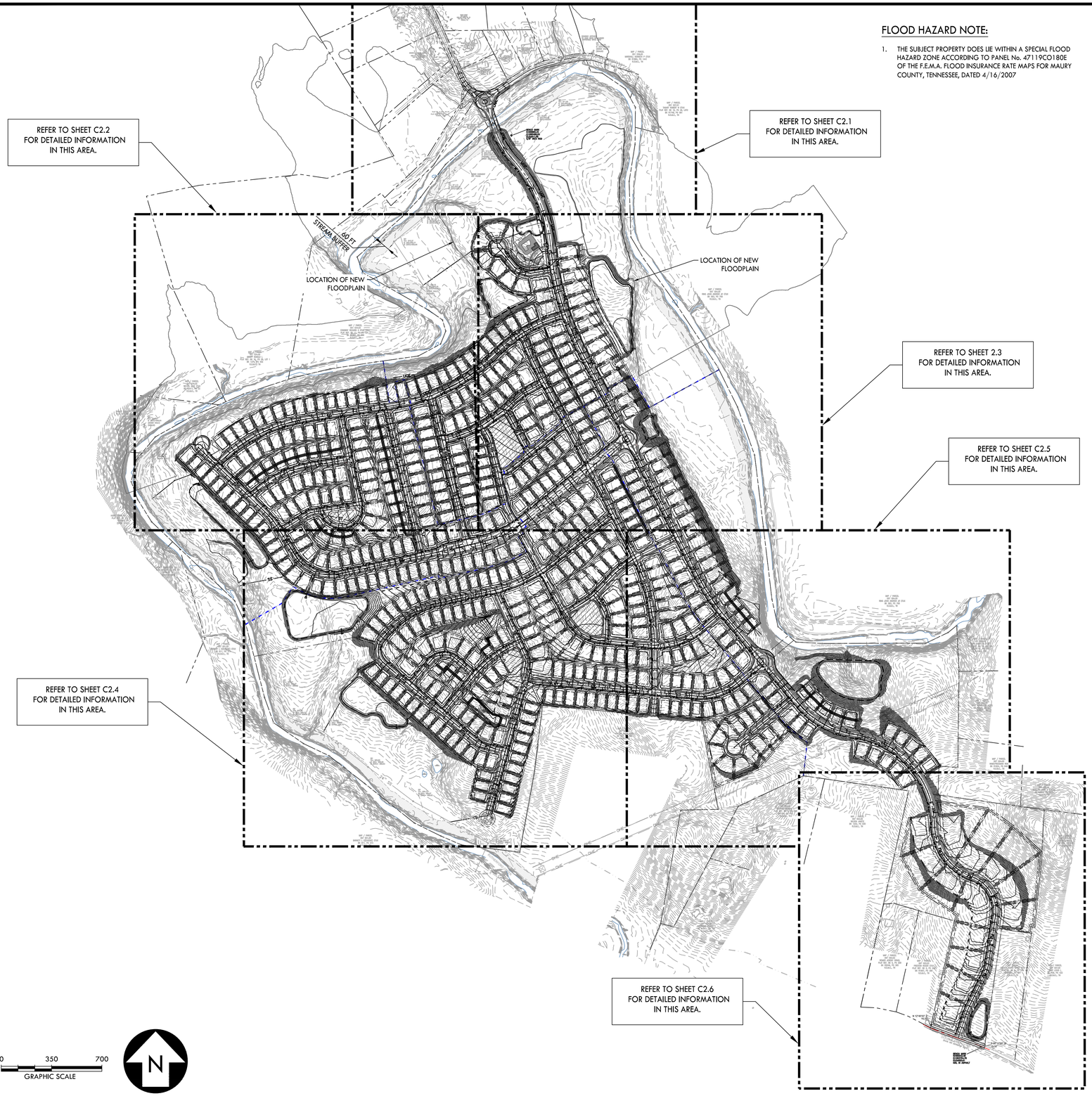
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C1.9
OFFSITE IMPROVEMENTS



FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/16/2007

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

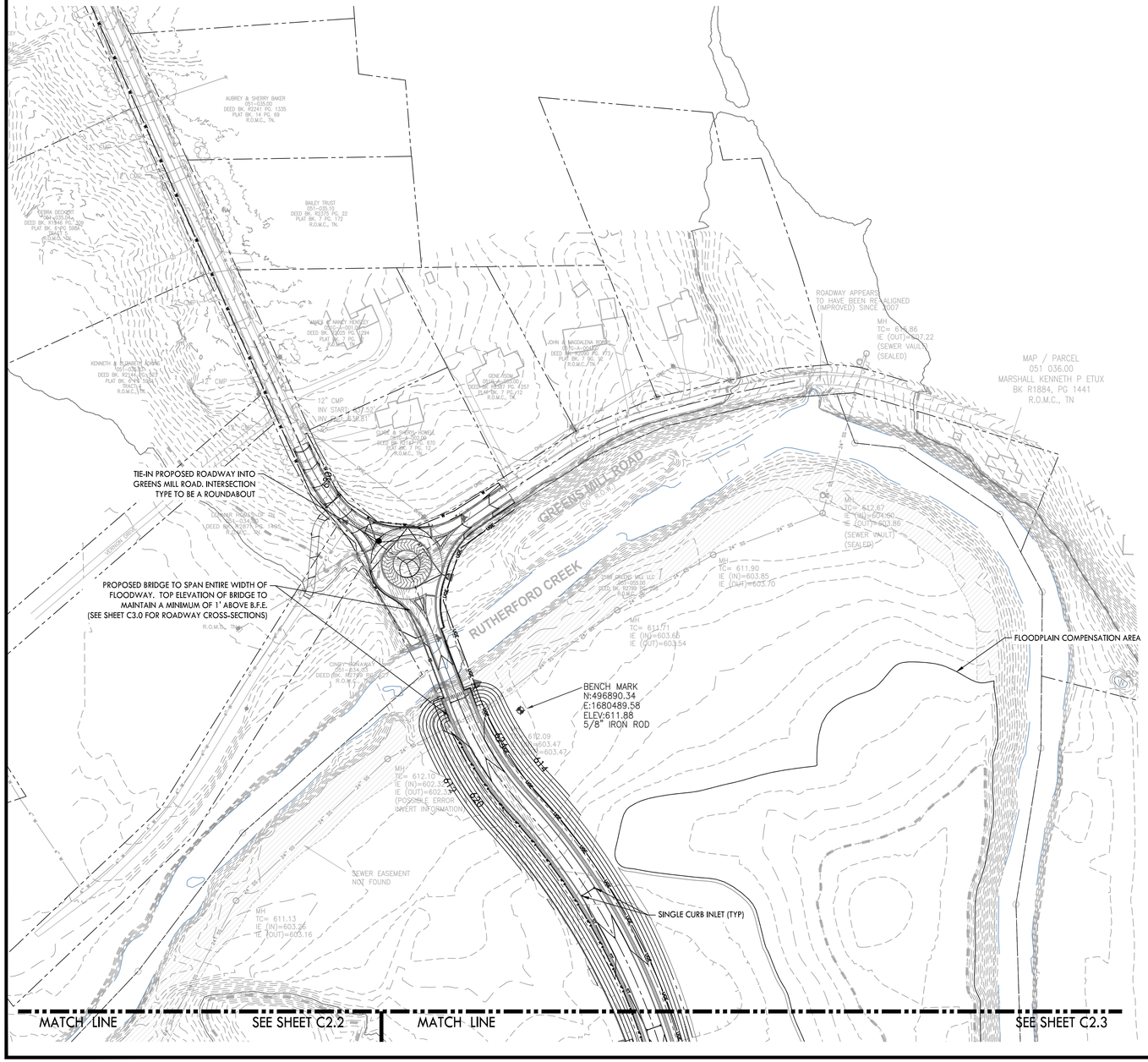
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C2.0
OVERALL GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

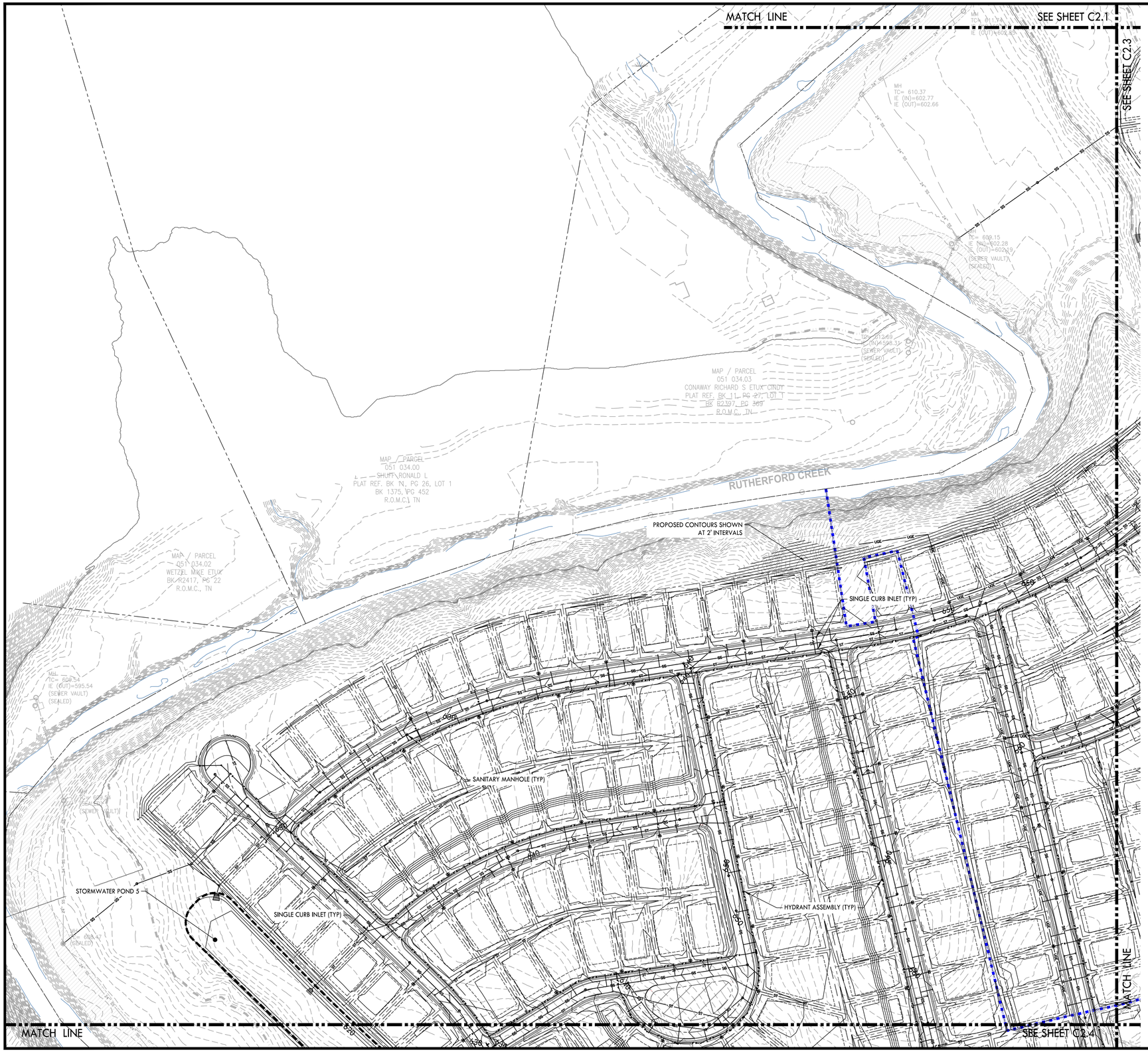
PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS
No. | DATE

04/15/2024 17067

C2.1
GRADING, DRAINAGE, AND UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.2
GRADING, DRAINAGE, AND UTILITY PLAN

MATCH LINE

SEE SHEET C2.1

SEE SHEET C2.4

MATCH LINE

STORMWATER POND 1

SINGLE CURB INLET (TYP)

STORM JUNCTION MANHOLE (TYP)

POND 1 OUTLET STRUCTURE (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 2

8" X 10" TEE AND GATE VALVES (3) (TYP)

SANITARY MANHOLE (TYP)

STORMWATER POND 3

PROPOSED CONTOURS SHOWN AT 2' INTERVALS

CONCRETE HEADWALL (TYP)

8" TEE AND GATE VALVES (3) (TYP)

HYDRANT ASSEMBLY (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 4

SANITARY MANHOLE (TYP)

PROPOSED CONTOURS SHOWN AT 2' INTERVALS

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
4/15/24
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.3
GRADING, DRAINAGE, AND UTILITY PLAN

MATCH LINE

SEE SHEET C2.2

MATCH LINE

SEE SHEET C2.3

MATCH LINE

SEE THIS SHEET

MATCH LINE

SEE THIS SHEET

STORMWATER POND 5

20' PUBLIC UTILITY EASEMENT

STORMWATER POND 6

POND OUTLET STRUCTURE (TYP)

CONCRETE HEADWALL (TYP)

20' PUBLIC UTILITY EASEMENT

SINGLE CURB INLET (TYP)

SANITARY MANHOLE (TYP)

STORMWATER POND 7

POND OUTLET STRUCTURE (TYP)

CONCRETE HEADWALL (TYP)

CONNECT TO EXISTING SANITARY MANHOLE

20' PUBLIC UTILITY EASEMENT

SANITARY MANHOLE (TYP)

CONNECT TO EXISTING SANITARY MANHOLE

CONNECT TO EXISTING SANITARY MANHOLE

MAP / PARCEL
067 001.00
BARNETT L E(EUGENE) ETUX
BK 811, PG 314
R.O.M.C., TN

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:

1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
4/15/24

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.4
GRADING, DRAINAGE, AND UTILITY PLAN

MATCH LINE

SEE SHEET C2.3

SEE SHEET C2.4

SINGLE CURB INLET (TYP)

HYDRANT ASSEMBLY (TYP)

SANITARY MANHOLE (TYP)

HYDRANT ASSEMBLY (TYP)

8" X 10" TEE AND GATE VALVES (3) (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 8

RUTHERFORD CREEK

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

MAP / PARCEL
051 052.00
RING TANDY VF ETUX
BK/PG: BK 1824/PG 946
R.O.M.C., TN

MAP / PARCEL
067 005.00
HALL MARSHALL HEIRS
BK R2196, PG 647
R.O.M.C., TN

MAP / PARCEL
067 004.00
NAME:FREEDMAN RON
BK R1824, PG 946
R.O.M.C., TN

MAP / PARCEL
067 003.00
SOLESKO MICHAEL S
ELKI WEF SW 3, PG/208
BK/PG: BK/PG 818
R.O.M.C., TN

75' TVA EASEMENT

CEMETERY

SEE SHEET C2.6

MATCH LINE

MATCH LINE

PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SANITARY SEWER LINE
- WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

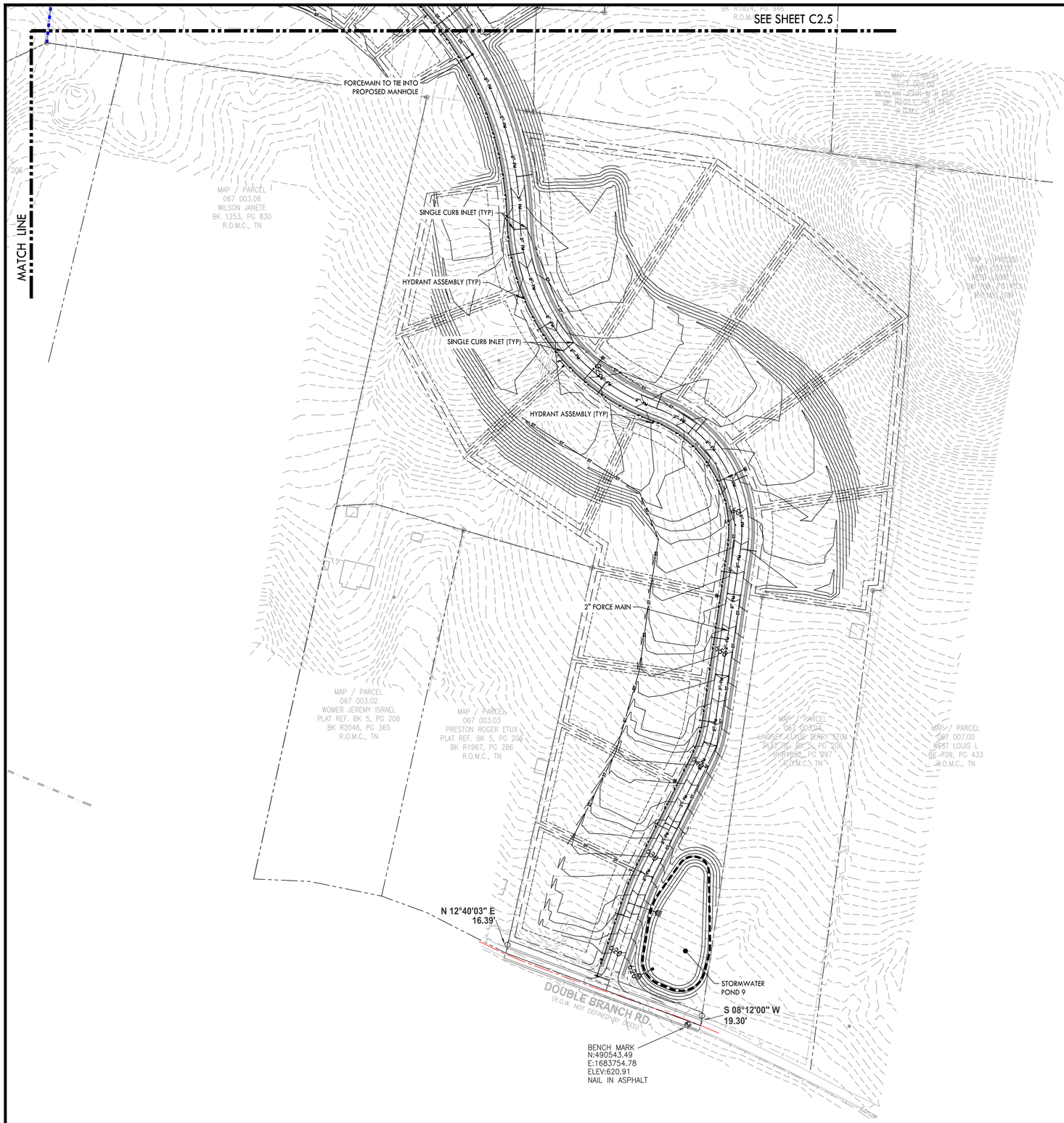
GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C2.5
GRADING, DRAINAGE, AND UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

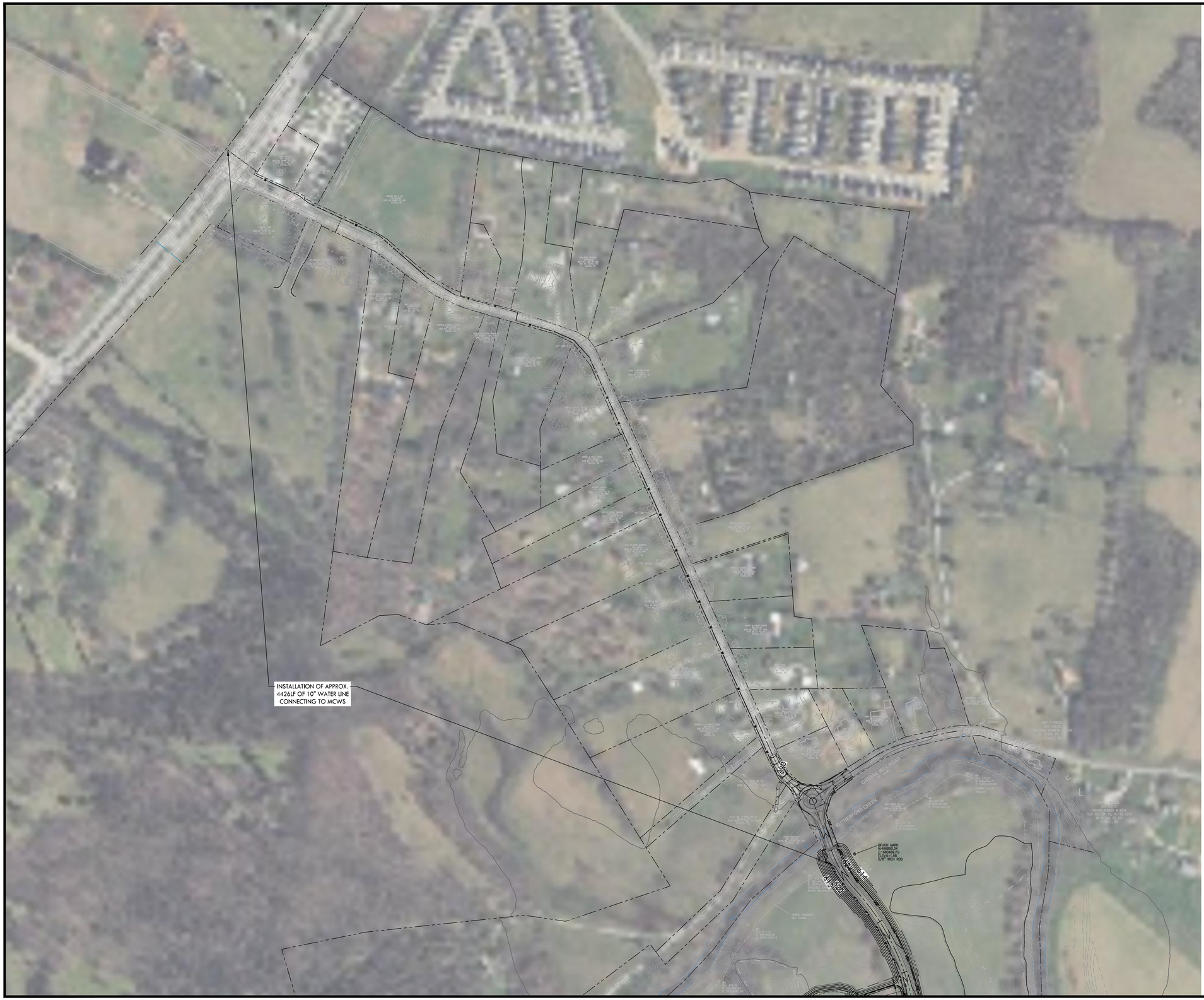
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

04/15/2024 17067

C2.6
GRADING, DRAINAGE, AND UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
4/15/24
No. 124695
STATE OF TENNESSEE

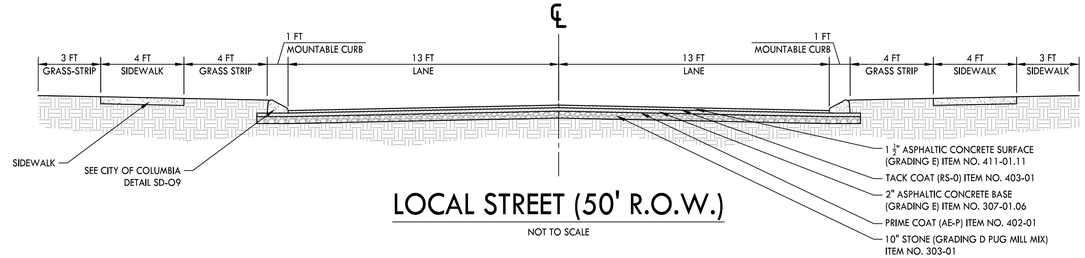
GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

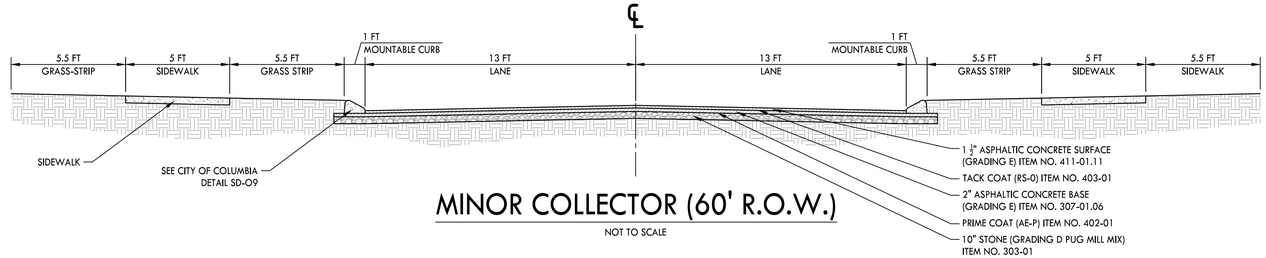
04/15/2024 17067

C2.7
CPWS WATERMAIN EXTENSION EXHIBIT



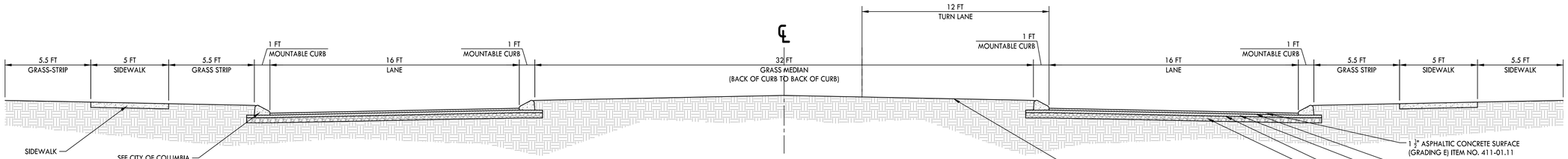
LOCAL STREET (50' R.O.W.)

NOT TO SCALE



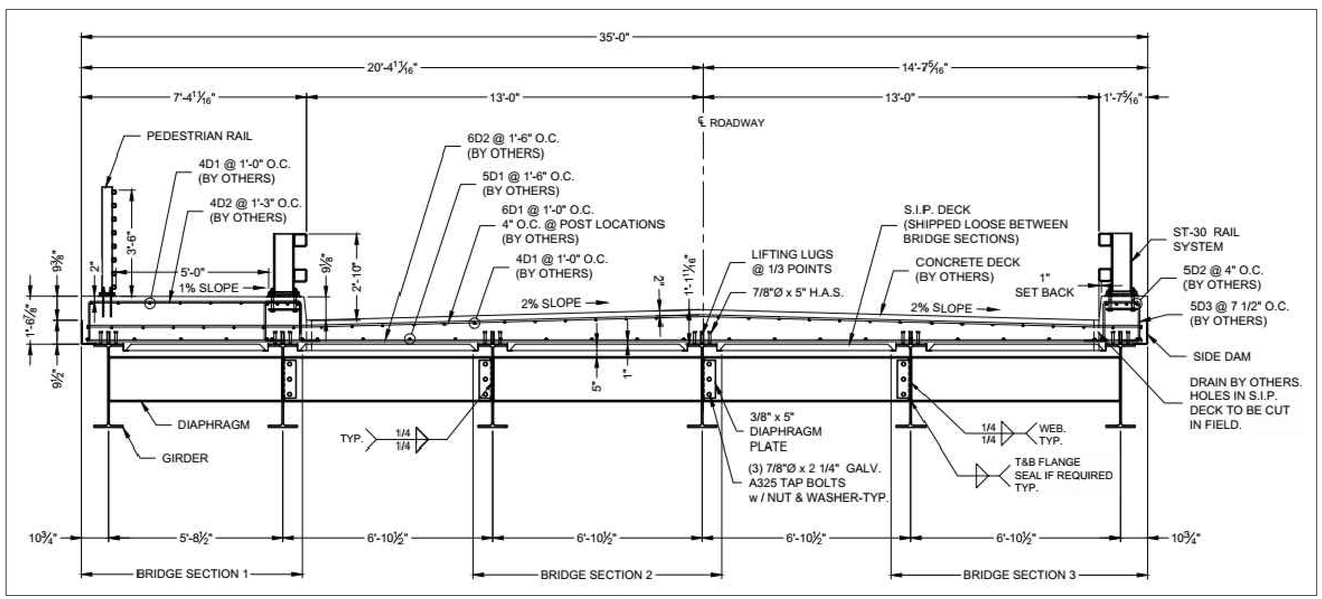
MINOR COLLECTOR (60' R.O.W.)

NOT TO SCALE



MINOR COLLECTOR WITH BOULEVARD (100' R.O.W.)

NOT TO SCALE



BRIDGE

NOT TO SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT REGISTERED ENGINEER AGRICULTURE 4/15/24 No. 124695 STATE OF TENNESSEE

GREENS MILL ROAD
FINAL PUD MASTER PLAN
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

04/15/2024 17067

C3.0
ROADWAY CROSS SECTIONS

April 15, 2024

City of Columbia
Development Review Committee
700 N Garden Street
Columbia, TN 38401

RE: Greens Mill Road – Preliminary Plat Revision (Item No. 24-0146)

Below are our responses to comments received on April 10, 2024. We believe we have satisfied all comments, but if you have additional concerns or questions, please do not hesitate to contact us. Our responses are as follows:

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he will prepare the staff report for this item. Please contact abrass@columbiatn.com with questions about the development review process or technical comments. The lead planner should be copied on all communication with other city staff.
   Response: Noted. Austin Brass will be copied on all communication.

2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal.
   Response: This comment response letter will serve as the formal response letter, as well as notes on the plans describing major changes.

3. Due to the complexity of this request, the item will be reviewed again by the Development Review Committee following resubmittal.
   Response: Noted.

4. The revised layout differs substantially from the PUD Master Plan in the location of lots, layout of streets, and the location of amenities. Please amend the application to revise the PUD Master Plan. Additional fees and public notice requirements will apply.
   Response: Final PUD masterplan will be resubmitted with the preliminary plat resubmittal as discussed.

5. The proposed modification results in a greater than 2% reduction of open space in a PUD. The Master Plan revision will require City Council approval unless more open space is identified.
   Response: Along with the revisions to the lot layouts, all open space was updated to prevent any reduction in open space compared to the original submittal. This has been noted on the plans when comparing the changes in this new submittal.

6. Please provide a bullet pointed list of each change in the plan development.
   Response: An additional sheet has been added to the plan set to provide a list with callouts of the changes made in this new submittal compared to the original.

7. Please explain the plan for sewerage for the large lots at the southern end of the development. Plans must comply with wastewater department standards.

Response: See response from comment #17, however sewage plan for the large lots at the southern end of the development are planned to utilize Grinder Pumps. We understand the ordinance in effect with the city that does not allow Grinder Pumps, however this was passed after the approval of the current Final PUD Master Plan which showed approximately 30 lots utilizing Grinder Pumps. The revised Final PUD Master Plan reduces the total number of lots utilizing Grinder Pumps down from 30 lots to 13 lots.

8. The change in site layout orientation did not result in any net loss of 550 lots under Final PUD master plan approval before this revision. Provide callout indicating changes among lots in phases from original final PUD master plan.
   Response: An additional sheet has been added to the plan set comparing the changes in the lot layouts between the Final PUD master plan approval and this proposed revision. The number of lots has remained unchanged and there will not be a reduction in open space.

9. Provide note that this master plan is being reviewed under the previous zoning code 3638 as an RS-10 PUD.
   Response: This has been noted on the plans.

Engineering

10. Provide narrative of all proposed changes.
    Response: This comment response letter along with the additional sheet added to plans listing changes will be submitted showing the changes in this revision.

11. Provide and show ROW for NE stub from roundabout.
    Response: This ROW has been added to the plans for the NE stub coming from the roundabout.

12. Provide and show ROW for SW stub. Intent was for Road W to be continuous to SW stub for future bridge and connectivity. Any road over 150 ft. will require a cul-de-sac.
    Response: This ROW has been added to the plans.

13. Subject to TIS and construction plans.
    Response: Noted.

14. Raised concrete medians required for internal roundabouts
    Response: Concrete medians have been added to the plans for the internal roundabouts.

15. Provide geotechnical report for possible karst area that roadway goes over between lots 1504/1549.
    Response: A note will continue to be included on the plans stating that a Geotech investigation will be performed on all depressed areas during construction document permitting.

Engineering

16. Dead-end roads in excess of 150' must have an approved turn-around.
    Response: Turn-arounds have been added to any roadway exceeding 150' in length.

Wastewater

17. Lots 1538-1550 (13 total lots) are being subdivided such that it will force these lots onto a grinder pump system, triggering City Ordinance #4478, wherein grinder pump systems were banned. This will make sewer unavailable for these lots and so the lots will require septic as long as state rules and regulations are followed, as well as local regulations, which includes a 1-acre minimum lot size for lots with septic.
    Response: As discussed in the pre-application meeting, since we are vested under the original code and the previously approved Final PUD Master Plan which showed an approximate total of 30 lots on a grinder pump system, we would be allowed to keep these lots on the grinder pump system. Additionally, this newly revise Final PUD Master Plan attempts to reduce the number of Grinder Pumps from 30 to a total of 13. Additionally, septic systems would not be feasible due to the shallow nature of bedrock in this area as well as the soil quality. We request that the Grinder Pumps be allowed as was shown in the originally approved Final PUD Master Plan that is currently in effect.

18. AT&T plans to serve.
    Response: Noted.

Columbia Power

19. Columbia Power System has an existing power line near your proposed commercial development. We are willing to serve this commercial development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction. Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.
    Response: Noted.

Maury County Schools

20. Battle Creek Elementary, Battle Creek Middle, Battle Creek High 24/25 SY 9-10th 25/26 SY 9-11th, 26/27 9-12th. Spring Hill High School 24/25 11-12th, 25/26 12th. The development combined with current neighborhoods and additional approved zones may developments in these zones may require either new construction or realignment of school zones to accommodate new students.
    Response: Noted.

We believe that all comments have been addressed. If you have any questions or need additional information, please do not hesitate to contact me at adam@crunkeng.com or 615-873-1795.

Sincerely,



Adam Crunk, PE
Crunk Engineering LLC

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0146

DESCRIPTION: Revised Preliminary Plat of the 550 residential lot subdivision 'The Landing at Greens Mill Road'. The purpose of this plat is to display the layout of the 550 lot subdivision.

Columbia Water

1. Conditions of previous approval remain in effect, no additional water impact anticipated.

Maury County E911

2. Contact Maury County 911 for any road names to be reserved.

DEVELOPMENT REVEW COMMITTEE MEETING
Tuesday, April 9, 2024

ITEM NO.
24-0146

DESCRIPTION: Revised Preliminary Plat of the 550 residential lot subdivision 'The Landing at Greens Mill Road'. The purpose of this plat is to display the layout of the 550 lot subdivision.

RECOMMENDATION: For final recommendation please see staff report.

COMMENTS:

Planning

1. The lead staff person for this case is Planner Austin Brass, AICP; he will prepare the staff report for this item. Please contact abrass@columbiatn.com with questions about the development review process or technical comments. The lead planner should be copied on all communication with other city staff.
2. At resubmittal, please provide a response letter addressing each comment along with any revised plans. If the nature of the comment does not warrant a response, or the comment was previously addressed, please simply note that the information has been acknowledged. Any documents or additional information that you want to present to Planning Commission should be included in your resubmittal.
3. The revised layout differs substantially from the PUD Master Plan in the location of lots, layout of streets, and the location of amenities. Please amend the application to revise the PUD Master Plan. Additional fees and public notice requirements will apply.
4. The proposed modification results in a greater than 2% reduction of open space in a PUD. The Master Plan revision will require City Council approval.
5. Please provide a bullet pointed list of each change in the plan of development.
6. Please explain the plan for sewerage for the large lots at the southern end of the development. Plans must comply with wastewater department standards.
7. The change in site layout orientation did not result in any net loss of 550 lots under Final PUD master plan approval before this revision. Provide callout indicating changes among lots in phases from original final PUD master plan.
8. Provide note that this master plan is being reviewed under the previous zoning code 3638 as an RS-10 PUD.

Fire

9. Dead-end roads in excess of 150' must have an approved turn around

Wastewater

10. Lots 1538-1550 (13 total lots) are being subdivided such that it will force these lots onto a grinder pump system, triggering City Ordinance #4478, wherein grinder pump systems were banned. This will make sewer unavailable for these lots and so the lots will require septic as long as state rules and regulations are followed, as well as local regulations, which includes a 1-acre minimum lot size for lots with septic.

Building

11. No comments.

Police

12. No comments provided.

ATT

13. PLAN TO SERVE

Columbia Power

14. Columbia Power System has an existing power line near your proposed commercial development.
    We are willing to serve this commercial development subject to all Columbia Power System policies and procedures in effect at actual time service is rendered provided an approved final plat and complete electrical load information is furnished as soon as possible prior to start of actual construction.
    • Unfortunately, due to current supply chain challenges, no timeframe can be guaranteed regarding the availability of meters or transformers appropriate for your development.

Public Works

15. No comments.

Engineering

16. Provide narrative of all proposed changes.

17. Provide and show ROW for NE stub from roundabout.
18. Provide and show ROW for SW stub. Intent was for Road W to be continuous to SW stub for future bridge and connectivity. Any road over 150 ft. will require a cul-de-sac.
19. Subject to TIS and construction plans.
20. Raised concrete medians required for internal roundabouts
21. Provide geotechnical report for possible karst area that roadway goes over between lots 1540/1549

Maury County Schools

22. Battle Creek Elementary, Battle Creek Middle, Battle Creek High 24/25 SY 9-10th 25/26 SY 9-11th, 26/27 9-12th. Spring Hill High School 24/25 11-12th, 25/26 12th. The development combined with current neighborhoods and additional approved zones may developments in these zones may require either new construction or realignment of school zones to accommodate new students.

Columbia Water

23. "Conditions of previous approval remain in effect, no additional water impact anticipated."

Atmos Energy

24. No comment provided.

Maury County E911

25. Contact Maury County 911 for any road names to be reserved.

Duck River Electric Membership Corp

26. No comments provided.

Maury County Highway Dept.

27. No comments provided.

CPWS BB

28. Plan to Serve

ATTACHMENTS: Preliminary Plat

NOTE: All submittals shall be compliant with City standards prior to Planning Commission review. Items that are not adhering to the regulations and/or comments for that request will not be forwarded to the next agenda until such items are amended.

Current Enrollment / Capacity

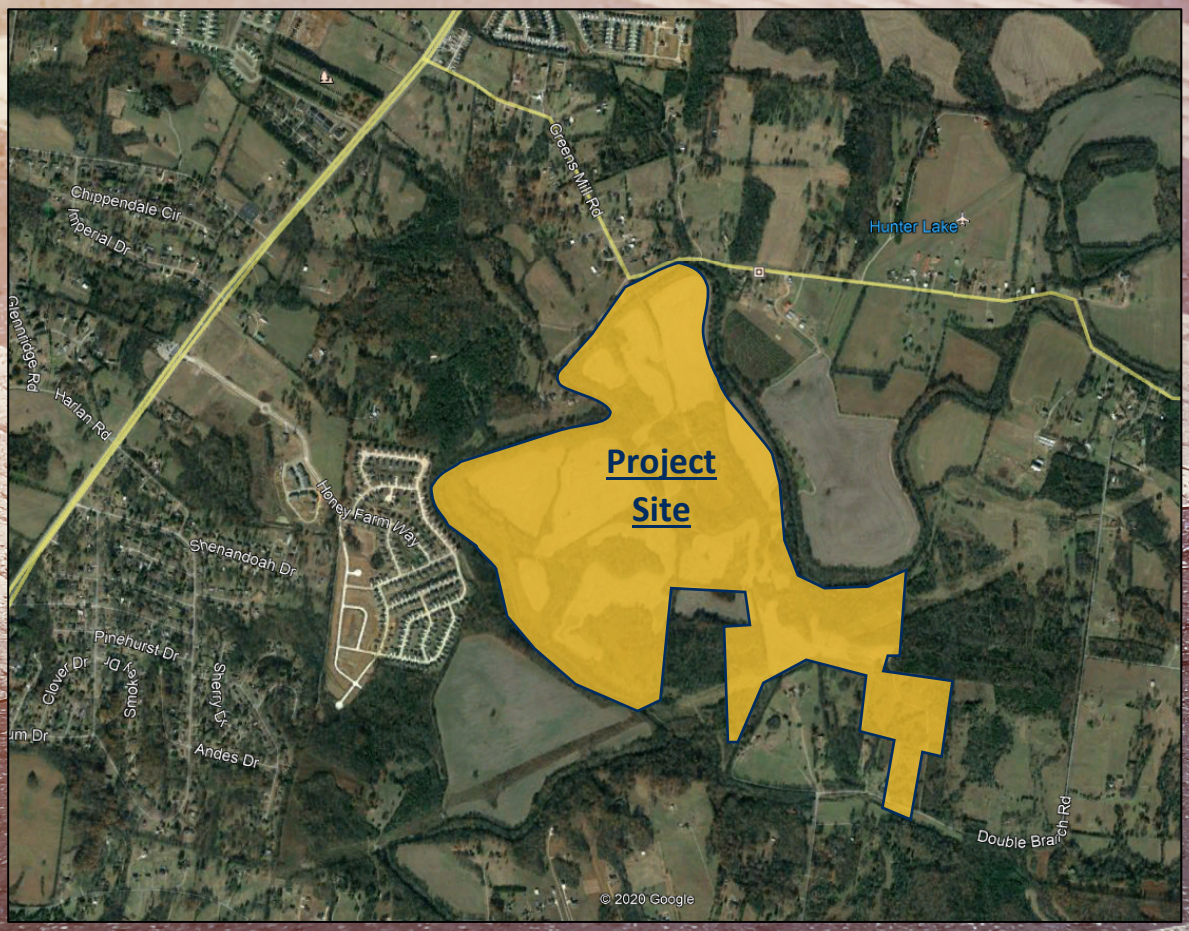
	Facility Name	Date Constructed	Sq. Ft.	Acreage	Capacity
Elementary	Baker	1960	43,920	12	340
	Battle Creek	2019	90,000	30	700
	Brown	1968	56,720	20	405
	Highland	1986	47,800	4.5	380
	Howell	1999	81,600	17.5	700
	Mt. Pleasant	1978	80,021	22	630
	Riverside	1984	71,150	14	500
	Spring Hill	1984	69,000	10	540
	Woodard	1990	76,200	17	600
	Wright	2005	97,765	18	740
					5535
Middle	Battle Creek	2019	125,000	45	900
	Cox	1997	137,200	25	900
	Mt. Pleasant	2001	113,938	29.2	550
	Spring Hill	2010	158,106	39.49	950
	Whitthorne	1979	175,600	17	1050
					4350
High	Central	2016	296,740	55	1700
	Mt. Pleasant	1969	110,759	31	600
	Spring Hill	1993	181,800	57	1200
					3500
Unit	Culleoka	1969	205,800	34	1020
	Hampshire	1978	83,410	13.12	500
	Santa Fe	1964	94,225	24	650
					2170
Other	Central Office	1960	15,400	1.5	
	College Hill	1958	42,211	2.26	
	Maintenance	1987	9,400	4.7	
	McDowell		46,165	7	
			2,509,930	**550.27**	**15555**

Current Enrollment	Capacity Used
320	94.1%
638	91.1%
366	90.4%
319	83.9%
595	85.0%
571	90.6%
402	80.4%
449	83.1%
565	94.2%
601	81.2%
4826	***87.2%***
732	81.3%
646	71.8%
415	75.5%
523	55.1%
980	93.3%
3296	***75.8%***
1372	80.7%
366	61.0%
1195	99.6%
2933	***83.8%***
873	85.6%
415	83.0%
512	78.8%
1800	***82.9%***
174	
13029	

TRAFFIC IMPACT STUDY

GREENS MILL MASTER PLAN

COLUMBIA, TENNESSEE



PREPARED FOR:

SAFE HARBOR DEVELOPMENT

MARCH 2021

KCI TECHNOLOGIES, INC. // 500 11TH AVENUE NORTH, NASHVILLE, TN 37203 // KCI.COM

TRAFFIC IMPACT STUDY
GREENS MILL MASTER PLAN
COLUMBIA, TENNESSEE

PREPARED FOR:

SAFE HARBOR DEVELOPMENT



PREPARED BY:

KCI TECHNOLOGIES, INC

500 11th Avenue North, Suite 290
Nashville, TN 37203
615.370.8410 office 615.370.8455 fax
www.kci.com

TABLE OF CONTENTS

1. INTRODUCTION AND PROJECT DESCRIPTION 1
2. EXISTING CONDITIONS 3
2.1 Existing Roadway Network 3
2.2 Existing Traffic Volumes 9
2.3 Existing Traffic Operations 11
3. BACKGROUND TRAFFIC VOLUMES 13
3.1 Establishing Background Volumes 13
3.2 Background Traffic Operations 15
4. IMPACTS 19
4.1 Trip Generation 19
4.2 Trip Distribution and Traffic Assignment 20
4.3 Capacity / Level of Service Analyses 23
4.4 Queue Length Analysis 30
5. ANALYSIS OF SITE PLAN 33
5.1 Site Access Review 33
5.2 Pedestrian and Bicycle Access 33
5.3 Sight Distance Analysis 33
5.4 Lane Warrant Analysis 34
6. CONCULSIONS AND RECOMMENDATIONS 36
APPENDICES 38

LIST OF FIGURES

FIGURE 1. LOCATION OF THE PROJECT SITE 2
FIGURE 2. EXISTING LANEAGE 8
FIGURE 3. EXISTING PEAK HOUR TRAFFIC VOLUMES 10
FIGURE 4. BACKGROUND PEAK HOUR TRAFFIC VOLUMES 14
FIGURE 5. DISTRIBUTION OF TRAFFIC GENERATED BY THE PROJECT SITE 21
FIGURE 6. ASSIGNMENT OF TRAFFIC GENERATED BY THE PROJECT SITE 22
FIGURE 7. TOTAL PROJECTED PEAK HOUR TRAFFIC VOLUMES 25

LIST OF TABLES

TABLE 1. TDOT COUNT STATION DATA 9
TABLE 2. DESCRIPTIONS OF LEVEL OF SERVICE 11
TABLE 3. EXISTING PEAK HOUR LEVELS OF SERVICE 12
TABLE 4A. BACKGROUND AM PEAK HOUR LEVELS OF SERVICE 17
TABLE 4B. BACKGROUND PM PEAK HOUR LEVELS OF SERVICE 18
TABLE 5. DEVELOPMENT TRIP GENERATION 19
TABLE 6A. PROJECTED AM PEAK HOUR LEVELS OF SERVICE 26
TABLE 6B. PROJECTED PM PEAK HOUR LEVELS OF SERVICE 28
TABLE 7. STUDY INTERSECTIONS 95TH PERCENTILE QUEUE LENGTH 31
TABLE 8. INTERSECTION SIGHT DISTANCE ANALYSIS 34

EXECUTIVE SUMMARY

Project Description

The proposed Greens Mill Master Plan development is located along Greens Mill Road in Columbia, Tennessee. According to the site plan provided by the developer, the proposed development includes 745 single family homes. Access to the development is planned to be provided by two access drives. Site Access "A" is located on Greens Mill Road and Site Access "B" is located on Double Branch Road. The purpose of this study is to determine the traffic impacts associated with the proposed development, evaluate the proposed access locations and provide recommendations for attaining safe and efficient traffic flow for the study area intersections and roadways.

Data Collection

In order to provide data for the traffic impact analysis, traffic counts were obtained at the following intersections:

1. Nashville Highway and Spring Meade Boulevard (signalized)
2. Nashville Highway and Old Highway 31 (unsignalized)
3. Nashville Highway and Arden Village Dr / Grove Park Way (signalized)
4. Nashville Highway and Greens Mill Road (unsignalized)
5. Nashville Highway and Hidden Creek Way (unsignalized)
6. Nashville Highway and Double Branch Road (unsignalized)
7. Greens Mill Road and Double Branch Road (unsignalized)

Specifically, the City of Columbia provided the traffic counts conducted from 6:30 – 8:30 AM and 4:00 – 6:00 PM on a typical weekday in March 2020 while local schools were in session. From the counts, it was determined that the peak hours of traffic flow for the majority of the study intersections occurred from 7:00 – 8:00 AM and 4:45 – 5:45 PM.

The counts for the intersection of Nashville Highway and Double Branch Road were conducted by KCI Technologies on a typical weekday in October 2020 while local schools were in session. Due to the circumstances surrounding COVID-19, this count was validated by comparing tube counts to average daily traffic volumes provided by the Tennessee Department of Transportation.

The intersection of Greens Mill Road and Double Branch Road is not included in the capacity analysis based on the anticipated volumes, as discussed in the scoping meeting.

Projection of Future Traffic Volumes

In order to account for the traffic growth prior to the completion of the proposed project, background traffic volumes were established. Then, the estimated total project-generated traffic volumes for the proposed development were added to the background peak hour traffic volumes in order to obtain the total projected peak hour traffic volumes for the study area intersections.

Conclusions and Recommendations

The analyses presented in this study indicate that the impacts of the proposed project on the existing street network will be reduced by providing the recommendations below. These specific recommendations are anticipated to provide safe and efficient traffic operations within the study area following the completion of the proposed project. The recommendations are as follows:

Nashville Highway and Greens Mill Road

- Modify the left-turn phasing on the northbound and southbound approaches of Nashville Highway from protected to protected-permissive.
- Widen the westbound approach of Greens Mill Road to include an exclusive left-turn lane, a through lane, and a right-turn lane.
- Modify the signal phasing on the eastbound and westbound approaches to provide protected-permissive signal phasing.
- Modify the signal to include right-turn overlaps on the northbound, westbound, and southbound approaches

Nashville Highway and Double Branch Road

- Install a dedicated right-turn lane with at least 200 feet of storage on the westbound approach of Double Branch Road if allowable within the right-of-way. Convert the existing lane to an exclusive left-turn lane. This lane should be constructed when the development ties into Double Branch Road.
- Install a dedicated right-turn lane with at least 75 feet of storage on the northbound approach of Nashville Highway.
- Install a dedicated left-turn lane with at least 75 feet of storage on the southbound approach of Nashville Highway.

Greens Mill Road and Site Access A

- Install a roundabout at the intersection of Greens Mill Road and Site Access A. Each approach should include one lane.

Greens Mill Road and Double Branch Road

- Install Intersection Advanced Warning Signs (W2-2) on the eastbound and westbound approaches of Greens Mill Road in advance of the intersection to address the lack of sight distance.

Nashville Highway and Spring Meade Boulevard

- The eastbound approach should be modified to include an exclusive left-turn lane, a shared left-turn/through lane, and an exclusive right-turn lane.
- This development should not be responsible for this improvement. The City of Columbia should coordinate with other developments to implement this change.

Proposed Development Internal Roadways

- The major internal roadway between Double Branch Road and Greens Mill Road should be designed as a collector.
- The final design of all internal roadways should meet all City of Columbia standards and the latest version of *A Policy of Geometric Design of Highways and Streets* published by AASHTO.
- Any streets within the development should have sufficient width to ensure that passenger cars and emergency vehicles are capable of making all turning movements.

Signal Timing Review

- A signal timing study will be conducted upon completion of the development to maximize the efficiency of the traffic signals within the study area.

General

- As part of the construction of the project, all site accesses and internal intersections should be designed such that the departure sight triangles, as specified by AASHTO, will be clear of all sight obstructions, including landscaping, existing vegetation, monument signs/walls, fences, etc.

1. INTRODUCTION AND PROJECT DESCRIPTION

The purpose of this study is to determine the traffic impacts associated with the proposed Greens Mill Master Plan development, evaluate the proposed access locations and provide recommendations for attaining safe and efficient traffic flow for the study area intersections and roadways. The Greens Mill Master Plan development is located along Greens Mill Road and Double Branch Road in Columbia, Tennessee (see Figure 1). According to the site plan provided by the developer, the proposed development includes 745 single family homes.

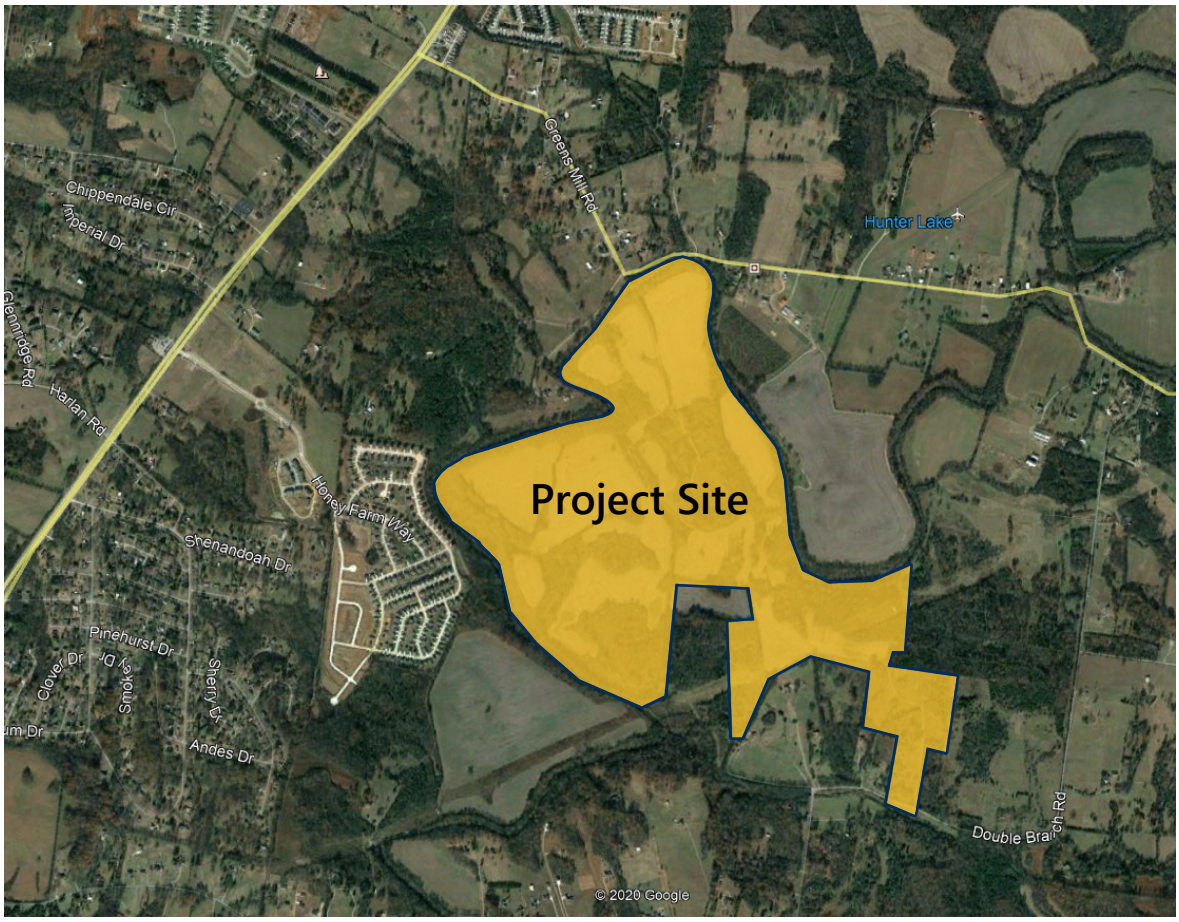
The property is currently zoned A2A (Rural Residential). The proposed development is within an area that is characterized by low-density land uses. The property is generally bounded on the north and east by Rutherford Creek, on the west by rural residential properties, and on the south by Double Branch Road.

The current site plan for the Greens Mill Master Plan development is shown in Appendix A. Based on this site plan, proposed vehicular access for the development is planned to be provided by two access drives, one on Greens Mill Road and one on Double Branch Road. The access drive on Greens Mill Road is located within the ninety-degree bend in Greens Mill Road approximately 3/4 of a mile east of Nashville Highway. The access drive on Double Branch Road is located approximately 1 ½ miles south of Greens Mill Road.

In this study, the current operating characteristics of the adjacent roadways and intersections, which are listed in Section 2, in the vicinity of the project site are evaluated. The expected trips generated by the proposed development were determined and distributed to the roadway network. The adjacent roadways and intersections were then reevaluated to determine the anticipated traffic impacts of the project. Finally, recommendations are presented, including roadway improvements and/or traffic control improvements that are needed to accommodate the expected traffic.

The scope of work for this study was determined via a conference call between the developer, the City of Columbia, and the City's reviewer Greg Judy on October 1, 2020. The notes from this conference call are included in Appendix B.

FIGURE 1. LOCATION OF THE PROJECT SITE



Location of the Project Site
(Not to Scale)

Figure 1.

2. EXISTING CONDITIONS

2.1 Existing Roadway Network

Local access to the site will be provided by Nashville Highway, Spring Meade Boulevard, Old Highway 31, Arden Village Drive, Greens Mill Road, and Double Branch Road. A description of these roadways within the project vicinity is as follows:

Nashville Highway is a two-way roadway that generally travels in a north-south direction with two travel-lanes in each direction and a grassy median. Within the study area, Nashville Highway provides a connection between Columbia and Spring Hill. According to the City of Columbia functional classification, Nashville Highway is classified as an arterial in the vicinity of the project site. The posted speed limit on Nashville Highway is 45 mph. Sidewalk, bicycle lanes, and on-street parking are not provided on Nashville Highway.



Nashville Highway looking north, north of the project site

Spring Meade Boulevard is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Within the study area, Spring Meade Boulevard provides connection between Nashville Highway and Carters Creek Road. According to the City of Columbia functional classification, Spring Meade Boulevard is classified as a local road. The posted speed limit on Spring Meade Boulevard is 25 mph. Sidewalk, bicycle lanes, and on-street parking are not provided on Spring Meade Boulevard.



Spring Meade Boulevard looking west, north of the project site

Old Highway 31 is a two-way roadway that generally travels in a northwest-southeast direction with one travel lane in each direction. Within the study area, Old Highway 31 provides connection between Spring Creek High School and Nashville Highway. According to the City of Columbia functional classification, Old Highway 31 is



Old Highway 31 looking northwest, north of the project site

classified as a local road. The posted speed limit on Old Highway 31 is 25 mph. Sidewalk, bicycle lanes, and on-street parking are not provided on Old Highway 31.

Arden Village Drive is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Within the study area, Arden Village Drive provides connection between Nashville Highway and the residential neighborhood to the west. According to the City of Columbia functional Classification, Arden Village Drive is classified as a local road. The posted speed limit on Arden Village Drive is 25 mph. Sidewalk is provided on the south side of Arden Village Drive. Bicycle lanes and on-street parking are not provided on Arden Village Drive.



Arden Village Drive looking west, west of the project site

Greens Mill Road is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Within the study area, Greens Mill Road provides connection between Nashville Highway and Port Royal Road. According to the City of Columbia functional classification, Greens Mill Road is classified as a collector. The posted speed limit on Greens Mill Road is 45 mph. Sidewalk, bicycle lanes, and on-street parking are not provided on Greens Mill Road.



Greens Mill Road looking east, west of the project site

Hidden Creek Way is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Within the study area, Hidden Creek Way provides connection between Nashville Highway and the residential neighborhood to the west. According to the City of Columbia functional classification, Hidden Creek Way is classified as a local road. The speed limit on Hidden Creek Way is unknown, but it was assumed to be 25 mph based on the roadway characteristics and similar roads in the study area. Sidewalk is provided on



Hidden Creek Way looking west, west of the project site

the south side of Hidden Creek Way. Bicycle lanes and on-street parking are not provided on Hidden Creek Way.

Double Branch Road is a two-way roadway that generally travels in an east-west direction with one travel lane in each direction. Within the study area, Double Branch Road provides connection between Nashville Highway and Greens Mill Road. According to the City of Columbia functional classification, Double Branch Road is classified as a local road. The speed limit on Double Branch Road is 35 mph. Sidewalk, bicycle lanes, and on-street parking are not provided on Double Branch Road.



Double Branch Road looking east, west of the project site

The study area includes seven existing intersections described as follows:

Nashville Highway and Spring Meade Boulevard is a signalized intersection with four approaches. The northbound approach of Nashville Highway includes a left-turn lane with 255 feet of storage, a through lane, and a shared through/right-turn lane. The southbound approach of Nashville Highway includes a left-turn lane with 220 feet of storage, a through lane, and a shared through/right-turn lane. The eastbound approach of Spring Meade Boulevard includes a left-turn lane and a shared through/right-turn lane. The westbound approach out of the private drive includes a left-turn lane and a shared through/right-turn lane. Protected left-turn phasing is provided on the northbound and southbound approaches. Split phasing is provided on the eastbound and westbound approaches. Pedestrian facilities are not provided at this intersection.



Nashville Highway looking north, at Spring Meade Boulevard



Old Highway 31 looking east, at Nashville Highway

Nashville Highway and Old Highway 31 is an unsignalized intersection with three approaches. The northbound approach of Nashville Highway includes two through lanes. However, the median opening is only wide enough to store one left-turning vehicle. The southbound approach of Nashville Highway includes two through lanes. The eastbound approach of Old Highway is stop controlled and includes one lane serving all movements. Pedestrian facilities are not provided at this intersection.



Arden Village looking east, at Nashville Highway

Nashville Highway and Arden Village is a signalized intersection with four approaches. The northbound approach of Nashville Highway includes a left-turn lane with 330 feet of storage, two through lanes, and a right-turn lane with 130 feet of storage. The southbound approach includes a left-turn lane with 130 feet of storage, two through lanes and a right-turn lane with 175 feet of storage. The eastbound approach of Arden Village includes a shared through/left-turn lane and a right-turn lane with 145 feet of storage. The westbound approach of Grove Park Way includes a shared through/left-turn lane and a right-turn lane 100 feet of storage. Protected left-turn phasing is provided on the northbound and southbound approaches. Split phasing is provided on the eastbound and westbound approaches. Pedestrian facilities are not provided at this intersection.



Greens Mill Road looking west, at Nashville Highway

Nashville Highway and Greens Mill Road is an unsignalzied intersection with three approaches. The northbound approach of Nashville Highway includes two through lanes. The southbound approach of Nashville Highway includes a left-turn lane with 475 feet of storage and two through lanes. The westbound approach is stop controlled and includes one lane serving all movements. Pedestrtian facilities are not provided at this intersection.

Nashville Highway and Hidden Creek Way is an unsignalized intersection with three approaches. The northbound approach of Nashville Highway includes a left-turn lane with 260 feet of storage and two through lanes. The southbound approach of Nashville Highway includes two through lanes and a right-turn lane with 265 feet of storage. The eastbound approach of Hidden Creek Way is stop controlled and includes a left-turn lane and a right-turn lane with 60 feet of storage each. Pedestrtian facilities are not provided at this intersection.



Nashville Highway looking south, at Hidden Creek Way

Nashville Highway and Double Branch Road is an unsignalized intersection with three approaches. The northbound approach of Nashville Highway includes one through lane and one shared through/right-turn lane. The southbound approach of Nashville Highway includes one shared through/left-turn lane and a through lane. However, there is space in the median opening to store one left-turning vehicle. The westbound approach of Double Branch Road is stop controlled and includes one lane serving all movements. Pedestrian facilities are not provided at this intersection.



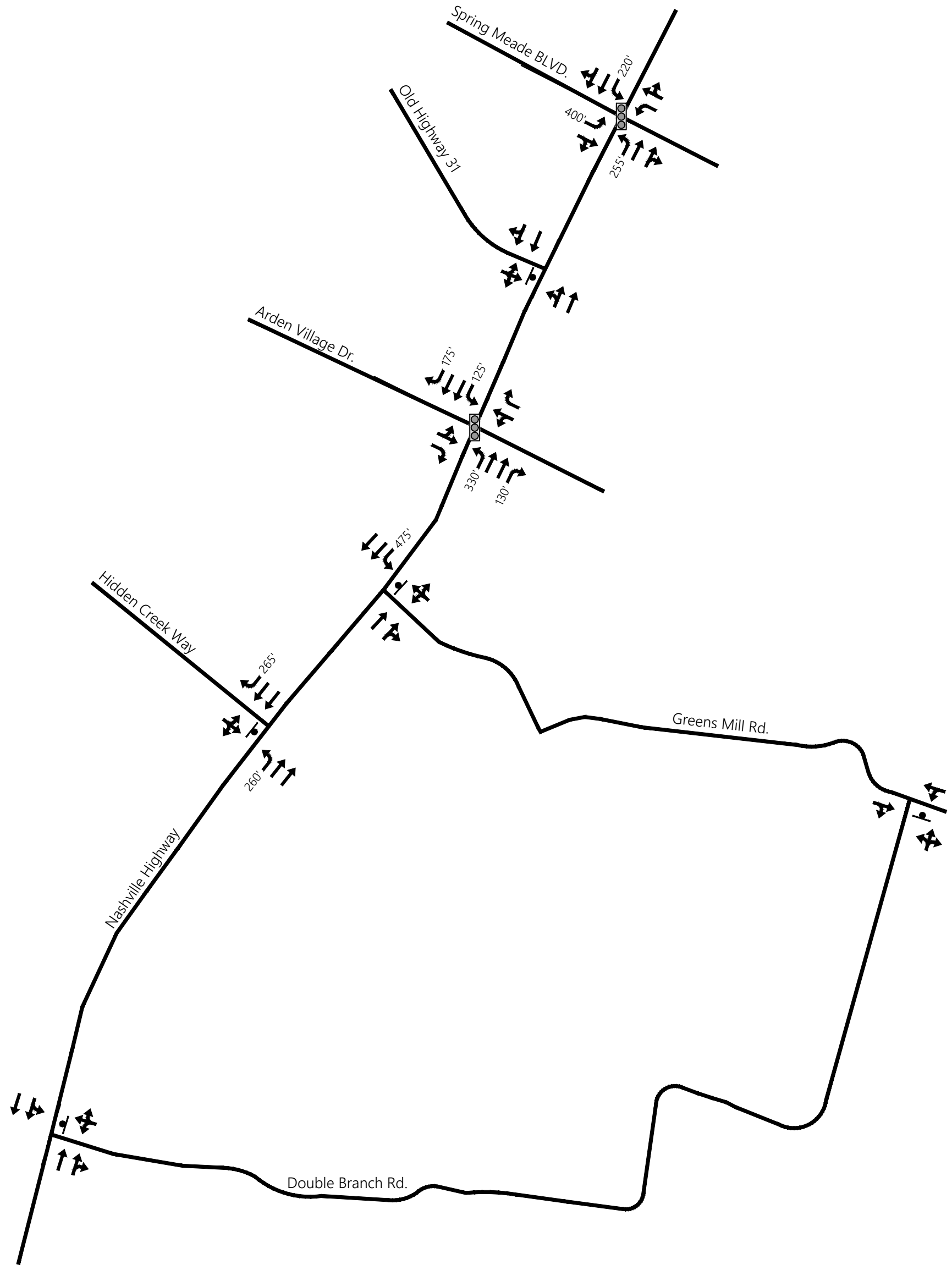
Double Branch Road looking west, at Nashville Highway

Greens Mill Road and Double Branch Road is an unsignalized intersection with three approaches. The eastbound approach of Greens Mill Road includes a shared through/right-turn lane. The westbound approach of Greens Mill Road includes a shared throguh/left-turn lane. The northbound approach of Double Branch Road is stop controlled and includes one lane serving all movements. Pedestrian facilities are not provided at this intersection. This intersection was not included in the capacity analysis due to the expected low traffic volumes, as discussed in the scoping meeting.



Double Branch Road looking west, at Nashville Highway

The existing laneage at the study intersections is illustrated in Figure 2.



- Stop Sign
- Traffic Signal
XX' - Storage Length
TWLTL - Two-Way Left Turn Lane

N

Existing Laneage
(Not to Scale)

Figure 2.

2.2 Existing Traffic Volumes

In order to provide data for the traffic analysis, traffic counts were obtained for the following study area intersections:

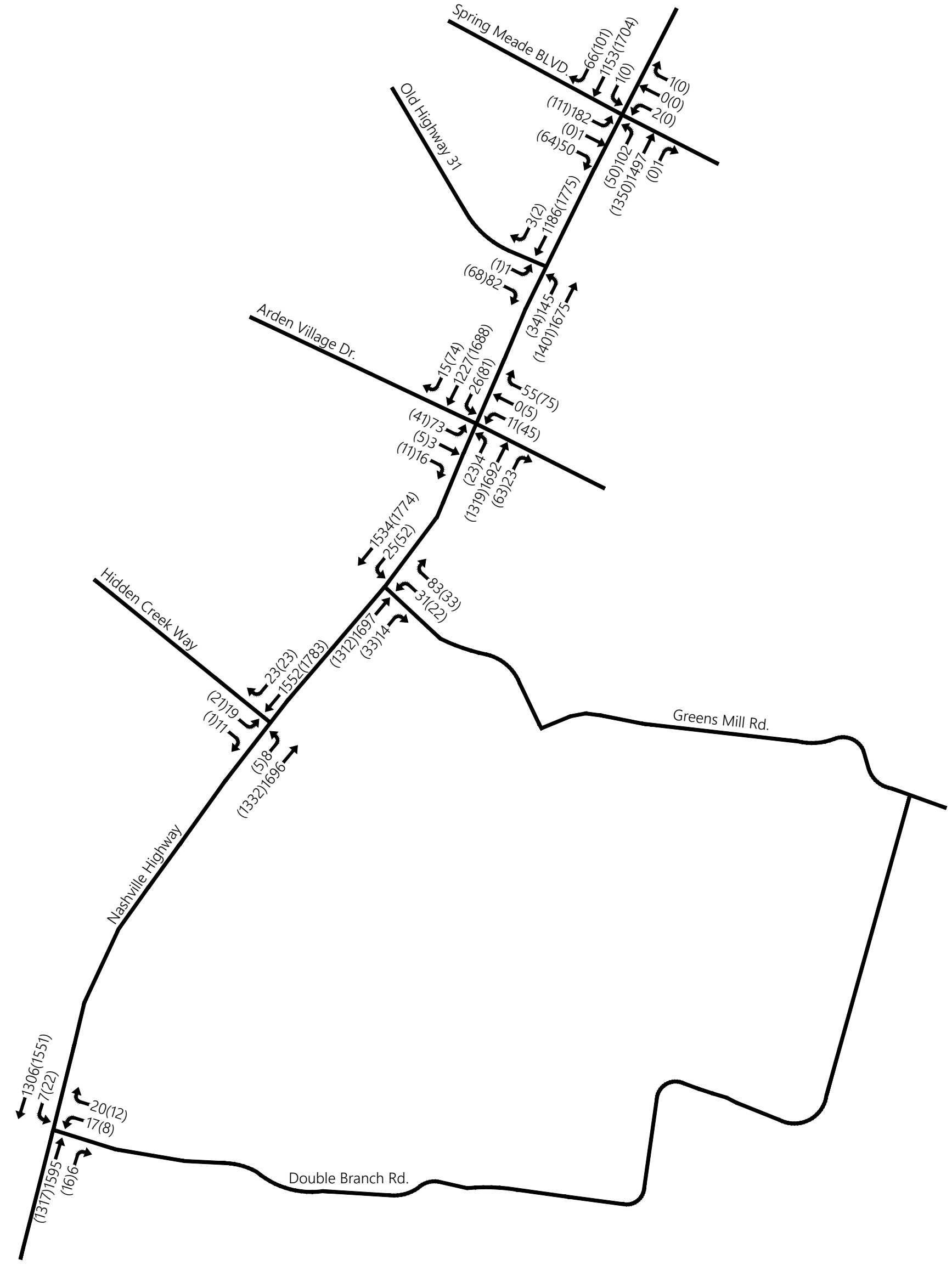
1. Nashville Highway and Spring Meade Boulevard (signalized)
2. Nashville Highway and Old Highway 31 (unsignalized)
3. Nashville Highway and Arden Village Drive / Grove Park Way (signalized)
4. Nashville Highway and Greens Mill Road (unsignalized)
5. Nashville Highway and Hidden Creek Way (unsignalized)
6. Nashville Highway and Double Branch Road (unsignalized)

Specifically, the City of Columbia provided the traffic counts for intersections 1 through 5 that were conducted from 6:30 – 8:30 AM and 4:00 – 6:00 PM on a typical weekday in March 2020 prior to the COVID-19 pandemic and while local schools were in session. The count for intersection 6 was conducted by KCI Technologies in October 2020 while local schools were in session. From the counts, it was determined that the peak hours of traffic flow for the majority of the study intersections occurred from 7:00 – 8:00 AM and 4:45 – 5:45 PM. The existing peak hour turning movement volumes are presented in Figure 3. A detailed summary of the traffic counts is included in Appendix C.

In addition to the above information, annual average daily traffic volumes (AADT) were obtained from the Tennessee Department of Transportation (TDOT). There are two TDOT count stations located in the vicinity of the project site. The count station locations and AADT from 2018 are shown in Table 1. Additional TDOT Count Station data is included in Appendix D.

TABLE 1. TDOT COUNT STATION DATA

ROADWAY	LOCATION	STATION NO.	2018 AADT (vpd)
Greens Mill Road	East of Nashville Highway	19	1,251
Nashville Highway	South of Hidden Creek Way	91	36,823



XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes

N

Existing Peak Hour Traffic Volumes
(Not to Scale)

Figure 3.

2.3 Existing Traffic Operations

To determine the current operation of the study intersections, capacity analyses were performed for the AM and PM peak hours. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual*, 6th Edition. However, it should be noted that due to the limitations of HCM 6th Edition regarding intersections with non-NEMA phasing, the signalized intersections were analyzed using HCM 2000 methodologies. The capacity analyses result in the determination of a Level of Service (LOS) for an intersection and its approaches. The LOS is a concept used to describe how well an intersection or roadway operates. LOS A is the best, while LOS F is the worst. LOS D is typically considered as the minimum acceptable LOS for an intersection in an urbanized area. Table 2 presents the descriptions of LOS for signalized and unsignalized intersections.

TABLE 2. DESCRIPTIONS OF LEVEL OF SERVICE

LEVEL OF SERVICE	DESCRIPTION	UNSIGNALIZED CONTROL DELAY (sec/veh)	SIGNALIZED CONTROL DELAY (sec/veh)
A	Little or no delay	≤ 10.0	≤ 10.0
B	Short traffic delay	>10 and ≤ 15	>10 and ≤ 20
C	Average traffic delay	>15 and ≤ 25	>20 and ≤ 35
D	Long traffic delay	>25 and ≤ 35	>35 and ≤ 55
E	Very long traffic delay	>35 and ≤ 50	>55 and ≤ 80
F	Extreme traffic delay	> 50.0	> 80.0

Source: *Highway Capacity Manual*, 6th Edition

The signal timing and phasing plan for the signalized intersections in the study area were obtained from the City of Columbia and were utilized for the capacity analysis. The signal timing data is included in Appendix E.

The results of the capacity analyses for the existing conditions at the study intersections are presented in Table 3. As shown, all intersections and critical movements operate at LOS D or better in the AM and PM peak hours with the following exceptions:

- Nashville Highway and Greens Mill Road
  - The westbound approach operates at LOS F in the AM and PM peak hours.
- Nashville Highway and Old Highway 31
  - The eastbound approach operates at LOS F in the PM peak hour.

- Nashville Highway and Hidden Creek Lane
  - The eastbound left-turn operates at LOS F in the AM and PM peak hour.

Capacity analyses worksheets are included in Appendix F.

TABLE 3. EXISTING PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE (Average Approach Delay in sec/veh)	
		AM Peak Hour	PM Peak Hour
Nashville Highway and Greens Mill Road	Westbound Approach	F (>300)	F (>300)
	Southbound Left-Turn	C (17.2)	B (14.0)
Nashville Highway and Double Branch Road	Westbound Approach	F (251.9)	F (>300)
	Southbound Left-Turn	C (15.3)	B (13.2)
Nashville Highway and Old Highway 31	Northbound Left-Turn	B (14.6)	C (18.6)
	Eastbound Approach	C (19.1)	F (81.8)
Nashville Highway and Spring Meade Boulevard[2]	Overall Intersection	C (32.5)	B (19.2)
Nashville Highway and Arden Village Drive[2]	Overall Intersection	B (17.3)	C (25.5)
Nashville Highway and Hidden Creek Way	Northbound Left-Turn	C (15.0)	C (17.5)
	Eastbound Left-Turn	F (>300)	F (>300)
	Eastbound Right-Turn	C (17.2)	C (19.3)

Notes: 1 - For stop-controlled intersections, a LOS is presented for each critical turning movement. For signalized intersections, a LOS is presented for the overall intersection.
2 – HCM 2000 methods were used due to the incompatibility with NEMA phasing, which is not supported by HCM 6th Edition methods.

3. BACKGROUND TRAFFIC VOLUMES

3.1 Establishing Background Volumes

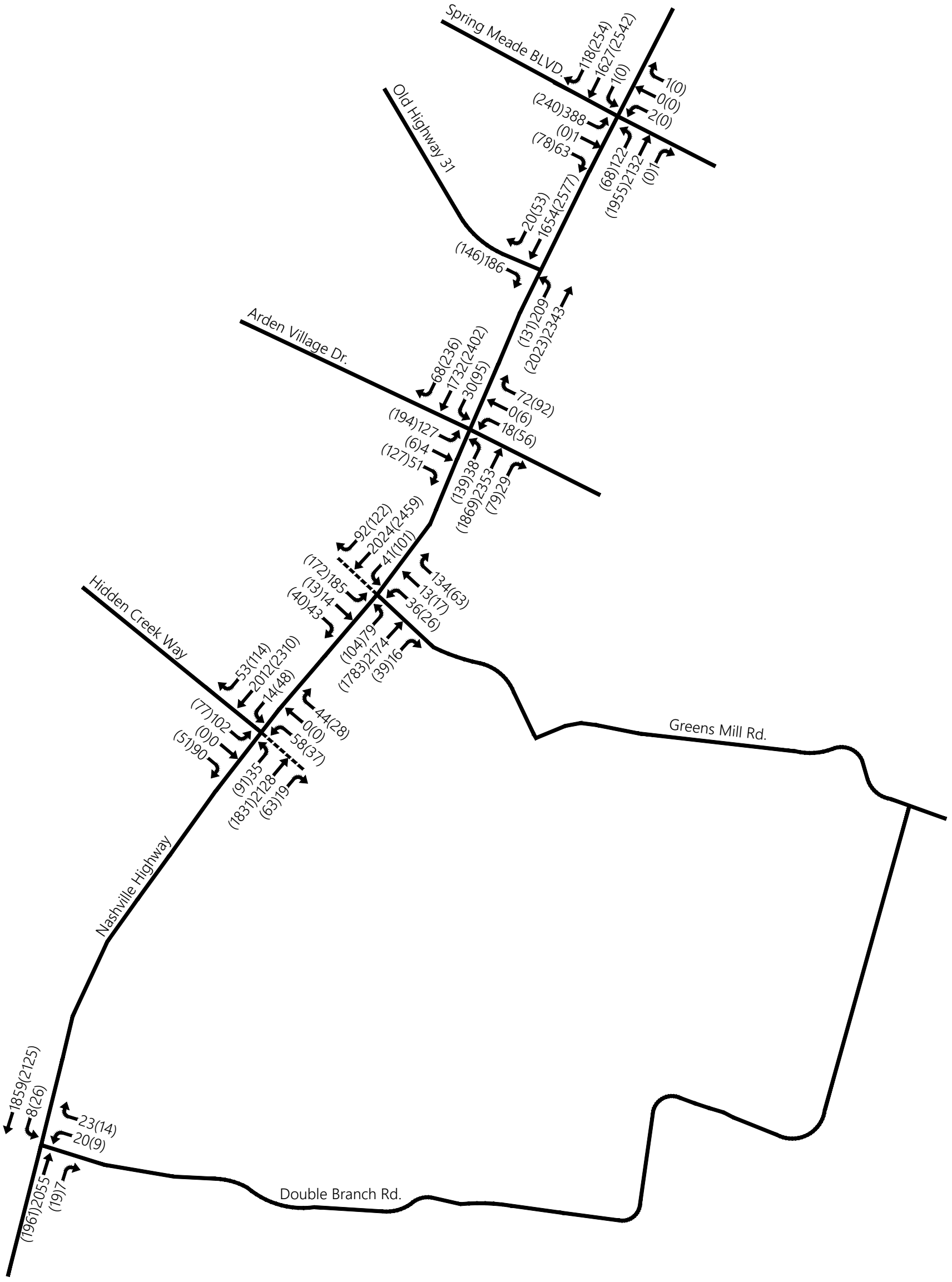
In order to account for the traffic growth prior to the completion of the proposed project, background traffic volumes were established. For the purposes of this traffic study, the proposed development was assumed to be completed by the year 2028, which is an 8-year horizon. The design year was selected in the scoping meeting after input by the City of Columbia and a review of similar developments in the area. Historical daily traffic volumes were obtained from the two TDOT count stations located in the vicinity of the project site. Since 2015, the combined traffic at these two TDOT count stations has increased by an average of 1.82% per year. The TDOT count station data is included in Appendix C.

A growth factor was applied to the existing peak hour traffic volumes to account for background growth for the future conditions. The existing peak hour traffic volumes at the study intersections were increased by 2.0% per year for eight years to account for anticipated background traffic growth within the study area.

The Nashville Highway corridor was identified as an area of rapid development by the City of Columbia. As such, several developments are expected to be constructed by the year 2028. The peak hour traffic volumes expected to be generated by these developments upon completion were included as background traffic:

- Grove Park (Single Family Residential)
- Homestead (Single Family Residential)
- Village at Carters Station (Single Family Residential)
- Drumright (Single Family and Multifamily Residential)
- Arden Village (Retail)
- Carters Station Master Plan (Single Family Residential)
- MSC Apartments (Multifamily Residential)
- The Ridge at Carters Village (Single Family Residential)

Trip assignment for the background developments are included in Appendix G. The background peak hour traffic volumes for horizon year 2028 are presented in Figure 4. These volumes represent the peak hour traffic that is expected to be on the roadway in 2028 even if the proposed Greens Mill Master Plan development is not completed.



Background Peak Hour Traffic Volumes
(Not to Scale)

Figure 4.

3.2 Background Traffic Operations

To determine the operation of the study area intersections under background conditions, capacity analyses were performed for the AM and PM peak hours. The analyses for the background conditions were based on the same lane configurations and signal timings as the existing conditions with some exceptions. The following roadway improvements were recommended by the traffic impact studies included as background traffic in the previous section. The improvements were incorporated into the network configuration of the background conditions to best reflect the anticipated roadway network in the year 2028.

Nashville Highway and Old Highway 31

- Install a southbound right-turn lane with 150 feet of storage. (MSC Apartments)
- Install a northbound left-turn lane with 225 feet of storage. (MSC Apartments)
- Modify the median to eliminate eastbound left-turns. (MSC Apartments)

Nashville Highway and Spring Meade Boulevard

- Modify the eastbound approach to include a left-turn lane, a through lane, and a right-turn lane. (MSC Apartments)

Nashville Highway and Greens Mill Road

- Install a southbound right-turn lane with 140 feet of storage. (Village at Carter's Station)
- Install a northbound left-turn lane with 200 feet of storage. (Village at Carter's Station)
- Install a northbound right-turn lane with 100 feet of storage. (Arden Village)
- Signalize the intersection. The signal should include permissive phasing on the eastbound and westbound approaches. (Village at Carter's Station)
- Construct an eastbound approach with a left-turn lane, a through lane, and a right-turn lane. (Village at Carter's Station)
- The westbound approach should be modified to include one shared through/left-turn lane and one right turn lane with 220 feet of storage. (Drumright)

Nashville Highway and Hidden Creek Way

- Signalize the intersection. (Independence at Carter's Station Traffic Signal Design Plan)
- Install a northbound right-turn lane with 260 feet of storage. (Drumright)
- Install a southbound left-turn lane with 330 feet of storage. (Drumright)
- Construct a westbound approach including a shared through/left-turn lane and a right-turn lane. (Drumright)

As shown in Tables 4A and 4B, under background conditions, the capacity analyses indicate that the operational performances of the critical movements at the study intersections are generally expected to continue to operate at the same level of service as under existing conditions or continue to operate at LOS D or better in the AM and PM peak hours with the following exceptions:

- Nashville Highway and Old Highway 31
  - The northbound left-turn is anticipated to deteriorate from LOS B to LOS E in the AM peak hour and from LOS C to LOS F in the PM peak hour.
  - The eastbound approach is anticipated to deteriorate from LOS C to LOS E in the AM peak hour.
- Nashville Highway and Spring Meade Boulevard
  - The overall intersection is anticipated to deteriorate from LOS C to LOS F in the AM peak hour and from LOS B to LOS F in the PM peak hour.
- Nashville Highway and Arden Village Drive
  - The overall intersection is anticipated to deteriorate from LOS C to LOS F in the PM peak hour.

Capacity analyses worksheets are included in Appendix F.

TABLE 4A. BACKGROUND AM PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE (Average Approach Delay in sec/veh)	
		Existing	Background
Nashville Highway and Greens Mill Road	Overall Intersection	--	C (27.3)
	Westbound Approach	F (>300)	--
	Southbound Left-Turn	C (17.2)	--
Nashville Highway and Double Branch Road	Westbound Approach	F (251.9)	F (>300)
	Southbound Left-Turn	C (15.3)	C (21.5)
Nashville Highway and Old Highway 31	Northbound Left-Turn	B (14.6)	E (36.1)
	Eastbound Approach	C (19.1)	E (44.5)
Nashville Highway and Spring Meade Boulevard[2]	Overall Intersection	C (32.5)	F (202.2)
Nashville Highway and Arden Village Drive[2]	Overall Intersection	B (17.3)	D (50.3)
Nashville Highway and Hidden Creek Way[2]	Overall Intersection	--	C (33.0)
	Northbound Left-Turn	C (15.0)	--
	Eastbound Left-Turn	F (>300)	--
	Eastbound Right-Turn	C (17.2)	--

Notes: 1 - For stop-controlled intersections, a LOS is presented for each critical turning movement. For signalized intersections, a LOS is presented for the overall intersection.
2 – HCM 2000 methods were used due to the incompatibility with NEMA phasing, which is not supported by HCM 6th Edition methods.

TABLE 4B. BACKGROUND PM PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE (Average Approach Delay in sec/veh)	
		Existing	Background
Nashville Highway and Greens Mill Road	Overall Intersection	--	D (47.2)
	Westbound Approach	F (>300)	--
	Southbound Left-Turn	B (14.0)	--
Nashville Highway and Double Branch Road	Westbound Approach	F (>300)	F (>300)
	Southbound Left-Turn	B (13.2)	C (21.5)
Nashville Highway and Old Highway 31	Northbound Left-Turn	C (18.6)	F (176.3)
	Eastbound Approach	F (81.8)	F (215.3)
Nashville Highway and Spring Meade Boulevard[2]	Overall Intersection	B (19.2)	F (137.0)
Nashville Highway and Arden Village Drive[2]	Overall Intersection	C (25.5)	F (135.8)
Nashville Highway and Hidden Creek Way[2]	Overall Intersection	--	C (35.5)
	Northbound Left-Turn	C (17.5)	--
	Eastbound Left-Turn	F (>300)	--
	Eastbound Right-Turn	C (19.3)	--

Notes: 1 - For stop-controlled intersections, a LOS is presented for each critical turning movement. For signalized intersections, a LOS is presented for the overall intersection.
2 – HCM 2000 methods were used due to the incompatibility with NEMA phasing, which is not supported by HCM 6th Edition methods.

4. IMPACTS

4.1 Trip Generation

Trip generation was used to estimate the amount of traffic expected to be generated by the proposed Greens Mill Master Plan development. Factors for the trip generation were taken from ITE's *Trip Generation*, 10th Edition. According to the site plan provided by the developer, the proposed development includes 745 single family homes.

Table 5 presents the daily, AM and PM peak hour trip generation for the proposed development. As shown in Table 5, the proposed development can be expected to generate approximately 6,597 new vehicle trips per day. The AM and PM peak hour trip generations (peak hour of adjacent street) will equal 534 and 698 new trips, respectively. These trips represent the new traffic that will be generated by the proposed Greens Mill Master Plan development. The calculations for trip generation are included in Appendix H.

TABLE 5. DEVELOPMENT TRIP GENERATION

LAND USE	SIZE	GENERATED TRAFFIC				
		DAILY TRAFFIC	AM PEAK		PM PEAK	
			Enter	Exit	Enter	Exit
Single Family Homes (LUC 210)	745 units	6,597	134	400	440	258
NEW TRIPS		6,597	134	400	440	258
			534		698	

Source: *Trip Generation*, 10th Edition

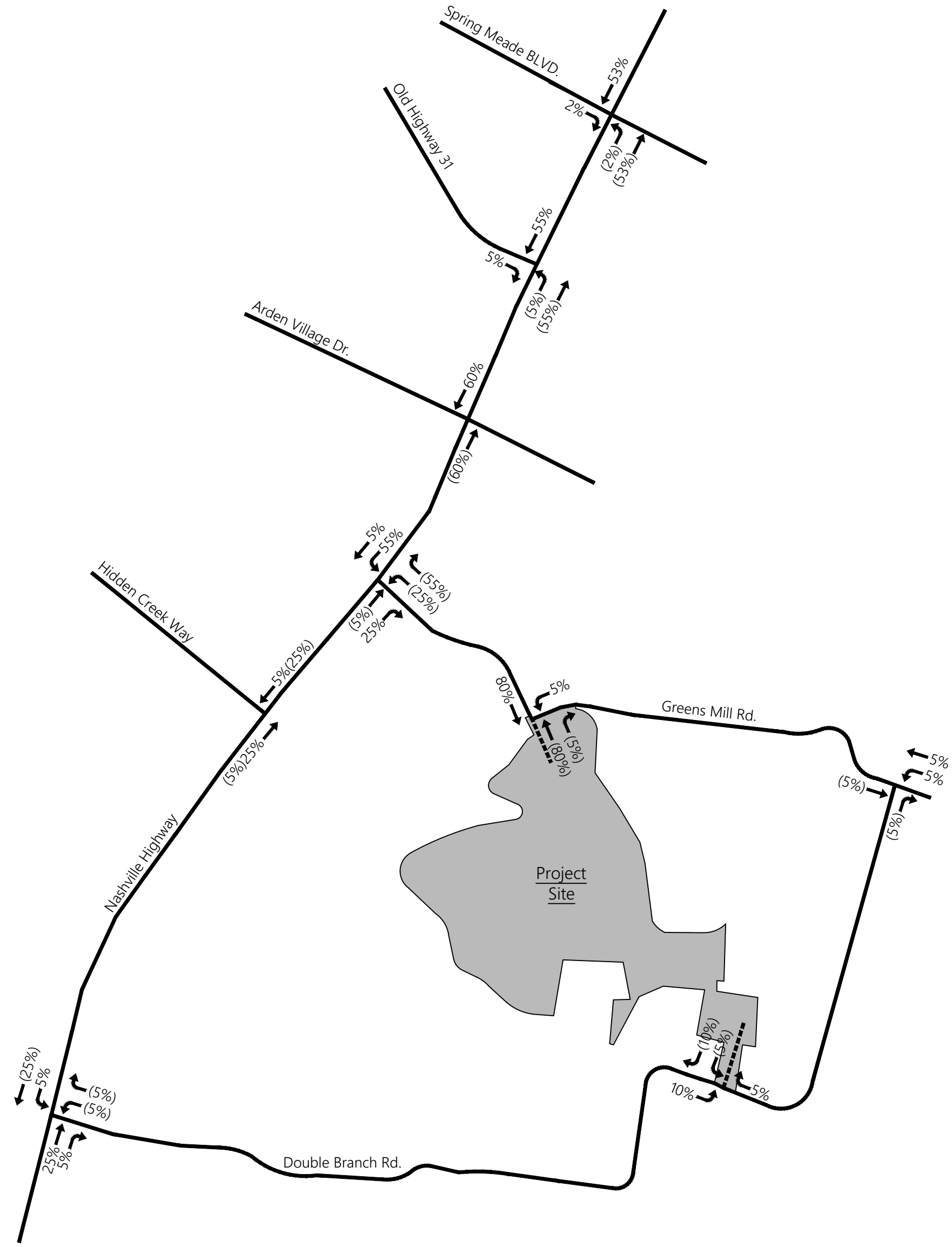
4.2 Trip Distribution and Traffic Assignment

A directional distribution of traffic generated by the proposed development was established based on the proposed access, the existing roadway network, and the existing travel patterns developed from the existing peak hour traffic counts. As previously discussed, access to the development is planned to be provided by two access drives, one on Greens Mill Road and one on Double Branch Road. The access drive on Greens Mill Road is located within the ninety-degree bend in Greens Mill Road approximately 3/4 of a mile east of Nashville Highway. The access drive on Double Branch Road is located approximately 1 ½ miles south of Greens Mill Road.

The overall directional distribution for the proposed development is shown in Figure 5. As shown in the figure,

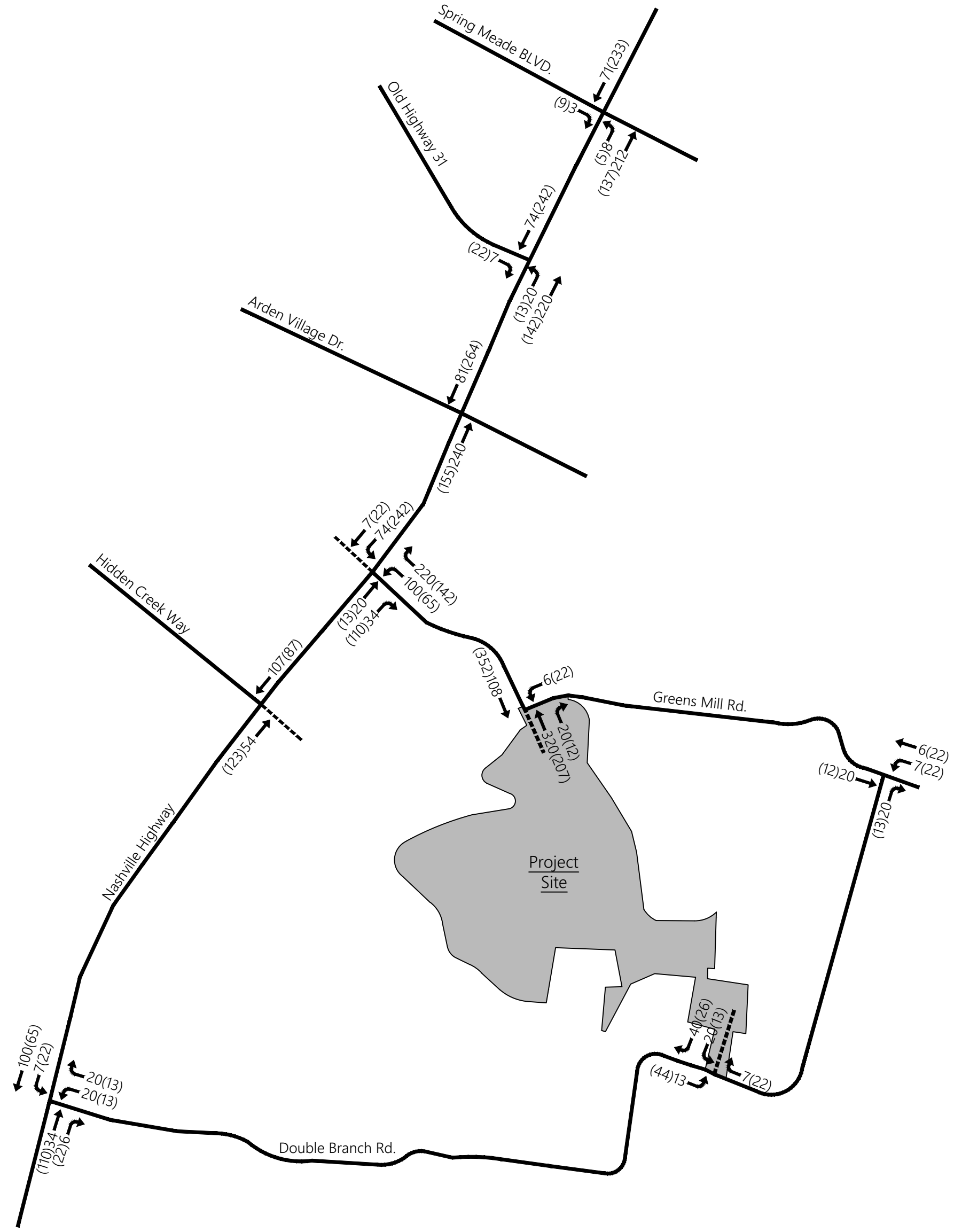
- approximately 53% of the traffic generated by the development will be oriented to the north on Nashville Highway,
- 30% to the south on Nashville Highway,
- 10% to the east on Greens Mill Road,
- 5% to the west on Old Highway 31, and
- 2% to the east on Spring Meade Boulevard.

Based on the directional distribution, the project-generated traffic for the AM and PM peak hour was assigned to the roadway network. The traffic assignment for the proposed development is shown in Figure 6.



Distribution of Peak Hour Traffic Volumes
Generated by the Project Site
(Not to Scale)

Figure 5.



XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes

N

Assignment of Peak Hour Traffic Volumes
Generated by the Project Site
(Not to Scale)

Figure 6.

4.3 Capacity / Level of Service Analyses

The total site-generated traffic volumes were added to the background peak hour traffic volumes for the proposed development in order to obtain the total projected traffic volumes for the study intersections. Figure 7 presents the total projected AM and PM peak hour traffic volumes expected at the completion of the proposed development.

Capacity analyses were performed in order to determine the impact of the project on the study intersections and adjacent roadways. These capacity analyses were also used to evaluate the need for roadway and traffic control improvements at the intersections studied. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual*, 6th Edition. The results of the capacity analyses for the projected conditions at the study area intersections are presented in Tables 6A and 6B. For the analyses, the intersection configurations and signal timings were the same as the background condition

Based on preliminary lane warrant analysis, the proposed site accesses are expected to operate as follows:

- Site Access A is anticipated to operate at LOS B in the AM and PM peak hour.
- Site Access B is anticipated to operate at LOSA in the AM and PM peak hour.

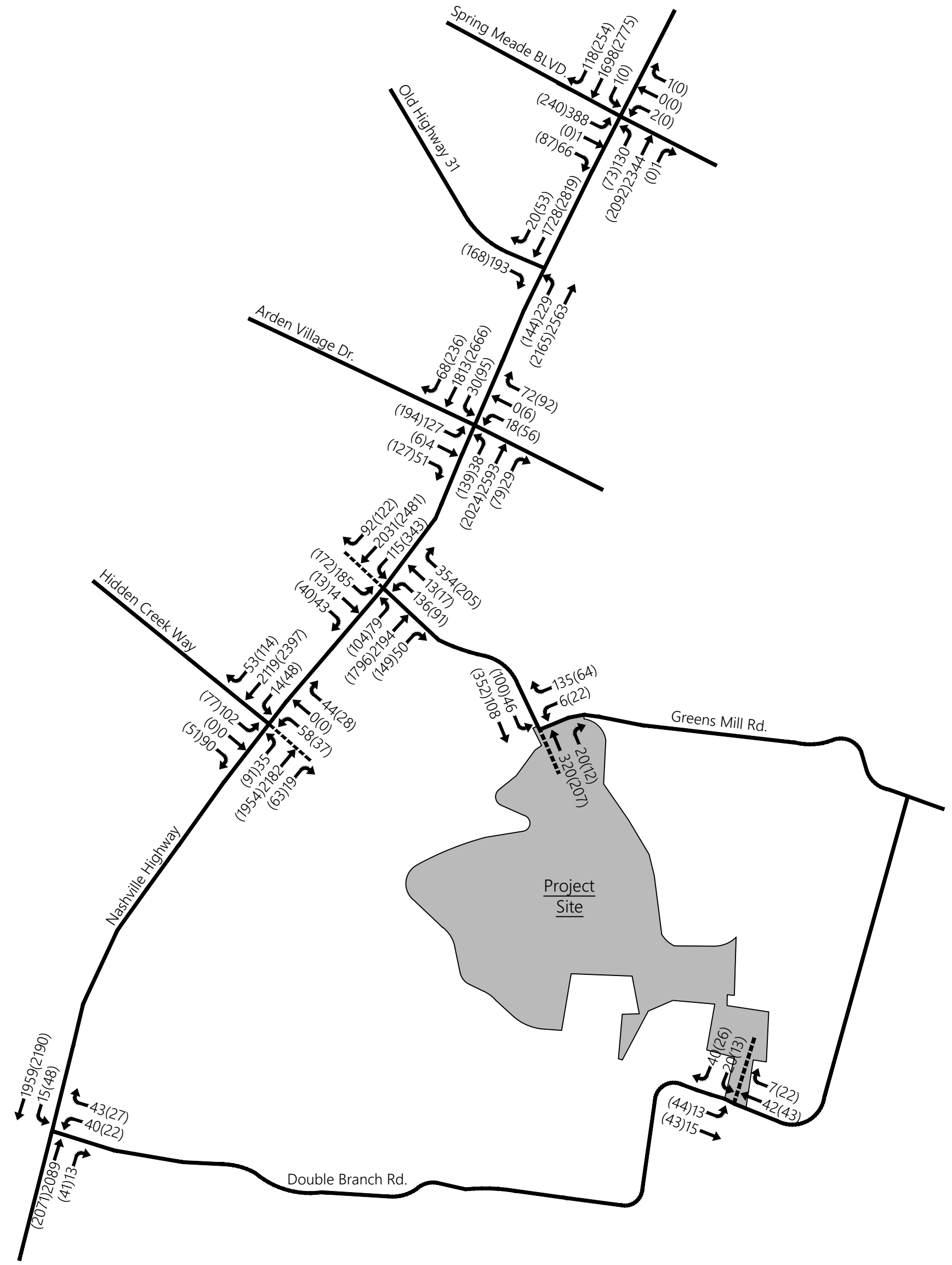
As shown in Tables 6A and 6B, under projected conditions, the capacity analyses indicate that the operational performances of the study intersections are generally expected to continue to operate at the same level of service as under background conditions or continue to operate at LOS D or better in the AM and PM peak hours with the following exceptions:

- Nashville Highway and Greens Mill Road
    - The overall intersection is anticipated to deteriorate from LOS C to LOS E in the AM peak hour and LOS D to LOS F in the PM peak hour.
- Nashville Highway and Old Highway 31
    - The northbound left-turn is anticipated to deteriorate from LOS E to LOS F in the AM peak hour.
    - The eastbound approach is anticipated to deteriorate from LOS E to LOS F in the AM peak hour.
- Nashville Highway and Arden Village Drive
    - The overall intersection is anticipated to deteriorate from LOS D to LOS E in the AM peak hour.

Additional analyses were conducted under a "projected with improvements" scenario to evaluate the benefits of adding the following roadway improvements:

- Nashville Highway and Greens Mill Road
  - Modify the left-turn phasing on the northbound and southbound approaches of Nashville Highway from protected to protected-permissive.
  - Widen the westbound approach of Greens Mill Road to include an exclusive left-turn lane, a through lane, and a right-turn lane.
  - Modify the signal phasing on the eastbound and westbound approaches to provide protected-permissive left-turn phasing.
  - Modify the signal to include right-turn overlaps on the northbound, westbound, and southbound approaches.
- Greens Mill Road and Site Access A
  - Install a roundabout at the intersection of Greens Mill Road and Site Access A. Each approach should include one lane.
- Nashville Highway and Double Branch Road
  - Construct a dedicated right-turn lane on the westbound approach of Double Branch Road including at least 200 feet of storage.
  - Construct a dedicated right-turn lane on the northbound approach of Nashville Highway including at least 75 feet of storage.
  - Construct a dedicated left-turn lane on the southbound approach of Nashville Highway including at least 75 feet of storage.
- Nashville Highway and Spring Meade Boulevard
  - Modify the eastbound approach of Spring Meade Boulevard to include an exclusive left-turn lane, a shared left-turn/through lane, and an exclusive right-turn lane.

Capacity analyses results for the "projected with improvements" scenario are presented **in bold** in Tables 6A and 6B. The proposed improvements at Nashville Highway and Greens Mill Road create NEMA phasing by running the left-turn phases concurrently on the eastbound and westbound approaches, therefore the intersection was able to be modeled using HCM 6th Edition. As shown in Tables 6A and 6B, these improvements generally reduce delay at all the study intersections. Capacity analyses worksheets are included in Appendix D.



XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes

Total Projected Peak Hour Traffic Volumes
(Not to Scale)

Figure 7.

TABLE 6A. PROJECTED AM PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE (Average Approach Delay in sec/veh)		
		Existing	Background	Projected
Nashville Highway and Greens Mill Road[2]	Overall Intersection	--	C (27.3)	E (57.0) **E (55.7)**
	Westbound Approach	F (>300)	--	--
	Southbound Left-Turn	C (17.2)	--	--
Nashville Highway and Double Branch Road	Westbound Approach **Westbound Left-Turn**	F (251.9)	F (>300)	F (>300) **F (>300)**
	Westbound Right-Turn	--	--	**D (29.0)**
	Southbound Left-Turn	C (15.3)	C (21.5)	C (22.8)
Nashville Highway and Old Highway 31	Northbound Left-Turn	B (14.6)	E (36.1)	F (50.8)
	Eastbound Approach	C (19.1)	E (44.5)	F (55.6)
Nashville Highway and Spring Meade Boulevard[2]	Overall Intersection	C (32.5)	F (202.2)	F (245.2) **E (65.4)**
Nashville Highway and Arden Village Drive[2]	Overall Intersection	B (17.3)	D (50.3)	E (76.3)
Nashville Highway and Hidden Creek Way[2]	Overall Intersection	--	C (33.0)	D (38.6)
	Northbound Left-Turn	C (15.0)	--	--
	Eastbound Left-Turn	F (>300)	--	--
	Eastbound Right-Turn	C (17.2)	--	--
Greens Mill Road and Site Access A[3]	Northbound Approach	--	--	B (11.4) **A (5.4)**
	Westbound Approach	--	--	**A (5.4)**
	Southbound Approach	--	--	**A (3.7)**

Double Branch Road and Site Access B	Eastbound Left-Turn	--	--	A (7.3)
	Southbound Approach	--	--	A (9.0)

Notes: 1 - For stop-controlled intersections, a LOS is presented for each critical turning movement. For signalized intersections, a LOS is presented for the overall intersection.
2 – HCM 2000 methods were used due to the incompatibility with NEMA phasing, which is not supported by HCM 6th Edition methods.
3 – Roundabouts were analyzed using Sidra.
"Projected with Improvements" Scenario Results

TABLE 6B. PROJECTED PM PEAK HOUR LEVELS OF SERVICE

INTERSECTION	TURNING MOVEMENT	LEVEL OF SERVICE (Average Approach Delay in sec/veh)		
		Existing	Background	Projected
Nashville Highway and Greens Mill Road[2]	Overall Intersection	--	D (47.2)	F (107.7) **F (80.2)**
	Westbound Approach	F (>300)	--	--
	Southbound Left-Turn	B (14.0)	--	--
Nashville Highway and Double Branch Road	Westbound Approach **Westbound Left-Turn**	F (>300)	F (>300)	F (>300) **F (>300)**
	Westbound Right-Turn	--	--	**D (26.6)**
	Southbound Left-Turn	B (13.2)	C (21.5)	D (26.9)
Nashville Highway and Old Highway 31	Northbound Left-Turn	C (18.6)	F (176.3)	F (>300)
	Eastbound Approach	F (81.8)	F (215.3)	F (>300)
Nashville Highway and Spring Meade Boulevard[2]	Overall Intersection	B (19.2)	F (137.0)	F (168.7) **F (101.6)**
Nashville Highway and Arden Village Drive[2]	Overall Intersection	C (25.5)	F (135.8)	F (180.8)
Nashville Highway and Hidden Creek Way[2]	Overall Intersection	--	C (35.5)	D (42.2)
	Northbound Left-Turn	C (17.5)	--	--
	Eastbound Left-Turn	F (>300)	--	--
	Eastbound Right-Turn	C (19.3)	--	--
Greens Mill Road and Site Access A[3]	Northbound Approach	--	--	B (13.4) **A (4.7)**
	Westbound Approach	--	--	**A (4.1)**
	Southbound Approach	--	--	**A (6.2)**

Double Branch Road and Site Access B	Eastbound Left-Turn	--	--	A (7.4)
	Southbound Approach	--	--	A (9.0)

Notes: 1 - For stop-controlled intersections, a LOS is presented for each critical turning movement. For signalized intersections, a LOS is presented for the overall intersection.
2 – HCM 2000 methods were used due to the incompatibility with NEMA phasing, which is not supported by HCM 6th Edition methods.
3 – Roundabouts were analyzed using Sidra.
"Projected with Improvements" Scenario Results

4.4 Queue Length Analysis

95th percentile queue lengths for the critical movements of the study intersections that are expected to be impacted by the proposed development were also analyzed and evaluated under the projected conditions. Table 7 indicates the results of the queue length analyses for the study intersections.

TABLE 7. STUDY INTERSECTIONS 95TH PERCENTILE QUEUE LENGTH

INTERSECTION TURNING	MOVEMENT AVAILABLE	STORAGE (FEET)	95TH PERCENTILE QUEUE LENGTH (FEET)			
			BACKGROUND		PROJECTED	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Nashville Highway and Greens Mill Road	Eastbound Left-Turn	200	#310	#363	#363 **#274**	#405 **246**
	Eastbound Right-Turn	--	17	25	17 **15**	25 **0**
	Westbound Left-Turn	200	--	--	**196**	**138**
	Westbound Right-Turn	--	113	47	#516 **#579**	#216 **218**
	Northbound Left-Turn	200	#169	#249	#169 **m50**	#249 **119**
	Northbound Right-Turn	100	0	8	9 **m0**	60 **58**
	Southbound Left-Turn	140	#88	#207	#262 **m106**	#816 **m233**
	Southbound Right-Turn	140	26	44	26 **m0**	44 **m0**
Nashville Highway and Double Branch Road	Westbound Approach **Westbound Left-Turn**	--	168	95	313 **175**	200 **115**
	Westbound Right-Turn	200			**23**	**13**
	Southbound Left-Turn	--	3	10	5 **5**	23 **23**
Nashville Highway and Old Highway 31	Northbound Left-Turn	225	118	205	165	298
	Eastbound Right-Turn	--	125	243	153	358
Nashville Highway and Spring Meade Boulevard	Eastbound Left-Turn	400	#764	386	#764 **301**	386 **198**
	Eastbound Right-Turn	--	30	0	36 **19**	0 **48**
	Westbound Left-Turn	--	13	0	13 **12**	0 **0**
	Northbound Left-Turn	255	m162	m84	m157 **m82**	m84 **m43**
	Southbound Left-Turn	220	9	0	9 **3**	0 **0**

INTERSECTION TURNING	MOVEMENT AVAILABLE	STORAGE (FEET)	95TH PERCENTILE QUEUE LENGTH (FEET)			
			BACKGROUND		PROJECTED	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Nashville Highway and Arden Village Drive	Eastbound Right-Turn	--	0	65	0	65
	Westbound Right-Turn	--	36	66	36	66
	Northbound Left-Turn	330	97	264	97	264
	Northbound Right-Turn	130	0	32	0	32
	Southbound Left-Turn	125	m41	m86	m39	m81
	Southbound Right-Turn	175	m0	m101	m0	m90
Nashville Highway and Hidden Creek Way	Eastbound Right-Turn	200	51	33	52	33
	Westbound Right-Turn	--	31	1	31	1
	Northbound Left-Turn	260	#87	#209	#87	#209
	Northbound Right-Turn	260	2	10	2	9
	Southbound Left-Turn	330	40	87	40	#108
	Southbound Right-Turn	265	7	6	8	6
Greens Mill Road and Site Access A	Northbound Approach	--	--	--	48 **41**	40 **24**
	Westbound Approach	--	--	--	**18**	**9**
	Southbound Approach	--	--	--	**15**	**60**
Double Branch Road and Site Access B	Eastbound Left-Turn	--	--	--	0	3
	Southbound Approach	--	--	--	5	3

#: 95th percentile volume exceeds capacity; queue may be longer.
m: Volume for 95th percentile queue is metered by upstream signal.
"Projected with Improvements" Scenario Results

5. ANALYSIS OF SITE PLAN

5.1 Site Access Review

According to the information provided by the developer, the proposed Greens Mill Master Plan development includes approximately 745 single family homes.

Access to the development is planned to be provided via two access drives, one on Greens Mill Road and one on Double Branch Road. The access drive on Greens Mill Road is located within the ninety-degree bend in Greens Mill Road approximately 3/4 of a mile east of Nashville Highway. It is recommended to install a roundabout at this site access. There are limited opportunities to tie into Greens Mill Road along the property's frontage. The proposed roundabout maximizes the sight distance. Additionally, the internal road between Site Access A and Site Access B is anticipated to be classified as a collector, meaning all approaches of this intersection will be collectors. The proposed roundabout gives equal opportunities to all approaches.

The access drive on Double Branch Road is located approximately 1 ½ miles feet south of Greens Mill Road.

5.2 Pedestrian and Bicycle Access

Pedestrian and Bicycle facilities are not provided along Nashville Highway, Greens Mill Road, or Double Branch Road. It is recommended that sidewalk be constructed along all internal roads.

5.3 Sight Distance Analysis

Field investigation and sight distance measurements were conducted to determine if adequate sight distance is available for accessing the project site. For the 45 mph on Greens Mill Road and the 35 mph on Double Branch Road, the guidelines from *A Policy on Geometric Design of Highways and Streets, 7th Edition*, by the American Association of State Highway and Transportation Officials (AASHTO), call for a minimum stopping sight distance of 360 feet and 250 feet respectively. These are the distances required for motorist to detect an object in the roadway necessitating a stop before reaching the object.

AASHTO also provides minimum design values for intersection sight distance which, allows enough time gap for a motorist to turn from Site Access A onto Greens Mill Road, from Site Access B onto Double Branch Road, and from Double Branch Road

onto Greens Mill Road without requiring motorists on Greens Mill Road or Double Branch Road to significantly reduce speed. For a speed of 45 mph, the design value for intersection sight distance for a motorist turning from a stop is 430 feet for right-turns and 500 feet for left-turns. For a speed of 35 mph, the design value for intersection sight distance for a motorist turning from a stop is 335 feet for right-turns and 390 feet for left-turns.

TABLE 8. INTERSECTION SIGHT DISTANCE ANALYSIS

INTERSECTION	INTERSECTION SIGHT DISTANCE FOR LEFT-TURNS FROM STOP (FEET)		INTERSECTION SIGHT DISTANCE FOR RIGHT-TURNS FROM STOP (FEET)	
	DESIGN	AVAILABLE	DESIGN	AVAILABLE
Greens Mill Road and Site Access A	500′	400′	430′	325′
Double Branch Road and Site Access B	390′	500′	335′	450′
Greens Mill Road and Double Branch Road	500′	450′	430′	290′

The field observations show that adequate sight distance is only available at Site Access B on Double Branch Road.

The recommended improvements at Site Access A and Greens Mill Road will increase the sight distance available by creating a standard "T" intersection and eliminating the curve on Greens Mill Road.

The sight distance at the intersection of Greens Mill Road and Double Branch Road can be improved by removing vegetation along Greens Mill Road. There will likely still be inadequate sight distance due to the vertical curve to the west and the horizontal curve to the east. Therefore, it is recommended an advanced warning signs for an intersection (W2-2) should be installed on both approaches of Greens Mill Road in advance of the intersection.

5.4 Lane Warrant Analysis

The proposed site accesses were evaluated for the need to provide a two-lane approach based on the projected traffic volumes during the AM and PM peak hours. According to *Evaluating Intersection Improvements: An Engineering Study Guide* (NCHRP 457) Figure 2-4, a two-lane approach is not warranted for either site access during the AM or PM peak hour. Figure 2-4 depicts the threshold for constructing a

two-lane approach as a function of peak hour volumes on the minor approach relative to the major approaches.

The westbound approach of Double Branch Road was evaluated for the need to provide a two-lane approach based on the projected traffic volumes during the AM and PM peak hours. According to *Evaluating Intersection Improvements: An Engineering Study Guide* (NCHRP 457) Figure 2-4, a two-lane approach is warranted for this approach during the AM peak hour. Figure 2-4 depicts the threshold for constructing a two-lane approach as a function of peak hour volumes on the minor approach relative to the major approaches.

The northbound approach of Nashville Highway at Double Branch Road was evaluated for the need to provide a right-turn lane based on the projected traffic volumes during the AM and PM peak hours. This analysis was based on the procedures outlined in *Evaluating Intersection Improvements: An Engineering Study Guide* (NCHRP 457). The results of the analysis indicate that a right-turn lane is warranted in the AM and PM peak hour.

The southbound approach of Nashville Highway at Double Branch Road was evaluated for the need to provide a left-turn lane based on the projected traffic volumes during the AM and PM peak hours. This analysis was based on the procedures outlined in M.D. Harmelink's *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Intersections*. The results of the analysis indicate that a left-turn lane is warranted in the AM and PM peak hour.

All warrant analyses are included in Appendix J.

6. CONCULSIONS AND RECOMMENDATIONS

The analyses presented in this study indicate that the impacts of the proposed project on the existing street network will be reduced by providing the recommendations below. These specific recommendations are anticipated to provide safe and efficient traffic operations within the study area following the completion of the proposed project. The recommendations are as follows:

Nashville Highway and Greens Mill Road

- Modify the left-turn phasing on the northbound and southbound approaches of Nashville Highway from protected to protected-permissive.
- Widen the westbound approach of Greens Mill Road to include an exclusive left-turn lane, a through lane, and a right-turn lane.
- Modify the signal phasing on the eastbound and westbound approaches to provide protected-permissive signal phasing.
- Modify the signal to include right-turn overlaps on the northbound, westbound, and southbound approaches

Nashville Highway and Double Branch Road

- Install a dedicated right-turn lane with at least 200 feet of storage on the westbound approach of Double Branch Road if allowable within the right-of-way. Convert the existing lane to an exclusive left-turn lane. This lane should be constructed when the development ties into Double Branch Road.
- Install a dedicated right-turn lane with at least 75 feet of storage on the northbound approach of Nashville Highway.
- Install a dedicated left-turn lane with at least 75 feet of storage on the southbound approach of Nashville Highway.

Greens Mill Road and Site Access A

- Install a roundabout at the intersection of Greens Mill Road and Site Access A. Each approach should include one lane.

Greens Mill Road and Double Branch Road

- Install Intersection Advanced Warning Signs (W2-2) on the eastbound and westbound approaches of Greens Mill Road in advance of the intersection to address the lack of sight distance.

Nashville Highway and Spring Meade Boulevard

- The eastbound approach should be modified to include an exclusive left-turn lane, a shared left-turn/through lane, and an exclusive right-turn lane.
- This development should not be responsible for this improvement. The City of Columbia should coordinate with other developments to implement this change.

Proposed Development Internal Roadways

- The major internal roadway between Double Branch Road and Greens Mill Road should be designed as a collector.
- The final design of all internal roadways should meet all City of Columbia standards and the latest version of *A Policy of Geometric Design of Highways and Streets* published by AASHTO.
- Any streets within the development should have sufficient width to ensure that passenger cars and emergency vehicles are capable of making all turning movements.

Signal Timing Review

- A signal timing study will be conducted upon completion of the development to maximize the efficiency of the traffic signals within the study area.

General

- As part of the construction of the project, all site accesses and internal intersections should be designed such that the departure sight triangles, as specified by AASHTO, will be clear of all sight obstructions, including landscaping, existing vegetation, monument signs/walls, fences, etc.

APPENDICES

APPENDIX A
PRELIMINARY SITE PLAN

APPENDIX B
SCOPING MEETING MINUTES

APPENDIX C
DETAILED TURNING MOVEMENT COUNTS

APPENDIX D
TDOT COUNT DATA

APPENDIX E
SIGNAL TIMING SHEETS

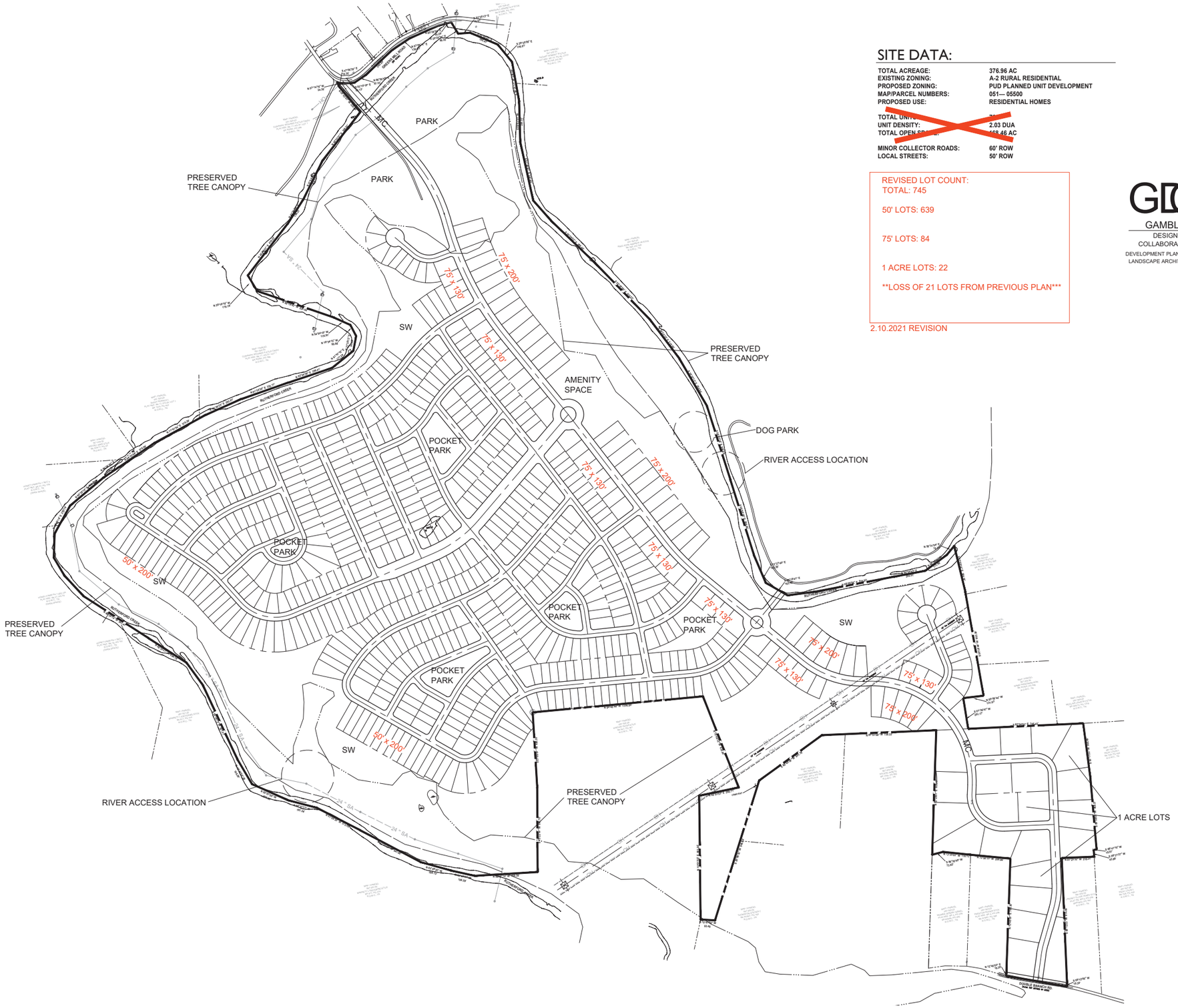
APPENDIX F
CAPACITY ANALYSES

APPENDIX G
BACKGROUND DEVELOPMENTS

APPENDIX H
TRIP GENERATION CALCULATIONS

APPENDIX I
WARRANT ANALYSIS

APPENDIX A
PRELIMINARY SITE PLAN



SITE DATA:

TOTAL ACREAGE:	376.96 AC
EXISTING ZONING:	A-2 RURAL RESIDENTIAL
PROPOSED ZONING:	PUD PLANNED UNIT DEVELOPMENT
MAP/PARCEL NUMBERS:	051--- 05500
PROPOSED USE:	RESIDENTIAL HOMES
TOTAL UNITS:	745
UNIT DENSITY:	2.03 DUA
TOTAL OPEN SPACE:	168.46 AC
MINOR COLLECTOR ROADS:	60' ROW
LOCAL STREETS:	50' ROW

REVISED LOT COUNT:
TOTAL: 745

50' LOTS: 639

75' LOTS: 84

1 ACRE LOTS: 22

LOSS OF 21 LOTS FROM PREVIOUS PLAN*

2.10.2021 REVISION

GAMBLE
DESIGN COLLABORATIVE
DEVELOPMENT PLANNING AND LANDSCAPE ARCHITECTURE

CRUNK ENGINEERING LLC
1894 GENERAL GEORGE PATTON DR.
SUITE 600
FRANKLIN, TN 37067
(615) 873-1795
WWW.CRUNKENG.COM

GREENS MILL ROAD
MASTER DEVELOPMENT PLAN
COLUMBIA, TENNESSEE

REVISIONS		
No.	DATE	

11/02/2020 17067

C1.0
SITE LAYOUT PLAN

APPENDIX B
SCOPING MEETING MINUTES

MEETING NOTES

Date: October 1, 2020

Project: Greens Mill Master Plan - TIS
Columbia, TN

Summary

This summary outlines the scope of the Greens Mill Master Plan traffic impact study, as discussed with the City of Columbia. This meeting was held virtually due to the COVID-19 pandemic. The property is generally bounded on the north by an Greens Mill Road, on the east by rural residential properties, on the south by Double Branch Road, and on the rural residential properties. The following points regarding the proposed development and traffic study scope were discussed:

1. The traffic impact study should include capacity analyses for the following intersections:

    - Nashville Highway and Spring Mead Road
    - Nashville Highway and Old Highway 31
    - Nashville Highway and Arden Village
    - Nashville Highway and Hidden Creek Way (planned signal)
    - Nashville Highway and Double Branch Road
    - Greens Mill Road and Double Branch Road. (This intersection does not need to be included in capacity analysis but will be evaluated for safety)

2. Site access will be provided via one access drive on both Greens Mill Road and Double Branch Road.

3. KCI Technologies will include the MSC Apartments development and the Drumright development as background. KCI Technologies will also include the 5 background developments included in the MSC Apartments TIS.

4. No reductions to trip generation will be taken for pass-by, internal capture, or alternative modes.

5. The design year for this project is 2028.

6. The ambient background growth rate was agreed to be 2.0% per year, which is consistent with other TIS in the corridor.

7. The 90-degree bend on Green Mills Road should be evaluated for site distance if the proposed site access is to be located there.

8. The total number of units is 796 units of detached single-family housing of equal size.

9. The City of Columbia can provide counts for every intersection in the capacity analysis except for the intersection of Nashville Highway and Double Branch Road.

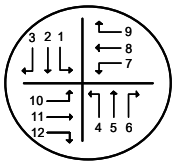
10. KCI Technologies will count the intersection of Double Branch Road and Nashville Highway. An additional tube count will be conducted at the location of the TDOT count station to create a growth factor that will account for traffic decreases due to COVID-19.

11. The City of Columbia will provide signal timing plans or signal design plans.

12. This study qualifies as a Level II study.

13. This study will be prepared for submittal by November 2nd, 2020.

APPENDIX C
DETAILED TURNING MOVEMENT COUNTS



North

INTERSECTION TRAFFIC VOLUME COUNTS

LOCATION: Hwy US 31 & Double Branch Rd
DATE: 10/20/2020
RECORDER: Darryl Glascock
NOTES:

	Southbound			Northbound			Westbound			Eastbound			
LOCATION	**US 31**			**US 31**			**Double Branch**			**Church access**			
TIME	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
6:00-6:15 AM													
6:15-6:30													**716**
6:30-6:45													**1,468**
6:45-7:00													**2,273**
7:00-7:15		308			394	1	6		7				**2,951**
7:15-7:30	3	317			416	1	5		10				**2,836**
7:30-7:45	3	369			429	1	2		1				**2,677**
7:45-8:00	1	312			356	3	4		2				**2,448**
8:00-8:15	2	252		1	339	2	2		2			1	**2,299**
8:15-8:30		242			347	2	2						**1,698**
8:30-8:45	2	248			322	1	1		2				**1,105**
8:45-9:00	1	225			301		2						**529**
9:00-9:15													
9:15-9:30													
9:30-9:45													
9:45-10:00													
10:00-10:15													
10:15-10:30													
10:30-10:45													
10:45-11:00													
11:00-11:15													
11:15-11:30													
11:30-11:45													
11:45-12:00 PM													
12:00-12:15													
12:15-12:30													
12:30-12:45													
12:45-1:00													
1:00-1:15													
1:15-1:30													
1:30-1:45													
1:45-2:00													
2:00-2:15													
2:15-2:30													
2:30-2:45													
2:45-3:00													
3:00-3:15													
3:15-3:30													**806**
3:30-3:45													**1,639**
3:45-4:00													**2,334**
4:00-4:15	2	473			317	4	4		6				**3,207**
4:15-4:30	2	482			335	5	3		5			1	**3,104**
4:30-4:45	4	441			237	4	3		6				**2,990**
4:45-5:00	3	462			398	5	2		3				**2,932**
5:00-5:15	9	346	1	1	336	3	2		5				**2,650**
5:15-5:30	7	376			322	6	3		1	1		3	**1,947**
5:30-5:45	3	367			261	2	1		3				**1,228**
5:45-6:00	3	342			239	1	2		4				**591**
6:00-6:15													
6:15-6:30													
6:30-6:45													
6:45-7:00													
7:00-7:15													
7:15-7:30													
7:30-7:45													
7:45-8:00													
8:00-8:15													
8:15-8:30													
8:30-8:45													
8:45-9:00													
9:00-9:15													
9:15-9:30													
9:30-9:45													
9:45-10:00 PM													
TOTAL	45	5,562	1	2	5,349	41	44		57	1		5	
AM PK HR	7	1,306			1,595	6	17		20				7:00 AM - 8:00 AM
MID PK HR													
PM PK HR	11	1,858			1,287	18	12		20			1	4:00 PM - 5:00 PM

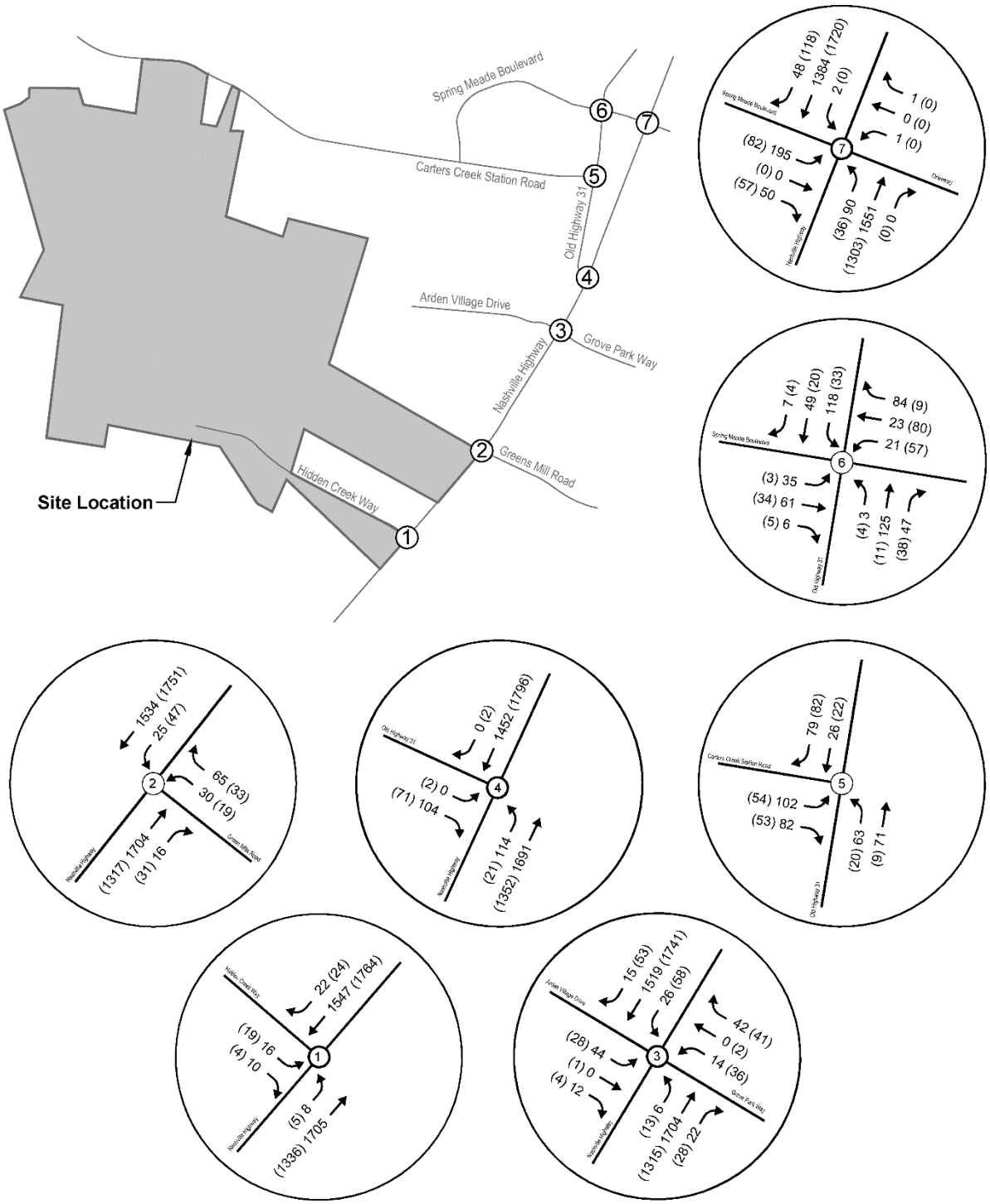


Figure 4
Existing Peak Hour Traffic

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

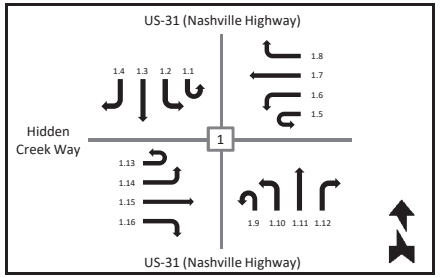
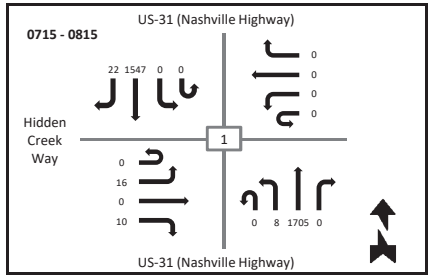


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
0600 - 0615	0	0	196	2	0	198	0	0	0	0	0	0	0	0	346	0	0	346	0	5	0	0	0	5
0615 - 0630	0	0	440	1	0	441	0	0	0	0	0	0	0	2	294	0	0	296	0	4	0	1	0	5
0630 - 0645	0	0	344	5	0	349	0	0	0	0	0	0	1	1	377	0	0	379	0	7	0	1	0	8
0645 - 0700	0	0	249	4	0	253	0	0	0	0	0	0	0	4	388	0	0	392	0	1	0	3	0	4
0700 - 0715	0	0	295	4	0	299	0	0	0	0	0	0	0	2	366	0	0	368	0	6	0	3	0	9
0715 - 0730	0	0	378	6	0	384	0	0	0	0	0	0	0	3	493	0	0	496	0	3	0	3	0	6
0730 - 0745	0	0	460	5	0	465	0	0	0	0	0	0	0	1	437	0	0	438	0	5	0	2	0	7
0745 - 0800	0	0	419	8	0	427	0	0	0	0	0	0	0	2	400	0	0	402	0	5	0	3	0	8
0800 - 0815	0	0	290	3	0	293	0	0	0	0	0	0	0	2	375	0	0	377	0	3	0	2	0	5
0815 - 0830	0	0	227	6	0	233	0	0	0	0	0	0	0	1	363	0	0	364	0	4	0	0	0	4
0830 - 0845	0	0	249	5	0	254	0	0	0	0	0	0	0	3	298	0	0	301	0	5	0	2	0	7
0845 - 0900	0	0	246	4	0	250	0	0	0	0	0	0	0	0	262	0	0	262	0	8	0	1	0	9
Grand Total	**0**	**0**	**3793**	**53**	**0**	**3846**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**21**	**4399**	**0**	**0**	**4421**	**0**	**56**	**0**	**21**	**0**	**77**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1547**	**22**	**0**	**1569**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1705**	**0**	**0**	**1713**	**0**	**16**	**0**	**10**	**0**	**26**
App %	0.00%	0.00%	98.62%	1.38%			0.00%	0.00%	0.00%	0.00%			0.02%	0.48%	99.50%	0.00%			0.00%	72.73%	0.00%	27.27%		
Int %	0.00%	0.00%	45.46%	0.64%		46.09%	0.00%	0.00%	0.00%	0.00%		0.00%	0.01%	0.25%	52.72%	0.00%		52.98%	0.00%	0.67%	0.00%	0.25%		0.92%
Cars Total	0	0	3610	49			0	0	0	0			1	20	4208	0			0	55	0	19		
Heavy Total	0	0	183	4			0	0	0	0			0	1	191	0			0	1	0	2		
% Cars	**0.00%**	**0.00%**	**95.18%**	**92.45%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**95.24%**	**95.66%**	**0.00%**			**0.00%**	**98.21%**	**0.00%**	**90.48%**		
% Heavy	**0.00%**	**0.00%**	**4.82%**	**7.55%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**4.76%**	**4.34%**	**0.00%**			**0.00%**	**1.79%**	**0.00%**	**9.52%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 1
Intersection: US-31 (NASHVILLE HIGHWAY) & HIDDEN CREEK WAY

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Hidden Creek Way

Lat/Long: 35.700319, -86.981818

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

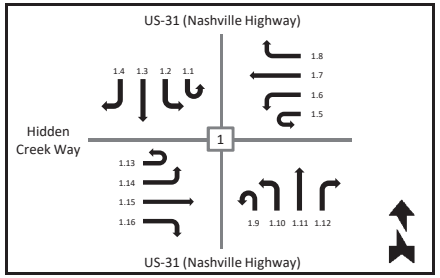
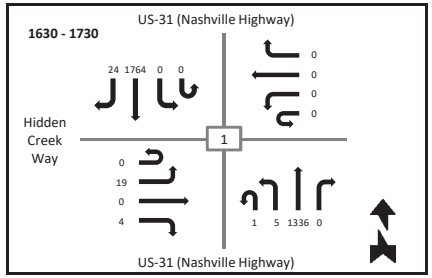


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Hidden Creek Way					
Time	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds X-Walk	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds X-Walk	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds X-Walk	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds X-Walk	App Total
1500 - 1515	0	0	414	11	0	425	0	0	0	0	0	0	0	2	277	0	0	279	0	3	0	5	0	8
1515 - 1530	0	0	391	4	0	395	0	0	0	0	0	0	0	0	331	0	0	331	0	5	0	2	0	7
1530 - 1545	0	0	463	6	0	469	0	0	0	0	0	0	0	0	329	0	0	329	0	2	0	0	0	2
1545 - 1600	0	0	438	1	0	439	0	0	0	0	0	0	1	3	348	0	0	352	0	5	0	1	0	6
1600 - 1615	0	0	385	5	0	390	0	0	0	0	0	0	0	1	273	0	0	274	0	5	0	3	0	8
1615 - 1630	0	0	444	4	0	448	0	0	0	0	0	0	0	0	323	0	0	323	0	5	0	1	0	6
1630 - 1645	0	0	449	6	0	455	0	0	0	0	0	0	0	3	361	0	0	364	0	3	0	0	0	3
1645 - 1700	0	0	465	6	0	471	0	0	0	0	0	0	0	1	323	0	0	324	0	7	0	0	0	7
1700 - 1715	0	0	425	7	0	432	0	0	0	0	0	0	1	1	325	0	0	327	0	6	0	0	0	6
1715 - 1730	0	0	425	5	0	430	0	0	0	0	0	0	0	0	327	0	0	327	0	3	0	4	0	7
1730 - 1745	0	0	410	5	0	415	0	0	0	0	0	0	0	1	320	0	0	321	0	4	0	2	0	6
1745 - 1800	0	0	362	6	0	368	0	0	0	0	0	0	1	2	267	0	0	270	0	5	0	1	0	6
Grand Total	**0**	**0**	**5071**	**66**	**0**	**5137**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**14**	**3804**	**0**	**0**	**3821**	**0**	**53**	**0**	**19**	**0**	**72**
Peak Hour Total																								
1630 - 1730	**0**	**0**	**1764**	**24**	**0**	**1788**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**1336**	**0**	**0**	**1342**	**0**	**19**	**0**	**4**	**0**	**23**
App %	0.00%	0.00%	98.72%	1.28%			0.00%	0.00%	0.00%	0.00%			0.08%	0.37%	99.56%	0.00%			0.00%	73.61%	0.00%	26.39%		
Int %	0.00%	0.00%	56.16%	0.73%		56.89%	0.00%	0.00%	0.00%	0.00%		0.00%	0.03%	0.16%	42.13%	0.00%		42.31%	0.00%	0.59%	0.00%	0.21%		0.80%
Cars Total	0	0	4935	61			0	0	0	0			3	14	3680	0			0	48	0	17		
Heavy Total	0	0	136	5			0	0	0	0			0	0	124	0			0	5	0	2		
% Cars	**0.00%**	**0.00%**	**97.32%**	**92.42%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**100.00%**	**100.00%**	**96.74%**	**0.00%**			**0.00%**	**90.57%**	**0.00%**	**89.47%**		
% Heavy	**0.00%**	**0.00%**	**2.68%**	**7.58%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.00%**	**3.26%**	**0.00%**			**0.00%**	**9.43%**	**0.00%**	**10.53%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 2
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

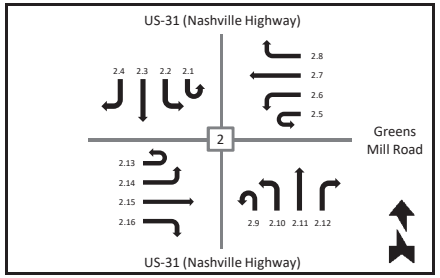
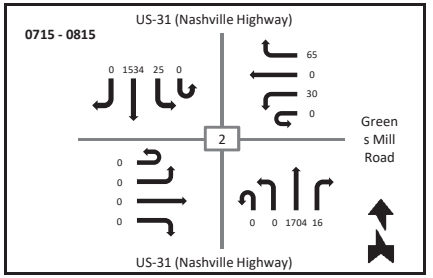


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
0600 - 0615	0	3	183	0	0	186	0	3	0	3	0	6	0	0	327	3	0	330	0	0	0	0	0	0
0615 - 0630	0	3	448	0	0	451	0	2	0	8	0	10	0	0	306	1	0	307	0	0	0	0	0	0
0630 - 0645	0	4	328	0	0	332	0	3	0	2	0	5	0	0	368	4	0	372	0	0	0	0	0	0
0645 - 0700	0	2	266	0	0	268	0	7	0	16	0	23	0	0	382	1	0	383	0	0	0	0	0	0
0700 - 0715	0	4	283	0	0	287	0	6	0	25	0	31	0	0	378	1	0	379	0	0	0	0	0	0
0715 - 0730	0	4	362	0	0	366	0	10	0	25	0	35	0	0	462	6	0	468	0	0	0	0	0	0
0730 - 0745	0	11	450	0	0	461	0	9	0	21	0	30	0	0	459	3	0	462	0	0	0	0	0	0
0745 - 0800	0	6	439	0	0	445	0	6	0	12	0	18	0	0	398	4	0	402	0	0	0	0	0	0
0800 - 0815	0	4	283	0	0	287	0	5	0	7	0	12	0	0	385	3	0	388	0	0	0	0	0	0
0815 - 0830	0	6	224	0	0	230	0	6	0	6	0	12	0	0	363	5	0	368	0	0	0	0	0	0
0830 - 0845	0	3	248	0	0	251	0	6	0	11	0	17	0	0	295	6	0	301	0	0	0	0	0	0
0845 - 0900	0	6	246	0	0	252	0	3	0	7	0	10	0	0	274	2	0	276	0	0	0	0	0	0
Grand Total	**0**	**56**	**3760**	**0**	**0**	**3816**	**0**	**66**	**0**	**143**	**0**	**209**	**0**	**0**	**4397**	**39**	**0**	**4436**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
0715 - 0815	**0**	**25**	**1534**	**0**	**0**	**1559**	**0**	**30**	**0**	**65**	**0**	**95**	**0**	**0**	**1704**	**16**	**0**	**1720**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	1.47%	98.53%	0.00%			0.00%	31.58%	0.00%	68.42%			0.00%	0.00%	99.12%	0.88%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	0.66%	44.44%	0.00%		45.10%	0.00%	0.78%	0.00%	1.69%		2.47%	0.00%	0.00%	51.97%	0.46%		52.43%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	56	3570	0			0	66	0	140			0	0	4223	37			0	0	0	0		
Heavy Total	0	0	190	0			0	0	0	3			0	0	174	2			0	0	0	0		
% Cars	**0.00%**	**100.00%**	**94.95%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**97.90%**			**0.00%**	**0.00%**	**96.04%**	**94.87%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.00%**	**5.05%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**2.10%**			**0.00%**	**0.00%**	**3.96%**	**5.13%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 2
Intersection: US-31 (NASHVILLE HIGHWAY) & GREENS MILL ROAD

Southbound: US-31 (Nashville Highway)
Westbound: Greens Mill Road
Northbound: US-31 (Nashville Highway)
Eastbound:

Lat/Long: 35.702686, -86.979380

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

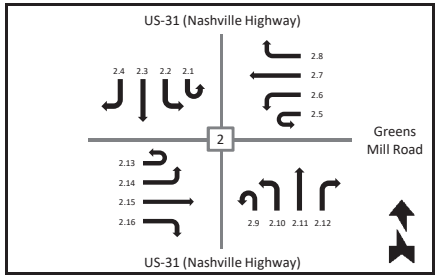
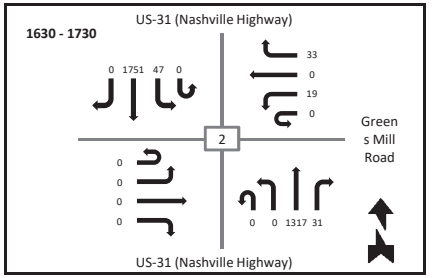


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Greens Mill Road						US-31 (Nashville Highway)											
Time	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds X-Walk	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds X-Walk	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds X-Walk	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds X-Walk	App Total
1500 - 1515	0	27	424	0	0	451	0	5	0	4	0	9	0	0	256	6	0	262	0	0	0	0	0	0
1515 - 1530	0	12	408	0	0	420	0	2	0	6	0	8	0	0	347	8	0	355	0	0	0	0	0	0
1530 - 1545	0	12	480	0	0	492	0	2	0	10	0	12	0	0	326	4	0	330	0	0	0	0	0	0
1545 - 1600	0	13	424	0	0	437	0	7	0	9	0	16	0	0	346	6	0	352	0	0	0	0	0	0
1600 - 1615	0	7	370	0	0	377	0	5	0	8	0	13	0	0	271	10	0	281	0	0	0	0	0	0
1615 - 1630	0	15	439	0	0	454	0	8	0	6	0	14	0	0	314	8	0	322	0	0	0	0	0	0
1630 - 1645	0	14	455	0	0	469	0	6	0	10	0	16	0	0	353	9	0	362	0	0	0	0	0	0
1645 - 1700	0	13	453	0	0	466	0	2	0	9	0	11	0	0	320	6	0	326	0	0	0	0	0	0
1700 - 1715	0	10	427	0	0	437	0	6	0	8	0	14	0	0	325	10	0	335	0	0	0	0	0	0
1715 - 1730	0	10	416	0	0	426	0	5	0	6	0	11	0	0	319	6	0	325	0	0	0	0	0	0
1730 - 1745	0	7	416	0	0	423	0	2	0	3	0	5	0	0	312	10	0	322	0	0	0	0	0	0
1745 - 1800	0	1	371	0	0	372	0	3	0	5	0	8	0	0	284	2	0	286	0	0	0	0	0	0
Grand Total	**0**	**141**	**5083**	**0**	**0**	**5224**	**0**	**53**	**0**	**84**	**0**	**137**	**0**	**0**	**3773**	**85**	**0**	**3858**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour Total																								
1630 - 1730	**0**	**47**	**1751**	**0**	**0**	**1798**	**0**	**19**	**0**	**33**	**0**	**52**	**0**	**0**	**1317**	**31**	**0**	**1348**	**0**	**0**	**0**	**0**	**0**	**0**
App %	0.00%	2.70%	97.30%	0.00%			0.00%	38.69%	0.00%	61.31%			0.00%	0.00%	97.80%	2.20%			0.00%	0.00%	0.00%	0.00%		
Int %	0.00%	1.53%	55.14%	0.00%		56.67%	0.00%	0.57%	0.00%	0.91%		1.49%	0.00%	0.00%	40.93%	0.92%		41.85%	0.00%	0.00%	0.00%	0.00%		0.00%
Cars Total	0	140	4953	0			0	51	0	83			0	0	3648	82			0	0	0	0		
Heavy Total	0	1	130	0			0	2	0	1			0	0	125	3			0	0	0	0		
% Cars	**0.00%**	**99.29%**	**97.44%**	**0.00%**			**0.00%**	**96.23%**	**0.00%**	**98.81%**			**0.00%**	**0.00%**	**96.69%**	**96.47%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		
% Heavy	**0.00%**	**0.71%**	**2.56%**	**0.00%**			**0.00%**	**3.77%**	**0.00%**	**1.19%**			**0.00%**	**0.00%**	**3.31%**	**3.53%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

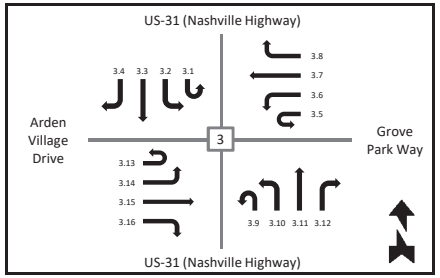
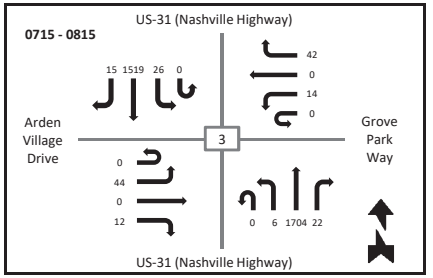


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
Time	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds X-Walk	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds X-Walk	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds X-Walk	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds X-Walk	App Total
0600 - 0615	0	2	188	2	0	192	0	0	0	14	0	14	0	1	333	2	0	336	0	9	0	0	0	9
0615 - 0630	0	4	444	8	0	456	0	2	0	7	0	9	0	1	310	0	0	311	0	9	0	1	0	10
0630 - 0645	0	2	341	4	0	347	0	3	0	6	0	9	1	1	357	2	0	361	0	8	0	2	0	10
0645 - 0700	0	2	238	3	0	243	0	4	0	8	0	12	0	1	394	5	0	400	0	9	1	4	0	14
0700 - 0715	0	3	286	7	0	296	0	0	0	11	0	11	0	3	395	3	0	401	0	10	1	2	0	13
0715 - 0730	0	4	360	4	0	368	0	4	0	11	0	15	0	0	440	6	1	446	0	12	0	0	0	12
0730 - 0745	0	4	447	3	0	454	0	4	0	8	0	12	0	1	498	2	0	501	0	13	0	7	0	20
0745 - 0800	0	9	424	5	0	438	0	1	0	14	0	15	0	2	401	6	0	409	0	10	0	3	0	13
0800 - 0815	0	9	288	3	0	300	0	5	0	9	0	14	0	3	365	8	0	376	0	9	0	2	0	11
0815 - 0830	0	6	222	7	0	235	0	4	1	12	0	17	0	1	370	4	0	375	0	14	1	2	0	17
0830 - 0845	0	9	246	3	0	258	0	3	0	17	0	20	0	2	297	7	0	306	0	13	0	3	0	16
0845 - 0900	0	2	240	6	0	248	0	4	0	7	0	11	0	0	277	5	0	282	0	7	0	1	0	8
Grand Total	**0**	**56**	**3724**	**55**	**0**	**3835**	**0**	**34**	**1**	**124**	**0**	**159**	**1**	**16**	**4437**	**50**	**1**	**4504**	**0**	**123**	**3**	**27**	**0**	**153**
Peak Hour Total																								
0715 - 0815	**0**	**26**	**1519**	**15**	**0**	**1560**	**0**	**14**	**0**	**42**	**0**	**56**	**0**	**6**	**1704**	**22**	**1**	**1732**	**0**	**44**	**0**	**12**	**0**	**56**
App %	0.00%	1.46%	97.11%	1.43%			0.00%	21.38%	0.63%	77.99%			0.02%	0.36%	98.51%	1.11%			0.00%	80.39%	1.96%	17.65%		
Int %	0.00%	0.65%	43.05%	0.64%		44.33%	0.00%	0.39%	0.01%	1.43%		1.84%	0.01%	0.18%	51.29%	0.58%		52.06%	0.00%	1.42%	0.03%	0.31%		1.77%
Cars Total	0	53	3526	50			0	34	1	122			1	14	4241	49			0	123	2	26		
Heavy Total	0	3	198	5			0	0	0	2			0	2	196	1			0	0	1	1		
% Cars	**0.00%**	**94.64%**	**94.68%**	**90.91%**			**0.00%**	**100.00%**	**100.00%**	**98.39%**			**100.00%**	**87.50%**	**95.58%**	**98.00%**			**0.00%**	**100.00%**	**66.67%**	**96.30%**		
% Heavy	**0.00%**	**5.36%**	**5.32%**	**9.09%**			**0.00%**	**0.00%**	**0.00%**	**1.61%**			**0.00%**	**12.50%**	**4.42%**	**2.00%**			**0.00%**	**0.00%**	**33.33%**	**3.70%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 3
Intersection: US-31 (NASHVILLE HIGHWAY) & ARDEN VILLAGE DRIVE/GR(

Southbound: US-31 (Nashville Highway)
Westbound: Grove Park Way
Northbound: US-31 (Nashville Highway)
Eastbound: Arden Village Drive

Lat/Long: 35.706079, -86.976717

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

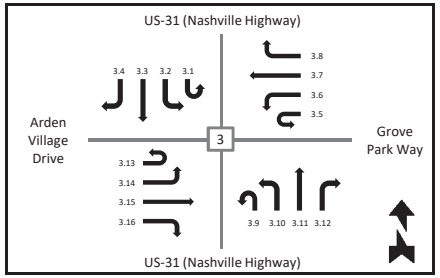
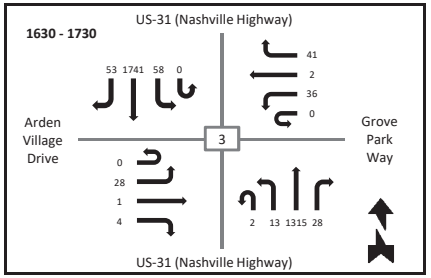


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Grove Park Way						US-31 (Nashville Highway)						Arden Village Drive					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	3.1	3.2	3.3	3.4	X-Walk	Total	3.5	3.6	3.7	3.8	X-Walk	Total	3.9	3.10	3.11	3.12	X-Walk	Total	3.13	3.14	3.15	3.16	X-Walk	Total
1500 - 1515	1	11	450	8	0	470	0	3	0	12	0	15	0	2	253	4	0	259	0	11	1	3	0	15
1515 - 1530	0	6	396	5	0	407	0	4	0	13	0	17	0	4	340	8	0	352	0	4	0	0	0	4
1530 - 1545	0	13	473	11	0	497	0	6	0	6	0	12	0	2	322	5	0	329	0	13	0	2	0	15
1545 - 1600	0	10	423	15	0	448	0	7	1	18	0	26	0	2	347	9	0	358	0	1	0	1	0	2
1600 - 1615	1	18	378	9	0	406	0	4	1	15	0	20	0	3	265	9	0	277	0	6	1	0	0	7
1615 - 1630	0	14	432	6	0	452	0	8	0	9	0	17	0	1	298	13	0	312	0	2	1	1	0	4
1630 - 1645	0	14	446	10	0	470	0	13	1	14	0	28	1	2	359	9	0	371	0	4	0	2	0	6
1645 - 1700	0	12	450	19	0	481	0	9	1	10	0	20	1	2	311	9	0	323	0	7	1	1	0	9
1700 - 1715	0	17	425	11	0	453	0	8	0	11	0	19	0	1	325	4	0	330	0	10	0	1	0	11
1715 - 1730	0	15	420	13	0	448	0	6	0	6	0	12	0	8	320	6	0	334	0	7	0	0	0	7
1730 - 1745	0	11	418	6	0	435	0	4	0	10	0	14	0	3	297	7	0	307	0	8	1	4	0	13
1745 - 1800	0	10	329	14	0	353	0	8	0	11	0	19	0	3	282	10	0	295	0	8	0	2	0	10
Grand Total	**2**	**151**	**5040**	**127**	**0**	**5320**	**0**	**80**	**4**	**135**	**0**	**219**	**2**	**33**	**3719**	**93**	**0**	**3847**	**0**	**81**	**5**	**17**	**0**	**103**
Peak Hour Total																								
1630 - 1730	**0**	**58**	**1741**	**53**	**0**	**1852**	**0**	**36**	**2**	**41**	**0**	**79**	**2**	**13**	**1315**	**28**	**0**	**1358**	**0**	**28**	**1**	**4**	**0**	**33**
App %	0.04%	2.84%	94.74%	2.39%			0.00%	36.53%	1.83%	61.64%			0.05%	0.86%	96.67%	2.42%			0.00%	78.64%	4.85%	16.50%		
Int %	0.02%	1.59%	53.11%	1.34%		56.06%	0.00%	0.84%	0.04%	1.42%		2.31%	0.02%	0.35%	39.19%	0.98%		40.54%	0.00%	0.85%	0.05%	0.18%		1.09%
Cars Total	2	149	4893	124			0	79	4	131			2	33	3588	92			0	80	4	17		
Heavy Total	0	2	147	3			0	1	0	4			0	0	131	1			0	1	1	0		
% Cars	**100.00%**	**98.68%**	**97.08%**	**97.64%**			**0.00%**	**98.75%**	**100.00%**	**97.04%**			**100.00%**	**100.00%**	**96.48%**	**98.92%**			**0.00%**	**98.77%**	**80.00%**	**100.00%**		
% Heavy	**0.00%**	**1.32%**	**2.92%**	**2.36%**			**0.00%**	**1.25%**	**0.00%**	**2.96%**			**0.00%**	**0.00%**	**3.52%**	**1.08%**			**0.00%**	**1.23%**	**20.00%**	**0.00%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 4
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

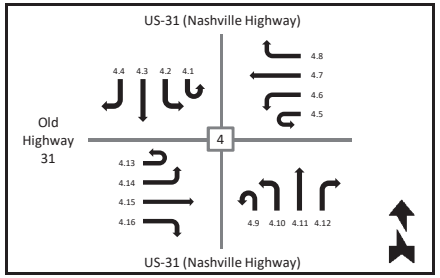
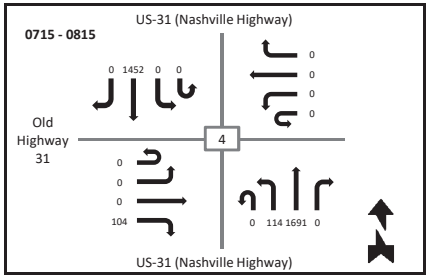


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
Time	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds X-Walk	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds X-Walk	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds X-Walk	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds X-Walk	App Total
0600 - 0615	0	0	190	0	0	190	0	0	0	0	0	0	0	8	346	0	0	354	0	1	0	7	0	8
0615 - 0630	0	0	458	0	0	458	0	0	0	0	0	0	0	13	316	0	0	329	0	1	0	11	0	12
0630 - 0645	0	0	325	0	0	325	0	0	0	0	0	0	0	23	345	0	0	368	0	0	0	14	0	14
0645 - 0700	0	0	239	0	0	239	0	0	0	0	0	0	0	36	386	0	0	422	0	0	0	12	0	12
0700 - 0715	0	0	273	0	0	273	0	0	0	0	0	0	0	46	370	0	0	416	0	2	0	13	0	15
0715 - 0730	0	0	359	0	0	359	0	0	0	0	0	0	0	47	409	0	0	456	0	0	0	28	0	28
0730 - 0745	0	0	408	0	0	408	0	0	0	0	0	0	0	48	486	0	0	534	0	0	0	39	0	39
0745 - 0800	0	0	405	0	0	405	0	0	0	0	0	0	0	12	421	0	0	433	0	0	0	21	0	21
0800 - 0815	0	0	280	0	0	280	0	0	0	0	0	0	0	7	375	0	0	382	0	0	0	16	0	16
0815 - 0830	0	0	224	1	0	225	0	0	0	0	0	0	0	9	399	0	0	408	0	0	0	6	0	6
0830 - 0845	0	0	251	0	0	251	0	0	0	0	0	0	0	12	318	0	0	330	0	0	0	5	0	5
0845 - 0900	0	0	241	0	0	241	0	0	0	0	0	0	0	7	291	0	0	298	0	1	0	8	0	9
Grand Total	**0**	**0**	**3653**	**1**	**0**	**3654**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**268**	**4462**	**0**	**0**	**4730**	**0**	**5**	**0**	**180**	**0**	**185**
Peak Hour Total																								
0715 - 0815	**0**	**0**	**1452**	**0**	**0**	**1452**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**114**	**1691**	**0**	**0**	**1805**	**0**	**0**	**0**	**104**	**0**	**104**
App %	0.00%	0.00%	99.97%	0.03%			0.00%	0.00%	0.00%	0.00%			0.00%	5.67%	94.33%	0.00%			0.00%	2.70%	0.00%	97.30%		
Int %	0.00%	0.00%	42.63%	0.01%		42.64%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	3.13%	52.07%	0.00%		55.20%	0.00%	0.06%	0.00%	2.10%		2.16%
Cars Total	0	0	3448	1			0	0	0	0			0	267	4269	0			0	5	0	170		
Heavy Total	0	0	205	0			0	0	0	0			0	1	193	0			0	0	0	10		
% Cars	**0.00%**	**0.00%**	**94.39%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**99.63%**	**95.67%**	**0.00%**			**0.00%**	**100.00%**	**0.00%**	**94.44%**		
% Heavy	**0.00%**	**0.00%**	**5.61%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**0.37%**	**4.33%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**5.56%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 4
Intersection: NASHVILLE HIGHWAY & OLD HIGHWAY 31

Southbound: US-31 (Nashville Highway)
Westbound:
Northbound: US-31 (Nashville Highway)
Eastbound: Old Highway 31

Lat/Long: 35.707620, -86.975748

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

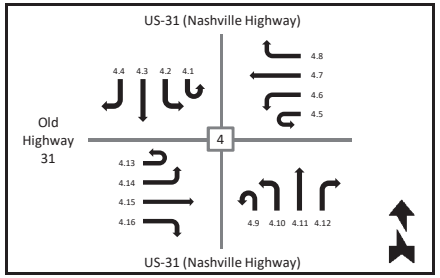
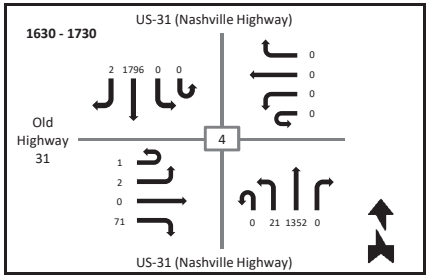


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)												US-31 (Nashville Highway)						Old Highway 31					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	4.1	4.2	4.3	4.4	X-Walk	Total	4.5	4.6	4.7	4.8	X-Walk	Total	4.9	4.10	4.11	4.12	X-Walk	Total	4.13	4.14	4.15	4.16	X-Walk	Total
1500 - 1515	0	0	421	0	0	421	0	0	0	0	0	0	0	6	272	0	0	278	0	0	0	43	0	43
1515 - 1530	0	0	384	1	0	385	0	0	0	0	0	0	0	9	348	0	0	357	0	0	0	25	0	25
1530 - 1545	0	0	473	0	0	473	0	0	0	0	0	0	0	8	339	0	0	347	0	0	0	17	0	17
1545 - 1600	0	0	435	1	0	436	0	0	0	0	0	0	0	14	348	0	0	362	0	0	0	16	0	16
1600 - 1615	0	0	405	2	0	407	0	0	0	0	0	0	0	8	272	0	0	280	0	0	0	21	0	21
1615 - 1630	0	0	440	0	0	440	0	0	0	0	0	0	0	10	308	0	0	318	1	0	0	22	0	23
1630 - 1645	0	0	462	1	0	463	0	0	0	0	0	0	0	7	369	0	0	376	0	1	0	15	0	16
1645 - 1700	0	0	467	1	0	468	0	0	0	0	0	0	0	5	314	0	0	319	0	0	0	22	0	22
1700 - 1715	0	0	430	0	0	430	0	0	0	0	0	0	0	5	352	0	0	357	1	1	0	16	0	18
1715 - 1730	0	0	437	0	0	437	0	0	0	0	0	0	0	4	317	0	0	321	0	0	0	18	0	18
1730 - 1745	0	0	409	0	0	409	0	0	0	0	0	0	0	10	319	0	0	329	0	0	0	13	0	13
1745 - 1800	0	0	372	1	0	373	0	0	0	0	0	0	0	11	295	0	0	306	0	2	0	7	0	9
Grand Total	**0**	**0**	**5135**	**7**	**0**	**5142**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**97**	**3853**	**0**	**0**	**3950**	**2**	**4**	**0**	**235**	**0**	**241**
Peak Hour Total																								
1630 - 1730	**0**	**0**	**1796**	**2**	**0**	**1798**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**1352**	**0**	**0**	**1373**	**1**	**2**	**0**	**71**	**0**	**74**
App %	0.00%	0.00%	99.86%	0.14%			0.00%	0.00%	0.00%	0.00%			0.00%	2.46%	97.54%	0.00%			0.83%	1.66%	0.00%	97.51%		
Int %	0.00%	0.00%	55.02%	0.08%		55.09%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	1.04%	41.28%	0.00%		42.32%	0.02%	0.04%	0.00%	2.52%		2.58%
Cars Total	0	0	4996	7			0	0	0	0			0	95	3727	0			2	4	0	226		
Heavy Total	0	0	139	0			0	0	0	0			0	2	126	0			0	0	0	9		
% Cars	**0.00%**	**0.00%**	**97.29%**	**100.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**97.94%**	**96.73%**	**0.00%**			**100.00%**	**100.00%**	**0.00%**	**96.17%**		
% Heavy	**0.00%**	**0.00%**	**2.71%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**2.06%**	**3.27%**	**0.00%**			**0.00%**	**0.00%**	**0.00%**	**3.83%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 7
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEV

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 1/15/2019

Time Period: 0600 - 0900 (Weekday AM Peak)

Figure 1 - Turning Movement Designation

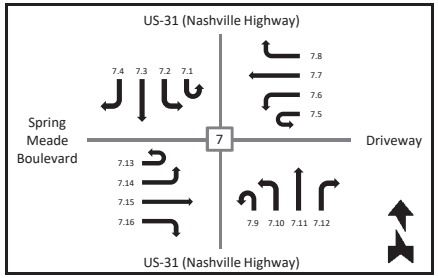
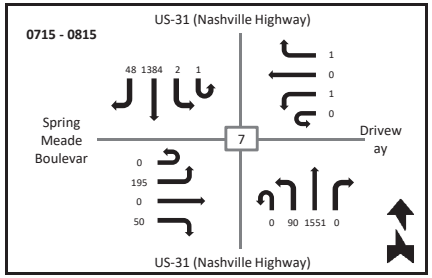


Figure 2 - AM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App	U-Turn	Left	Thru	Right	Peds	App
Time	7.1	7.2	7.3	7.4	X-Walk	Total	7.5	7.6	7.7	7.8	X-Walk	Total	7.9	7.10	7.11	7.12	X-Walk	Total	7.13	7.14	7.15	7.16	X-Walk	Total
0600 - 0615	0	0	198	10	0	208	0	0	0	0	0	0	0	2	342	0	0	344	0	11	0	4	0	15
0615 - 0630	0	0	446	16	0	462	0	0	0	0	0	0	0	7	306	0	0	313	0	21	0	15	0	36
0630 - 0645	0	0	299	17	0	316	0	0	0	0	0	0	1	8	325	0	0	334	0	22	0	10	0	32
0645 - 0700	0	0	239	11	0	250	0	0	0	0	0	0	0	7	381	0	0	388	0	27	0	5	0	32
0700 - 0715	0	0	253	19	0	272	0	0	0	0	0	0	0	31	309	0	0	340	0	14	0	29	0	43
0715 - 0730	0	0	333	14	0	347	0	0	0	0	0	0	0	43	310	0	0	353	0	56	0	19	0	75
0730 - 0745	1	0	401	12	0	414	0	0	0	0	0	0	0	34	438	0	0	472	0	74	0	20	0	94
0745 - 0800	0	1	377	12	0	390	0	1	0	0	0	1	0	10	430	0	0	440	0	39	0	5	0	44
0800 - 0815	0	1	273	10	0	284	0	0	0	1	0	1	0	3	373	0	0	376	0	26	0	6	0	32
0815 - 0830	0	1	217	11	0	229	0	0	0	0	0	0	0	8	395	0	0	403	0	17	0	10	0	27
0830 - 0845	0	1	230	11	0	242	0	1	0	1	0	2	0	7	283	0	0	290	0	31	1	13	0	45
0845 - 0900	0	0	227	8	0	235	0	1	0	0	0	1	0	3	296	0	0	299	0	12	1	8	0	21
Grand Total	**1**	**4**	**3493**	**151**	**0**	**3649**	**0**	**3**	**0**	**2**	**0**	**5**	**1**	**163**	**4188**	**0**	**0**	**4352**	**0**	**350**	**2**	**144**	**0**	**496**
Peak Hour Total																								
0715 - 0815	**1**	**2**	**1384**	**48**	**0**	**1435**	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**90**	**1551**	**0**	**0**	**1641**	**0**	**195**	**0**	**50**	**0**	**245**
App %	0.03%	0.11%	95.72%	4.14%			0.00%	60.00%	0.00%	40.00%			0.02%	3.75%	96.23%	0.00%			0.00%	70.56%	0.40%	29.03%		
Int %	0.01%	0.05%	41.08%	1.78%		42.92%	0.00%	0.04%	0.00%	0.02%		0.06%	0.01%	1.92%	49.26%	0.00%		51.19%	0.00%	4.12%	0.02%	1.69%		5.83%
Cars Total	1	4	3325	143			0	3	0	2			1	154	4013	0			0	335	2	138		
Heavy Total	0	0	168	8			0	0	0	0			0	9	175	0			0	15	0	6		
% Cars	**100.00%**	**100.00%**	**95.19%**	**94.70%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**			**100.00%**	**94.48%**	**95.82%**	**0.00%**			**0.00%**	**95.71%**	**100.00%**	**95.83%**		
% Heavy	**0.00%**	**0.00%**	**4.81%**	**5.30%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**5.52%**	**4.18%**	**0.00%**			**0.00%**	**4.29%**	**0.00%**	**4.17%**		

Location: Maury County (Columbia)
Count Type: Classified Turning Movement Count (TMC)

Count Sites: 7
Intersection #: 7
Intersection: US-31 (NASHVILLE HIGHWAY) & SPRING MEADE BOULEVAR

Southbound: US-31 (Nashville Highway)
Westbound: Driveway
Northbound: US-31 (Nashville Highway)
Eastbound: Spring Meade Boulevard

Lat/Long: 35.711906, -86.973619

Count Date: 1/15/2019

Time Period: 1500 - 1800 (Weekday PM Peak)

Figure 1 - Turning Movement Designation

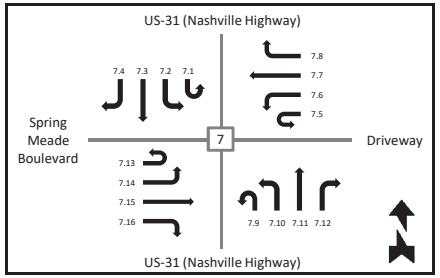
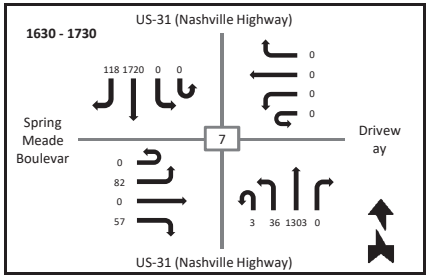


Figure 2 - PM Peak Hour TMC



T-SQUARE ENGINEERING

	Southbound						Westbound						Northbound						Eastbound					
	US-31 (Nashville Highway)						Driveway						US-31 (Nashville Highway)						Spring Meade Boulevard					
Time	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds X-Walk	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds X-Walk	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds X-Walk	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds X-Walk	App Total
1500 - 1515	0	0	356	14	0	370	0	0	0	1	0	1	0	6	268	0	0	274	0	69	0	41	0	110
1515 - 1530	1	0	382	18	0	401	0	0	0	0	0	0	0	10	334	0	0	344	0	26	0	18	0	44
1530 - 1545	0	0	455	29	0	484	0	0	0	0	0	0	0	9	331	1	0	341	0	27	0	12	0	39
1545 - 1600	0	0	415	13	0	428	0	0	0	0	0	0	0	12	345	1	0	358	0	19	0	16	0	35
1600 - 1615	0	0	384	20	0	404	0	1	0	1	0	2	0	13	267	0	0	280	0	28	0	17	0	45
1615 - 1630	0	0	403	24	0	427	0	0	0	0	0	0	0	15	305	0	0	320	0	21	0	16	0	37
1630 - 1645	0	0	442	28	0	470	0	0	0	0	0	0	1	7	344	0	0	352	0	12	0	12	0	24
1645 - 1700	0	0	442	23	0	465	0	0	0	0	0	0	0	10	315	0	0	325	0	30	0	13	0	43
1700 - 1715	0	0	408	33	0	441	0	0	0	0	0	0	2	12	329	0	0	343	0	22	0	13	0	35
1715 - 1730	0	0	428	34	0	462	0	0	0	0	0	0	0	7	315	0	0	322	0	18	0	19	0	37
1730 - 1745	0	0	401	26	0	427	0	0	0	0	0	0	1	16	318	0	0	335	0	15	0	15	0	30
1745 - 1800	0	0	353	22	0	375	0	0	0	0	0	0	0	11	292	0	0	303	0	19	0	12	0	31
Grand Total	**1**	**0**	**4869**	**284**	**0**	**5154**	**0**	**1**	**0**	**2**	**0**	**3**	**4**	**128**	**3763**	**2**	**0**	**3897**	**0**	**306**	**0**	**204**	**0**	**510**
Peak Hour Total																								
1630 - 1730	**0**	**0**	**1720**	**118**	**0**	**1838**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**36**	**1303**	**0**	**0**	**1342**	**0**	**82**	**0**	**57**	**0**	**139**
App %	0.02%	0.00%	94.47%	5.51%			0.00%	33.33%	0.00%	66.67%			0.10%	3.28%	96.56%	0.05%			0.00%	60.00%	0.00%	40.00%		
Int %	0.01%	0.00%	50.91%	2.97%		53.89%	0.00%	0.01%	0.00%	0.02%		0.03%	0.04%	1.34%	39.35%	0.02%		40.75%	0.00%	3.20%	0.00%	2.13%		5.33%
Cars Total	1	0	4743	278			0	1	0	2			4	125	3638	2			0	292	0	204		
Heavy Total	0	0	126	6			0	0	0	0			0	3	125	0			0	14	0	0		
% Cars	**100.00%**	**0.00%**	**97.41%**	**97.89%**			**0.00%**	**100.00%**	**0.00%**	**100.00%**			**100.00%**	**97.66%**	**96.68%**	**100.00%**			**0.00%**	**95.42%**	**0.00%**	**100.00%**		
% Heavy	**0.00%**	**0.00%**	**2.59%**	**2.11%**			**0.00%**	**0.00%**	**0.00%**	**0.00%**			**0.00%**	**2.34%**	**3.32%**	**0.00%**			**0.00%**	**4.58%**	**0.00%**	**0.00%**		

APPENDIX D
TDOT COUNT DATA

TDOT AADT DATA

Station	19	91
Route	972	SR006
Location	Green Mills Road east of SR31	Route 31 - South of Neapolis
County	Maury	Maury
2018	1,251	36,823
2017	1,202	35,063
2016	1,131	33,930
2015	1,195	34,875
2014	1,072	34,235
2013	973	30,975
2012	1,016	29,517
2011	1,048	30,297
2010	1,104	27,335
2009	1,145	27,095
2008	1,110	27,226
2007	1,207	27,921
2006	1,193	32,741

APPENDIX E
SIGNAL TIMING SHEETS

TR

Sepac 3.34g Timings Data

Location:	Nashville Hwy
and	Arden Village

TS #	28
Date:	9-2-20

key 3-1 Vehicle times

Phase	1	2	3	4	5	6	7	8
min green	5	25	7	7	5	25	10	15
pass/10	20	50	30	30	20	50	40	50
max # 1	20	60	30	30	20	60	25	35
max # 2	30	80	30	50	30	80	30	50
yellow/10	45	45	45	45	45	45	40	40
red/10	15	30	20	20	15	30	10	10

key 3-2 Density Times

Phase	1	2	3	4	5	6	7	8
aini/10								
max int								
Tb4								
carsb4								
Time to								
Min gap								

key 3-3 Pedestrian Times

Phase	1	2	3	4	5	6	7	8
Walk		7		7		7		7
Ped clear		8		8		8		8
fl wk								
ext pcl								
act riw								
		1 = yes 0 = no						

key 3-7 Sequence control

phase	1	2	3	4	5	6	7	8
ph. Omit								
ph. Yell								
Codes	0		01-08 # - phase					
	none		phase is omitted by # on					
	none phase yellow is omitted by # yellow							

key 3-5 V.& P. recalls

Phases	1	2	3	4	5	6	7	8
veh.recall		2				2		
ped recall								
delay								

Codes		0		1		2		3		4
		none		Inactive		red		yellow		gree
		none		to na 1		to na II		to both		
		none		1 call		minimum		maximum		soft
		none		1 call		ped		na		na+

key 3-6 N. lock & misc

Phase	1	2	3	4	5	6	7	8
non lock	1	0	1	1	1	0	0	0
2 entry								
lc pass								
con. Ser.								
no sgap								
		1 = yes 0 = no						

key 3-4 Init. Na response

phase	1	2	3	4	5	6	7	8
initial	1	4	1	1	1	4	0	0
na resp		1		2		1		2

Codes	0		1		2		3		4
Init	none		inact		red		yel		grn
na resp	none		to 1		to 2		both		

key 4-4

OVL TRAILING GREENS, YELLOWS AND REDS

	GREEN	YELLOW	RED
OLA	0	40	20
OLB	0	40	20
OLC	0	40	20
OLD	0	40	20

key 3-8-1 | Det. Controls

detector	1	2	3	4	5	6	7	8
assign phase	1	0	2	2	2	2	2	0
oper mode								
switch								

key 3-8-2

detector	9	10	11	12	13	14	15	16
assign phase	3	0	4	4	4	4	4	0
oper mode								
switch								

key 3-8-1 | Det. Timings "Change From Controls to Timings"

extend time								
delay time								

key 3-8-2

key 3-8-3 | Det. Controls

detector	17	18	19	20	21	22	23	24
assign phase	1	3	5	0	6	6	6	6
oper mode								
switch								

key 3-8-4

detector	25	26	27	28	29	30	31	32
assign phase	6	0	0	0	7	0	8	8
oper mode								
switch								

key 3-8- 3 | Det. Timings "Change From Controls to Timings"

extend time								
delay time								

key 3-8-4

codes	0	1	2	3	4
	norm veh	norm ped	one call	st bar a	st bar b
	none				
	none				

key3-8-9 | Ped. Dets.

Ped Det Control	1	2	3	4	5	6	7	8
Assigned phase	1	2	3	4	0	6	0	8
Operation Mode	1	1	1	1	0	1	0	1
Switch Phase								

Mode	0-veh	1-ped	2-0ne	3-sba
	4-sbb	5-ppl	6-ppt	7-and

Coordination data and set up key 5-1

Coord. Setup		0	1	2	3	4	5
Oper	0	fre	aut	man			
mode	0	prm	yld	pyl	pom	som	fac
max	2	inh	mx1	mx2			
corr	0	dwl	ndw	swy	sw+	sw2	
ofst	0	beg	end of green				
frce	0	pln cycle time					
mx dwell	0						
yield period	0						

Startup & misc. key 4-1

Startup time	0	time in sec.
Startup state	0	0-fl 1-red
red rev/10	40	time in tenths
auto ped clear	0	o-no 1- yes
Stop t reset	0	0-no 1-yes
Alt. sequence	0	0-18
I'NAT'L SEQ	0	0-no 1-yes

key 4-3	Overlap Standard use up/down to swtich between overlaps
	0-no 1-yes

Overlap A

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap B

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap C

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

Overlap D

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																			

key 5-3	Input Dial1 split1 Phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
mode:	0-actuated 1-coord ph 2-min rec 3-max rec 4-ped rec 5-mx+p 6-ph omit 7-dual coord phase							

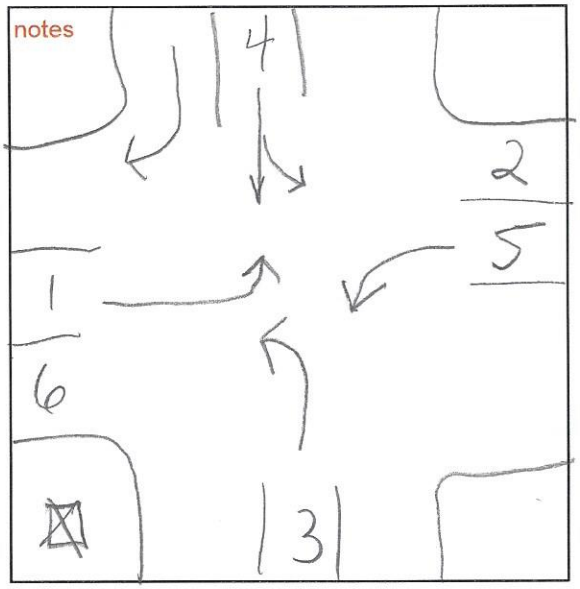
key 5-3	Input Dial 2 split 1 phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time								
Mode								
Mode:	0-actuatec 1-coord ph 2-min rec 3-max rec 4-ped rec 5-mx+p rec 6-ph omit 7-dual coord phase							

key 5-3						
Input Dial1 Split 1 Param. Level 1						
offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						
mode	0-6 nrm/prm/yld/pyl/pom/som/fac					

key 5-3	Input Dial 2 split 1 Param. Level 1					
Offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2						
3						

key 6-2	Time And Date Settings
	BEG-DST-END
	3 2 & 11 1
CYC ZERO	24

notes



Traffic Events

key 6-3-E	DD	HH	MM	DL	SP	OF
	2	15				
	2	18	30			
	3	15				
	3	18	30			
	4	15				
	4	18	30			
	5	15				
	5	18	30			
	6	15				
	6	18	30			

Max -2

2 6

2 6

2 6

2 6

2 6

TR

Sepac 3.34g Timings Data

Location:	Nashville HWY
and	Spring meade

TS #	27
Date:	9-2-20

key 3-1 Vehicle times

Phase	1	2	3	4	5	6	7	8
min green	5	25	7	5	5	25	10	15
pass/10	15	40	30	20	15	40	40	50
max # 1	25	60	20	35	20	60	25	35
max # 2	30	80	30	50	30	80	30	50
yellow/10	40	40	40	40	40	40	40	40
red/10	10	30	10	10	10	30	10	10

key 3-2 Density Times

Phase	1	2	3	4	5	6	7	8
aini/10								
max int								
Tb4								
carsb4								
Time to								
Min gap								

key 3-3 Pedestrian Times

Phase	1	2	3	4	5	6	7	8
Walk		7		7		7		7
Ped clear		8		8		8		8
fl wk								
ext pcl								
act riw								
		1 = yes 0 = no						

key 3-7 Sequence control

phase	1	2	3	4	5	6	7	8
ph. Omit								
ph. Yell								
Codes	0		01-08 # - phase					
	none		phase is omitted by # on					
	none phase yellow is omitted by # yellow							

key 3-5 V.& P. recalls

Phases	1	2	3	4	5	6	7	8
veh.recall		2				2		
ped recall								
delay								

Codes	0	1	2	3	4
	none	Inactive	red	yellow	gree
	none	to na 1	to na II	to both	
	none	1 call	minimum	maximum	soft
	none	1 call	ped	na	na+

key 3-6 N. lock & misc

Phase	1	2	3	4	5	6	7	8
non lock	1	0	1	1	1	0	0	0
2 entry								
lc pass								
con. Ser.								
no sgap								
		1 = yes 0 = no						

key 3-4 Init. Na response

phase	1	2	3	4	5	6	7	8
initial	1	4	1	1	1	4	0	0
na resp		1		1		1		

Codes	0	1	2	3	4
Init	none	inact	red	yel	grn
na resp	none	to 1	to 2	both	

key 4-4 OVL TRAILING GREENS, YELLOWS AND REDS

	GREEN	YELLOW	RED
OLA	0	40	20
OLB	0	40	20
OLC	0	40	20
OLD	0	40	20

key 3-8-1	Det. Controls											key 3-8-2							
detector	1	2	3	4	5	6	7	8				9	10	11	12	13	14	15	16
assign phase	1	0	2	2	2	2	2	0				3	0	4	4	4	4	4	0
oper mode																			
switch																			
key 3-8-1	Det. Timings "Change From Controls to Timings"											key 3-8-2							
extend time																			
delay time				0										0					
key 3-8-3	Det. Controls											key 3-8-4							
detector	17	18	19	20	21	22	23	24				25	26	27	28	29	30	31	32
assign phase	1	3	5	0	6	6	6	6				6	0	0	0	7	0	8	8
oper mode																			
switch																			
key 3-8- 3	Det. Timings "Change From Controls to Timings"											key 3-8-4							
extend time																			
delay time						0								0					

codes	0	1	2	3	4
	norm veh	norm ped	one call	st bar a	st bar b
	none				
	none				

key3-8-9	Ped. Dets.							
Ped Det Control	1	2	3	4	5	6	7	8
Assigned phase	1	2	3	4	0	6	0	8
Operation Mode	1	1	1	1	0	1	0	1
Switch Phase								

Mode	0-veh	1-ped	2-0ne	3-sba
	4-sbb	5-ppl	6-ppt	7-and

Startup & misc.		key 4-1
Startup time	0	time in sec.
Startup state	0	0-fl 1-red
red rev/10	40	time in tenths
auto ped clear	0	o-no 1- yes
Stop t reset	0	0-no 1-yes
Alt. sequence	0	0-18
I'NAT'L SEQ	0	0-no 1-yes

Coordination data and set up	key 5-1						
Coord. Setup		0	1	2	3	4	5
Oper	0	fre	aut	man			
mode	0	prm	yld	pyl	pom	som	fac
max	2	inh	mx1	mx2			
corr	0	dwl	ndw	swy	sw+	sw2	
ofst	0	beg	end of green				
frce	0	pln cycle time					
mx dwell	0						
yield period	0						

key 4-3	Overlap Standard use up/down to swtich between overlaps
	0-no 1-yes

Overlap A

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN													1						

Overlap B

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN														1	1				

Overlap C

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN															1				

Overlap D

OVL Phase																			
PHS/CHN	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
OVL CHN																1			

key 5-3	Input Dial1 split1 Phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time				0				
Mode								
mode:	0-actuated 1-coord ph 2-min rec							
	3-max rec 4-ped rec 5-mx+p							
	6-ph omit 7-dual coord phase							

key 5-3	Input Dial 2 split 1 phase Param. Level 2							
Phase	1	2	3	4	5	6	7	8
Time				0				
Mode								
Mode:	0-actuatec 1-coord ph 2-min rec							
	3-max rec 4-ped rec 5-mx+p rec							
	6-ph omit 7-dual coord phase							

key 5-3						
Input Dial1 Split 1 Param. Level 1						
offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2	0					
3						
mode 0-6 nrm/prm/yld/pyl/pom/som/fac						

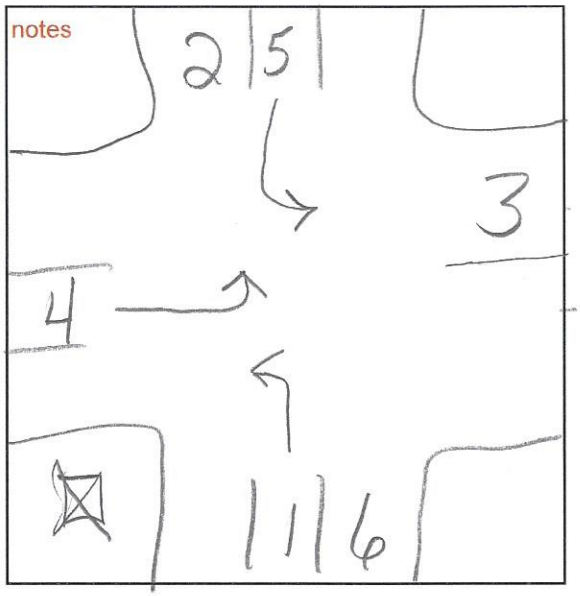
key 5-3						
Input Dial 2 split 1 Param. Level 1						
Offset	time	alt	patn	r2	r3	r4
#	sec	seq	mode	lag	lag	lag
1						
2	0					
3						

key 6-2	Time And Date Settings
	BEG-DST-END
	3 2 & 11 1
CYC ZERO	24

Max-2

key 6-3-E	Traffic Events						
	DD	HH	MM	DL	SP	OF	
	2	15					2 6
	2	18	30				
	3	15					2 6
	3	18	30				
	4	15					2 6
	4	18	30				
	5	15					2 6
	5	18	30				
	6	15					2 6
	6	18	30				

notes



APPENDIX F
CAPACITY ANALYSES

EXISTING CONDITIONS CAPACITY ANALYSES



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	31	83	1697	14	25	1534
Future Volume (vph)	31	83	1697	14	25	1534
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.902		0.999			
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1657	0	3536	0	1770	3539
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1657	0	3536	0	1770	3539
Link Speed (mph)	45		45			45
Link Distance (ft)	3915		1159			1472
Travel Time (s)	59.3		17.6			22.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	90	1845	15	27	1667
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	0	1860	0	27	1667
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		32			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.8%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	30.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	83	1697	14	25	1534
Future Vol, veh/h	31	83	1697	14	25	1534
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	90	1845	15	27	1667

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2741	930	0	0	1860	0
Stage 1	1853	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 16	269	-	-	321	-
Stage 1	110	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 15	269	-	-	321	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-	-
Stage 1	110	-	-	-	-	-
Stage 2	332	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 898.2	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	48	321	-
HCM Lane V/C Ratio	-	-	2.582	0.085	-
HCM Control Delay (s)	-	-	$ 898.2	17.2	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	13.1	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	20	1595	6	7	1306
Future Volume (vph)	17	20	1595	6	7	1306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.926		0.999			
Flt Protected	0.978					
Satd. Flow (prot)	1687	0	3536	0	0	3539
Flt Permitted	0.978					
Satd. Flow (perm)	1687	0	3536	0	0	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1408		2479			5518
Travel Time (s)	38.4		37.6			83.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	22	1734	7	8	1420
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	1741	0	0	1428
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		30			30
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

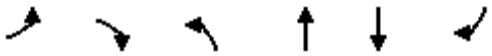
Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	20	1595	6	7	1306
Future Vol, veh/h	17	20	1595	6	7	1306
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	22	1734	7	8	1420

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2464	871	0	0	1741	0
Stage 1	1738	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	25	294	-	-	357	-
Stage 1	127	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	22	294	-	-	357	-
Mov Cap-2 Maneuver	22	-	-	-	-	-
Stage 1	127	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	251.9	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	44	357	-
HCM Lane V/C Ratio	-	-	0.914	0.021	-
HCM Control Delay (s)	-	-	251.9	15.3	0.8
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	3.7	0.1	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	82	145	1675	1186	3
Future Volume (vph)	1	82	145	1675	1186	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.866					
Flt Protected	0.999			0.996		
Satd. Flow (prot)	1612	0	0	3525	3539	0
Flt Permitted	0.999			0.996		
Satd. Flow (perm)	1612	0	0	3525	3539	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	89	158	1821	1289	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	90	0	0	1979	1292	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 98.5%		ICU Level of Service F	
Analysis Period (min) 15			

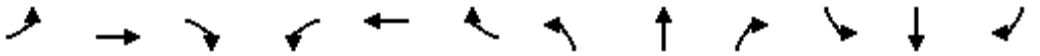
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	82	145	1675	1186	3
Future Vol, veh/h	1	82	145	1675	1186	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	89	158	1821	1289	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2518	646	1292	0	-	0
Stage 1	1291	-	-	-	-	-
Stage 2	1227	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	23	414	532	-	-	-
Stage 1	222	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	23	414	532	-	-	-
Mov Cap-2 Maneuver	23	-	-	-	-	-
Stage 1	222	-	-	-	-	-
Stage 2	240	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.1	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	532	-	344	-	-
HCM Lane V/C Ratio	0.296	-	0.262	-	-
HCM Control Delay (s)	14.6	0	19.1	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	1.2	-	1	-	-



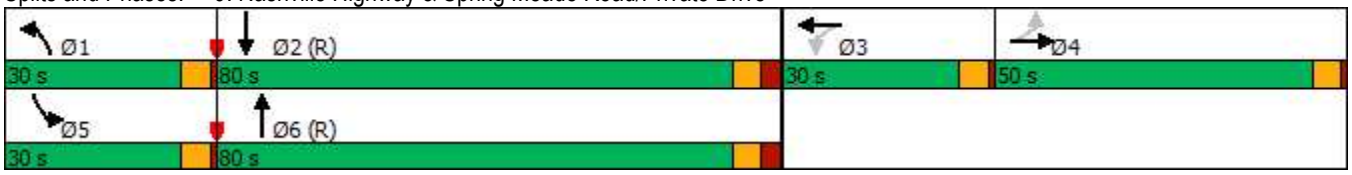
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1	50	2	0	1	102	1497	1	1	1153	66
Future Volume (vph)	182	1	50	2	0	1	102	1497	1	1	1153	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.850						0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1589	0	1770	1583	0	1770	3539	0	1770	3511	0
Flt Permitted	0.757						0.950			0.950		
Satd. Flow (perm)	1410	1589	0	1863	1583	0	1770	3539	0	1770	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			308						4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	1	54	2	0	1	111	1627	1	1	1253	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	55	0	2	1	0	111	1628	0	1	1325	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4			3								

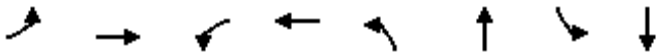
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	50.0	50.0		30.0	30.0		30.0	80.0		30.0	80.0	
Total Split (%)	26.3%	26.3%		15.8%	15.8%		15.8%	42.1%		15.8%	42.1%	
Maximum Green (s)	45.0	45.0		25.0	25.0		25.0	73.0		25.0	73.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	32.0	32.0		8.3	8.3		17.2	140.4		5.7	120.4	
Actuated g/C Ratio	0.17	0.17		0.04	0.04		0.09	0.74		0.03	0.63	
v/c Ratio	0.84	0.18		0.03	0.00		0.69	0.62		0.02	0.59	
Control Delay	103.4	14.6		86.0	0.0		82.8	25.2		90.0	24.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	103.4	14.6		86.0	0.0		82.8	25.2		90.0	24.7	
LOS	F	B		F	A		F	C		F	C	
Approach Delay		84.1			57.3			28.9			24.8	
Approach LOS		F			E			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 190
Offset: 129.5 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 31.5 Intersection LOS: C
Intersection Capacity Utilization 76.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive

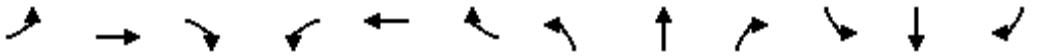




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	198	55	2	1	111	1628	1	1325
v/c Ratio	0.84	0.18	0.03	0.00	0.69	0.62	0.02	0.59
Control Delay	103.4	14.6	86.0	0.0	82.8	25.2	90.0	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.4	14.6	86.0	0.0	82.8	25.2	90.0	24.7
Queue Length 50th (ft)	243	1	2	0	137	623	1	467
Queue Length 95th (ft)	327	43	13	0	m188	944	9	820
Internal Link Dist (ft)		390		206		1657		1223
Turn Bay Length (ft)					255		220	
Base Capacity (vph)	333	417	245	475	232	2615	232	2227
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.13	0.01	0.00	0.48	0.62	0.00	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1	50	2	0	1	102	1497	1	1	1153	66
Future Volume (vph)	182	1	50	2	0	1	102	1497	1	1	1153	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.85		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1588		1770	1583		1770	3539		1770	3510	
Flt Permitted	0.76	1.00		1.00	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1410	1588		1863	1583		1770	3539		1770	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	1	54	2	0	1	111	1627	1	1	1253	72
RTOR Reduction (vph)	0	45	0	0	1	0	0	0	0	0	2	0
Lane Group Flow (vph)	198	10	0	2	0	0	111	1628	0	1	1323	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4			3								
Actuated Green, G (s)	32.0	32.0		2.3	2.3		17.2	132.5		1.2	116.5	
Effective Green, g (s)	32.0	32.0		2.3	2.3		17.2	132.5		1.2	116.5	
Actuated g/C Ratio	0.17	0.17		0.01	0.01		0.09	0.70		0.01	0.61	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	267		22	19		160	2467		11	2152	
v/s Ratio Prot		0.01			0.00		c0.06	c0.46		0.00	0.38	
v/s Ratio Perm	c0.14			c0.00								
v/c Ratio	0.84	0.04		0.09	0.00		0.69	0.66		0.09	0.61	
Uniform Delay, d1	76.5	66.1		92.8	92.7		83.8	16.1		93.9	22.8	
Progression Factor	1.00	1.00		1.00	1.00		0.80	1.61		1.00	1.00	
Incremental Delay, d2	21.7	0.1		1.8	0.0		8.9	1.0		3.6	1.3	
Delay (s)	98.2	66.2		94.6	92.7		76.0	27.0		97.4	24.1	
Level of Service	F	E		F	F		E	C		F	C	
Approach Delay (s)		91.2			94.0			30.1			24.2	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

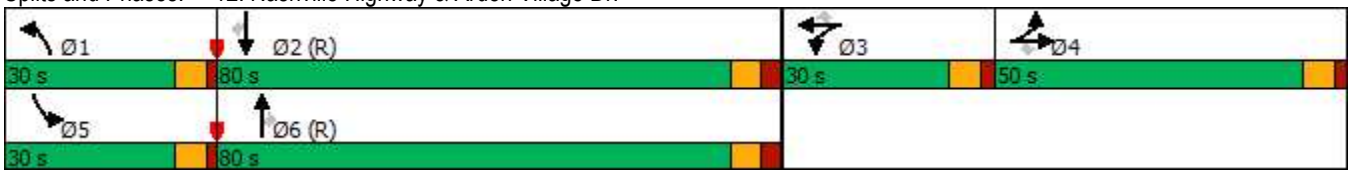
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	3	16	11	0	55	4	1692	23	26	1227	15
Future Volume (vph)	73	3	16	11	0	55	4	1692	23	26	1227	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.950		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.950		0.950			0.950		
Satd. Flow (perm)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			98			92			92
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	3	17	12	0	60	4	1839	25	28	1334	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	17	0	12	60	4	1839	25	28	1334	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5	32.5	24.0	32.5	32.5
Total Split (s)	50.0	50.0	50.0	30.0	30.0	30.0	30.0	80.0	80.0	30.0	80.0	80.0
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%	15.8%	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%
Maximum Green (s)	43.5	43.5	43.5	23.5	23.5	23.5	24.0	72.5	72.5	24.0	72.5	72.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)		14.1	14.1		7.5	7.5	6.1	135.7	135.7	8.5	145.3	145.3
Actuated g/C Ratio		0.07	0.07		0.04	0.04	0.03	0.71	0.71	0.04	0.76	0.76
v/c Ratio		0.62	0.08		0.17	0.38	0.07	0.73	0.02	0.35	0.49	0.01
Control Delay		104.6	0.8		93.6	8.5	91.5	19.9	0.0	130.4	3.3	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		104.6	0.8		93.6	8.5	91.5	19.9	0.0	130.4	3.3	0.0
LOS		F	A		F	A	F	B	A	F	A	A
Approach Delay		86.8			22.7			19.8			5.9	
Approach LOS		F			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 3.5 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.

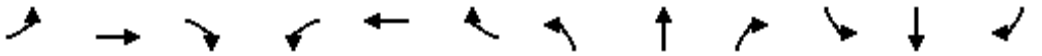




Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	82	17	12	60	4	1839	25	28	1334	16
v/c Ratio	0.62	0.08	0.17	0.38	0.07	0.73	0.02	0.35	0.49	0.01
Control Delay	104.6	0.8	93.6	8.5	91.5	19.9	0.0	130.4	3.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.6	0.8	93.6	8.5	91.5	19.9	0.0	130.4	3.3	0.0
Queue Length 50th (ft)	101	0	15	0	5	700	0	31	19	0
Queue Length 95th (ft)	163	0	41	7	20	938	0	m63	31	m0
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	406	437	218	281	223	2528	1157	223	2706	1232
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.04	0.06	0.21	0.02	0.73	0.02	0.13	0.49	0.01

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

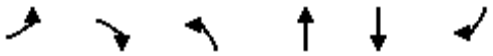


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	3	16	11	0	55	4	1692	23	26	1227	15
Future Volume (vph)	73	3	16	11	0	55	4	1692	23	26	1227	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1777	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	3	17	12	0	60	4	1839	25	28	1334	16
RTOR Reduction (vph)	0	0	16	0	0	58	0	0	7	0	0	4
Lane Group Flow (vph)	0	82	1	0	12	2	4	1839	18	28	1334	12
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		14.1	14.1		7.5	7.5	1.4	134.5	134.5	7.4	140.5	140.5
Effective Green, g (s)		14.1	14.1		7.5	7.5	1.4	134.5	134.5	7.4	140.5	140.5
Actuated g/C Ratio		0.07	0.07		0.04	0.04	0.01	0.71	0.71	0.04	0.74	0.74
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		131	117		69	62	13	2505	1120	68	2616	1170
v/s Ratio Prot		c0.05			c0.01		0.00	c0.52		c0.02	c0.38	
v/s Ratio Perm			0.00			0.00			0.01			0.01
v/c Ratio		0.63	0.01		0.17	0.04	0.31	0.73	0.02	0.41	0.51	0.01
Uniform Delay, d1		85.4	81.5		88.3	87.8	93.8	16.9	8.2	89.2	10.4	6.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.37	0.29	1.00
Incremental Delay, d2		9.0	0.0		1.2	0.3	13.0	2.0	0.0	3.4	0.6	0.0
Delay (s)		94.4	81.5		89.5	88.0	106.8	18.8	8.2	125.8	3.6	6.5
Level of Service		F	F		F	F	F	B	A	F	A	A
Approach Delay (s)		92.2			88.3			18.9			6.2	
Approach LOS		F			F			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	11	8	1696	1552	23
Future Volume (vph)	19	11	8	1696	1552	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	260			265
Storage Lanes	1	1	1			1
Taper Length (ft)	25		175			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1349			4956	1159	
Travel Time (s)	36.8			75.1	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	12	9	1843	1687	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	12	9	1843	1687	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			32	32	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	11	8	1696	1552	23
Future Vol, veh/h	19	11	8	1696	1552	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	260	-	-	265
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	12	9	1843	1687	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2627	844	1712	0	-	0
Stage 1	1687	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 19	307	367	-	-	-
Stage 1	135	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 19	307	367	-	-	-
Mov Cap-2 Maneuver	~ 19	-	-	-	-	-
Stage 1	132	-	-	-	-	-
Stage 2	340	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 335.1	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	367	-	19	307	-	-
HCM Lane V/C Ratio	0.024	-	1.087	0.039	-	-
HCM Control Delay (s)	15	-	$ 519.1	17.2	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.9	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	33	1312	33	52	1774
Future Volume (vph)	22	33	1312	33	52	1774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.919		0.996			
Flt Protected	0.980				0.950	
Satd. Flow (prot)	1678	0	3525	0	1770	3539
Flt Permitted	0.980				0.950	
Satd. Flow (perm)	1678	0	3525	0	1770	3539
Link Speed (mph)	45		45			45
Link Distance (ft)	3915		1159			1472
Travel Time (s)	59.3		17.6			22.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	36	1426	36	57	1928
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	1462	0	57	1928
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		32			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.0%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	33	1312	33	52	1774
Future Vol, veh/h	22	33	1312	33	52	1774
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	36	1426	36	57	1928

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2522	731	0	0	1462	0
Stage 1	1444	-	-	-	-	-
Stage 2	1078	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 23	364	-	-	458	-
Stage 1	183	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 20	364	-	-	458	-
Mov Cap-2 Maneuver	~ 20	-	-	-	-	-
Stage 1	183	-	-	-	-	-
Stage 2	252	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 375	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	46	458	-
HCM Lane V/C Ratio	-	-	1.3	0.123	-
HCM Control Delay (s)	-	-	$ 375	14	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	5.7	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	12	1317	16	22	1551
Future Volume (vph)	8	12	1317	16	22	1551
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.920		0.998			
Flt Protected	0.980					0.999
Satd. Flow (prot)	1679	0	3532	0	0	3536
Flt Permitted	0.980					0.999
Satd. Flow (perm)	1679	0	3532	0	0	3536
Link Speed (mph)	35		45			45
Link Distance (ft)	1408		2479			5518
Travel Time (s)	27.4		37.6			83.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	13	1432	17	24	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	0	1449	0	0	1710
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		30			30
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	8

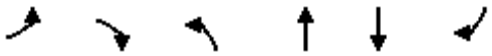
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	12	1317	16	22	1551
Future Vol, veh/h	8	12	1317	16	22	1551
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	13	1432	17	24	1686

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2332	725	0	0	1449	0
Stage 1	1441	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	31	368	-	-	463	-
Stage 1	184	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 6	368	-	-	463	-
Mov Cap-2 Maneuver	~ 6	-	-	-	-	-
Stage 1	184	-	-	-	-	-
Stage 2	66	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 754.4	0	5.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	15	463	-
HCM Lane V/C Ratio	-	-	1.449	0.052	-
HCM Control Delay (s)	-	-	$ 754.4	13.2	5.2
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	3.3	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	68	34	1401	1775	2
Future Volume (vph)	1	68	34	1401	1775	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.867					
Flt Protected	0.999			0.999		
Satd. Flow (prot)	1613	0	0	3536	3539	0
Flt Permitted	0.999			0.999		
Satd. Flow (perm)	1613	0	0	3536	3539	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	74	37	1523	1929	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	0	0	1560	1931	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

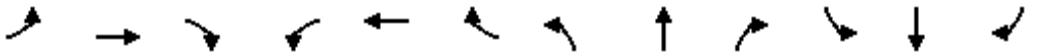
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	68	34	1401	1775	2
Future Vol, veh/h	1	68	34	1401	1775	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	74	37	1523	1929	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2766	966	1931	0	-	0
Stage 1	1930	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	15	254	301	-	-	-
Stage 1	99	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	3	254	301	-	-	-
Mov Cap-2 Maneuver	3	-	-	-	-	-
Stage 1	20	-	-	-	-	-
Stage 2	386	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	81.8	7.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	301	-	115	-	-
HCM Lane V/C Ratio	0.123	-	0.652	-	-
HCM Control Delay (s)	18.6	7.1	81.8	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0.4	-	3.4	-	-

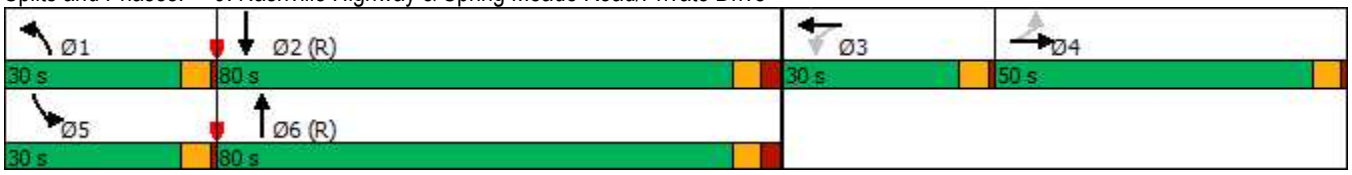


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	0	64	0	0	0	50	1350	0	0	1704	101
Future Volume (vph)	111	0	64	0	0	0	50	1350	0	0	1704	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850									0.992	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1583	0	1863	1863	0	1770	3539	0	1863	3511	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1583	0	1863	1863	0	1770	3539	0	1863	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		444									4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	0	70	0	0	0	54	1467	0	0	1852	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	70	0	0	0	0	54	1467	0	0	1962	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm			Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4			3								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	50.0	50.0		30.0	30.0		30.0	80.0		30.0	80.0	
Total Split (%)	26.3%	26.3%		15.8%	15.8%		15.8%	42.1%		15.8%	42.1%	
Maximum Green (s)	45.0	45.0		25.0	25.0		25.0	73.0		25.0	73.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	21.7	21.7					11.2	156.3			142.5	
Actuated g/C Ratio	0.11	0.11					0.06	0.82			0.75	
v/c Ratio	0.60	0.12					0.52	0.50			0.75	
Control Delay	91.4	0.4					81.8	14.5			17.9	
Queue Delay	0.0	0.0					0.0	0.0			0.0	
Total Delay	91.4	0.4					81.8	14.5			17.9	
LOS	F	A					F	B			B	
Approach Delay		58.0						16.9			17.9	
Approach LOS		E						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 129.5 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive

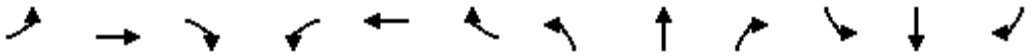




Lane Group	EBL	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	121	70	54	1467	1962
v/c Ratio	0.60	0.12	0.52	0.50	0.75
Control Delay	91.4	0.4	81.8	14.5	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	91.4	0.4	81.8	14.5	17.9
Queue Length 50th (ft)	146	0	67	422	712
Queue Length 95th (ft)	214	0	m108	864	1014
Internal Link Dist (ft)		390		1657	1223
Turn Bay Length (ft)			255		
Base Capacity (vph)	419	713	232	2911	2633
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.10	0.23	0.50	0.75

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	0	64	0	0	0	50	1350	0	0	1704	101
Future Volume (vph)	111	0	64	0	0	0	50	1350	0	0	1704	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0					5.0	7.0			7.0	
Lane Util. Factor	1.00	1.00					1.00	0.95			0.95	
Frt	1.00	0.85					1.00	1.00			0.99	
Flt Protected	0.95	1.00					0.95	1.00			1.00	
Satd. Flow (prot)	1770	1583					1770	3539			3509	
Flt Permitted	0.95	1.00					0.95	1.00			1.00	
Satd. Flow (perm)	1770	1583					1770	3539			3509	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	0	70	0	0	0	54	1467	0	0	1852	110
RTOR Reduction (vph)	0	62	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	121	8	0	0	0	0	54	1467	0	0	1961	0
Turn Type	Perm	NA		Perm			Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4			3								
Actuated Green, G (s)	21.7	21.7					9.8	156.3			141.5	
Effective Green, g (s)	21.7	21.7					9.8	156.3			141.5	
Actuated g/C Ratio	0.11	0.11					0.05	0.82			0.74	
Clearance Time (s)	5.0	5.0					5.0	7.0			7.0	
Vehicle Extension (s)	3.0	3.0					3.0	3.0			3.0	
Lane Grp Cap (vph)	202	180					91	2911			2613	
v/s Ratio Prot		0.01					0.03	c0.41			c0.56	
v/s Ratio Perm	c0.07											
v/c Ratio	0.60	0.04					0.59	0.50			0.75	
Uniform Delay, d1	80.0	74.9					88.2	5.1			14.0	
Progression Factor	1.00	1.00					0.78	2.49			1.00	
Incremental Delay, d2	4.7	0.1					8.4	0.5			2.0	
Delay (s)	84.7	75.0					77.2	13.2			16.1	
Level of Service	F	E					E	B			B	
Approach Delay (s)		81.2			0.0			15.5			16.1	
Approach LOS		F			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

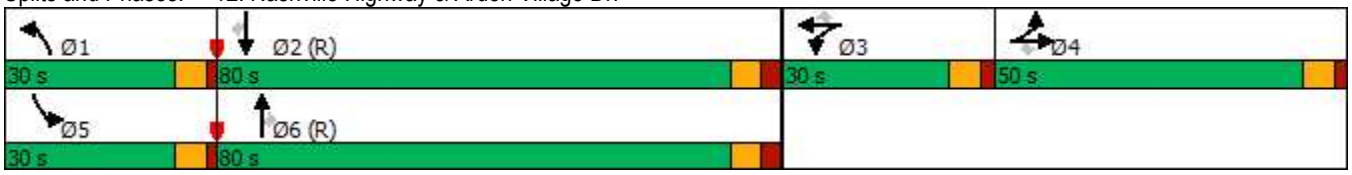
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	5	11	45	5	75	23	1319	63	81	1688	74
Future Volume (vph)	41	5	11	45	5	75	23	1319	63	81	1688	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.957			0.957		0.950			0.950		
Satd. Flow (prot)	0	1783	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.957			0.957		0.950			0.950		
Satd. Flow (perm)	0	1783	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			98			92			92
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	5	12	49	5	82	25	1434	68	88	1835	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	12	0	54	82	25	1434	68	88	1835	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5	32.5	24.0	32.5	32.5
Total Split (s)	50.0	50.0	50.0	30.0	30.0	30.0	30.0	80.0	80.0	30.0	80.0	80.0
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%	15.8%	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%
Maximum Green (s)	43.5	43.5	43.5	23.5	23.5	23.5	24.0	72.5	72.5	24.0	72.5	72.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)		10.8	10.8		11.1	11.1	8.2	129.5	129.5	14.8	138.4	138.4
Actuated g/C Ratio		0.06	0.06		0.06	0.06	0.04	0.68	0.68	0.08	0.73	0.73
v/c Ratio		0.50	0.07		0.52	0.45	0.33	0.59	0.06	0.64	0.71	0.07
Control Delay		102.6	0.7		103.3	15.6	98.9	19.5	1.1	107.7	23.0	2.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		102.6	0.7		103.3	15.6	98.9	19.5	1.1	107.7	23.0	2.1
LOS		F	A		F	B	F	B	A	F	C	A
Approach Delay		82.9			50.4			20.0			25.9	
Approach LOS		F			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 3.5 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 25.3		Intersection LOS: C	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.

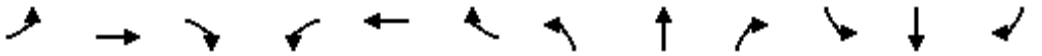




Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	50	12	54	82	25	1434	68	88	1835	80
v/c Ratio	0.50	0.07	0.52	0.45	0.33	0.59	0.06	0.64	0.71	0.07
Control Delay	102.6	0.7	103.3	15.6	98.9	19.5	1.1	107.7	23.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.6	0.7	103.3	15.6	98.9	19.5	1.1	107.7	23.0	2.1
Queue Length 50th (ft)	62	0	67	0	31	503	0	103	1063	9
Queue Length 95th (ft)	113	0	119	41	68	704	11	m139	1325	m16
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	408	437	220	281	223	2411	1108	223	2577	1178
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.03	0.25	0.29	0.11	0.59	0.06	0.39	0.71	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	5	11	45	5	75	23	1319	63	81	1688	74
Future Volume (vph)	41	5	11	45	5	75	23	1319	63	81	1688	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1783	1583		1782	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.96	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1783	1583		1782	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	5	12	49	5	82	25	1434	68	88	1835	80
RTOR Reduction (vph)	0	0	11	0	0	77	0	0	22	0	0	23
Lane Group Flow (vph)	0	50	1	0	54	5	25	1434	46	88	1835	57
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		9.4	9.4		11.1	11.1	7.1	128.2	128.2	14.8	135.9	135.9
Effective Green, g (s)		9.4	9.4		11.1	11.1	7.1	128.2	128.2	14.8	135.9	135.9
Actuated g/C Ratio		0.05	0.05		0.06	0.06	0.04	0.67	0.67	0.08	0.72	0.72
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		88	78		104	92	66	2387	1068	137	2531	1132
v/s Ratio Prot		c0.03			c0.03		0.01	0.41		c0.05	c0.52	
v/s Ratio Perm			0.00			0.00			0.03			0.04
v/c Ratio		0.57	0.01		0.52	0.05	0.38	0.60	0.04	0.64	0.73	0.05
Uniform Delay, d1		88.3	85.9		86.9	84.5	89.3	16.9	10.4	85.0	16.0	8.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.10	1.24	1.44
Incremental Delay, d2		8.2	0.0		4.3	0.2	3.6	1.1	0.1	7.1	1.3	0.1
Delay (s)		96.5	85.9		91.2	84.7	92.9	18.0	10.4	100.5	21.1	11.6
Level of Service		F	F		F	F	F	B	B	F	C	B
Approach Delay (s)		94.4			87.3			18.9			24.2	
Approach LOS		F			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	1	5	1332	1783	23
Future Volume (vph)	21	1	5	1332	1783	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	260			265
Storage Lanes	1	1	1			1
Taper Length (ft)	25		175			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1349			4956	1159	
Travel Time (s)	36.8			75.1	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1	5	1448	1938	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	1	5	1448	1938	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			32	32	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	1	5	1332	1783	23
Future Vol, veh/h	21	1	5	1332	1783	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	260	-	-	265
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	1	5	1448	1938	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2672	969	1963	0	-	0
Stage 1	1938	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 18	253	293	-	-	-
Stage 1	98	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 18	253	293	-	-	-
Mov Cap-2 Maneuver	~ 18	-	-	-	-	-
Stage 1	96	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s$	581.7	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	293	-	18	253	-	-
HCM Lane V/C Ratio	0.019	-	1.268	0.004	-	-
HCM Control Delay (s)	17.5	-	-$ 608.5	19.3	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.2	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

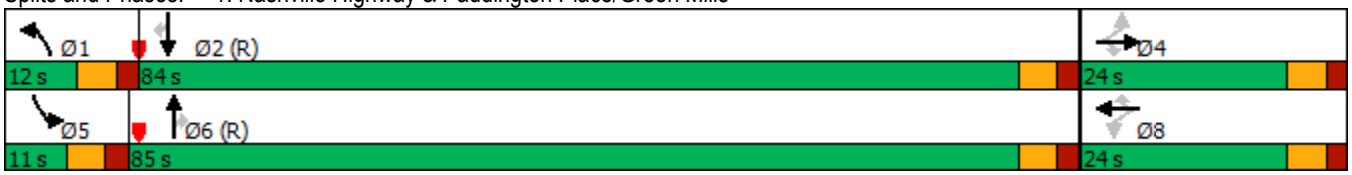
BACKGROUND CONDITIONS CAPACITY ANALYSES

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	36	13	134	79	2174	16	41	2024	92
Future Volume (vph)	185	14	43	36	13	134	79	2174	16	41	2024	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		220	200		100	0		140
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	25			150			150			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950				0.965		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1798	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.722				0.789		0.950			0.950		
Satd. Flow (perm)	1345	1863	1583	0	1470	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73			79			73			73
Link Speed (mph)		25			45			45			45	
Link Distance (ft)		1077			1750			1159			1472	
Travel Time (s)		29.4			26.5			17.6			22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	15	47	39	14	146	86	2363	17	45	2200	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	201	15	47	0	53	146	86	2363	17	45	2200	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			32			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		9	15		9	60		9	15		60
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	85.0	85.0	11.0	84.0	84.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	70.8%	70.8%	9.2%	70.0%	70.0%
Maximum Green (s)	18.5	18.5	18.5	18.5	18.5	18.5	6.5	79.5	79.5	5.5	78.5	78.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	18.5	18.5	18.5		18.5	18.5	6.5	81.7	81.7	5.5	78.5	78.5
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.15	0.05	0.68	0.68	0.05	0.65	0.65
v/c Ratio	0.97	0.05	0.15		0.23	0.47	0.91	0.98	0.02	0.56	0.95	0.09
Control Delay	106.6	44.0	5.1		47.7	27.5	126.0	34.1	0.0	81.5	29.8	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.6	44.0	5.1		47.7	27.5	126.0	34.1	0.0	81.5	29.8	2.9
LOS	F	D	A		D	C	F	C	A	F	C	A
Approach Delay		84.9			32.9			37.0			29.7	
Approach LOS		F			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 36.0		Intersection LOS: D	
Intersection Capacity Utilization 92.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Paddington Place/Green Mills



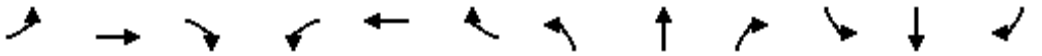


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	15	47	53	146	86	2363	17	45	2200	100
v/c Ratio	0.97	0.05	0.15	0.23	0.47	0.91	0.98	0.02	0.56	0.95	0.09
Control Delay	106.6	44.0	5.1	47.7	27.5	126.0	34.1	0.0	81.5	29.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.6	44.0	5.1	47.7	27.5	126.0	34.1	0.0	81.5	29.8	2.9
Queue Length 50th (ft)	157	10	0	36	46	68	~919	0	35	754	7
Queue Length 95th (ft)	#310	31	17	76	113	#169	#1144	0	#88	#1021	26
Internal Link Dist (ft)		997		1670			1079			1392	
Turn Bay Length (ft)					220	200		100			140
Base Capacity (vph)	207	287	305	226	310	95	2409	1101	81	2315	1060
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.05	0.15	0.23	0.47	0.91	0.98	0.02	0.56	0.95	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

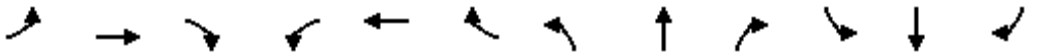
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	36	13	134	79	2174	16	41	2024	92
Future Volume (vph)	185	14	43	36	13	134	79	2174	16	41	2024	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583		1797	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.72	1.00	1.00		0.79	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1346	1863	1583		1469	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	15	47	39	14	146	86	2363	17	45	2200	100
RTOR Reduction (vph)	0	0	40	0	0	67	0	0	6	0	0	25
Lane Group Flow (vph)	201	15	7	0	53	79	86	2363	11	45	2200	75
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2
Actuated Green, G (s)	18.5	18.5	18.5		18.5	18.5	6.5	80.6	80.6	4.4	78.5	78.5
Effective Green, g (s)	18.5	18.5	18.5		18.5	18.5	6.5	80.6	80.6	4.4	78.5	78.5
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.15	0.05	0.67	0.67	0.04	0.65	0.65
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	207	287	244		226	244	95	2377	1063	64	2315	1035
v/s Ratio Prot		0.01					c0.05	c0.67		0.03	0.62	
v/s Ratio Perm	c0.15		0.00		0.04	0.05			0.01			0.05
v/c Ratio	0.97	0.05	0.03		0.23	0.32	0.91	0.99	0.01	0.70	0.95	0.07
Uniform Delay, d1	50.5	43.3	43.1		44.5	45.2	56.4	19.5	6.5	57.2	19.0	7.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	54.0	0.1	0.0		0.5	0.8	62.0	17.1	0.0	29.5	10.2	0.1
Delay (s)	104.5	43.4	43.2		45.1	46.0	118.4	36.6	6.5	86.6	29.2	7.7
Level of Service	F	D	D		D	D	F	D	A	F	C	A
Approach Delay (s)		90.0			45.7			39.2			29.4	
Approach LOS		F			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	36	13	134	79	2174	16	41	2024	92
Future Volume (veh/h)	185	14	43	36	13	134	79	2174	16	41	2024	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	15	47	39	14	146	86	2363	17	45	2200	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	280	237	204	66	237	96	2418	1078	58	2341	1044
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.68	0.68	0.03	0.66	0.66
Sat Flow, veh/h	1400	1870	1585	1017	440	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	201	15	47	53	0	146	86	2363	17	45	2200	100
Grp Sat Flow(s),veh/h/ln	1400	1870	1585	1457	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.1	0.8	3.1	2.9	0.0	10.4	5.8	76.1	0.4	3.0	66.6	2.8
Cycle Q Clear(g_c), s	15.9	0.8	3.1	3.8	0.0	10.4	5.8	76.1	0.4	3.0	66.6	2.8
Prop In Lane	1.00		1.00	0.74		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	280	237	270	0	237	96	2418	1078	58	2341	1044
V/C Ratio(X)	0.71	0.05	0.20	0.20	0.00	0.62	0.89	0.98	0.02	0.78	0.94	0.10
Avail Cap(c_a), veh/h	288	288	244	277	0	244	96	2418	1078	82	2341	1044
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.26	0.26	0.26	0.54	0.54	0.54
Uniform Delay (d), s/veh	49.8	43.7	44.7	44.9	0.0	47.8	56.4	18.3	6.2	57.6	18.4	7.5
Incr Delay (d2), s/veh	7.9	0.1	0.4	0.4	0.0	4.4	22.6	5.4	0.0	15.2	5.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.4	1.2	1.4	0.0	4.3	3.1	26.9	0.1	1.6	24.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	43.8	45.1	45.3	0.0	52.1	79.0	23.7	6.2	72.8	23.8	7.6
LnGrp LOS	E	D	D	D	A	D	E	C	A	E	C	A
Approach Vol, veh/h		263			199			2466			2345	
Approach Delay, s/veh		54.7			50.3			25.5			24.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	84.5		23.5	9.4	87.1		23.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	6.5	78.5		18.5	5.5	79.5		18.5				
Max Q Clear Time (g_c+I1), s	7.8	68.6		17.9	5.0	78.1		12.4				
Green Ext Time (p_c), s	0.0	8.7		0.1	0.0	1.3		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			27.3									
HCM 6th LOS			C									



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	23	2055	7	8	1859
Future Volume (vph)	20	23	2055	7	8	1859
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.928		0.999			
Flt Protected	0.977					
Satd. Flow (prot)	1689	0	3536	0	0	3539
Flt Permitted	0.977					
Satd. Flow (perm)	1689	0	3536	0	0	3539
Link Speed (mph)	35		45			45
Link Distance (ft)	1408		2479			5518
Travel Time (s)	27.4		37.6			83.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	25	2234	8	9	2021
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	0	2242	0	0	2030
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		30			30
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	17.4

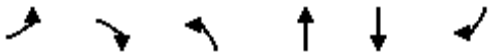
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	23	2055	7	8	1859
Future Vol, veh/h	20	23	2055	7	8	1859
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	25	2234	8	9	2021

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3267	1121	0	0	2242	0
Stage 1	2238	-	-	-	-	-
Stage 2	1029	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 7	200	-	-	227	-
Stage 1	67	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 7	200	-	-	227	-
Mov Cap-2 Maneuver	~ 7	-	-	-	-	-
Stage 1	67	-	-	-	-	-
Stage 2	306	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1602.7	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	14	227	-
HCM Lane V/C Ratio	-	-	3.339	0.038	-
HCM Control Delay (s)	-	-	$ 1602.7	21.5	0
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	6.7	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	186	209	2343	1654	20
Future Volume (vph)	0	186	209	2343	1654	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	225			150
Storage Lanes	0	1	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	202	227	2547	1798	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	202	227	2547	1798	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

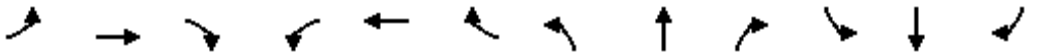
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	186	209	2343	1654	20
Future Vol, veh/h	0	186	209	2343	1654	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	202	227	2547	1798	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	899	1820	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	282	333	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	282	333	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	44.5	3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	333	-	282	-	-
HCM Lane V/C Ratio	0.682	-	0.717	-	-
HCM Control Delay (s)	36.1	-	44.5	-	-
HCM Lane LOS	E	-	E	-	-
HCM 95th %tile Q(veh)	4.7	-	5	-	-



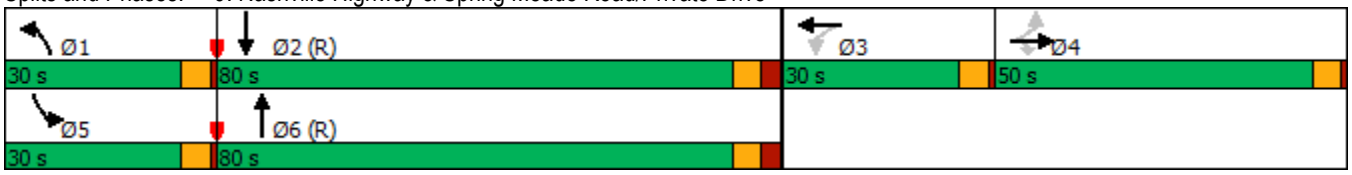
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1	63	2	0	1	122	2132	1	1	1627	118
Future Volume (vph)	388	1	63	2	0	1	122	2132	1	1	1627	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.850						0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1583	0	1770	3539	0	1770	3504	0
Flt Permitted	0.757						0.950			0.950		
Satd. Flow (perm)	1410	1863	1583	1863	1583	0	1770	3539	0	1770	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			80		223						5	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	422	1	68	2	0	1	133	2317	1	1	1768	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	422	1	68	2	1	0	133	2318	0	1	1896	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								

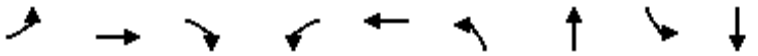
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	50.0	50.0	50.0	30.0	30.0		30.0	80.0		30.0	80.0	
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%		15.8%	42.1%		15.8%	42.1%	
Maximum Green (s)	45.0	45.0	45.0	25.0	25.0		25.0	73.0		25.0	73.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	71.7	71.7	71.7	8.3	8.3		19.3	100.8		5.7	78.7	
Actuated g/C Ratio	0.38	0.38	0.38	0.04	0.04		0.10	0.53		0.03	0.41	
v/c Ratio	0.79	0.00	0.11	0.03	0.00		0.74	1.24		0.02	1.30	
Control Delay	64.5	42.0	5.7	86.0	0.0		67.0	153.7		90.0	185.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.5	42.0	5.7	86.0	0.0		67.0	153.7		90.0	185.0	
LOS	E	D	A	F	A		E	F		F	F	
Approach Delay		56.3			57.3			149.0			185.0	
Approach LOS		E			E			F			F	

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 190
Offset: 129.5 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 153.6 Intersection LOS: F
Intersection Capacity Utilization 105.5% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive





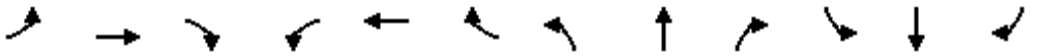
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	422	1	68	2	1	133	2318	1	1896
v/c Ratio	0.79	0.00	0.11	0.03	0.00	0.74	1.24	0.02	1.30
Control Delay	64.5	42.0	5.7	86.0	0.0	67.0	153.7	90.0	185.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	42.0	5.7	86.0	0.0	67.0	153.7	90.0	185.0
Queue Length 50th (ft)	456	1	0	2	0	170	~1841	1	~1596
Queue Length 95th (ft)	#764	6	30	13	0	m162	m#1795	9	#1792
Internal Link Dist (ft)		390			206		1657		1223
Turn Bay Length (ft)						255		220	
Base Capacity (vph)	531	702	647	245	401	232	1876	232	1454
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.00	0.11	0.01	0.00	0.57	1.24	0.00	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1	63	2	0	1	122	2132	1	1	1627	118
Future Volume (vph)	388	1	63	2	0	1	122	2132	1	1	1627	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.85		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1583		1770	3539		1770	3503	
Flt Permitted	0.76	1.00	1.00	1.00	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1410	1863	1583	1863	1583		1770	3539		1770	3503	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	422	1	68	2	0	1	133	2317	1	1	1768	128
RTOR Reduction (vph)	0	0	42	0	1	0	0	0	0	0	3	0
Lane Group Flow (vph)	422	1	26	2	0	0	133	2318	0	1	1893	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								
Actuated Green, G (s)	71.7	71.7	71.7	2.3	2.3		19.3	92.8		1.2	74.7	
Effective Green, g (s)	71.7	71.7	71.7	2.3	2.3		19.3	92.8		1.2	74.7	
Actuated g/C Ratio	0.38	0.38	0.38	0.01	0.01		0.10	0.49		0.01	0.39	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	532	703	597	22	19		179	1728		11	1377	
v/s Ratio Prot		0.00			0.00		c0.08	c0.65		0.00	0.54	
v/s Ratio Perm	c0.30		0.02	c0.00								
v/c Ratio	0.79	0.00	0.04	0.09	0.00		0.74	1.34		0.09	1.37	
Uniform Delay, d1	52.6	36.8	37.4	92.8	92.7		82.9	48.6		93.9	57.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.78	1.31		1.00	1.00	
Incremental Delay, d2	8.0	0.0	0.0	1.8	0.0		1.5	154.0		3.6	173.3	
Delay (s)	60.5	36.8	37.5	94.6	92.7		66.5	217.5		97.4	230.9	
Level of Service	E	D	D	F	F		E	F		F	F	
Approach Delay (s)		57.3			94.0			209.3			230.9	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	202.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

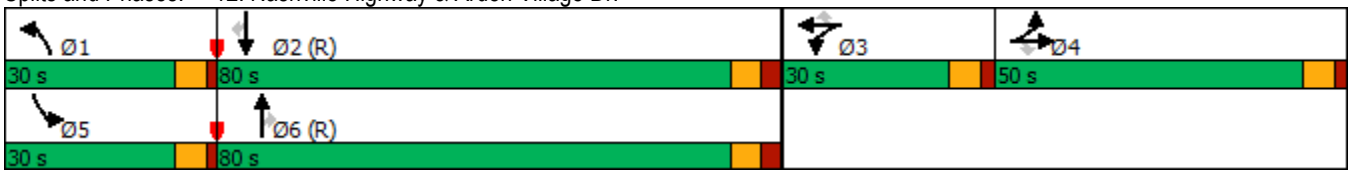
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	4	51	18	0	72	38	2353	29	30	1732	68
Future Volume (vph)	127	4	51	18	0	72	38	2353	29	30	1732	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.950		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.950		0.950			0.950		
Satd. Flow (perm)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			98			92			92
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	4	55	20	0	78	41	2558	32	33	1883	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	55	0	20	78	41	2558	32	33	1883	74
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5	32.5	24.0	32.5	32.5
Total Split (s)	50.0	50.0	50.0	30.0	30.0	30.0	30.0	80.0	80.0	30.0	80.0	80.0
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%	15.8%	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%
Maximum Green (s)	43.5	43.5	43.5	23.5	23.5	23.5	24.0	72.5	72.5	24.0	72.5	72.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)		20.6	20.6		8.1	8.1	9.8	128.2	128.2	8.9	127.4	127.4
Actuated g/C Ratio		0.11	0.11		0.04	0.04	0.05	0.67	0.67	0.05	0.67	0.67
v/c Ratio		0.74	0.21		0.27	0.48	0.45	1.07	0.03	0.40	0.79	0.07
Control Delay		103.7	1.9		96.3	16.6	102.1	71.2	0.0	119.7	9.9	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		103.7	1.9		96.3	16.6	102.1	71.2	0.0	119.7	9.9	0.0
LOS		F	A		F	B	F	E	A	F	A	A
Approach Delay		75.3			32.9			70.8			11.4	
Approach LOS		E			C			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 3.5 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 46.2		Intersection LOS: D	
Intersection Capacity Utilization 95.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.





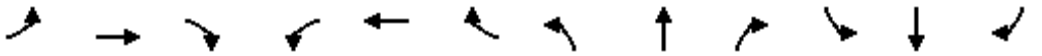
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	55	20	78	41	2558	32	33	1883	74
v/c Ratio	0.74	0.21	0.27	0.48	0.45	1.07	0.03	0.40	0.79	0.07
Control Delay	103.7	1.9	96.3	16.6	102.1	71.2	0.0	119.7	9.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.7	1.9	96.3	16.6	102.1	71.2	0.0	119.7	9.9	0.0
Queue Length 50th (ft)	175	0	25	0	51	~1877	0	43	195	0
Queue Length 95th (ft)	250	0	58	36	97	#2137	0	m41	m57	m0
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	406	437	218	281	223	2388	1098	223	2373	1091
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.13	0.09	0.28	0.18	1.07	0.03	0.15	0.79	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	4	51	18	0	72	38	2353	29	30	1732	68
Future Volume (vph)	127	4	51	18	0	72	38	2353	29	30	1732	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1776	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1776	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	4	55	20	0	78	41	2558	32	33	1883	74
RTOR Reduction (vph)	0	0	49	0	0	75	0	0	11	0	0	25
Lane Group Flow (vph)	0	142	6	0	20	3	41	2558	21	33	1883	49
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		20.6	20.6		8.1	8.1	8.6	127.0	127.0	7.8	126.2	126.2
Effective Green, g (s)		20.6	20.6		8.1	8.1	8.6	127.0	127.0	7.8	126.2	126.2
Actuated g/C Ratio		0.11	0.11		0.04	0.04	0.05	0.67	0.67	0.04	0.66	0.66
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		192	171		75	67	80	2365	1058	72	2350	1051
v/s Ratio Prot		c0.08			c0.01		c0.02	c0.72		0.02	0.53	
v/s Ratio Perm			0.00			0.00			0.01			0.03
v/c Ratio		0.74	0.03		0.27	0.05	0.51	1.08	0.02	0.46	0.80	0.05
Uniform Delay, d1		82.1	75.8		88.1	87.3	88.7	31.5	10.6	89.0	22.9	11.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.36	0.39	0.00
Incremental Delay, d2		13.9	0.1		1.9	0.3	5.4	45.0	0.0	0.4	0.3	0.0
Delay (s)		96.0	75.9		90.0	87.6	94.1	76.5	10.6	121.4	9.1	0.0
Level of Service		F	E		F	F	F	E	B	F	A	A
Approach Delay (s)		90.4			88.1			75.9			10.6	
Approach LOS		F			F			E			B	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

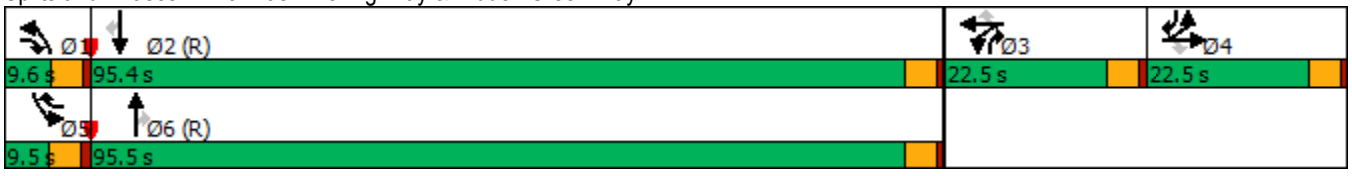
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	0	90	58	0	44	35	2128	19	14	2012	53
Future Volume (vph)	102	0	90	58	0	44	35	2128	19	14	2012	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	260		260	330		265
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			175			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.950			0.950		0.950			0.950		
Satd. Flow (perm)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			48			44			51
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1349			608			4956			1159	
Travel Time (s)		36.8			16.6			75.1			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	0	98	63	0	48	38	2313	21	15	2187	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	98	0	63	48	38	2313	21	15	2187	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			32			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	3	3	5	1	6	3	5	2	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	9.6	22.5	22.5	9.5	9.6	95.5	22.5	9.5	95.4	22.5
Total Split (%)	15.0%	15.0%	6.4%	15.0%	15.0%	6.3%	6.4%	63.7%	15.0%	6.3%	63.6%	15.0%
Maximum Green (s)	18.0	18.0	5.1	18.0	18.0	5.0	5.1	91.0	18.0	5.0	90.9	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effct Green (s)		14.7	26.9		10.7	15.7	7.8	104.5	119.7	6.3	101.1	116.6
Actuated g/C Ratio		0.10	0.18		0.07	0.10	0.05	0.70	0.80	0.04	0.67	0.78
v/c Ratio		0.64	0.27		0.50	0.23	0.42	0.94	0.02	0.20	0.92	0.05
Control Delay		81.4	10.5		79.8	12.3	82.4	31.4	0.3	75.8	30.2	0.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay		81.4	10.5		79.8	12.3	82.4	31.4	0.3	75.8	31.4	0.9
LOS		F	B		E	B	F	C	A	E	C	A
Approach Delay		48.1			50.6			31.9			30.9	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 32.5		Intersection LOS: C	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Nashville Highway & Hidden Creek Way

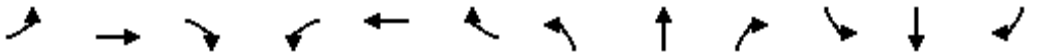




Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	98	63	48	38	2313	21	15	2187	58
v/c Ratio	0.64	0.27	0.50	0.23	0.42	0.94	0.02	0.20	0.92	0.05
Control Delay	81.4	10.5	79.8	12.3	82.4	31.4	0.3	75.8	30.2	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	81.4	10.5	79.8	12.3	82.4	31.4	0.3	75.8	31.4	0.9
Queue Length 50th (ft)	106	0	61	0	36	1077	0	14	972	1
Queue Length 95th (ft)	168	51	109	31	#87	#1449	2	40	#1319	7
Internal Link Dist (ft)	1269		528			4876			1079	
Turn Bay Length (ft)		200			260		260	330		265
Base Capacity (vph)	217	364	212	208	91	2465	1338	74	2384	1280
Starvation Cap Reductn	0	0	0	0	0	0	0	0	68	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.27	0.30	0.23	0.42	0.94	0.02	0.20	0.94	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

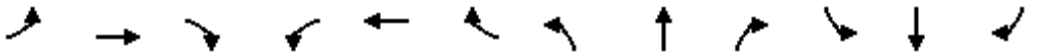


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	0	90	58	0	44	35	2128	19	14	2012	53
Future Volume (vph)	102	0	90	58	0	44	35	2128	19	14	2012	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	0	98	63	0	48	38	2313	21	15	2187	58
RTOR Reduction (vph)	0	0	83	0	0	43	0	0	5	0	0	12
Lane Group Flow (vph)	0	111	15	0	63	5	38	2313	16	15	2187	46
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2
Actuated Green, G (s)		14.7	22.5		9.4	14.6	7.8	102.7	112.1	5.2	100.1	114.8
Effective Green, g (s)		14.7	22.5		9.4	14.6	7.8	102.7	112.1	5.2	100.1	114.8
Actuated g/C Ratio		0.10	0.15		0.06	0.10	0.05	0.68	0.75	0.03	0.67	0.77
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		173	284		110	154	92	2423	1230	61	2361	1211
v/s Ratio Prot		c0.06	0.00		c0.04	0.00	c0.02	c0.65	0.00	0.01	0.62	0.00
v/s Ratio Perm			0.01			0.00			0.01			0.03
v/c Ratio		0.64	0.05		0.57	0.03	0.41	0.95	0.01	0.25	0.93	0.04
Uniform Delay, d1		65.1	54.6		68.3	61.3	68.9	21.5	4.8	70.5	21.7	4.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.9	0.1		7.0	0.1	3.0	10.4	0.0	2.1	7.8	0.0
Delay (s)		73.0	54.7		75.4	61.4	71.9	31.9	4.8	72.6	29.5	4.3
Level of Service		E	D		E	E	E	C	A	E	C	A
Approach Delay (s)		64.4			69.3			32.3			29.1	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.

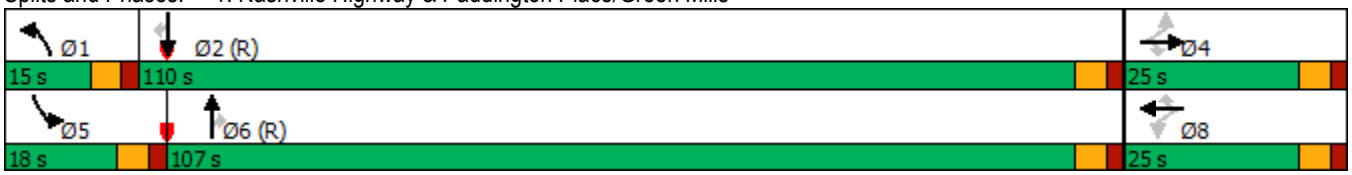


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	26	17	63	104	1783	39	101	2459	122
Future Volume (vph)	172	13	40	26	17	63	104	1783	39	101	2459	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		220	200		100	0		140
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	25			150			150			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950				0.970		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1807	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.727				0.826		0.950			0.950		
Satd. Flow (perm)	1354	1863	1583	0	1539	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			68			58			58
Link Speed (mph)		25			45			45			45	
Link Distance (ft)		1077			1750			1159			1472	
Travel Time (s)		29.4			26.5			17.6			22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	14	43	28	18	68	113	1938	42	110	2673	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	14	43	0	46	68	113	1938	42	110	2673	133
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			32			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	15.0	107.0	107.0	18.0	110.0	110.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%	10.0%	71.3%	71.3%	12.0%	73.3%	73.3%
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	9.5	101.5	101.5	12.5	104.5	104.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	19.5	19.5	19.5		19.5	19.5	9.5	102.1	102.1	11.9	104.5	104.5
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.06	0.68	0.68	0.08	0.70	0.70
v/c Ratio	1.06	0.06	0.17		0.23	0.26	1.01	0.81	0.04	0.79	1.08	0.12
Control Delay	145.4	58.1	8.9		61.9	14.9	154.9	20.5	1.1	101.6	69.3	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	145.4	58.1	8.9		61.9	14.9	154.9	20.9	1.1	101.6	69.3	4.4
LOS	F	E	A		E	B	F	C	A	F	E	A
Approach Delay		116.3			33.9			27.8			67.6	
Approach LOS		F			C			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 53.6		Intersection LOS: D	
Intersection Capacity Utilization 103.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Paddington Place/Green Mills



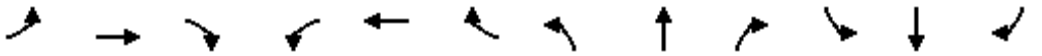


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	14	43	46	68	113	1938	42	110	2673	133
v/c Ratio	1.06	0.06	0.17	0.23	0.26	1.01	0.81	0.04	0.79	1.08	0.12
Control Delay	145.4	58.1	8.9	61.9	14.9	154.9	20.5	1.1	101.6	69.3	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	145.4	58.1	8.9	61.9	14.9	154.9	20.9	1.1	101.6	69.3	4.4
Queue Length 50th (ft)	~201	12	0	41	0	~114	666	0	107	~1537	22
Queue Length 95th (ft)	#363	35	25	84	47	#249	768	8	#207	#1653	44
Internal Link Dist (ft)		997		1670			1079			1392	
Turn Bay Length (ft)					220	200		100			140
Base Capacity (vph)	176	242	256	200	264	112	2407	1095	147	2465	1120
Starvation Cap Reductn	0	0	0	0	0	0	141	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.06	0.17	0.23	0.26	1.01	0.86	0.04	0.75	1.08	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

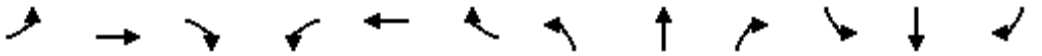
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	26	17	63	104	1783	39	101	2459	122
Future Volume (vph)	172	13	40	26	17	63	104	1783	39	101	2459	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583		1808	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.73	1.00	1.00		0.83	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1354	1863	1583		1539	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	14	43	28	18	68	113	1938	42	110	2673	133
RTOR Reduction (vph)	0	0	37	0	0	59	0	0	13	0	0	18
Lane Group Flow (vph)	187	14	6	0	46	9	113	1938	29	110	2673	115
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2
Actuated Green, G (s)	19.5	19.5	19.5		19.5	19.5	9.5	102.1	102.1	11.9	104.5	104.5
Effective Green, g (s)	19.5	19.5	19.5		19.5	19.5	9.5	102.1	102.1	11.9	104.5	104.5
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.06	0.68	0.68	0.08	0.70	0.70
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	176	242	205		200	205	112	2408	1077	140	2465	1102
v/s Ratio Prot		0.01					c0.06	0.55		0.06	c0.76	
v/s Ratio Perm	c0.14		0.00		0.03	0.01			0.02			0.07
v/c Ratio	1.06	0.06	0.03		0.23	0.04	1.01	0.80	0.03	0.79	1.08	0.10
Uniform Delay, d1	65.2	57.2	57.0		58.5	57.1	70.2	16.9	7.8	67.8	22.8	7.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	85.4	0.1	0.1		0.6	0.1	87.5	3.0	0.0	24.5	45.8	0.2
Delay (s)	150.6	57.3	57.0		59.1	57.2	157.7	19.9	7.8	92.3	68.5	7.6
Level of Service	F	E	E		E	E	F	B	A	F	E	A
Approach Delay (s)		128.8			58.0			27.1			66.6	
Approach LOS		F			E			C			E	

Intersection Summary			
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	13	40	26	17	63	104	1783	39	101	2459	122
Future Volume (veh/h)	172	13	40	26	17	63	104	1783	39	101	2459	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	14	43	28	18	68	113	1938	42	110	2673	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	243	206	150	88	206	113	2439	1088	131	2476	1104
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.69	0.69	0.07	0.70	0.70
Sat Flow, veh/h	1311	1870	1585	860	676	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	187	14	43	46	0	68	113	1938	42	110	2673	133
Grp Sat Flow(s),veh/h/ln	1311	1870	1585	1536	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.7	1.0	3.6	2.5	0.0	5.8	9.5	56.4	1.3	9.1	104.5	4.2
Cycle Q Clear(g_c), s	19.5	1.0	3.6	3.8	0.0	5.8	9.5	56.4	1.3	9.1	104.5	4.2
Prop In Lane	1.00		1.00	0.61		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	243	206	238	0	206	113	2439	1088	131	2476	1104
V/C Ratio(X)	1.01	0.06	0.21	0.19	0.00	0.33	1.00	0.79	0.04	0.84	1.08	0.12
Avail Cap(c_a), veh/h	185	243	206	238	0	206	113	2439	1088	148	2476	1104
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.54	0.54	0.54	0.09	0.09	0.09
Uniform Delay (d), s/veh	69.2	57.2	58.4	58.3	0.0	59.3	70.3	16.2	7.6	68.6	22.8	7.5
Incr Delay (d2), s/veh	68.3	0.1	0.5	0.4	0.0	0.9	62.7	1.5	0.0	3.6	36.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	0.5	1.5	1.6	0.0	2.4	6.2	20.8	0.4	4.2	49.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	137.5	57.3	58.8	58.7	0.0	60.2	132.9	17.8	7.6	72.2	59.5	7.6
LnGrp LOS	F	E	E	E	A	E	F	B	A	E	F	A
Approach Vol, veh/h		244			114			2093			2916	
Approach Delay, s/veh		119.0			59.6			23.8			57.6	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	110.0		25.0	16.6	108.4		25.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	104.5		19.5	12.5	101.5		19.5				
Max Q Clear Time (g_c+I1), s	11.5	106.5		21.5	11.1	58.4		7.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	23.2		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		47.2	
HCM 6th LOS		D	



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	14	1961	19	26	2125
Future Volume (vph)	9	14	1961	19	26	2125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.919		0.999			
Flt Protected	0.980					0.999
Satd. Flow (prot)	1678	0	3536	0	0	3536
Flt Permitted	0.980					0.999
Satd. Flow (perm)	1678	0	3536	0	0	3536
Link Speed (mph)	35		45			45
Link Distance (ft)	1408		2479			5518
Travel Time (s)	27.4		37.6			83.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	15	2132	21	28	2310
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	2153	0	0	2338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		30			30
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.1%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.8

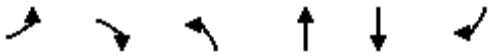
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	14	1961	19	26	2125
Future Vol, veh/h	9	14	1961	19	26	2125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	15	2132	21	28	2310

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3354	1077	0	0	2153	0
Stage 1	2143	-	-	-	-	-
Stage 2	1211	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 6	215	-	-	246	-
Stage 1	76	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 6	215	-	-	246	-
Mov Cap-2 Maneuver	~ 6	-	-	-	-	-
Stage 1	76	-	-	-	-	-
Stage 2	245	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 845	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	15	246	-
HCM Lane V/C Ratio	-	-	1.667	0.115	-
HCM Control Delay (s)	-	-	$ 845	21.5	0
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	3.8	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	146	131	2023	2577	53
Future Volume (vph)	0	146	131	2023	2577	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	225			150
Storage Lanes	0	1	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	159	142	2199	2801	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	159	142	2199	2801	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 86.9%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.1

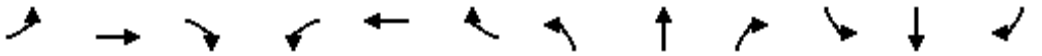
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	146	131	2023	2577	53
Future Vol, veh/h	0	146	131	2023	2577	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	159	142	2199	2801	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1401	2859	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	~ 130	~ 129	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	~ 130	~ 129	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	215.3	10.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 129	-	130	-	-
HCM Lane V/C Ratio	1.104	-	1.221	-	-
HCM Control Delay (s)	176.3	-	215.3	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	8.2	-	9.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

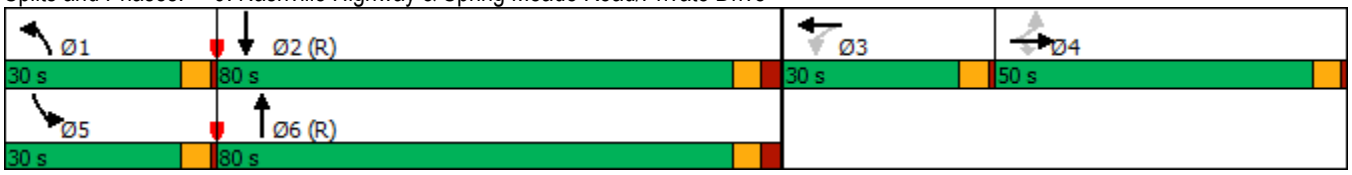


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	78	0	0	0	68	1955	0	0	2542	254
Future Volume (vph)	240	0	78	0	0	0	68	1955	0	0	2542	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850								0.986	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1863	1583	1863	1863	0	1770	3539	0	1863	3490	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1863	1583	1863	1863	0	1770	3539	0	1863	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			443								6	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	0	85	0	0	0	74	2125	0	0	2763	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	0	85	0	0	0	74	2125	0	0	3039	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm		Perm	Perm			Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	50.0	50.0	50.0	30.0	30.0		30.0	80.0		30.0	80.0	
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%		15.8%	42.1%		15.8%	42.1%	
Maximum Green (s)	45.0	45.0	45.0	25.0	25.0		25.0	73.0		25.0	73.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	40.6		40.6				13.3	137.4			119.1	
Actuated g/C Ratio	0.21		0.21				0.07	0.72			0.63	
v/c Ratio	0.69		0.12				0.60	0.83			1.39	
Control Delay	77.8		0.4				74.5	45.7			207.7	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	77.8		0.4				74.5	45.7			207.7	
LOS	E		A				E	D			F	
Approach Delay		58.8						46.7			207.7	
Approach LOS		E						D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 129.5 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.39			
Intersection Signal Delay: 135.0		Intersection LOS: F	
Intersection Capacity Utilization 101.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive





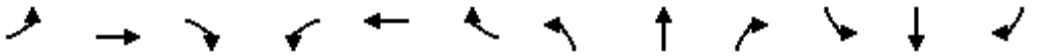
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	261	85	74	2125	3039
v/c Ratio	0.69	0.12	0.60	0.83	1.39
Control Delay	77.8	0.4	74.5	45.7	207.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	0.4	74.5	45.7	207.7
Queue Length 50th (ft)	304	0	87	1381	~2658
Queue Length 95th (ft)	386	0	m84	m1440	#2926
Internal Link Dist (ft)				1657	1223
Turn Bay Length (ft)			255		
Base Capacity (vph)	432	721	232	2559	2189
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.12	0.32	0.83	1.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	78	0	0	0	68	1955	0	0	2542	254
Future Volume (vph)	240	0	78	0	0	0	68	1955	0	0	2542	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0				5.0	7.0			7.0	
Lane Util. Factor	1.00		1.00				1.00	0.95			0.95	
Frt	1.00		0.85				1.00	1.00			0.99	
Flt Protected	0.95		1.00				0.95	1.00			1.00	
Satd. Flow (prot)	1770		1583				1770	3539			3491	
Flt Permitted	0.95		1.00				0.95	1.00			1.00	
Satd. Flow (perm)	1770		1583				1770	3539			3491	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	0	85	0	0	0	74	2125	0	0	2763	276
RTOR Reduction (vph)	0	0	67	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	261	0	18	0	0	0	74	2125	0	0	3037	0
Turn Type	Perm		Perm	Perm			Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								
Actuated Green, G (s)	40.6		40.6				13.3	137.4			119.1	
Effective Green, g (s)	40.6		40.6				13.3	137.4			119.1	
Actuated g/C Ratio	0.21		0.21				0.07	0.72			0.63	
Clearance Time (s)	5.0		5.0				5.0	7.0			7.0	
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	378		338				123	2559			2188	
v/s Ratio Prot							0.04	c0.60			c0.87	
v/s Ratio Perm	c0.15		0.01									
v/c Ratio	0.69		0.05				0.60	0.83			1.39	
Uniform Delay, d1	68.9		59.4				85.8	18.2			35.5	
Progression Factor	1.00		1.00				0.80	2.23			1.00	
Incremental Delay, d2	5.4		0.1				2.5	1.0			177.5	
Delay (s)	74.3		59.5				71.2	41.6			212.9	
Level of Service	E		E				E	D			F	
Approach Delay (s)		70.6			0.0			42.6			212.9	
Approach LOS		E			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	137.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

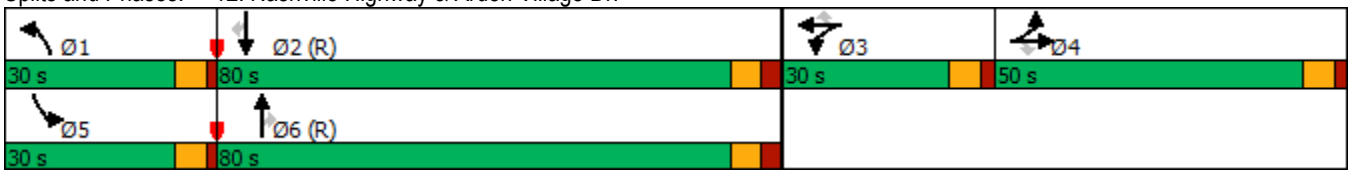
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	6	127	56	6	92	139	1869	79	95	2402	236
Future Volume (vph)	194	6	127	56	6	92	139	1869	79	95	2402	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.957		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.957		0.950			0.950		
Satd. Flow (perm)	0	1777	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			138			100			92			92
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	7	138	61	7	100	151	2032	86	103	2611	257
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	218	138	0	68	100	151	2032	86	103	2611	257
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5	32.5	24.0	32.5	32.5
Total Split (s)	50.0	50.0	50.0	30.0	30.0	30.0	30.0	80.0	80.0	30.0	80.0	80.0
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%	15.8%	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%
Maximum Green (s)	43.5	43.5	43.5	23.5	23.5	23.5	24.0	72.5	72.5	24.0	72.5	72.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)		28.8	28.8		12.6	12.6	21.4	105.7	105.7	16.4	100.7	100.7
Actuated g/C Ratio		0.15	0.15		0.07	0.07	0.11	0.56	0.56	0.09	0.53	0.53
v/c Ratio		0.81	0.39		0.58	0.51	0.76	1.03	0.09	0.68	1.39	0.29
Control Delay		99.6	11.8		104.2	21.9	104.4	68.9	4.2	98.1	208.6	10.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		99.6	11.8		104.2	21.9	104.4	68.9	4.2	98.1	208.6	10.3
LOS		F	B		F	C	F	E	A	F	F	B
Approach Delay		65.6			55.2			68.8			187.7	
Approach LOS		E			E			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 3.5 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.39			
Intersection Signal Delay: 129.5		Intersection LOS: F	
Intersection Capacity Utilization 108.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.





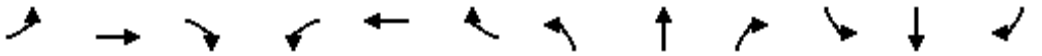
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	218	138	68	100	151	2032	86	103	2611	257
v/c Ratio	0.81	0.39	0.58	0.51	0.76	1.03	0.09	0.68	1.39	0.29
Control Delay	99.6	11.8	104.2	21.9	104.4	68.9	4.2	98.1	208.6	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.6	11.8	104.2	21.9	104.4	68.9	4.2	98.1	208.6	10.3
Queue Length 50th (ft)	268	0	84	0	186	~1423	0	122	~2321	108
Queue Length 95th (ft)	354	65	141	66	264	#1798	32	m86	m#1684	m101
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	406	468	220	283	232	1969	921	223	1875	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.29	0.31	0.35	0.65	1.03	0.09	0.46	1.39	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	6	127	56	6	92	139	1869	79	95	2402	236
Future Volume (vph)	194	6	127	56	6	92	139	1869	79	95	2402	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1777	1583		1783	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	7	138	61	7	100	151	2032	86	103	2611	257
RTOR Reduction (vph)	0	0	117	0	0	93	0	0	38	0	0	43
Lane Group Flow (vph)	0	218	21	0	68	7	151	2032	48	103	2611	214
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		28.8	28.8		12.6	12.6	21.4	105.7	105.7	16.4	100.7	100.7
Effective Green, g (s)		28.8	28.8		12.6	12.6	21.4	105.7	105.7	16.4	100.7	100.7
Actuated g/C Ratio		0.15	0.15		0.07	0.07	0.11	0.56	0.56	0.09	0.53	0.53
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		269	239		118	104	199	1968	880	152	1875	838
v/s Ratio Prot		c0.12			c0.04		c0.09	c0.57		0.06	c0.74	
v/s Ratio Perm			0.01			0.00			0.03			0.14
v/c Ratio		0.81	0.09		0.58	0.06	0.76	1.03	0.05	0.68	1.39	0.26
Uniform Delay, d1		78.0	69.3		86.1	83.2	81.8	42.1	19.3	84.2	44.6	24.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.15	0.86	0.57
Incremental Delay, d2		16.7	0.2		6.7	0.3	15.2	29.2	0.1	1.1	176.9	0.1
Delay (s)		94.6	69.5		92.8	83.4	97.0	71.3	19.4	97.9	215.5	13.9
Level of Service		F	E		F	F	F	E	B	F	F	B
Approach Delay (s)		84.9			87.2			71.1			194.0	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	135.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.

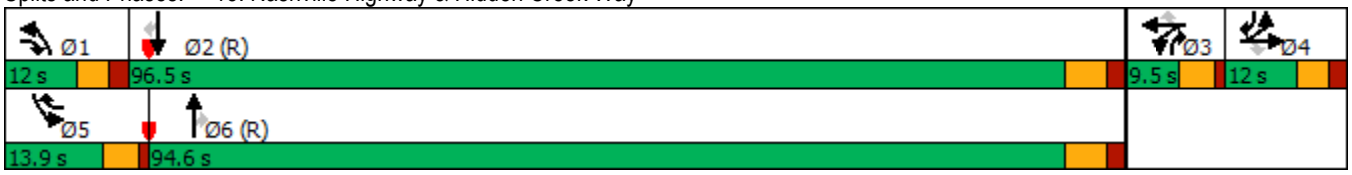
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	51	37	0	28	91	1831	63	48	2310	114
Future Volume (vph)	77	0	51	37	0	28	91	1831	63	48	2310	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	260		260	330		265
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			175			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.950			0.950		0.950			0.950		
Satd. Flow (perm)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63			67			68			124
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1349			608			4956			1159	
Travel Time (s)		36.8			16.6			75.1			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	55	40	0	30	99	1990	68	52	2511	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	55	0	40	30	99	1990	68	52	2511	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			32			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	3	3	5	1	6	3	5	2	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	5.0	5.0	5.0	7.0	10.0	5.0	5.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	9.5	9.5	9.5	12.0	24.0	9.5	9.5	24.0	12.0
Total Split (s)	12.0	12.0	12.0	9.5	9.5	13.9	12.0	94.6	9.5	13.9	96.5	12.0
Total Split (%)	9.2%	9.2%	9.2%	7.3%	7.3%	10.7%	9.2%	72.8%	7.3%	10.7%	74.2%	9.2%
Maximum Green (s)	7.0	7.0	7.0	5.0	5.0	9.4	7.0	88.6	5.0	9.4	90.5	7.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	3.5	3.5	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)		7.4	20.8		5.0	12.3	8.4	93.3	104.3	8.3	90.6	100.0
Actuated g/C Ratio		0.06	0.16		0.04	0.09	0.06	0.72	0.80	0.06	0.70	0.77
v/c Ratio		0.84	0.18		0.59	0.14	0.88	0.78	0.05	0.46	1.02	0.10
Control Delay		114.0	10.8		94.0	1.4	115.9	16.2	0.9	71.8	43.0	0.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0
Total Delay		114.0	10.8		94.0	1.4	115.9	16.2	0.9	71.8	45.9	0.5
LOS		F	B		F	A	F	B	A	E	D	A
Approach Delay		73.2			54.3			20.3			44.3	
Approach LOS		E			D			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 35.0 Intersection LOS: C
Intersection Capacity Utilization 94.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 15: Nashville Highway & Hidden Creek Way



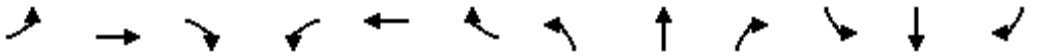


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	55	40	30	99	1990	68	52	2511	124
v/c Ratio	0.84	0.18	0.59	0.14	0.88	0.78	0.05	0.46	1.02	0.10
Control Delay	114.0	10.8	94.0	1.4	115.9	16.2	0.9	71.8	43.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0
Total Delay	114.0	10.8	94.0	1.4	115.9	16.2	0.9	71.8	45.9	0.5
Queue Length 50th (ft)	72	0	34	0	~90	585	0	43	~1178	0
Queue Length 95th (ft)	#174	33	#91	1	#209	700	10	87	#1307	6
Internal Link Dist (ft)	1269		528			4876			1079	
Turn Bay Length (ft)		200			260		260	330		265
Base Capacity (vph)	100	306	68	222	113	2538	1283	127	2467	1246
Starvation Cap Reductn	0	0	0	0	0	0	0	0	21	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.18	0.59	0.14	0.88	0.78	0.05	0.41	1.03	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	51	37	0	28	91	1831	63	48	2310	114
Future Volume (vph)	77	0	51	37	0	28	91	1831	63	48	2310	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	55	40	0	30	99	1990	68	52	2511	124
RTOR Reduction (vph)	0	0	48	0	0	27	0	0	18	0	0	31
Lane Group Flow (vph)	0	84	7	0	40	3	99	1990	50	52	2511	93
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2
Actuated Green, G (s)		7.4	15.8		4.0	11.1	8.4	91.5	95.5	7.1	89.7	97.1
Effective Green, g (s)		7.4	15.8		4.0	11.1	8.4	91.5	95.5	7.1	89.7	97.1
Actuated g/C Ratio		0.06	0.12		0.03	0.09	0.06	0.70	0.73	0.05	0.69	0.75
Clearance Time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		100	253		54	135	114	2490	1162	96	2441	1182
v/s Ratio Prot		c0.05	0.00		c0.02	0.00	c0.06	0.56	0.00	0.03	c0.71	0.00
v/s Ratio Perm			0.00			0.00			0.03			0.05
v/c Ratio		0.84	0.03		0.74	0.02	0.87	0.80	0.04	0.54	1.03	0.08
Uniform Delay, d1		60.7	50.3		62.5	54.5	60.3	13.0	4.7	59.9	20.1	4.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		43.1	0.0		41.8	0.1	45.7	2.8	0.0	6.1	26.0	0.0
Delay (s)		103.8	50.4		104.3	54.5	105.9	15.8	4.7	66.0	46.2	4.5
Level of Service		F	D		F	D	F	B	A	E	D	A
Approach Delay (s)		82.6			83.0			19.6			44.6	
Approach LOS		F			F			B			D	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.

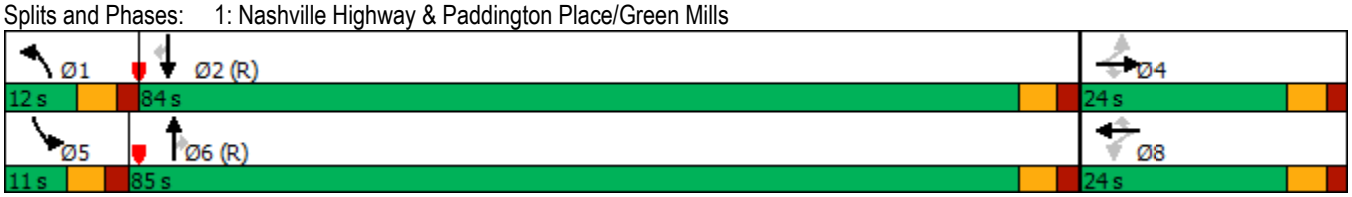
PROJECTED CONDITIONS CAPACITY ANALYSES

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Future Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		220	200		100	0		140
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	25			150			150			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950				0.956		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1781	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.494				0.734		0.950			0.950		
Satd. Flow (perm)	920	1863	1583	0	1367	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73			79			73			73
Link Speed (mph)		25			45			45			45	
Link Distance (ft)		1077			3915			1159			1472	
Travel Time (s)		29.4			59.3			17.6			22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	15	47	148	14	386	86	2385	54	125	2208	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	201	15	47	0	162	386	86	2385	54	125	2208	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			32			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	15		9	60		9	15		60
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	12.0	85.0	85.0	11.0	84.0	84.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%	70.8%	70.8%	9.2%	70.0%	70.0%
Maximum Green (s)	18.5	18.5	18.5	18.5	18.5	18.5	6.5	79.5	79.5	5.5	78.5	78.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	18.5	18.5	18.5		18.5	18.5	6.5	79.5	79.5	5.5	78.5	78.5
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.15	0.05	0.66	0.66	0.05	0.65	0.65
v/c Ratio	1.43	0.05	0.15		0.77	1.25	0.91	1.02	0.05	1.54	0.95	0.09
Control Delay	265.1	44.0	5.1		73.2	168.4	126.0	44.0	1.0	334.2	30.3	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	265.1	44.0	5.1		73.2	168.4	126.0	44.0	1.0	334.2	30.3	2.9
LOS	F	D	A		E	F	F	D	A	F	C	A
Approach Delay		206.0			140.3			45.9			44.8	
Approach LOS		F			F			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.54			
Intersection Signal Delay: 61.7		Intersection LOS: E	
Intersection Capacity Utilization 106.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Paddington Place/Green Mills



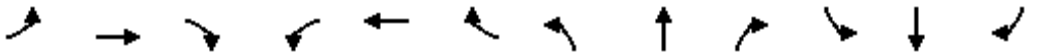


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	15	47	162	386	86	2385	54	125	2208	100
v/c Ratio	1.43	0.05	0.15	0.77	1.25	0.91	1.02	0.05	1.54	0.95	0.09
Control Delay	265.1	44.0	5.1	73.2	168.4	126.0	44.0	1.0	334.2	30.3	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	265.1	44.0	5.1	73.2	168.4	126.0	44.0	1.0	334.2	30.3	2.9
Queue Length 50th (ft)	~210	10	0	122	~318	68	~1028	0	~136	763	7
Queue Length 95th (ft)	#363	31	17	#232	#516	#169	#1162	9	#262	#1026	26
Internal Link Dist (ft)		997		3835			1079			1392	
Turn Bay Length (ft)					220	200		100			140
Base Capacity (vph)	141	287	305	210	310	95	2344	1073	81	2315	1060
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.43	0.05	0.15	0.77	1.25	0.91	1.02	0.05	1.54	0.95	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

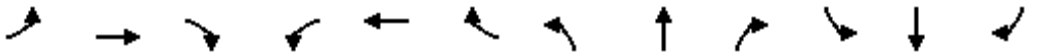
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Future Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583		1781	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.49	1.00	1.00		0.73	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	920	1863	1583		1367	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	15	47	148	14	386	86	2385	54	125	2208	100
RTOR Reduction (vph)	0	0	40	0	0	67	0	0	18	0	0	25
Lane Group Flow (vph)	201	15	7	0	162	319	86	2385	36	125	2208	75
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2
Actuated Green, G (s)	18.5	18.5	18.5		18.5	18.5	6.5	79.5	79.5	5.5	78.5	78.5
Effective Green, g (s)	18.5	18.5	18.5		18.5	18.5	6.5	79.5	79.5	5.5	78.5	78.5
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.15	0.05	0.66	0.66	0.05	0.65	0.65
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	141	287	244		210	244	95	2344	1048	81	2315	1035
v/s Ratio Prot		0.01					0.05	c0.67		c0.07	0.62	
v/s Ratio Perm	c0.22		0.00		0.12	0.20			0.02			0.05
v/c Ratio	1.43	0.05	0.03		0.77	1.31	0.91	1.02	0.03	1.54	0.95	0.07
Uniform Delay, d1	50.8	43.3	43.1		48.7	50.8	56.4	20.2	7.0	57.2	19.1	7.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	227.5	0.1	0.0		16.0	165.0	62.0	23.1	0.1	296.5	10.6	0.1
Delay (s)	278.2	43.4	43.2		64.7	215.7	118.4	43.3	7.1	353.7	29.7	7.7
Level of Service	F	D	D		E	F	F	D	A	F	C	A
Approach Delay (s)		222.8			171.1			45.1			45.4	
Approach LOS		F			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	65.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	136	13	355	79	2194	50	115	2031	92
Future Volume (veh/h)	185	14	43	136	13	355	79	2194	50	115	2031	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	15	47	148	14	386	86	2385	54	125	2208	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	288	244	242	17	244	96	2354	1050	82	2325	1037
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.66	0.66	0.05	0.65	0.65
Sat Flow, veh/h	1400	1870	1585	1200	113	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	201	15	47	162	0	386	86	2385	54	125	2208	100
Grp Sat Flow(s),veh/h/ln	1400	1870	1585	1313	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.8	3.1	13.7	0.0	18.5	5.8	79.5	1.4	5.5	68.1	2.8
Cycle Q Clear(g_c), s	13.5	0.8	3.1	14.5	0.0	18.5	5.8	79.5	1.4	5.5	68.1	2.8
Prop In Lane	1.00		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	313	288	244	260	0	244	96	2354	1050	82	2325	1037
V/C Ratio(X)	0.64	0.05	0.19	0.62	0.00	1.58	0.89	1.01	0.05	1.53	0.95	0.10
Avail Cap(c_a), veh/h	313	288	244	260	0	244	96	2354	1050	82	2325	1037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.21	0.21	0.21	0.48	0.48	0.48
Uniform Delay (d), s/veh	48.6	43.3	44.2	49.5	0.0	50.8	56.4	20.3	7.1	57.2	19.0	7.7
Incr Delay (d2), s/veh	4.4	0.1	0.4	4.6	0.0	279.6	19.2	12.0	0.0	266.4	5.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.4	1.2	4.9	0.0	26.1	3.0	30.7	0.4	8.5	25.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	43.3	44.6	54.0	0.0	330.3	75.6	32.2	7.1	323.6	24.6	7.7
LnGrp LOS	D	D	D	D	A	F	E	F	A	F	C	A
Approach Vol, veh/h		263			548			2525			2433	
Approach Delay, s/veh		51.0			248.6			33.2			39.3	
Approach LOS		D			F			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	84.0		24.0	11.0	85.0		24.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	6.5	78.5		18.5	5.5	79.5		18.5				
Max Q Clear Time (g_c+I1), s	7.8	70.1		15.5	7.5	81.5		20.5				
Green Ext Time (p_c), s	0.0	7.5		0.2	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		57.0	
HCM 6th LOS		E	



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	2089	13	15	1959	40	43
Future Volume (vph)	2089	13	15	1959	40	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999				0.929	
Flt Protected					0.977	
Satd. Flow (prot)	3536	0	0	3539	1691	0
Flt Permitted					0.977	
Satd. Flow (perm)	3536	0	0	3539	1691	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	2479			5494	10907	
Travel Time (s)	37.6			83.2	212.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2271	14	16	2129	43	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2285	0	0	2145	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	30			30	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 76.2%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	71

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2089	13	15	1959	40	43
Future Vol, veh/h	2089	13	15	1959	40	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2271	14	16	2129	43	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2285	0	3375	1143
Stage 1	-	-	-	-	2278	-
Stage 2	-	-	-	-	1097	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	218	-	~ 6	194
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	281	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	218	-	~ 6	194
Mov Cap-2 Maneuver	-	-	-	-	~ 6	-
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	281	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0.2	$ 3550.8
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBL	SBT
Capacity (veh/h)	-	-	12	218	-
HCM Lane V/C Ratio	-	-	7.518	0.075	-
HCM Control Delay (s)	-	-	$ 3550.8	22.8	0
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	12.5	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	135	321	20	46	108
Future Volume (vph)	6	135	321	20	46	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871		0.992			
Flt Protected	0.998					0.985
Satd. Flow (prot)	1619	0	1848	0	0	1835
Flt Permitted	0.998					0.985
Satd. Flow (perm)	1619	0	1848	0	0	1835
Link Speed (mph)	45		30			45
Link Distance (ft)	1612		1345			3915
Travel Time (s)	24.4		30.6			59.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	147	349	22	50	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	154	0	371	0	0	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	30		9	30	
Sign Control	Free		Stop			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.0%		ICU Level of Service A	
Analysis Period (min) 15			

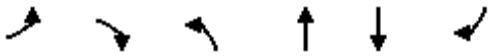
Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	135	321	20	46	108
Future Vol, veh/h	6	135	321	20	46	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	147	349	22	50	117

Major/Minor	Minor2		Major2	
Conflicting Flow All	217	117	0	0
Stage 1	217	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	681	935	-	-
Stage 1	723	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	935	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	NB	SB
HCM Control Delay, s	11.4	
HCM LOS	B	

Minor Lane/Major Mvmt	NBLn1	SBL	SBT
Capacity (veh/h)	935	-	-
HCM Lane V/C Ratio	0.396	-	-
HCM Control Delay (s)	11.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	1.9	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	193	229	2564	1728	20
Future Volume (vph)	0	193	229	2564	1728	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	225			150
Storage Lanes	0	1	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	210	249	2787	1878	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	210	249	2787	1878	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

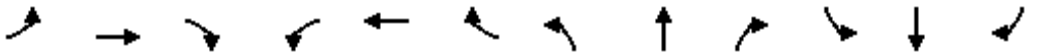
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	193	229	2564	1728	20
Future Vol, veh/h	0	193	229	2564	1728	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	210	249	2787	1878	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	939	1900	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	265	310	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	265	310	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	55.6	4.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	310	-	265	-	-
HCM Lane V/C Ratio	0.803	-	0.792	-	-
HCM Control Delay (s)	50.8	-	55.6	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	6.6	-	6.1	-	-

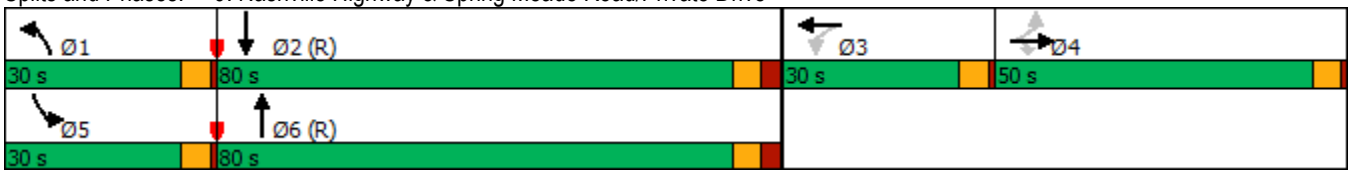


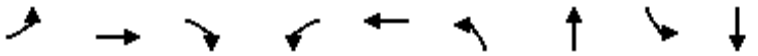
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Future Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.850						0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1583	0	1770	3539	0	1770	3504	0
Flt Permitted	0.757						0.950			0.950		
Satd. Flow (perm)	1410	1863	1583	1863	1583	0	1770	3539	0	1770	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			80		223						4	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	422	1	72	2	0	1	141	2549	1	1	1846	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	422	1	72	2	1	0	141	2550	0	1	1974	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	50.0	50.0	50.0	30.0	30.0		30.0	80.0		30.0	80.0	
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%		15.8%	42.1%		15.8%	42.1%	
Maximum Green (s)	45.0	45.0	45.0	25.0	25.0		25.0	73.0		25.0	73.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	71.7	71.7	71.7	8.3	8.3		19.9	100.8		5.7	78.1	
Actuated g/C Ratio	0.38	0.38	0.38	0.04	0.04		0.10	0.53		0.03	0.41	
v/c Ratio	0.79	0.00	0.11	0.03	0.00		0.76	1.36		0.02	1.37	
Control Delay	64.5	42.0	6.5	86.0	0.0		67.1	205.7		90.0	212.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.5	42.0	6.5	86.0	0.0		67.1	205.7		90.0	212.0	
LOS	E	D	A	F	A		E	F		F	F	
Approach Delay		56.0			57.3			198.4			212.0	
Approach LOS		E			E			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 129.5 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay: 189.9		Intersection LOS: F	
Intersection Capacity Utilization 111.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive





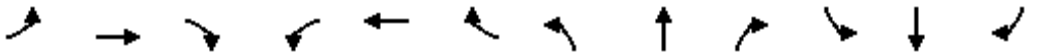
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	422	1	72	2	1	141	2550	1	1974
v/c Ratio	0.79	0.00	0.11	0.03	0.00	0.76	1.36	0.02	1.37
Control Delay	64.5	42.0	6.5	86.0	0.0	67.1	205.7	90.0	212.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	42.0	6.5	86.0	0.0	67.1	205.7	90.0	212.0
Queue Length 50th (ft)	456	1	0	2	0	182	~2160	1	~1716
Queue Length 95th (ft)	#764	6	36	13	0	m157	m#1807	9	#1897
Internal Link Dist (ft)		390			206		1657		1223
Turn Bay Length (ft)						255		220	
Base Capacity (vph)	531	702	647	245	401	232	1876	232	1442
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.00	0.11	0.01	0.00	0.61	1.36	0.00	1.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Future Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.85		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1583		1770	3539		1770	3505	
Flt Permitted	0.76	1.00	1.00	1.00	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1410	1863	1583	1863	1583		1770	3539		1770	3505	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	422	1	72	2	0	1	141	2549	1	1	1846	128
RTOR Reduction (vph)	0	0	45	0	1	0	0	0	0	0	2	0
Lane Group Flow (vph)	422	1	27	2	0	0	141	2550	0	1	1972	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								
Actuated Green, G (s)	71.7	71.7	71.7	2.3	2.3		19.9	92.8		1.2	74.1	
Effective Green, g (s)	71.7	71.7	71.7	2.3	2.3		19.9	92.8		1.2	74.1	
Actuated g/C Ratio	0.38	0.38	0.38	0.01	0.01		0.10	0.49		0.01	0.39	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	532	703	597	22	19		185	1728		11	1366	
v/s Ratio Prot		0.00			0.00		c0.08	c0.72		0.00	0.56	
v/s Ratio Perm	c0.30		0.02	c0.00								
v/c Ratio	0.79	0.00	0.05	0.09	0.00		0.76	1.48		0.09	1.44	
Uniform Delay, d1	52.6	36.8	37.5	92.8	92.7		82.7	48.6		93.9	58.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.78	1.33		1.00	1.00	
Incremental Delay, d2	8.0	0.0	0.0	1.8	0.0		1.7	214.4		3.6	203.7	
Delay (s)	60.5	36.8	37.5	94.6	92.7		66.6	279.0		97.4	261.6	
Level of Service	E	D	D	F	F		E	F		F	F	
Approach Delay (s)		57.1			94.0			267.9			261.6	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	245.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

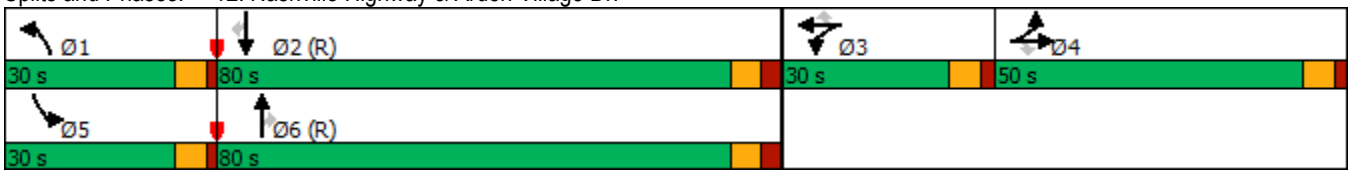
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Future Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.950		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.950		0.950			0.950		
Satd. Flow (perm)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			98			92			92
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	4	55	20	0	78	41	2820	32	33	1971	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	55	0	20	78	41	2820	32	33	1971	74
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5	32.5	24.0	32.5	32.5
Total Split (s)	50.0	50.0	50.0	30.0	30.0	30.0	30.0	80.0	80.0	30.0	80.0	80.0
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%	15.8%	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%
Maximum Green (s)	43.5	43.5	43.5	23.5	23.5	23.5	24.0	72.5	72.5	24.0	72.5	72.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)		20.6	20.6		8.1	8.1	9.8	128.2	128.2	8.9	127.4	127.4
Actuated g/C Ratio		0.11	0.11		0.04	0.04	0.05	0.67	0.67	0.05	0.67	0.67
v/c Ratio		0.74	0.21		0.27	0.48	0.45	1.18	0.03	0.40	0.83	0.07
Control Delay		103.7	1.9		96.3	16.6	102.1	115.5	0.0	120.0	12.1	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		103.7	1.9		96.3	16.6	102.1	115.5	0.0	120.0	12.1	0.0
LOS		F	A		F	B	F	F	A	F	B	A
Approach Delay		75.3			32.9			114.0			13.4	
Approach LOS		E			C			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 3.5 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 71.3		Intersection LOS: E	
Intersection Capacity Utilization 101.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.





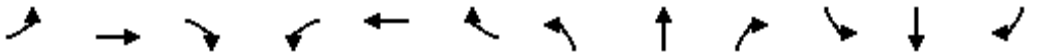
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	55	20	78	41	2820	32	33	1971	74
v/c Ratio	0.74	0.21	0.27	0.48	0.45	1.18	0.03	0.40	0.83	0.07
Control Delay	103.7	1.9	96.3	16.6	102.1	115.5	0.0	120.0	12.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.7	1.9	96.3	16.6	102.1	115.5	0.0	120.0	12.1	0.0
Queue Length 50th (ft)	175	0	25	0	51	~2234	0	43	269	0
Queue Length 95th (ft)	250	0	58	36	97	#2480	0	m39	m57	m0
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	406	437	218	281	223	2388	1098	223	2373	1091
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.13	0.09	0.28	0.18	1.18	0.03	0.15	0.83	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

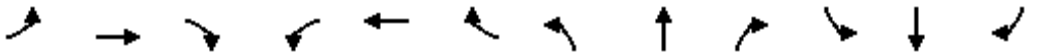


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Future Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1776	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1776	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	4	55	20	0	78	41	2820	32	33	1971	74
RTOR Reduction (vph)	0	0	49	0	0	75	0	0	11	0	0	25
Lane Group Flow (vph)	0	142	6	0	20	3	41	2820	21	33	1971	49
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		20.6	20.6		8.1	8.1	8.6	127.0	127.0	7.8	126.2	126.2
Effective Green, g (s)		20.6	20.6		8.1	8.1	8.6	127.0	127.0	7.8	126.2	126.2
Actuated g/C Ratio		0.11	0.11		0.04	0.04	0.05	0.67	0.67	0.04	0.66	0.66
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		192	171		75	67	80	2365	1058	72	2350	1051
v/s Ratio Prot		c0.08			c0.01		c0.02	c0.80		0.02	0.56	
v/s Ratio Perm			0.00			0.00			0.01			0.03
v/c Ratio		0.74	0.03		0.27	0.05	0.51	1.19	0.02	0.46	0.84	0.05
Uniform Delay, d1		82.1	75.8		88.1	87.3	88.7	31.5	10.6	89.0	24.2	11.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.36	0.44	0.00
Incremental Delay, d2		13.9	0.1		1.9	0.3	5.4	91.1	0.0	0.4	0.4	0.0
Delay (s)		96.0	75.9		90.0	87.6	94.1	122.6	10.6	121.7	11.0	0.0
Level of Service		F	E		F	F	F	F	B	F	B	A
Approach Delay (s)		90.4			88.1			120.9			12.4	
Approach LOS		F			F			F			B	

Intersection Summary			
HCM 2000 Control Delay	76.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Future Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	260		260	330		265
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			175			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.950			0.950		0.950			0.950		
Satd. Flow (perm)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			48			44			49
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1349			608			4956			1159	
Travel Time (s)		36.8			16.6			75.1			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	0	98	63	0	48	38	2372	21	15	2303	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	98	0	63	48	38	2372	21	15	2303	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			32			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	3	3	5	1	6	3	5	2	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	9.6	22.5	22.5	9.5	9.6	95.5	22.5	9.5	95.4	22.5
Total Split (%)	15.0%	15.0%	6.4%	15.0%	15.0%	6.3%	6.4%	63.7%	15.0%	6.3%	63.6%	15.0%
Maximum Green (s)	18.0	18.0	5.1	18.0	18.0	5.0	5.1	91.0	18.0	5.0	90.9	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effct Green (s)		14.7	26.9		10.7	15.7	7.8	104.5	119.7	6.3	101.1	116.6
Actuated g/C Ratio		0.10	0.18		0.07	0.10	0.05	0.70	0.80	0.04	0.67	0.78
v/c Ratio		0.64	0.27		0.50	0.23	0.42	0.96	0.02	0.20	0.97	0.05
Control Delay		81.4	10.8		79.8	12.3	82.4	34.7	0.3	75.8	36.6	1.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total Delay		81.4	10.8		79.8	12.3	82.4	34.7	0.3	75.8	40.2	1.0
LOS		F	B		E	B	F	C	A	E	D	A
Approach Delay		48.3			50.6			35.2			39.5	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 38.0		Intersection LOS: D	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Nashville Highway & Hidden Creek Way



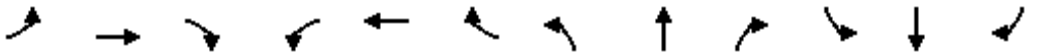


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	98	63	48	38	2372	21	15	2303	58
v/c Ratio	0.64	0.27	0.50	0.23	0.42	0.96	0.02	0.20	0.97	0.05
Control Delay	81.4	10.8	79.8	12.3	82.4	34.7	0.3	75.8	36.6	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
Total Delay	81.4	10.8	79.8	12.3	82.4	34.7	0.3	75.8	40.2	1.0
Queue Length 50th (ft)	106	1	61	0	36	~1183	0	14	~1119	1
Queue Length 95th (ft)	168	52	109	31	#87	#1510	2	40	#1440	8
Internal Link Dist (ft)	1269		528			4876			1079	
Turn Bay Length (ft)		200			260		260	330		265
Base Capacity (vph)	217	363	212	208	91	2465	1338	74	2384	1280
Starvation Cap Reductn	0	0	0	0	0	0	0	0	62	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.27	0.30	0.23	0.42	0.96	0.02	0.20	0.99	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

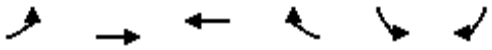


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Future Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	0	98	63	0	48	38	2372	21	15	2303	58
RTOR Reduction (vph)	0	0	82	0	0	43	0	0	5	0	0	11
Lane Group Flow (vph)	0	111	16	0	63	5	38	2372	16	15	2303	47
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2
Actuated Green, G (s)		14.7	22.5		9.4	14.6	7.8	102.7	112.1	5.2	100.1	114.8
Effective Green, g (s)		14.7	22.5		9.4	14.6	7.8	102.7	112.1	5.2	100.1	114.8
Actuated g/C Ratio		0.10	0.15		0.06	0.10	0.05	0.68	0.75	0.03	0.67	0.77
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		173	284		110	154	92	2423	1230	61	2361	1211
v/s Ratio Prot		c0.06	0.00		c0.04	0.00	c0.02	c0.67	0.00	0.01	0.65	0.00
v/s Ratio Perm			0.01			0.00			0.01			0.03
v/c Ratio		0.64	0.05		0.57	0.03	0.41	0.98	0.01	0.25	0.98	0.04
Uniform Delay, d1		65.1	54.6		68.3	61.3	68.9	22.6	4.8	70.5	23.8	4.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.9	0.1		7.0	0.1	3.0	14.0	0.0	2.1	13.6	0.0
Delay (s)		73.0	54.7		75.4	61.4	71.9	36.6	4.8	72.6	37.4	4.3
Level of Service		E	D		E	E	E	D	A	E	D	A
Approach Delay (s)		64.4			69.3			36.9			36.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	15	42	7	20	40
Future Volume (vph)	13	15	42	7	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.980		0.911	
Flt Protected		0.977			0.983	
Satd. Flow (prot)	0	1820	1825	0	1668	0
Flt Permitted		0.977			0.983	
Satd. Flow (perm)	0	1820	1825	0	1668	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		3018	2018		773	
Travel Time (s)		58.8	39.3		17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	16	46	8	22	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	30	54	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

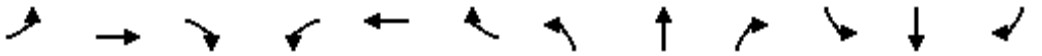
Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	15	42	7	20	40
Future Vol, veh/h	13	15	42	7	20	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	16	46	8	22	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	54	0	-	0	94	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1551	-	-	-	906	1018
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1551	-	-	-	898	1018
Mov Cap-2 Maneuver	-	-	-	-	898	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1551	-	-	-	975
HCM Lane V/C Ratio	0.009	-	-	-	0.067
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

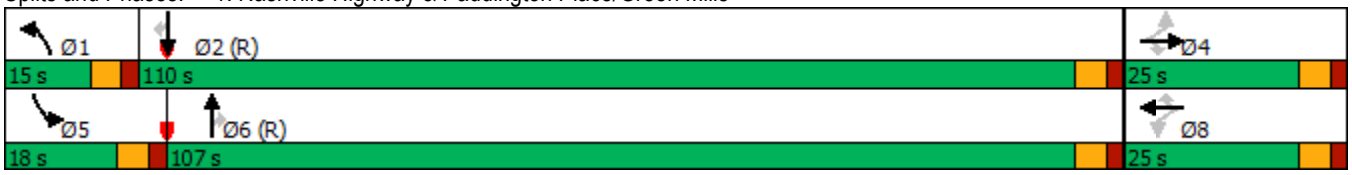


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Future Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		220	200		100	0		140
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	25			150			150			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	0	1786	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.557				0.749		0.950			0.950		
Satd. Flow (perm)	1038	1863	1583	0	1395	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			113			59			58
Link Speed (mph)		25			45			45			45	
Link Distance (ft)		1077			3915			1159			1472	
Travel Time (s)		29.4			59.3			17.6			22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	14	43	99	18	223	113	1952	162	373	2697	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	14	43	0	117	223	113	1952	162	373	2697	133
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			32			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	10.5	23.5	23.5	9.5	23.5	23.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	15.0	107.0	107.0	18.0	110.0	110.0
Total Split (%)	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%	10.0%	71.3%	71.3%	12.0%	73.3%	73.3%
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	9.5	101.5	101.5	12.5	104.5	104.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.5	19.5	19.5		19.5	19.5	9.5	101.5	101.5	12.5	104.5	104.5
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.06	0.68	0.68	0.08	0.70	0.70
v/c Ratio	1.40	0.06	0.17		0.65	0.73	1.01	0.82	0.15	2.54	1.09	0.12
Control Delay	262.2	58.1	8.9		79.3	45.5	154.9	21.1	5.8	736.5	73.3	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	262.2	58.1	8.9		79.3	45.5	154.9	21.7	5.8	736.5	73.3	4.4
LOS	F	E	A		E	D	F	C	A	F	E	A
Approach Delay		205.9			57.1			27.3			147.6	
Approach LOS		F			E			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.54			
Intersection Signal Delay: 100.3		Intersection LOS: F	
Intersection Capacity Utilization 104.3%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Paddington Place/Green Mills



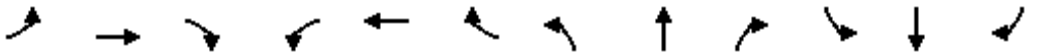


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	14	43	117	223	113	1952	162	373	2697	133
v/c Ratio	1.40	0.06	0.17	0.65	0.73	1.01	0.82	0.15	2.54	1.09	0.12
Control Delay	262.2	58.1	8.9	79.3	45.5	154.9	21.1	5.8	736.5	73.3	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay	262.2	58.1	8.9	79.3	45.5	154.9	21.7	5.8	736.5	73.3	4.4
Queue Length 50th (ft)	~242	12	0	110	105	~114	676	33	~607	~1563	22
Queue Length 95th (ft)	#405	35	25	#186	#216	#249	781	60	#816	#1677	44
Internal Link Dist (ft)		997		3835			1079			1392	
Turn Bay Length (ft)					220	200		100			140
Base Capacity (vph)	134	242	256	181	304	112	2394	1090	147	2465	1120
Starvation Cap Reductn	0	0	0	0	0	0	139	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.40	0.06	0.17	0.65	0.73	1.01	0.87	0.15	2.54	1.09	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

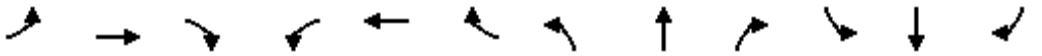
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Future Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583		1787	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.56	1.00	1.00		0.75	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1037	1863	1583		1395	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	14	43	99	18	223	113	1952	162	373	2697	133
RTOR Reduction (vph)	0	0	37	0	0	98	0	0	19	0	0	18
Lane Group Flow (vph)	187	14	6	0	117	125	113	1952	143	373	2697	115
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8			6			2
Actuated Green, G (s)	19.5	19.5	19.5		19.5	19.5	9.5	101.5	101.5	12.5	104.5	104.5
Effective Green, g (s)	19.5	19.5	19.5		19.5	19.5	9.5	101.5	101.5	12.5	104.5	104.5
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.06	0.68	0.68	0.08	0.70	0.70
Clearance Time (s)	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	134	242	205		181	205	112	2394	1071	147	2465	1102
v/s Ratio Prot		0.01					0.06	0.55		c0.21	c0.76	
v/s Ratio Perm	c0.18		0.00		0.08	0.08			0.09			0.07
v/c Ratio	1.40	0.06	0.03		0.65	0.61	1.01	0.82	0.13	2.54	1.09	0.10
Uniform Delay, d1	65.2	57.2	57.0		62.0	61.6	70.2	17.5	8.6	68.8	22.8	7.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	216.9	0.1	0.1		7.7	5.0	87.5	3.2	0.3	711.5	49.6	0.2
Delay (s)	282.1	57.3	57.0		69.7	66.7	157.7	20.7	8.9	780.2	72.4	7.6
Level of Service	F	E	E		E	E	F	C	A	F	E	A
Approach Delay (s)		229.6			67.7			26.8			152.1	
Approach LOS		F			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	104.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	13	40	91	17	205	104	1796	149	343	2481	122
Future Volume (veh/h)	172	13	40	91	17	205	104	1796	149	343	2481	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	14	43	99	18	223	113	1952	162	373	2697	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	243	206	191	27	206	113	2405	1073	148	2476	1104
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.68	0.68	0.08	0.70	0.70
Sat Flow, veh/h	1139	1870	1585	1130	206	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	187	14	43	117	0	223	113	1952	162	373	2697	133
Grp Sat Flow(s),veh/h/ln	1139	1870	1585	1336	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.6	1.0	3.6	11.9	0.0	19.5	9.5	59.1	5.5	12.5	104.5	4.2
Cycle Q Clear(g_c), s	19.5	1.0	3.6	12.9	0.0	19.5	9.5	59.1	5.5	12.5	104.5	4.2
Prop In Lane	1.00		1.00	0.85		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	243	206	218	0	206	113	2405	1073	148	2476	1104
V/C Ratio(X)	1.91	0.06	0.21	0.54	0.00	1.08	1.00	0.81	0.15	2.51	1.09	0.12
Avail Cap(c_a), veh/h	98	243	206	218	0	206	113	2405	1073	148	2476	1104
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.49	0.49	0.49	0.09	0.09	0.09
Uniform Delay (d), s/veh	73.3	57.2	58.4	62.9	0.0	65.3	70.3	17.4	8.7	68.8	22.8	7.5
Incr Delay (d2), s/veh	443.8	0.1	0.5	2.6	0.0	86.3	59.7	1.6	0.1	682.6	41.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.9	0.5	1.5	4.4	0.0	12.7	6.1	22.0	1.8	33.7	51.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	517.1	57.3	58.8	65.4	0.0	151.5	130.0	18.9	8.9	751.3	63.8	7.6
LnGrp LOS	F	E	E	E	A	F	F	B	A	F	F	A
Approach Vol, veh/h		244			340			2227			3203	
Approach Delay, s/veh		410.0			121.9			23.9			141.5	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	110.0		25.0	18.0	107.0		25.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	104.5		19.5	12.5	101.5		19.5				
Max Q Clear Time (g_c+I1), s	11.5	106.5		21.5	14.5	61.1		21.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	23.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			107.7									
HCM 6th LOS			F									



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	2071	41	48	2190	22	27
Future Volume (vph)	2071	41	48	2190	22	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.997				0.926	
Flt Protected				0.999	0.978	
Satd. Flow (prot)	3529	0	0	3536	1687	0
Flt Permitted				0.999	0.978	
Satd. Flow (perm)	3529	0	0	3536	1687	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	2479			5494	10907	
Travel Time (s)	37.6			83.2	212.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2251	45	52	2380	24	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2296	0	0	2432	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	30			30	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 104.8%		ICU Level of Service G	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	34

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2071	41	48	2190	22	27
Future Vol, veh/h	2071	41	48	2190	22	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2251	45	52	2380	24	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2296	0	3568	1148
Stage 1	-	-	-	-	2274	-
Stage 2	-	-	-	-	1294	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	216	-	~ 4	192
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	221	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	216	-	~ 4	192
Mov Cap-2 Maneuver	-	-	-	-	~ 4	-
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	221	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0.6	$ 3024.7
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBL	SBT
Capacity (veh/h)	-	-	9	216	-
HCM Lane V/C Ratio	-	-	5.918	0.242	-
HCM Control Delay (s)	-	-	$ 3024.7	26.9	0
HCM Lane LOS	-	-	F	D	A
HCM 95th %tile Q(veh)	-	-	8	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	64	207	12	100	352
Future Volume (vph)	22	64	207	12	100	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.899		0.993			
Flt Protected	0.987					0.989
Satd. Flow (prot)	1653	0	1850	0	0	1842
Flt Permitted	0.987					0.989
Satd. Flow (perm)	1653	0	1850	0	0	1842
Link Speed (mph)	45		30			45
Link Distance (ft)	1612		1345			3915
Travel Time (s)	24.4		30.6			59.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	70	225	13	109	383
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	238	0	0	492
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	30		9	30	
Sign Control	Free		Stop			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.8%		ICU Level of Service A	
Analysis Period (min) 15			

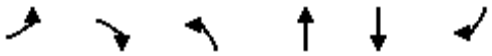
Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	64	207	12	100	352
Future Vol, veh/h	22	64	207	12	100	352
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	70	225	13	109	383

Major/Minor	Minor2		Major2	
Conflicting Flow All	601	383	0	0
Stage 1	601	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	414	664	-	-
Stage 1	489	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	664	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	NB	SB
HCM Control Delay, s	13.4	
HCM LOS	B	

Minor Lane/Major Mvmt	NBLn1	SBL	SBT
Capacity (veh/h)	664	-	-
HCM Lane V/C Ratio	0.358	-	-
HCM Control Delay (s)	13.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	1.6	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	168	144	2165	2819	53
Future Volume (vph)	0	168	144	2165	2819	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	225			150
Storage Lanes	0	1	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	183	157	2353	3064	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	183	157	2353	3064	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	23.3

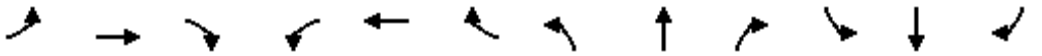
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	168	144	2165	2819	53
Future Vol, veh/h	0	168	144	2165	2819	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	183	157	2353	3064	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1532	3122	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	~ 106	~ 101	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	~ 106	~ 101	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 431.3	22.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 101	-	106	-	-
HCM Lane V/C Ratio	1.55	-	1.723	-	-
HCM Control Delay (s)	$ 364.7	-	-$ 431.3	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	11.9	-	14.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



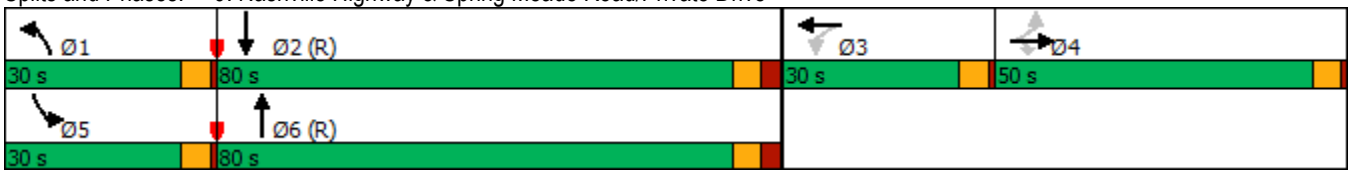
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Future Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850								0.987	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1863	1583	1863	1863	0	1770	3539	0	1863	3493	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	1863	1583	1863	1863	0	1770	3539	0	1863	3493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			443								6	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	0	95	0	0	0	79	2274	0	0	3016	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	0	95	0	0	0	79	2274	0	0	3292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm		Perm	Perm			Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	50.0	50.0	50.0	30.0	30.0		30.0	80.0		30.0	80.0	
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%		15.8%	42.1%		15.8%	42.1%	
Maximum Green (s)	45.0	45.0	45.0	25.0	25.0		25.0	73.0		25.0	73.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	40.6		40.6				13.8	137.4			118.6	
Actuated g/C Ratio	0.21		0.21				0.07	0.72			0.62	
v/c Ratio	0.69		0.14				0.62	0.89			1.51	
Control Delay	77.8		0.4				69.7	47.9			260.1	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	77.8		0.4				69.7	47.9			260.1	
LOS	E		A				E	D			F	
Approach Delay		57.2						48.6			260.1	
Approach LOS		E						D			F	

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 190
Offset: 129.5 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.51
Intersection Signal Delay: 165.2 Intersection LOS: F
Intersection Capacity Utilization 108.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive





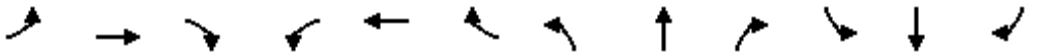
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	261	95	79	2274	3292
v/c Ratio	0.69	0.14	0.62	0.89	1.51
Control Delay	77.8	0.4	69.7	47.9	260.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	0.4	69.7	47.9	260.1
Queue Length 50th (ft)	304	0	93	1483	~3011
Queue Length 95th (ft)	386	0	m84	m1437	#3267
Internal Link Dist (ft)				1657	1223
Turn Bay Length (ft)			255		
Base Capacity (vph)	432	721	232	2559	2182
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.13	0.34	0.89	1.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Future Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0				5.0	7.0			7.0	
Lane Util. Factor	1.00		1.00				1.00	0.95			0.95	
Frt	1.00		0.85				1.00	1.00			0.99	
Flt Protected	0.95		1.00				0.95	1.00			1.00	
Satd. Flow (prot)	1770		1583				1770	3539			3495	
Flt Permitted	0.95		1.00				0.95	1.00			1.00	
Satd. Flow (perm)	1770		1583				1770	3539			3495	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	0	95	0	0	0	79	2274	0	0	3016	276
RTOR Reduction (vph)	0	0	75	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	261	0	20	0	0	0	79	2274	0	0	3290	0
Turn Type	Perm		Perm	Perm			Prot	NA		Prot	NA	
Protected Phases		4			3		1	6		5	2	
Permitted Phases	4		4	3								
Actuated Green, G (s)	40.6		40.6				13.8	137.4			118.6	
Effective Green, g (s)	40.6		40.6				13.8	137.4			118.6	
Actuated g/C Ratio	0.21		0.21				0.07	0.72			0.62	
Clearance Time (s)	5.0		5.0				5.0	7.0			7.0	
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	378		338				128	2559			2181	
v/s Ratio Prot							0.04	c0.64			c0.94	
v/s Ratio Perm	c0.15		0.01									
v/c Ratio	0.69		0.06				0.62	0.89			1.51	
Uniform Delay, d1	68.9		59.5				85.5	20.4			35.7	
Progression Factor	1.00		1.00				0.80	2.20			1.00	
Incremental Delay, d2	5.4		0.1				0.8	0.5			231.2	
Delay (s)	74.3		59.6				69.1	45.4			266.9	
Level of Service	E		E				E	D			F	
Approach Delay (s)		70.3			0.0			46.2			266.9	
Approach LOS		E			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	168.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

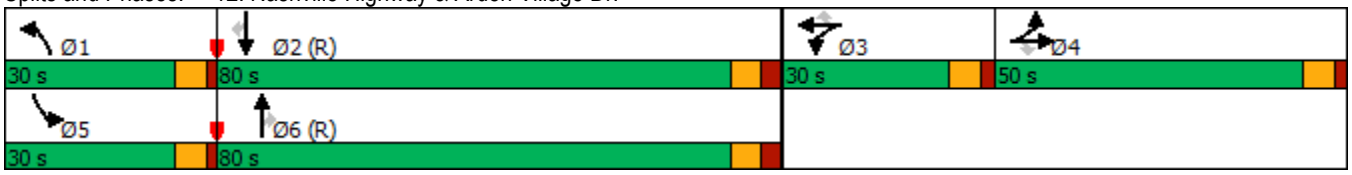
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Future Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.957		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.957		0.950			0.950		
Satd. Flow (perm)	0	1777	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			138			100			92			92
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	7	138	61	7	100	151	2200	86	103	2898	257
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	218	138	0	68	100	151	2200	86	103	2898	257
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0	25.0	5.0	25.0	25.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5	32.5	24.0	32.5	32.5
Total Split (s)	50.0	50.0	50.0	30.0	30.0	30.0	30.0	80.0	80.0	30.0	80.0	80.0
Total Split (%)	26.3%	26.3%	26.3%	15.8%	15.8%	15.8%	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%
Maximum Green (s)	43.5	43.5	43.5	23.5	23.5	23.5	24.0	72.5	72.5	24.0	72.5	72.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0	3.0	1.5	3.0	3.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)		28.8	28.8		12.6	12.6	21.4	105.7	105.7	16.4	100.7	100.7
Actuated g/C Ratio		0.15	0.15		0.07	0.07	0.11	0.56	0.56	0.09	0.53	0.53
v/c Ratio		0.81	0.39		0.58	0.51	0.76	1.12	0.09	0.68	1.55	0.29
Control Delay		99.6	11.8		104.2	21.9	104.4	98.7	4.2	98.1	275.3	10.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		99.6	11.8		104.2	21.9	104.4	98.7	4.2	98.1	275.3	10.1
LOS		F	B		F	C	F	F	A	F	F	B
Approach Delay		65.6			55.2			95.7			248.8	
Approach LOS		E			E			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 190			
Actuated Cycle Length: 190			
Offset: 3.5 (2%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.55			
Intersection Signal Delay: 173.1		Intersection LOS: F	
Intersection Capacity Utilization 115.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.





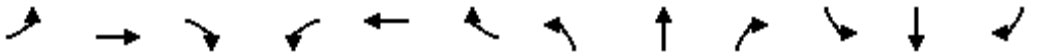
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	218	138	68	100	151	2200	86	103	2898	257
v/c Ratio	0.81	0.39	0.58	0.51	0.76	1.12	0.09	0.68	1.55	0.29
Control Delay	99.6	11.8	104.2	21.9	104.4	98.7	4.2	98.1	275.3	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.6	11.8	104.2	21.9	104.4	98.7	4.2	98.1	275.3	10.1
Queue Length 50th (ft)	268	0	84	0	186	~1652	0	121	~2717	107
Queue Length 95th (ft)	354	65	141	66	264	#2019	32	m81	m#1773	m90
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	406	468	220	283	232	1969	921	223	1875	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.29	0.31	0.35	0.65	1.12	0.09	0.46	1.55	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Future Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1777	1583		1783	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	7	138	61	7	100	151	2200	86	103	2898	257
RTOR Reduction (vph)	0	0	117	0	0	93	0	0	38	0	0	43
Lane Group Flow (vph)	0	218	21	0	68	7	151	2200	48	103	2898	214
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4			3			6			2
Actuated Green, G (s)		28.8	28.8		12.6	12.6	21.4	105.7	105.7	16.4	100.7	100.7
Effective Green, g (s)		28.8	28.8		12.6	12.6	21.4	105.7	105.7	16.4	100.7	100.7
Actuated g/C Ratio		0.15	0.15		0.07	0.07	0.11	0.56	0.56	0.09	0.53	0.53
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		269	239		118	104	199	1968	880	152	1875	838
v/s Ratio Prot		c0.12			c0.04		c0.09	c0.62		0.06	c0.82	
v/s Ratio Perm			0.01			0.00			0.03			0.14
v/c Ratio		0.81	0.09		0.58	0.06	0.76	1.12	0.05	0.68	1.55	0.26
Uniform Delay, d1		78.0	69.3		86.1	83.2	81.8	42.1	19.3	84.2	44.6	24.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.15	0.86	0.56
Incremental Delay, d2		16.7	0.2		6.7	0.3	15.2	60.6	0.1	1.1	245.8	0.1
Delay (s)		94.6	69.5		92.8	83.4	97.0	102.8	19.4	97.8	284.1	13.7
Level of Service		F	E		F	F	F	F	B	F	F	B
Approach Delay (s)		84.9			87.2			99.5			256.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	180.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

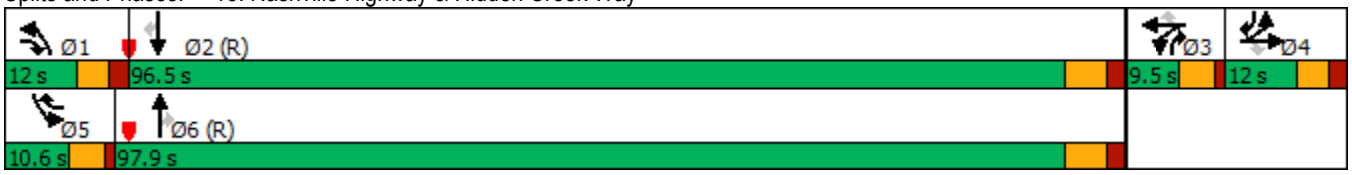
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Future Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	260		260	330		265
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			175			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.950			0.950		0.950			0.950		
Satd. Flow (perm)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63			67			68			120
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1349			608			4956			1159	
Travel Time (s)		36.8			16.6			75.1			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	55	40	0	30	99	2124	68	52	2605	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	55	0	40	30	99	2124	68	52	2605	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			32			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	3	3	5	1	6	3	5	2	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	5.0	5.0	5.0	7.0	10.0	5.0	5.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	9.5	9.5	9.5	12.0	24.0	9.5	9.5	24.0	12.0
Total Split (s)	12.0	12.0	12.0	9.5	9.5	10.6	12.0	97.9	9.5	10.6	96.5	12.0
Total Split (%)	9.2%	9.2%	9.2%	7.3%	7.3%	8.2%	9.2%	75.3%	7.3%	8.2%	74.2%	9.2%
Maximum Green (s)	7.0	7.0	7.0	5.0	5.0	6.1	7.0	91.9	5.0	6.1	90.5	7.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	3.5	3.5	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)		7.4	20.8		5.0	10.1	8.4	95.5	106.5	6.1	90.6	100.0
Actuated g/C Ratio		0.06	0.16		0.04	0.08	0.06	0.73	0.82	0.05	0.70	0.77
v/c Ratio		0.84	0.18		0.59	0.16	0.88	0.82	0.05	0.63	1.06	0.10
Control Delay		114.0	10.8		94.0	1.9	115.9	16.1	0.7	92.4	55.8	0.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0
Total Delay		114.0	10.8		94.0	1.9	115.9	16.1	0.7	92.4	59.0	0.5
LOS		F	B		F	A	F	B	A	F	E	A
Approach Delay		73.2			54.5			19.9			57.0	
Approach LOS		E			D			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 41.3		Intersection LOS: D	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 15: Nashville Highway & Hidden Creek Way



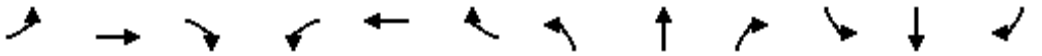


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	55	40	30	99	2124	68	52	2605	124
v/c Ratio	0.84	0.18	0.59	0.16	0.88	0.82	0.05	0.63	1.06	0.10
Control Delay	114.0	10.8	94.0	1.9	115.9	16.1	0.7	92.4	55.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0
Total Delay	114.0	10.8	94.0	1.9	115.9	16.1	0.7	92.4	59.0	0.5
Queue Length 50th (ft)	72	0	34	0	~90	623	0	44	~1265	0
Queue Length 95th (ft)	#174	33	#91	1	#209	744	9	#108	#1391	6
Internal Link Dist (ft)	1269		528			4876			1079	
Turn Bay Length (ft)		200			260		260	330		265
Base Capacity (vph)	100	306	68	184	113	2600	1309	83	2467	1245
Starvation Cap Reductn	0	0	0	0	0	0	0	0	18	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.18	0.59	0.16	0.88	0.82	0.05	0.63	1.06	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

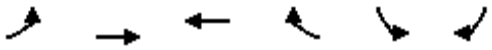


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Future Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	55	40	0	30	99	2124	68	52	2605	124
RTOR Reduction (vph)	0	0	48	0	0	28	0	0	17	0	0	30
Lane Group Flow (vph)	0	84	7	0	40	2	99	2124	51	52	2605	94
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3			6			2
Actuated Green, G (s)		7.4	15.8		4.0	8.9	8.4	93.7	97.7	4.9	89.7	97.1
Effective Green, g (s)		7.4	15.8		4.0	8.9	8.4	93.7	97.7	4.9	89.7	97.1
Actuated g/C Ratio		0.06	0.12		0.03	0.07	0.06	0.72	0.75	0.04	0.69	0.75
Clearance Time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		100	253		54	108	114	2550	1189	66	2441	1182
v/s Ratio Prot		c0.05	0.00		c0.02	0.00	c0.06	c0.60	0.00	0.03	c0.74	0.00
v/s Ratio Perm			0.00			0.00			0.03			0.05
v/c Ratio		0.84	0.03		0.74	0.02	0.87	0.83	0.04	0.79	1.07	0.08
Uniform Delay, d1		60.7	50.3		62.5	56.5	60.3	12.7	4.1	62.0	20.1	4.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		43.1	0.0		41.8	0.1	45.7	3.4	0.0	44.9	39.3	0.0
Delay (s)		103.8	50.4		104.3	56.5	105.9	16.0	4.2	106.9	59.4	4.5
Level of Service		F	D		F	E	F	B	A	F	E	A
Approach Delay (s)		82.6			83.8			19.6			57.8	
Approach LOS		F			F			B			E	

Intersection Summary			
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	43	23	22	13	26
Future Volume (vph)	44	43	23	22	13	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.934		0.910	
Flt Protected		0.975			0.984	
Satd. Flow (prot)	0	1816	1740	0	1668	0
Flt Permitted		0.975			0.984	
Satd. Flow (perm)	0	1816	1740	0	1668	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		3018	2018		773	
Travel Time (s)		58.8	39.3		17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	47	25	24	14	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	95	49	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.9

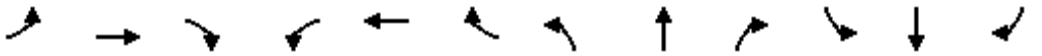
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	43	23	22	13	26
Future Vol, veh/h	44	43	23	22	13	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	47	25	24	14	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	49	0	-	0	180	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1558	-	-	-	810	1035
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1558	-	-	-	784	1035
Mov Cap-2 Maneuver	-	-	-	-	784	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1558	-	-	-	935
HCM Lane V/C Ratio	0.031	-	-	-	0.045
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

PROJECTED WITH IMPROVEMENTS CONDITIONS CAPACITY ANALYSES

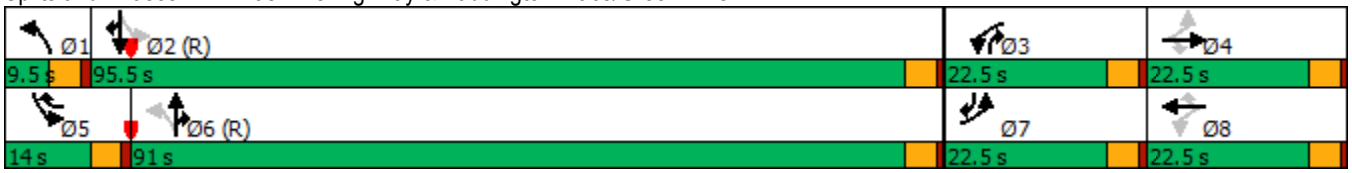


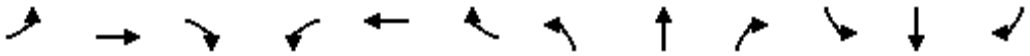
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Future Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	200		100	140		140
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			150			150			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.533						0.048			0.045		
Satd. Flow (perm)	993	1863	1583	1863	1863	1583	89	3539	1583	84	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76			49			44			56
Link Speed (mph)		25			45			45			45	
Link Distance (ft)		1077			3915			1159			1472	
Travel Time (s)		29.4			59.3			17.6			22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	15	47	148	14	386	86	2385	54	125	2208	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	201	15	47	148	14	386	86	2385	54	125	2208	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			32			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	15		9	60		9	15		60
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	7	4		3	8	5	1	6	6 3	5	2	2 7
Permitted Phases	4		4	8		8	6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	5	1	6	6 3	5	2	2 7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	14.0	9.5	91.0		14.0	95.5	
Total Split (%)	15.0%	15.0%	15.0%	15.0%	15.0%	9.3%	6.3%	60.7%		9.3%	63.7%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	9.5	5.0	86.5		9.5	91.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)	24.3	6.8	6.8	20.0	6.8	28.9	96.2	86.5	107.8	114.9	100.7	126.3
Actuated g/C Ratio	0.16	0.05	0.05	0.13	0.05	0.19	0.64	0.58	0.72	0.77	0.67	0.84
v/c Ratio	0.74	0.18	0.33	0.62	0.17	1.12	0.52	1.17	0.05	0.38	0.93	0.07
Control Delay	74.1	73.2	10.0	70.1	72.8	132.2	32.5	101.1	0.0	44.6	15.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0
Total Delay	74.1	73.2	10.0	70.1	72.8	132.2	32.5	101.1	0.0	44.6	20.4	0.1
LOS	E	E	A	E	E	F	C	F	A	D	C	A
Approach Delay		62.6			113.9			96.6			20.8	
Approach LOS		E			F			F			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 64.8		Intersection LOS: E	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Paddington Place/Green Mills





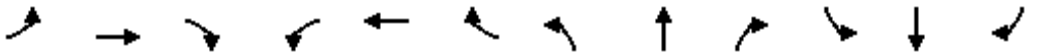
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	15	47	148	14	386	86	2385	54	125	2208	100
v/c Ratio	0.74	0.18	0.33	0.62	0.17	1.12	0.52	1.17	0.05	0.38	0.93	0.07
Control Delay	74.1	73.2	10.0	70.1	72.8	132.2	32.5	101.1	0.0	44.6	15.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0
Total Delay	74.1	73.2	10.0	70.1	72.8	132.2	32.5	101.1	0.0	44.6	20.4	0.1
Queue Length 50th (ft)	181	14	0	141	13	~476	37	~1448	0	78	220	0
Queue Length 95th (ft)	#284	40	15	197	38	#575	m50	m#1562	m0	m106	#1303	m0
Internal Link Dist (ft)		997			3835			1079			1392	
Turn Bay Length (ft)				200		200	200		100	140		140
Base Capacity (vph)	277	223	256	251	223	344	165	2040	1162	333	2376	1348
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	2	0	0	0	0	0	0	0	136	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.07	0.19	0.59	0.06	1.12	0.52	1.17	0.05	0.38	0.99	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Future Volume (vph)	185	14	43	136	13	355	79	2194	50	115	2031	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.53	1.00	1.00	1.00	1.00	1.00	0.05	1.00	1.00	0.05	1.00	1.00
Satd. Flow (perm)	993	1863	1583	1863	1863	1583	89	3539	1583	84	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	15	47	148	14	386	86	2385	54	125	2208	100
RTOR Reduction (vph)	0	0	45	0	0	40	0	0	13	0	0	10
Lane Group Flow (vph)	201	15	2	148	14	346	86	2385	41	125	2208	90
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	7	4		3	8	5	1	6	6 3	5	2	2 7
Permitted Phases	4		4	8		8	6			2		
Actuated Green, G (s)	28.6	7.5	7.5	20.0	3.2	27.1	93.5	83.8	105.1	112.2	98.0	123.6
Effective Green, g (s)	28.6	7.5	7.5	20.0	3.2	27.1	93.5	83.8	105.1	112.2	98.0	123.6
Actuated g/C Ratio	0.19	0.05	0.05	0.13	0.02	0.18	0.62	0.56	0.70	0.75	0.65	0.82
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	298	93	79	237	39	333	164	1977	1109	331	2312	1304
v/s Ratio Prot	c0.09	0.01		0.07	0.01	c0.17	0.03	c0.67	0.03	0.06	0.62	0.06
v/s Ratio Perm	0.03		0.00	0.01		0.05	0.29			0.22		
v/c Ratio	0.67	0.16	0.03	0.62	0.36	1.04	0.52	1.21	0.04	0.38	0.96	0.07
Uniform Delay, d1	55.5	68.2	67.8	61.5	72.4	61.4	32.4	33.1	6.9	38.3	24.0	2.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.18	0.66	0.00	1.65	0.37	0.00
Incremental Delay, d2	5.9	0.8	0.2	5.1	5.6	59.7	1.1	94.8	0.0	0.5	8.0	0.0
Delay (s)	61.4	69.1	67.9	66.5	78.0	121.1	39.3	116.8	0.0	63.6	16.8	0.0
Level of Service	E	E	E	E	E	F	D	F	A	E	B	A
Approach Delay (s)		63.0			105.3			111.6			18.5	
Approach LOS		E			F			F			B	

Intersection Summary			
HCM 2000 Control Delay	69.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	14	43	136	13	355	79	2194	50	115	2031	92
Future Volume (veh/h)	185	14	43	136	13	355	79	2194	50	115	2031	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	15	47	148	14	386	86	2385	54	125	2208	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	270	229	362	224	254	106	2164	1102	205	2192	1153
Arrive On Green	0.11	0.14	0.14	0.09	0.12	0.12	0.07	1.00	1.00	0.05	0.82	0.82
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	201	15	47	148	14	386	86	2385	54	125	2208	100
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.5	1.0	3.9	10.8	1.0	18.0	3.0	0.0	0.0	4.0	92.5	1.3
Cycle Q Clear(g_c), s	14.5	1.0	3.9	10.8	1.0	18.0	3.0	0.0	0.0	4.0	92.5	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	270	229	362	224	254	106	2164	1102	205	2192	1153
V/C Ratio(X)	0.50	0.06	0.21	0.41	0.06	1.52	0.81	1.10	0.05	0.61	1.01	0.09
Avail Cap(c_a), veh/h	420	270	229	423	224	254	107	2164	1102	246	2192	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.22	0.22	0.22	0.38	0.38	0.38
Uniform Delay (d), s/veh	49.0	55.3	56.6	51.5	58.5	63.0	38.4	0.0	0.0	9.8	13.5	2.7
Incr Delay (d2), s/veh	0.9	0.1	0.4	0.7	0.1	252.2	9.9	48.0	0.0	1.2	13.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.5	1.6	4.8	0.5	27.3	2.1	14.4	0.0	1.5	21.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	55.4	57.0	52.3	58.6	315.2	48.3	48.0	0.0	11.0	27.2	2.8
LnGrp LOS	D	E	E	D	E	F	D	F	A	B	F	A
Approach Vol, veh/h		263			548			2525			2433	
Approach Delay, s/veh		51.5			237.6			46.9			25.3	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	97.0	17.4	26.2	10.6	95.8	21.1	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	91.0	18.0	18.0	9.5	86.5	18.0	18.0
Max Q Clear Time (g_c+I1), s	5.0	94.5	12.8	5.9	6.0	2.0	16.5	20.0
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.1	48.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	56.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	2089	13	15	1959	40	43
Future Volume (vph)	2089	13	15	1959	40	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	75		0	200
Storage Lanes		1	1		1	1
Taper Length (ft)			150		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Link Speed (mph)	45			45	35	
Link Distance (ft)	2479			5496	10766	
Travel Time (s)	37.6			83.3	209.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2271	14	16	2129	43	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2271	14	16	2129	43	47
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	30			30	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	38.8

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↑↑	↱	↰	↑↑	↰	↱
Traffic Vol, veh/h	2089	13	15	1959	40	43
Future Vol, veh/h	2089	13	15	1959	40	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	75	-	0	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2271	14	16	2129	43	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2285	0	3368	1136
Stage 1	-	-	-	-	2271	-
Stage 2	-	-	-	-	1097	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	218	-	~ 6	196
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	281	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	218	-	~ 6	196
Mov Cap-2 Maneuver	-	-	-	-	~ 6	-
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	260	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0.2	$ 1939.5
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	NWLn2	SBL	SBT
Capacity (veh/h)	-	-	6	196	218	-
HCM Lane V/C Ratio	-	-	7.246	0.238	0.075	-
HCM Control Delay (s)	-	-	$ 3993.3	29	22.8	-
HCM Lane LOS	-	-	F	D	C	-
HCM 95th %tile Q(veh)	-	-	7	0.9	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



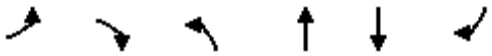
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	135	321	20	46	108
Future Volume (vph)	6	135	321	20	46	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871		0.992			
Flt Protected	0.998					0.985
Satd. Flow (prot)	1619	0	1848	0	0	1835
Flt Permitted	0.998					0.985
Satd. Flow (perm)	1619	0	1848	0	0	1835
Link Speed (mph)	45		30			45
Link Distance (ft)	1612		1345			3915
Travel Time (s)	24.4		30.6			59.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	147	349	22	50	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	154	0	371	0	0	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Yield			Yield

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	5.0
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	154	371	167
Demand Flow Rate, veh/h	157	378	170
Vehicles Circulating, veh/h	356	51	7
Vehicles Exiting, veh/h	73	126	506
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.4	5.4	3.7
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	157	378	170
Cap Entry Lane, veh/h	960	1310	1370
Entry HV Adj Factor	0.981	0.982	0.980
Flow Entry, veh/h	154	371	167
Cap Entry, veh/h	941	1286	1343
V/C Ratio	0.164	0.289	0.124
Control Delay, s/veh	5.4	5.4	3.7
LOS	A	A	A
95th %tile Queue, veh	1	1	0



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	193	229	2564	1728	20
Future Volume (vph)	0	193	229	2564	1728	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	225			150
Storage Lanes	0	1	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	210	249	2787	1878	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	210	249	2787	1878	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

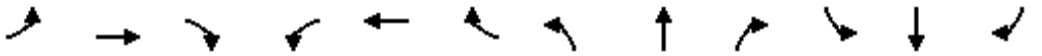
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	193	229	2564	1728	20
Future Vol, veh/h	0	193	229	2564	1728	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	210	249	2787	1878	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	939	1900	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	265	310	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	265	310	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	55.6	4.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	310	-	265	-	-
HCM Lane V/C Ratio	0.803	-	0.792	-	-
HCM Control Delay (s)	50.8	-	55.6	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	6.6	-	6.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Future Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.850						0.990	
Flt Protected	0.950	0.953		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	1770	1583	0	1770	3539	0	1770	3504	0
Flt Permitted	0.950	0.953		0.950			0.045			0.047		
Satd. Flow (perm)	1681	1686	1583	1770	1583	0	84	3539	0	88	3504	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102		102						8	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	422	1	72	2	0	1	141	2549	1	1	1846	128
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	211	212	72	2	1	0	141	2550	0	1	1974	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4				6			2		

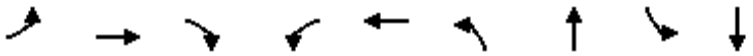
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		13.0	94.0		10.0	91.0	
Total Split (%)	15.3%	15.3%	15.3%	15.3%	15.3%		8.7%	62.7%		6.7%	60.7%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		8.0	87.0		5.0	84.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	28.8	28.8	28.8	7.0	7.0		108.4	104.8		95.8	88.4	
Actuated g/C Ratio	0.19	0.19	0.19	0.05	0.05		0.72	0.70		0.64	0.59	
v/c Ratio	0.66	0.66	0.19	0.02	0.01		0.67	1.03		0.01	0.95	
Control Delay	66.5	66.6	4.2	69.0	0.0		43.1	36.3		8.0	40.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	66.5	66.6	4.2	69.0	0.0		43.1	36.3		8.0	40.9	
LOS	E	E	A	E	A		D	D		A	D	
Approach Delay		57.5			46.0			36.7			40.8	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 40.3 Intersection LOS: D
Intersection Capacity Utilization 100.6% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	211	212	72	2	1	141	2550	1	1974
v/c Ratio	0.66	0.66	0.19	0.02	0.01	0.67	1.03	0.01	0.95
Control Delay	66.5	66.6	4.2	69.0	0.0	43.1	36.3	8.0	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	66.6	4.2	69.0	0.0	43.1	36.3	8.0	40.9
Queue Length 50th (ft)	203	204	0	2	0	100	556	0	914
Queue Length 95th (ft)	301	302	19	12	0	m82	m#401	3	#1191
Internal Link Dist (ft)		390			206		1657		1223
Turn Bay Length (ft)						255		220	
Base Capacity (vph)	322	323	386	212	279	211	2472	116	2069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.19	0.01	0.00	0.67	1.03	0.01	0.95

Intersection Summary

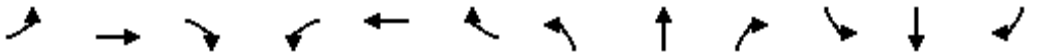
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Future Volume (vph)	388	1	66	2	0	1	130	2345	1	1	1698	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.85		1.00	1.00		1.00	0.99	
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1583	1770	1583		1770	3539		1770	3505	
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.04	1.00		0.05	1.00	
Satd. Flow (perm)	1681	1686	1583	1770	1583		83	3539		88	3505	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	422	1	72	2	0	1	141	2549	1	1	1846	128
RTOR Reduction (vph)	0	0	58	0	1	0	0	0	0	0	3	0
Lane Group Flow (vph)	211	212	14	2	0	0	141	2550	0	1	1971	0
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4				6			2		
Actuated Green, G (s)	28.8	28.8	28.8	1.4	1.4		102.8	96.8		85.4	84.4	
Effective Green, g (s)	28.8	28.8	28.8	1.4	1.4		102.8	96.8		85.4	84.4	
Actuated g/C Ratio	0.19	0.19	0.19	0.01	0.01		0.69	0.65		0.57	0.56	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	322	323	303	16	14		207	2283		61	1972	
v/s Ratio Prot	0.13	c0.13		c0.00	0.00		c0.06	c0.72		0.00	0.56	
v/s Ratio Perm			0.01				0.40			0.01		
v/c Ratio	0.66	0.66	0.05	0.12	0.00		0.68	1.12		0.02	1.00	
Uniform Delay, d1	56.0	56.0	49.4	73.7	73.6		46.9	26.6		35.5	32.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.40	0.87		1.00	1.00	
Incremental Delay, d2	4.7	4.8	0.1	3.5	0.0		0.8	53.3		0.1	20.1	
Delay (s)	60.8	60.8	49.5	77.2	73.6		66.3	76.3		35.6	52.9	
Level of Service	E	E	D	E	E		E	E		D	D	
Approach Delay (s)		59.1			76.0			75.8			52.8	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	65.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.

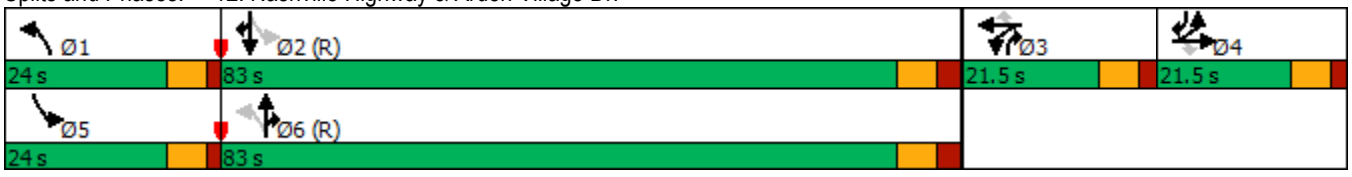


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Future Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.950		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.950		0.043			0.043		
Satd. Flow (perm)	0	1777	1583	0	1770	1583	80	3539	1583	80	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			124			124			69			69
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	4	55	20	0	78	41	2820	32	33	1971	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	55	0	20	78	41	2820	32	33	1971	74
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	4	4		3	3		1	6	6 3	5	2	2 4
Permitted Phases			4			3	6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6 3	5	2	2 4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0		5.0	25.0	
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5		24.0	32.5	
Total Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	83.0		24.0	83.0	
Total Split (%)	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%	16.0%	55.3%		16.0%	55.3%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	18.0	75.5		18.0	75.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0		1.5	3.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5		6.0	7.5	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)		17.4	17.4		7.7	7.7	101.3	94.3	108.5	100.9	94.1	112.0
Actuated g/C Ratio		0.12	0.12		0.05	0.05	0.68	0.63	0.72	0.67	0.63	0.75
v/c Ratio		0.69	0.19		0.22	0.39	0.32	1.27	0.03	0.26	0.89	0.06
Control Delay		80.8	1.4		73.7	7.2	15.4	145.5	0.2	19.6	29.2	1.6
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		80.8	1.4		73.7	7.2	15.4	145.5	0.2	19.6	29.2	1.6
LOS		F	A		E	A	B	F	A	B	C	A
Approach Delay		58.6			20.8			142.1			28.0	
Approach LOS		E			C			F			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 91.7		Intersection LOS: F	
Intersection Capacity Utilization 101.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.





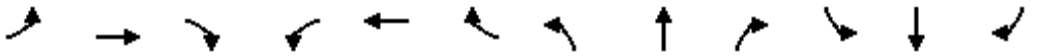
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	55	20	78	41	2820	32	33	1971	74
v/c Ratio	0.69	0.19	0.22	0.39	0.32	1.27	0.03	0.26	0.89	0.06
Control Delay	80.8	1.4	73.7	7.2	15.4	145.5	0.2	19.6	29.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.8	1.4	73.7	7.2	15.4	145.5	0.2	19.6	29.2	1.6
Queue Length 50th (ft)	135	0	19	0	13	~1848	0	14	532	6
Queue Length 95th (ft)	209	0	48	9	m13	m#1537	m0	m19	m#1113	m9
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	212	298	177	269	259	2225	1238	259	2220	1190
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.18	0.11	0.29	0.16	1.27	0.03	0.13	0.89	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

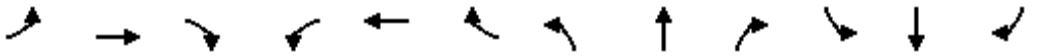


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Future Volume (vph)	127	4	51	18	0	72	38	2594	29	30	1813	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1776	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.04	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)		1776	1583		1770	1583	80	3539	1583	80	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	4	55	20	0	78	41	2820	32	33	1971	74
RTOR Reduction (vph)	0	0	49	0	0	74	0	0	9	0	0	18
Lane Group Flow (vph)	0	142	6	0	20	4	41	2820	23	33	1971	56
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	4	4		3	3		1	6	6 3	5	2	2 4
Permitted Phases			4			3	6			2		
Actuated Green, G (s)		17.4	17.4		7.7	7.7	98.6	93.1	108.3	98.2	92.9	110.3
Effective Green, g (s)		17.4	17.4		7.7	7.7	98.6	93.1	108.3	98.2	92.9	110.3
Actuated g/C Ratio		0.12	0.12		0.05	0.05	0.66	0.62	0.72	0.65	0.62	0.74
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5		6.0	7.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		206	183		90	81	114	2196	1142	112	2191	1164
v/s Ratio Prot		c0.08			c0.01		c0.01	c0.80	0.01	0.01	0.56	0.04
v/s Ratio Perm			0.00			0.00	0.22			0.18		
v/c Ratio		0.69	0.03		0.22	0.05	0.36	1.28	0.02	0.29	0.90	0.05
Uniform Delay, d1		63.7	58.8		68.3	67.7	27.9	28.5	5.9	35.9	24.5	5.4
Progression Factor		1.00	1.00		1.00	1.00	1.47	0.87	1.00	2.07	1.02	1.90
Incremental Delay, d2		9.2	0.1		1.3	0.3	0.2	128.2	0.0	0.8	3.6	0.0
Delay (s)		72.9	58.9		69.5	67.9	41.2	152.9	5.9	75.3	28.7	10.3
Level of Service		E	E		E	E	D	F	A	E	C	B
Approach Delay (s)		69.0			68.3			149.7			28.8	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	97.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.

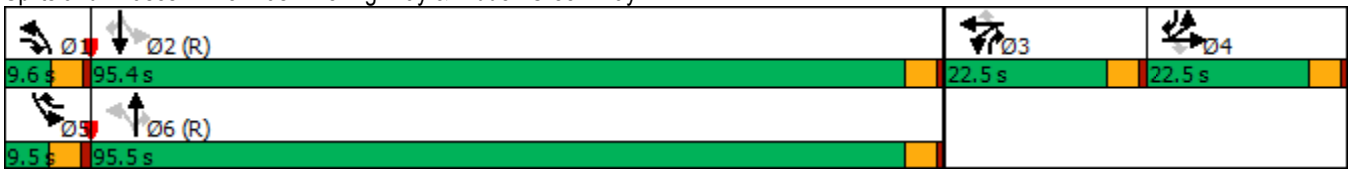


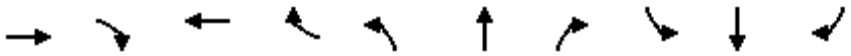
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Future Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	260		260	330		265
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			175			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.950			0.950		0.039			0.039		
Satd. Flow (perm)	0	1770	1583	0	1770	1583	73	3539	1583	73	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			48			44			49
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1349			608			4956			1159	
Travel Time (s)		36.8			16.6			75.1			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	0	98	63	0	48	38	2372	21	15	2303	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	98	0	63	48	38	2372	21	15	2303	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			32			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	3	3	5	1	6	3	5	2	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	9.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	9.6	22.5	22.5	9.5	9.6	95.5	22.5	9.5	95.4	22.5
Total Split (%)	15.0%	15.0%	6.4%	15.0%	15.0%	6.3%	6.4%	63.7%	15.0%	6.3%	63.6%	15.0%
Maximum Green (s)	18.0	18.0	5.1	18.0	18.0	5.0	5.1	91.0	18.0	5.0	90.9	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effct Green (s)		14.7	25.3		10.7	15.2	110.1	105.1	120.3	108.5	102.7	118.3
Actuated g/C Ratio		0.10	0.17		0.07	0.10	0.73	0.70	0.80	0.72	0.68	0.79
v/c Ratio		0.64	0.28		0.50	0.24	0.31	0.96	0.02	0.13	0.95	0.05
Control Delay		81.4	11.2		79.8	12.5	16.1	33.6	0.3	7.3	17.9	1.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	43.7	0.0	0.0	0.2	0.0
Total Delay		81.4	11.2		79.8	12.6	16.1	77.3	0.3	7.3	18.0	1.0
LOS		F	B		E	B	B	E	A	A	B	A
Approach Delay		48.5			50.8			75.7			17.6	
Approach LOS		D			D			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 47.1		Intersection LOS: D	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Nashville Highway & Hidden Creek Way

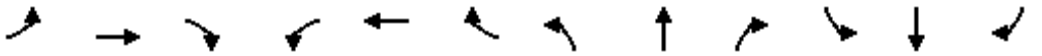




Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	98	63	48	38	2372	21	15	2303	58
v/c Ratio	0.64	0.28	0.50	0.24	0.31	0.96	0.02	0.13	0.95	0.05
Control Delay	81.4	11.2	79.8	12.5	16.1	33.6	0.3	7.3	17.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	43.7	0.0	0.0	0.2	0.0
Total Delay	81.4	11.2	79.8	12.6	16.1	77.3	0.3	7.3	18.0	1.0
Queue Length 50th (ft)	106	1	61	0	9	1137	0	3	245	2
Queue Length 95th (ft)	168	52	109	31	31	#1510	2	m4	#1427	m3
Internal Link Dist (ft)	1269		528			4876			1079	
Turn Bay Length (ft)		200			260		260	330		265
Base Capacity (vph)	217	347	212	203	122	2478	1344	118	2423	1296
Starvation Cap Reductn	0	0	0	0	0	0	0	0	6	0
Spillback Cap Reductn	0	0	0	5	0	449	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.28	0.30	0.24	0.31	1.17	0.02	0.13	0.95	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

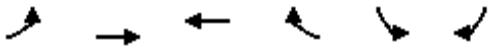


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Future Volume (vph)	102	0	90	58	0	44	35	2182	19	14	2119	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.04	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)		1770	1583		1770	1583	72	3539	1583	73	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	0	98	63	0	48	38	2372	21	15	2303	58
RTOR Reduction (vph)	0	0	84	0	0	43	0	0	5	0	0	11
Lane Group Flow (vph)	0	111	14	0	63	5	38	2372	16	15	2303	47
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3	6		6	2		2
Actuated Green, G (s)		14.7	20.8		9.4	14.1	109.3	103.2	112.6	106.5	101.8	116.5
Effective Green, g (s)		14.7	20.8		9.4	14.1	109.3	103.2	112.6	106.5	101.8	116.5
Actuated g/C Ratio		0.10	0.14		0.06	0.09	0.73	0.69	0.75	0.71	0.68	0.78
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		173	266		110	148	121	2434	1235	105	2401	1229
v/s Ratio Prot		c0.06	0.00		c0.04	0.00	c0.01	c0.67	0.00	0.00	0.65	0.00
v/s Ratio Perm			0.01			0.00	0.21		0.01	0.10		0.03
v/c Ratio		0.64	0.05		0.57	0.03	0.31	0.97	0.01	0.14	0.96	0.04
Uniform Delay, d1		65.1	56.1		68.3	61.7	37.7	22.2	4.7	38.5	22.2	3.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.92	0.48	1.14
Incremental Delay, d2		7.9	0.1		7.0	0.1	1.5	13.2	0.0	0.3	5.7	0.0
Delay (s)		73.0	56.1		75.4	61.8	39.2	35.3	4.7	35.8	16.5	4.4
Level of Service		E	E		E	E	D	D	A	D	B	A
Approach Delay (s)		65.1			69.5			35.1			16.3	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	15	42	7	20	40
Future Volume (vph)	13	15	42	7	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.980		0.911	
Flt Protected		0.977			0.983	
Satd. Flow (prot)	0	1820	1825	0	1668	0
Flt Permitted		0.977			0.983	
Satd. Flow (perm)	0	1820	1825	0	1668	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		3101	1774		1884	
Travel Time (s)		60.4	34.6		42.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	16	46	8	22	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	30	54	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	15	42	7	20	40
Future Vol, veh/h	13	15	42	7	20	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	16	46	8	22	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	54	0	-	0	94	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1551	-	-	-	906	1018
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1551	-	-	-	898	1018
Mov Cap-2 Maneuver	-	-	-	-	898	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1551	-	-	-	975
HCM Lane V/C Ratio	0.009	-	-	-	0.067
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

DELAY (CONTROL)

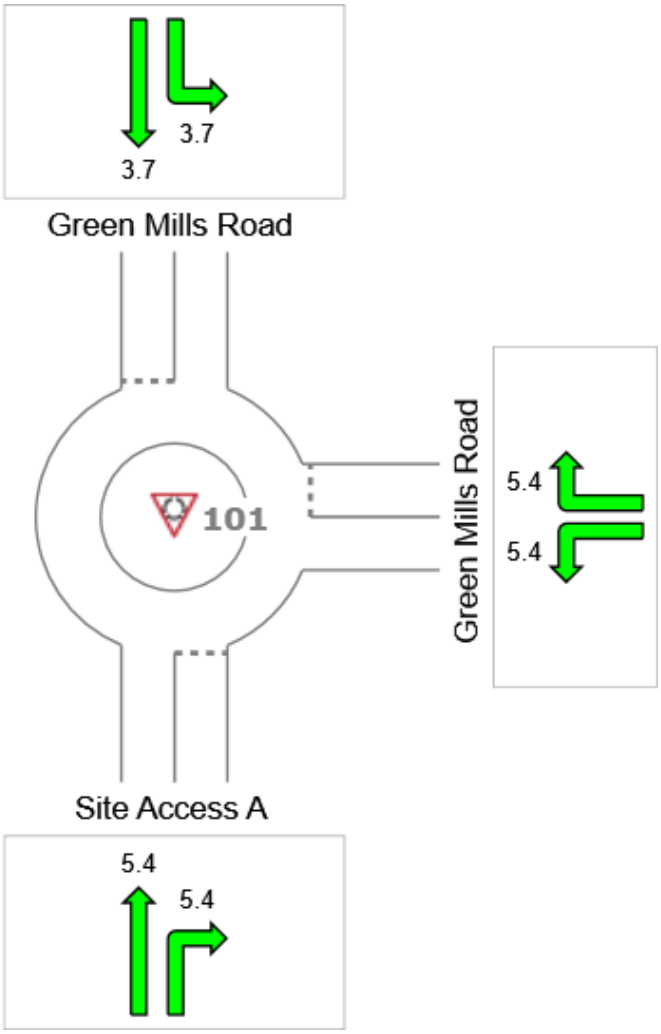
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 101 [Green Mills Road and Site Access A - AM Peak]

Green Mills Road and Site Access A - AM Peak
Roundabout

All Movement Classes

	South	East	North	Intersection
Delay (Control)	5.4	5.4	3.7	5.0
LOS	A	A	A	A



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Sign Control
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

QUEUE DISTANCE (%ILE)

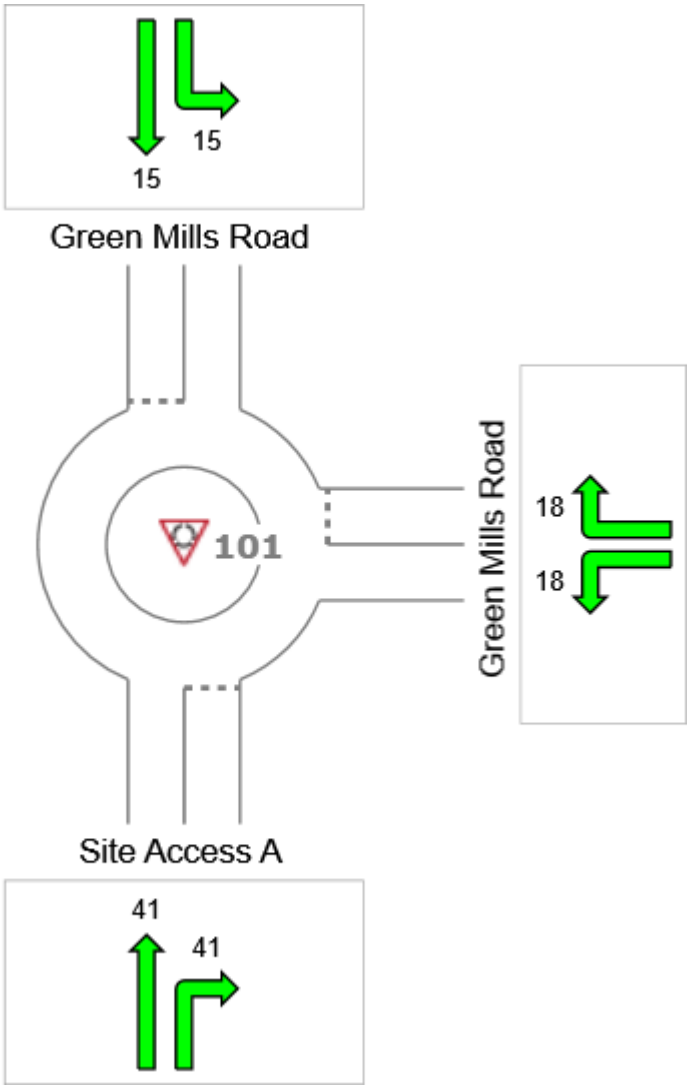
Largest 95% Back of Queue Distance for any lane used by vehicle movement (feet)

Site: 101 [Green Mills Road and Site Access A - AM Peak]

Green Mills Road and Site Access A - AM Peak
Roundabout

All Movement Classes

	South	East	North	Intersection
Vehicle Queue (%ile)	41	18	15	41



Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

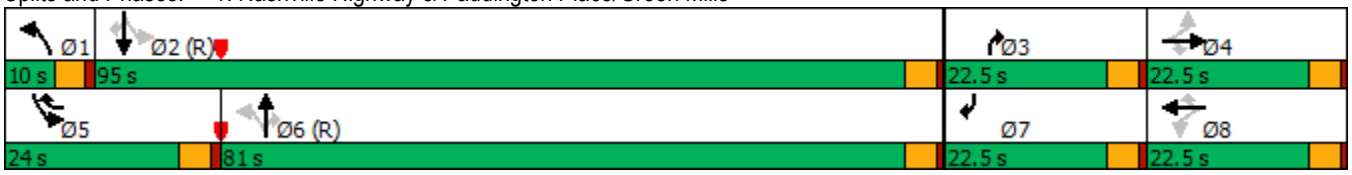
SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

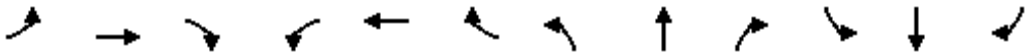
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Future Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	200		100	140		140
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			150			150			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.746			0.748			0.052			0.049		
Satd. Flow (perm)	1390	1863	1583	1393	1863	1583	97	3539	1583	91	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			212			76			60
Link Speed (mph)		25			45			45			45	
Link Distance (ft)		1077			3915			1159			1472	
Travel Time (s)		29.4			59.3			17.6			22.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	14	43	99	18	223	113	1952	162	373	2697	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	14	43	99	18	223	113	1952	162	373	2697	133
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			32			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases		4			8	5	1	6	3	5	2	7
Permitted Phases	4		4	8		8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	5	1	6	3	5	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	9.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	24.0	10.0	81.0	22.5	24.0	95.0	22.5
Total Split (%)	15.0%	15.0%	15.0%	15.0%	15.0%	16.0%	6.7%	54.0%	15.0%	16.0%	63.3%	15.0%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	19.5	5.5	76.5	18.0	19.5	90.5	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	30.3	30.3	30.3	30.3	30.3	54.3	82.0	76.5	86.7	100.5	90.5	100.7
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.36	0.55	0.51	0.58	0.67	0.60	0.67
v/c Ratio	0.67	0.04	0.11	0.35	0.05	0.31	0.99	1.08	0.17	1.34	1.26	0.12
Control Delay	68.2	48.8	0.5	55.7	48.9	6.0	115.4	82.7	8.1	200.8	142.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	48.8	0.5	55.7	48.9	6.0	115.4	82.7	8.1	200.8	142.8	3.1
LOS	E	D	A	E	D	A	F	F	A	F	F	A
Approach Delay		55.2			22.7			78.9			143.8	
Approach LOS		E			C			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 109.3		Intersection LOS: F	
Intersection Capacity Utilization 101.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Nashville Highway & Paddington Place/Green Mills





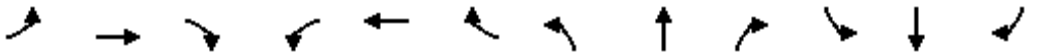
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	14	43	99	18	223	113	1952	162	373	2697	133
v/c Ratio	0.67	0.04	0.11	0.35	0.05	0.31	0.99	1.08	0.17	1.34	1.26	0.12
Control Delay	68.2	48.8	0.5	55.7	48.9	6.0	115.4	82.7	8.1	200.8	142.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	48.8	0.5	55.7	48.9	6.0	115.4	82.7	8.1	200.8	142.8	3.1
Queue Length 50th (ft)	171	11	0	84	14	7	61	~1120	36	~433	~1717	6
Queue Length 95th (ft)	262	32	0	144	38	65	#197	#1254	72	m238	m321	m4
Internal Link Dist (ft)		997			3835			1079			1392	
Turn Bay Length (ft)				200		200	200		100	140		140
Base Capacity (vph)	280	376	406	281	376	708	114	1804	1070	279	2135	1207
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.04	0.11	0.35	0.05	0.31	0.99	1.08	0.15	1.34	1.26	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Future Volume (vph)	172	13	40	91	17	205	104	1796	149	343	2481	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.75	1.00	1.00	0.75	1.00	1.00	0.05	1.00	1.00	0.05	1.00	1.00
Satd. Flow (perm)	1389	1863	1583	1394	1863	1583	97	3539	1583	92	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	14	43	99	18	223	113	1952	162	373	2697	133
RTOR Reduction (vph)	0	0	34	0	0	142	0	0	34	0	0	22
Lane Group Flow (vph)	187	14	9	99	18	81	113	1952	128	373	2697	111
Turn Type	Perm	NA	Perm	Perm	NA	pm+ov	pm+pt	NA	custom	pm+pt	NA	custom
Protected Phases		4			8	5	1	6	3	5	2	7
Permitted Phases	4		4	8		8	6		6	2		2
Actuated Green, G (s)	30.3	30.3	30.3	30.3	30.3	49.8	82.0	76.5	82.2	100.5	90.5	96.2
Effective Green, g (s)	30.3	30.3	30.3	30.3	30.3	49.8	82.0	76.5	82.2	100.5	90.5	96.2
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.33	0.55	0.51	0.55	0.67	0.60	0.64
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	280	376	319	281	376	573	114	1804	914	279	2135	1062
v/s Ratio Prot		0.01			0.01	0.02	0.04	0.55	c0.01	c0.17	0.76	0.00
v/s Ratio Perm	c0.13		0.01	0.07		0.03	0.50		0.08	c0.72		0.07
v/c Ratio	0.67	0.04	0.03	0.35	0.05	0.14	0.99	1.08	0.14	1.34	1.26	0.10
Uniform Delay, d1	55.2	48.1	48.0	51.4	48.2	35.1	40.2	36.8	16.6	54.3	29.8	10.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.35	0.76	0.66
Incremental Delay, d2	5.9	0.0	0.0	0.8	0.1	0.1	81.3	47.2	0.1	153.9	118.8	0.0
Delay (s)	61.1	48.2	48.1	52.2	48.3	35.2	121.5	84.0	16.7	227.4	141.3	6.8
Level of Service	E	D	D	D	D	D	F	F	B	F	F	A
Approach Delay (s)		58.1			40.9			81.0			145.7	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	112.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support custom phasing.



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	2071	41	48	2190	22	27
Future Volume (vph)	2071	41	48	2190	22	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	75		0	200
Storage Lanes		1	1		1	1
Taper Length (ft)			150		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Link Speed (mph)	45			45	35	
Link Distance (ft)	2479			5496	10766	
Travel Time (s)	37.6			83.3	209.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2251	45	52	2380	24	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2251	45	52	2380	24	29
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	30			30	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	27.3

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2071	41	48	2190	22	27
Future Vol, veh/h	2071	41	48	2190	22	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	75	-	0	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2251	45	52	2380	24	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2296	0	3545	1126
Stage 1	-	-	-	-	2251	-
Stage 2	-	-	-	-	1294	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	216	-	~ 4	199
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	221	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	216	-	~ 3	199
Mov Cap-2 Maneuver	-	-	-	-	~ 3	-
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	168	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0.6	$ 2427.4
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	NWLn2	SBL	SBT
Capacity (veh/h)	-	-	3	199	216	-
HCM Lane V/C Ratio	-	-	7.971	0.147	0.242	-
HCM Control Delay (s)	-	-	$ 5374.3	26.2	26.9	-
HCM Lane LOS	-	-	F	D	D	-
HCM 95th %tile Q(veh)	-	-	4.6	0.5	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	64	207	12	100	352
Future Volume (vph)	22	64	207	12	100	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.899		0.993			
Flt Protected	0.987					0.989
Satd. Flow (prot)	1653	0	1850	0	0	1842
Flt Permitted	0.987					0.989
Satd. Flow (perm)	1653	0	1850	0	0	1842
Link Speed (mph)	45		30			45
Link Distance (ft)	1612		1345			3915
Travel Time (s)	24.4		30.6			59.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	70	225	13	109	383
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	238	0	0	492
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Yield			Yield

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 50.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	5.5
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	94	238	492
Demand Flow Rate, veh/h	95	243	502
Vehicles Circulating, veh/h	229	111	24
Vehicles Exiting, veh/h	124	415	300
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.1	4.7	6.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	95	243	502
Cap Entry Lane, veh/h	1092	1232	1346
Entry HV Adj Factor	0.989	0.981	0.981
Flow Entry, veh/h	94	238	492
Cap Entry, veh/h	1081	1209	1321
V/C Ratio	0.087	0.197	0.373
Control Delay, s/veh	4.1	4.7	6.2
LOS	A	A	A
95th %tile Queue, veh	0	1	2



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	168	144	2165	2819	53
Future Volume (vph)	0	168	144	2165	2819	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	225			150
Storage Lanes	0	1	1			1
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	1149			599	1737	
Travel Time (s)	31.3			9.1	26.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	183	157	2353	3064	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	183	157	2353	3064	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			45	45	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 95.0%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	23.3

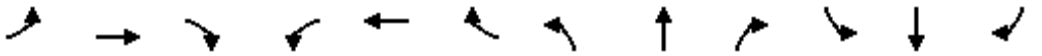
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	168	144	2165	2819	53
Future Vol, veh/h	0	168	144	2165	2819	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	183	157	2353	3064	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1532	3122	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	~ 106	~ 101	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	~ 106	~ 101	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 431.3	22.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 101	-	106	-	-
HCM Lane V/C Ratio	1.55	-	1.723	-	-
HCM Control Delay (s)	$ 364.7	-	-$ 431.3	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	11.9	-	14.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Future Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	255		0	220		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			140		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850								0.987	
Flt Protected	0.950	0.950					0.950					
Satd. Flow (prot)	1681	1681	1583	1863	1863	0	1770	3539	0	1863	3493	0
Flt Permitted	0.950	0.950					0.036					
Satd. Flow (perm)	1681	1681	1583	1863	1863	0	67	3539	0	1863	3493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102								11	
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		470			286			1737			1303	
Travel Time (s)		12.8			7.8			26.3			19.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	0	95	0	0	0	79	2274	0	0	3016	276
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	130	131	95	0	0	0	79	2274	0	0	3292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			21			21	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split			pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4				6			2		

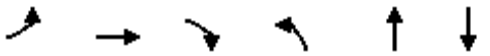
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0		5.0	25.0		5.0	25.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	32.0		10.0	32.0	
Total Split (s)	23.0	23.0	23.0	23.0	23.0		10.0	94.0		10.0	94.0	
Total Split (%)	15.3%	15.3%	15.3%	15.3%	15.3%		6.7%	62.7%		6.7%	62.7%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0		5.0	87.0		5.0	87.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	3.0		1.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	17.3	17.3	17.3				122.7	120.7			107.0	
Actuated g/C Ratio	0.12	0.12	0.12				0.82	0.80			0.71	
v/c Ratio	0.67	0.68	0.35				0.51	0.80			1.32	
Control Delay	79.8	80.2	11.9				28.6	13.7			170.2	
Queue Delay	0.0	0.0	0.0				0.0	0.0			0.0	
Total Delay	79.8	80.2	11.9				28.6	13.7			170.2	
LOS	E	F	B				C	B			F	
Approach Delay		61.9						14.2			170.2	
Approach LOS		E						B			F	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 102.6 Intersection LOS: F
Intersection Capacity Utilization 101.4% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 9: Nashville Highway & Spring Meade Road/Private Drive





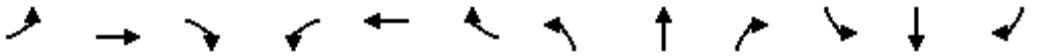
Lane Group	EBL	EBT	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	130	131	95	79	2274	3292
v/c Ratio	0.67	0.68	0.35	0.51	0.80	1.32
Control Delay	79.8	80.2	11.9	28.6	13.7	170.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	80.2	11.9	28.6	13.7	170.2
Queue Length 50th (ft)	130	131	0	45	369	~2182
Queue Length 95th (ft)	198	200	48	m43	m357	#2417
Internal Link Dist (ft)		390			1657	1223
Turn Bay Length (ft)				255		
Base Capacity (vph)	220	220	296	154	2847	2493
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.60	0.32	0.51	0.80	1.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Future Volume (vph)	240	0	87	0	0	0	73	2092	0	0	2775	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0				5.0	7.0			7.0	
Lane Util. Factor	0.95	0.95	1.00				1.00	0.95			0.95	
Frt	1.00	1.00	0.85				1.00	1.00			0.99	
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	
Satd. Flow (prot)	1681	1681	1583				1770	3539			3495	
Flt Permitted	0.95	0.95	1.00				0.04	1.00			1.00	
Satd. Flow (perm)	1681	1681	1583				67	3539			3495	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	0	95	0	0	0	79	2274	0	0	3016	276
RTOR Reduction (vph)	0	0	84	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	130	131	11	0	0	0	79	2274	0	0	3289	0
Turn Type	Split	NA	Perm	Split			pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4				6			2		
Actuated Green, G (s)	17.3	17.3	17.3				120.7	120.7			107.0	
Effective Green, g (s)	17.3	17.3	17.3				120.7	120.7			107.0	
Actuated g/C Ratio	0.12	0.12	0.12				0.80	0.80			0.71	
Clearance Time (s)	5.0	5.0	5.0				5.0	7.0			7.0	
Vehicle Extension (s)	3.0	3.0	3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	193	193	182				152	2847			2493	
v/s Ratio Prot	0.08	c0.08					0.03	c0.64			c0.94	
v/s Ratio Perm			0.01				0.39					
v/c Ratio	0.67	0.68	0.06				0.52	0.80			1.32	
Uniform Delay, d1	63.6	63.7	59.1				47.2	8.0			21.5	
Progression Factor	1.00	1.00	1.00				1.27	1.46			1.00	
Incremental Delay, d2	8.9	9.1	0.1				0.3	0.2			146.6	
Delay (s)	72.6	72.8	59.2				60.3	11.9			168.1	
Level of Service	E	E	E				E	B			F	
Approach Delay (s)		69.1			0.0			13.5			168.1	
Approach LOS		E			A			B			F	

Intersection Summary			
HCM 2000 Control Delay	101.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

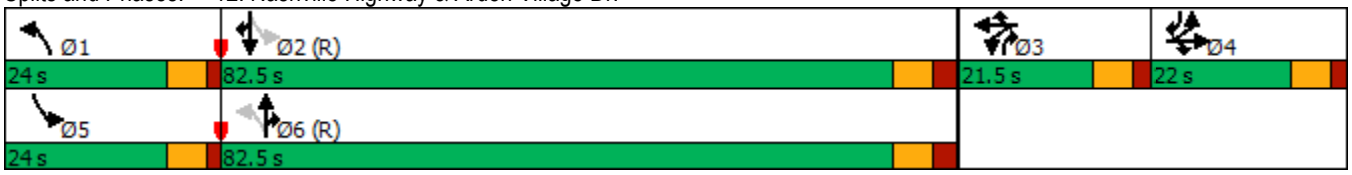
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Future Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	330		130	125		175
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			95			175		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.954			0.957		0.950			0.950		
Satd. Flow (prot)	0	1777	1583	0	1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.954			0.957		0.048			0.050		
Satd. Flow (perm)	0	1777	1583	0	1783	1583	89	3539	1583	93	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			138			124			69			80
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		641			825			1472			599	
Travel Time (s)		17.5			22.5			22.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	7	138	61	7	100	151	2200	86	103	2898	257
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	218	138	0	68	100	151	2200	86	103	2898	257
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			19			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	4	4	4	3	3	3	1	6	6 3	5	2	2 4
Permitted Phases							6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3	3	1	6	6 3	5	2	2 4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	25.0		5.0	25.0	
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	24.0	32.5		24.0	32.5	
Total Split (s)	22.0	22.0	22.0	21.5	21.5	21.5	24.0	82.5		24.0	82.5	
Total Split (%)	14.7%	14.7%	14.7%	14.3%	14.3%	14.3%	16.0%	55.0%		16.0%	55.0%	
Maximum Green (s)	15.5	15.5	15.5	15.0	15.0	15.0	18.0	75.0		18.0	75.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	3.0		1.5	3.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.0	7.5		6.0	7.5	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)		19.5	19.5		11.0	11.0	97.7	82.9	100.4	91.3	79.6	98.1
Actuated g/C Ratio		0.13	0.13		0.07	0.07	0.65	0.55	0.67	0.61	0.53	0.65
v/c Ratio		0.95	0.42		0.52	0.43	0.73	1.13	0.08	0.61	1.54	0.24
Control Delay		110.5	13.4		80.2	10.9	52.2	84.3	0.5	31.8	272.3	3.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		110.5	13.4		80.2	10.9	52.2	84.3	0.5	31.8	272.3	3.7
LOS		F	B		F	B	D	F	A	C	F	A
Approach Delay		72.9			39.0			79.4			243.5	
Approach LOS		E			D			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.54			
Intersection Signal Delay: 163.9		Intersection LOS: F	
Intersection Capacity Utilization 115.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 12: Nashville Highway & Arden Village Dr.





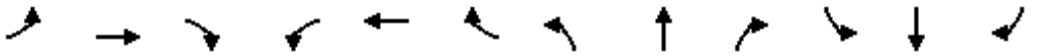
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	218	138	68	100	151	2200	86	103	2898	257
v/c Ratio	0.95	0.42	0.52	0.43	0.73	1.13	0.08	0.61	1.54	0.24
Control Delay	110.5	13.4	80.2	10.9	52.2	84.3	0.5	31.8	272.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.5	13.4	80.2	10.9	52.2	84.3	0.5	31.8	272.3	3.7
Queue Length 50th (ft)	215	0	65	0	116	~1281	0	64	~2097	43
Queue Length 95th (ft)	#428	68	116	36	m119	m#1236	m1	m54	m#1470	m43
Internal Link Dist (ft)	561		745			1392			519	
Turn Bay Length (ft)					330		130	125		175
Base Capacity (vph)	230	325	178	269	261	1954	1122	261	1878	1062
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.42	0.38	0.37	0.58	1.13	0.08	0.39	1.54	0.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

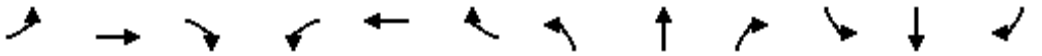


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Future Volume (vph)	194	6	127	56	6	92	139	2024	79	95	2666	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		6.5	6.5	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1783	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.96	1.00	0.05	1.00	1.00	0.05	1.00	1.00
Satd. Flow (perm)		1777	1583		1783	1583	90	3539	1583	94	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	7	138	61	7	100	151	2200	86	103	2898	257
RTOR Reduction (vph)	0	0	120	0	0	93	0	0	22	0	0	27
Lane Group Flow (vph)	0	218	18	0	68	7	151	2200	64	103	2898	230
Turn Type	Split	NA	Prot	Split	NA	Prot	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	4	4	4	3	3	3	1	6	6 3	5	2	2 4
Permitted Phases							6			2		
Actuated Green, G (s)		19.5	19.5		11.0	11.0	96.3	82.9	101.4	89.7	79.6	99.1
Effective Green, g (s)		19.5	19.5		11.0	11.0	96.3	82.9	101.4	89.7	79.6	99.1
Actuated g/C Ratio		0.13	0.13		0.07	0.07	0.64	0.55	0.68	0.60	0.53	0.66
Clearance Time (s)		6.5	6.5		6.5	6.5	6.0	7.5		6.0	7.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		231	205		130	116	207	1955	1070	169	1878	1045
v/s Ratio Prot		c0.12	0.01		c0.04	0.00	c0.06	c0.62	0.04	0.04	c0.82	0.15
v/s Ratio Perm							0.40			0.32		
v/c Ratio		0.94	0.09		0.52	0.06	0.73	1.13	0.06	0.61	1.54	0.22
Uniform Delay, d1		64.7	57.4		67.0	64.7	46.2	33.5	8.2	36.1	35.2	10.1
Progression Factor		1.00	1.00		1.00	1.00	1.31	0.72	0.16	1.11	0.95	0.92
Incremental Delay, d2		43.5	0.2		3.8	0.2	4.3	59.0	0.0	0.6	244.7	0.0
Delay (s)		108.2	57.6		70.7	64.9	64.7	83.3	1.3	40.6	277.9	9.3
Level of Service		F	E		E	E	E	F	A	D	F	A
Approach Delay (s)		88.6			67.3			79.2			249.2	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	168.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	26.5
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.

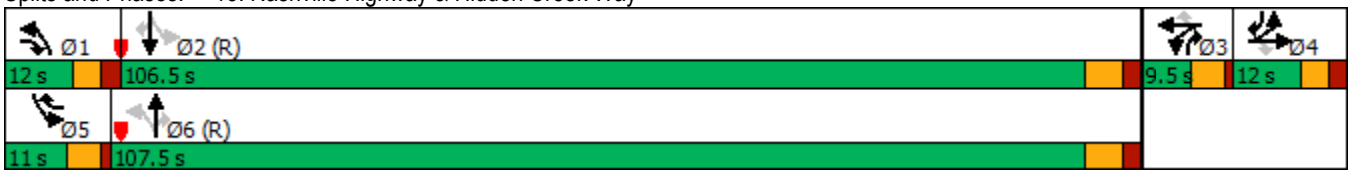


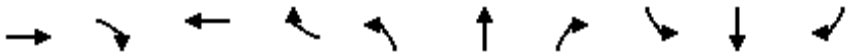
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Future Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	260		260	330		265
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			175			150		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1770	1583	0	1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.950			0.950		0.039			0.044		
Satd. Flow (perm)	0	1770	1583	0	1770	1583	73	3539	1583	82	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			62			68			120
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		1349			608			4956			1159	
Travel Time (s)		36.8			16.6			75.1			17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	55	40	0	30	99	2124	68	52	2605	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	55	0	40	30	99	2124	68	52	2605	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			32			32	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	1	3	3	5	1	6	3	5	2	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	5.0	5.0	5.0	7.0	10.0	5.0	5.0	10.0	7.0
Minimum Split (s)	12.0	12.0	12.0	9.5	9.5	9.5	12.0	24.0	9.5	9.5	24.0	12.0
Total Split (s)	12.0	12.0	12.0	9.5	9.5	11.0	12.0	107.5	9.5	11.0	106.5	12.0
Total Split (%)	8.6%	8.6%	8.6%	6.8%	6.8%	7.9%	8.6%	76.8%	6.8%	7.9%	76.1%	8.6%
Maximum Green (s)	7.0	7.0	7.0	5.0	5.0	6.5	7.0	101.5	5.0	6.5	100.5	7.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	4.0	3.5	3.5	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)		7.0	19.0		5.0	11.1	110.5	103.9	114.9	108.1	100.5	108.5
Actuated g/C Ratio		0.05	0.14		0.04	0.08	0.79	0.74	0.82	0.77	0.72	0.78
v/c Ratio		0.95	0.21		0.63	0.16	0.70	0.81	0.05	0.38	1.03	0.10
Control Delay		149.0	13.9		106.3	3.1	50.9	15.5	0.7	16.5	45.0	0.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	12.1	0.0
Total Delay		149.0	13.9		106.3	3.1	50.9	15.5	0.7	16.5	57.1	0.5
LOS		F	B		F	A	D	B	A	B	E	A
Approach Delay		95.5			62.1			16.6			53.8	
Approach LOS		F			E			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 38.9		Intersection LOS: D	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 15: Nashville Highway & Hidden Creek Way



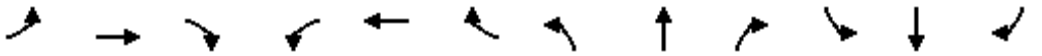


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	55	40	30	99	2124	68	52	2605	124
v/c Ratio	0.95	0.21	0.63	0.16	0.70	0.81	0.05	0.38	1.03	0.10
Control Delay	149.0	13.9	106.3	3.1	50.9	15.5	0.7	16.5	45.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	0.0
Total Delay	149.0	13.9	106.3	3.1	50.9	15.5	0.7	16.5	57.1	0.5
Queue Length 50th (ft)	78	0	37	0	37	626	0	7	~1327	0
Queue Length 95th (ft)	#189	39	#99	4	#124	740	9	33	#1450	6
Internal Link Dist (ft)	1269		528			4876			1079	
Turn Bay Length (ft)		200			260		260	330		265
Base Capacity (vph)	88	264	63	186	142	2625	1311	141	2540	1253
Starvation Cap Reductn	0	0	0	0	0	0	0	0	76	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.21	0.63	0.16	0.70	0.81	0.05	0.37	1.06	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

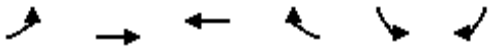


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Future Volume (vph)	77	0	51	37	0	28	91	1954	63	48	2397	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1770	1583		1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.95	1.00		0.95	1.00	0.04	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)		1770	1583		1770	1583	72	3539	1583	82	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	55	40	0	30	99	2124	68	52	2605	124
RTOR Reduction (vph)	0	0	50	0	0	28	0	0	16	0	0	28
Lane Group Flow (vph)	0	84	6	0	40	2	99	2124	52	52	2605	96
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	4	4	1	3	3	5	1	6	3	5	2	4
Permitted Phases			4			3	6		6	2		2
Actuated Green, G (s)		7.0	14.0		5.0	10.0	110.0	103.0	108.0	105.5	100.5	107.5
Effective Green, g (s)		7.0	14.0		5.0	10.0	110.0	103.0	108.0	105.5	100.5	107.5
Actuated g/C Ratio		0.05	0.10		0.04	0.07	0.79	0.74	0.77	0.75	0.72	0.77
Clearance Time (s)		5.0	5.0		4.5	4.5	5.0	6.0	4.5	4.5	6.0	5.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		88	214		63	113	141	2603	1221	122	2540	1215
v/s Ratio Prot		c0.05	0.00		c0.02	0.00	c0.03	0.60	0.00	0.02	c0.74	0.00
v/s Ratio Perm			0.00			0.00	0.51		0.03	0.31		0.06
v/c Ratio		0.95	0.03		0.63	0.02	0.70	0.82	0.04	0.43	1.03	0.08
Uniform Delay, d1		66.3	56.8		66.6	60.4	46.7	12.2	3.8	18.4	19.8	4.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		80.3	0.0		19.1	0.1	14.6	3.0	0.0	2.4	24.7	0.0
Delay (s)		146.6	56.9		85.7	60.5	61.3	15.2	3.8	20.8	44.5	4.0
Level of Service		F	E		F	E	E	B	A	C	D	A
Approach Delay (s)		111.1			74.9			16.8			42.2	
Approach LOS		F			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	43	23	22	13	26
Future Volume (vph)	44	43	23	22	13	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.934		0.910	
Flt Protected		0.975			0.984	
Satd. Flow (prot)	0	1816	1740	0	1668	0
Flt Permitted		0.975			0.984	
Satd. Flow (perm)	0	1816	1740	0	1668	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		3101	1774		1884	
Travel Time (s)		60.4	34.6		42.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	47	25	24	14	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	95	49	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	43	23	22	13	26
Future Vol, veh/h	44	43	23	22	13	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	47	25	24	14	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	49	0	-	0	180	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1558	-	-	-	810	1035
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1558	-	-	-	784	1035
Mov Cap-2 Maneuver	-	-	-	-	784	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1558	-	-	-	935
HCM Lane V/C Ratio	0.031	-	-	-	0.045
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

DELAY (CONTROL)

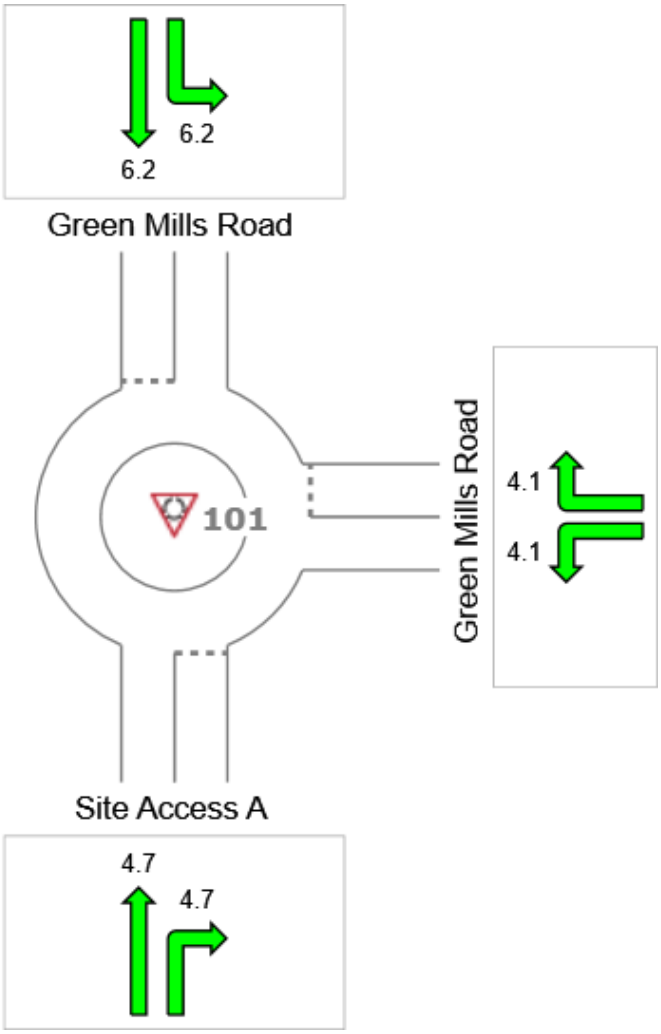
Average control delay per vehicle, or average pedestrian delay (seconds)

Site: 101 [Green Mills Road and Site Access A - PM Peak]

Green Mills Road and Site Access A - PM Peak
Roundabout

All Movement Classes

	South	East	North	Intersection
Delay (Control)	4.7	4.1	6.2	5.5
LOS	A	A	A	A



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Roundabout Level of Service Method: Same as Sign Control
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

QUEUE DISTANCE (%ILE)

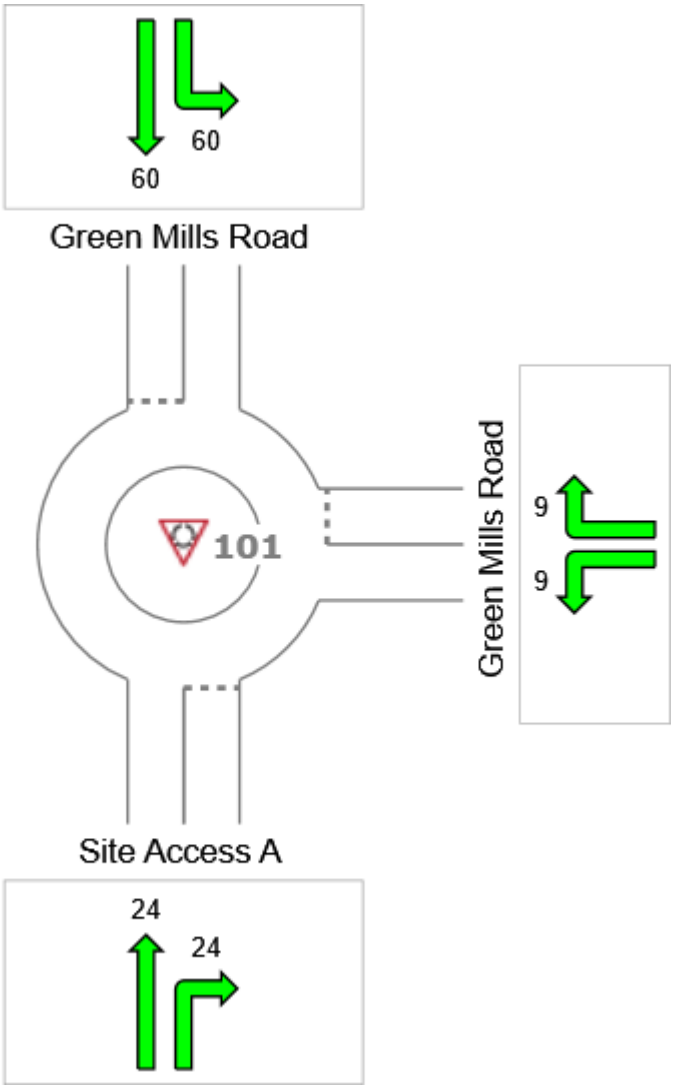
Largest 95% Back of Queue Distance for any lane used by vehicle movement (feet)

Site: 101 [Green Mills Road and Site Access A - PM Peak]

Green Mills Road and Site Access A - PM Peak
Roundabout

All Movement Classes

	South	East	North	Intersection
Vehicle Queue (%ile)	24	9	60	60

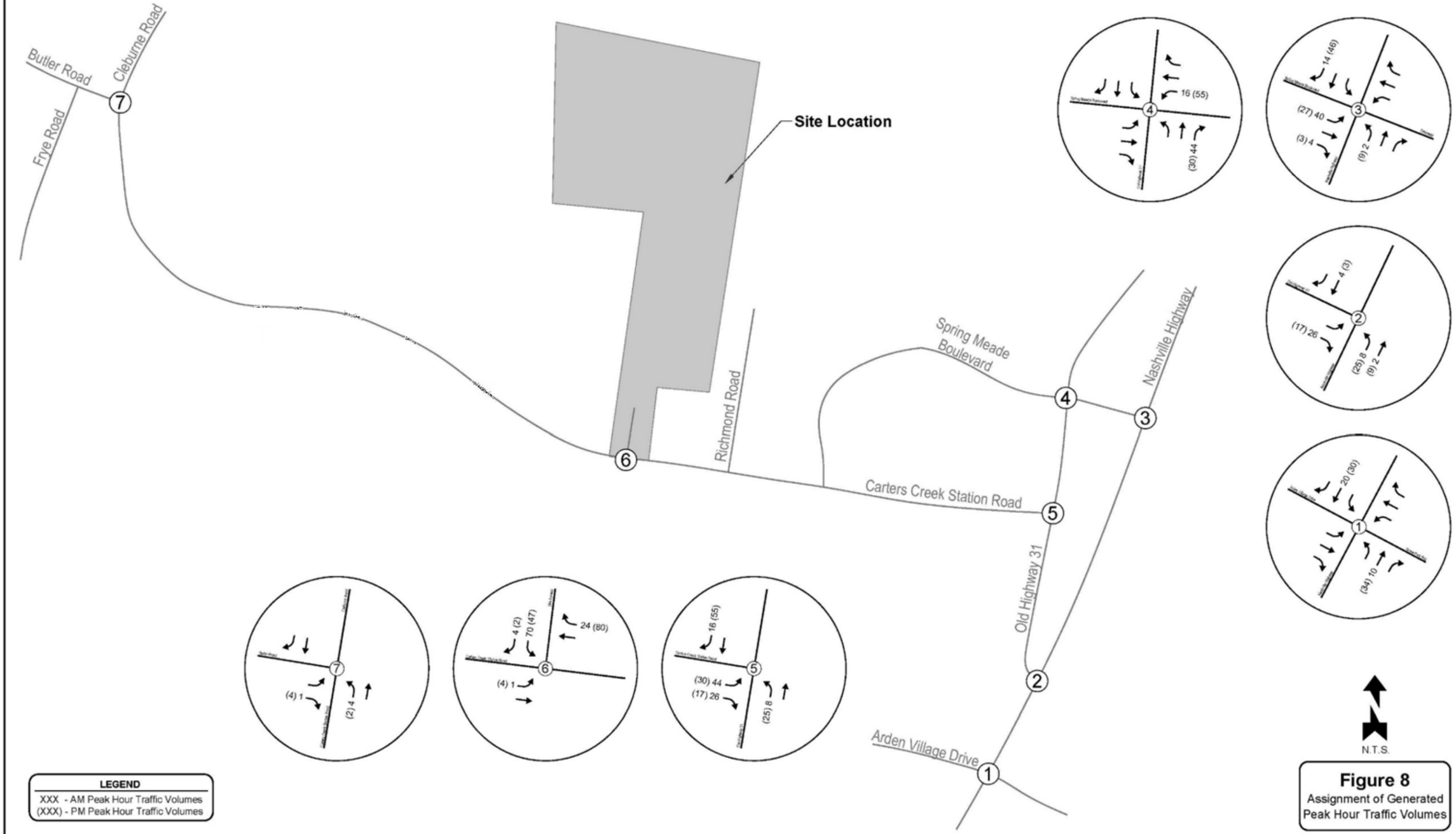


Colour code based on Queue Storage Ratio

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com

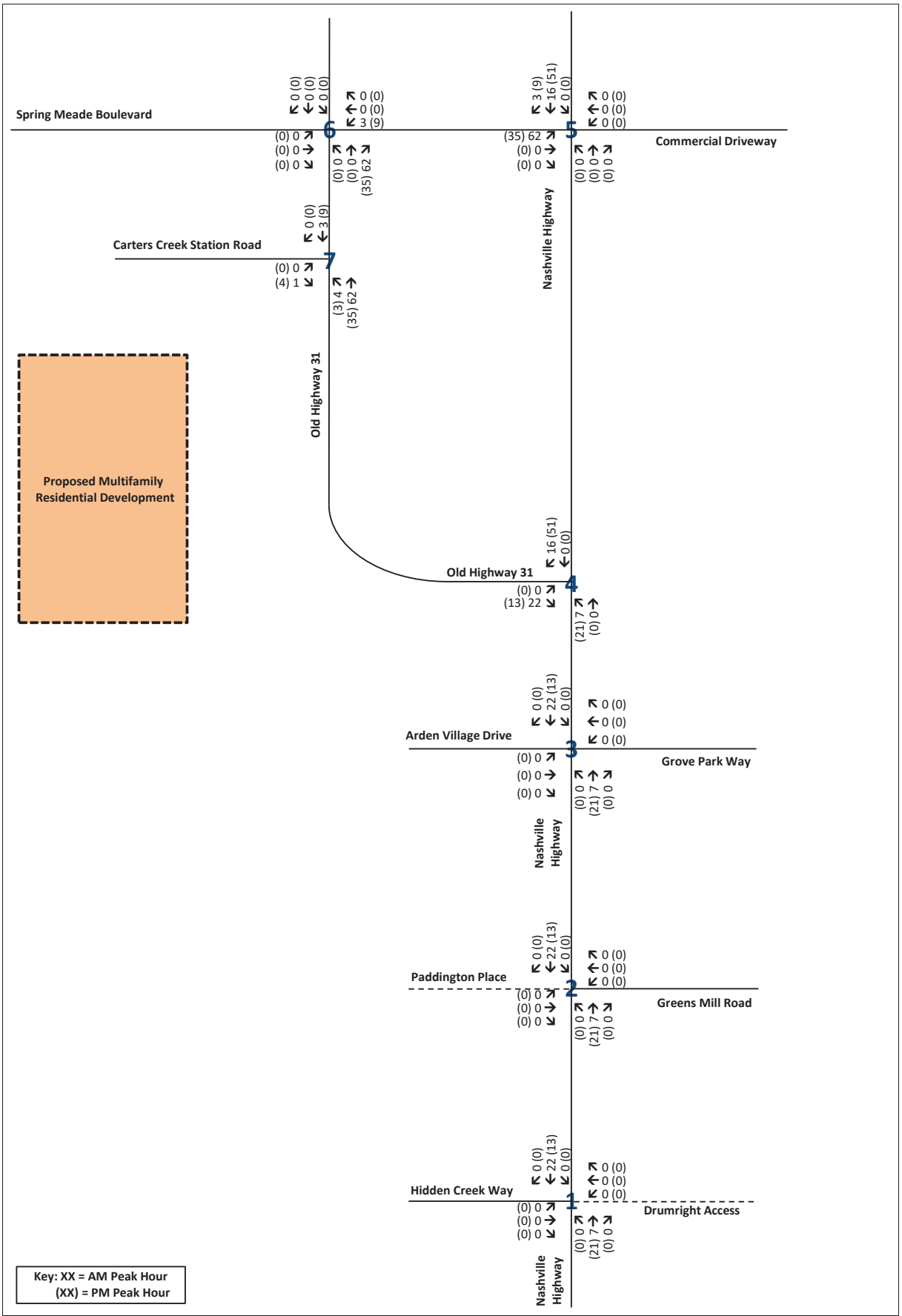
APPENDIX G
BACKGROUND DEVELOPMENTS



LEGEND

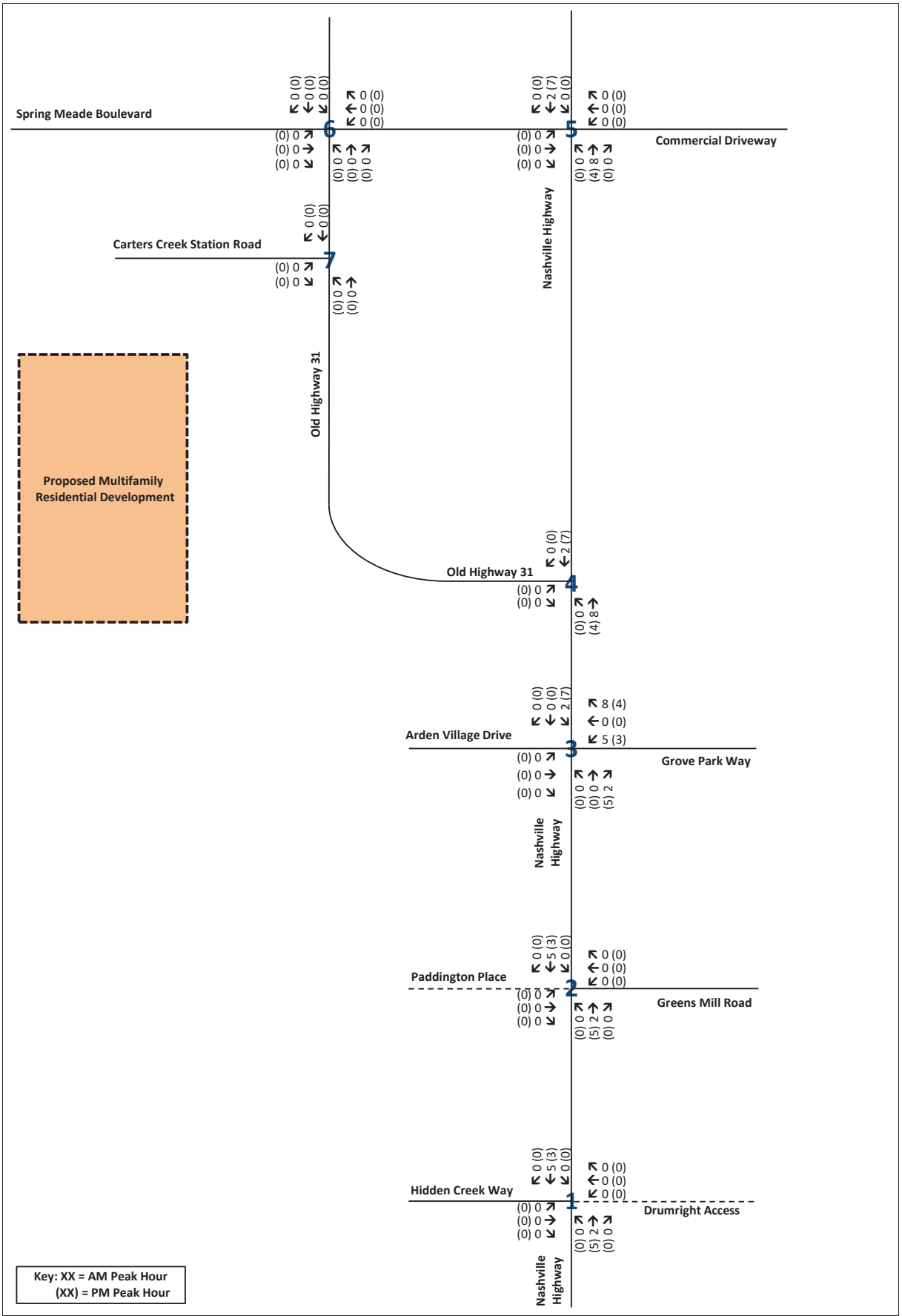
XXX - AM Peak Hour Traffic Volumes
(XXX) - PM Peak Hour Traffic Volumes

Figure 8
Assignment of Generated Peak Hour Traffic Volumes



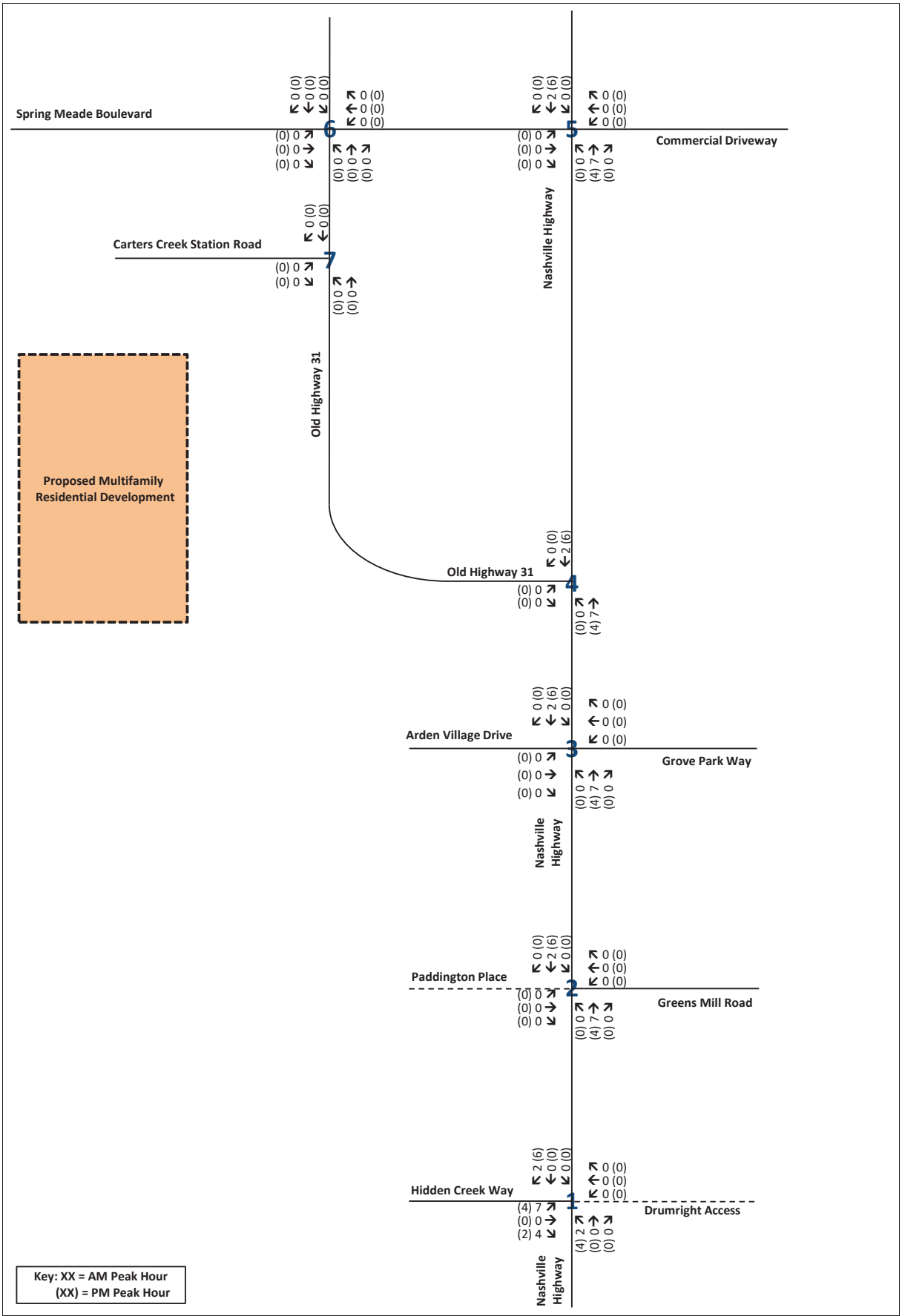
Traffic Assignment Worksheet
Total Site Generated Traffic
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



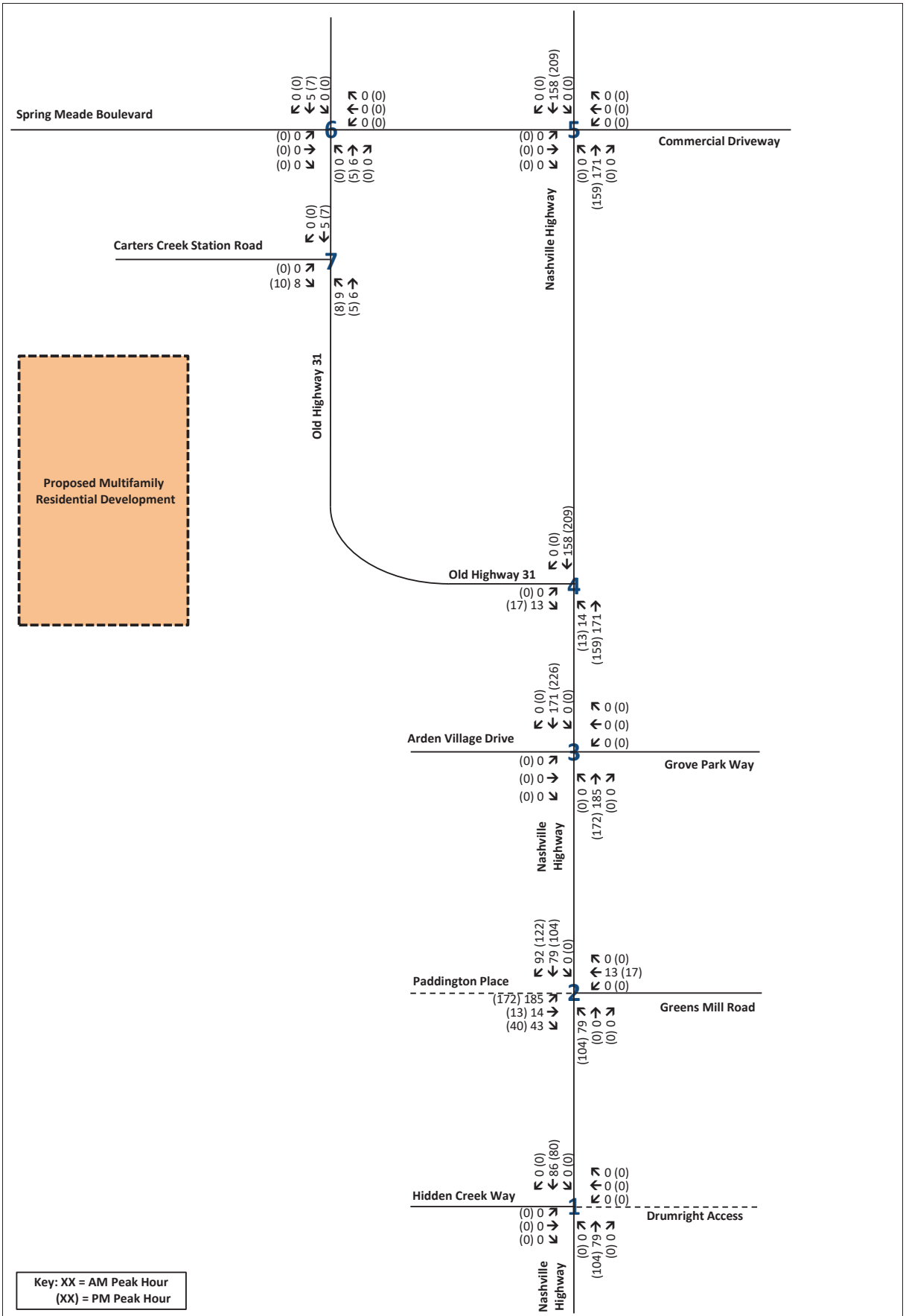
Traffic Assignment Worksheet
Off-Site Traffic Assignment - Grove Park - Single Family Residential
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



Traffic Assignment Worksheet
Off-Site Traffic Assignment - Homestead - Single Family Residential
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



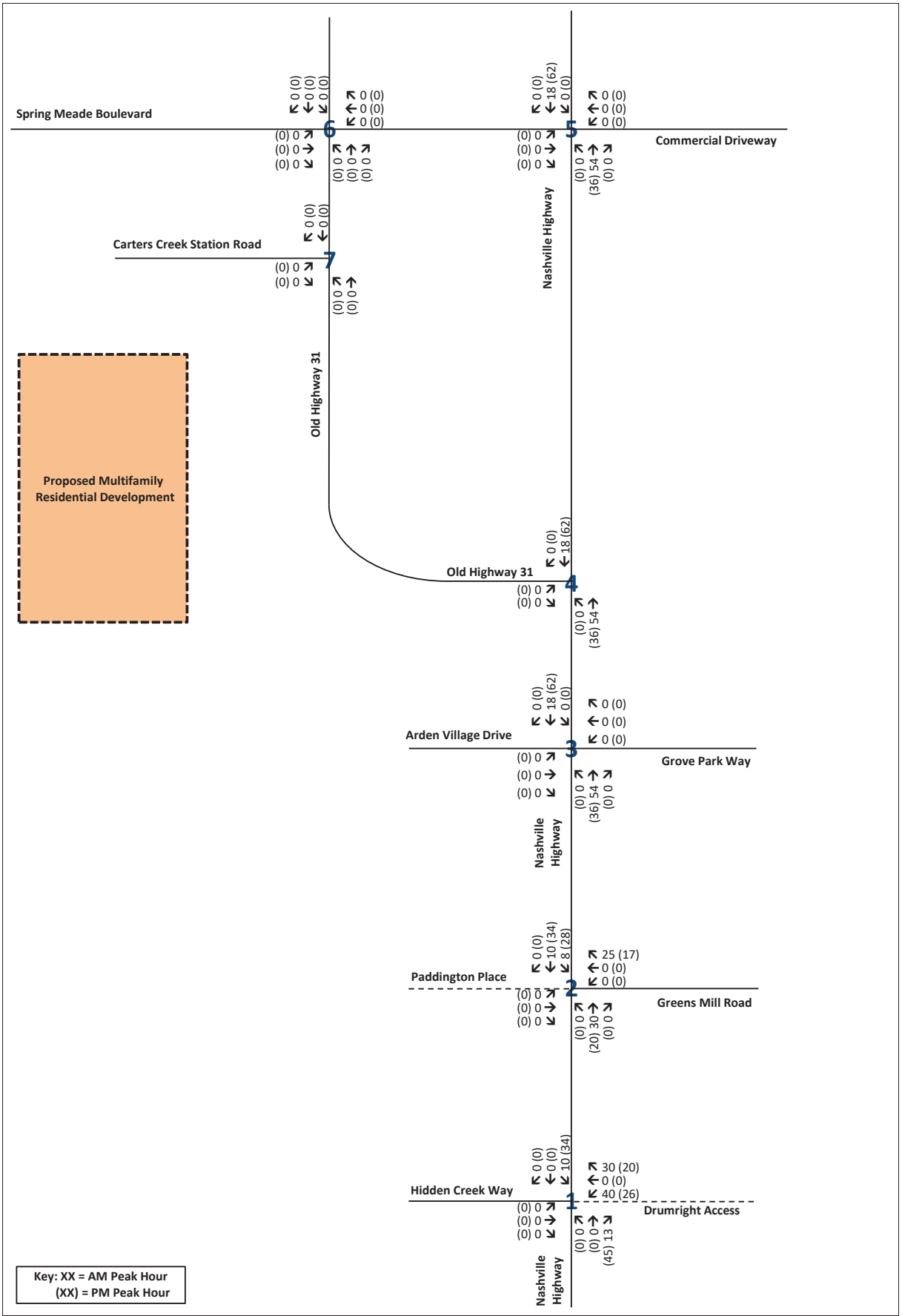
Traffic Assignment Worksheet

Off-Site Traffic Assignment - Villages at Carter's Station (from Masterplan Study)

Traffic Study for MSC Apartments

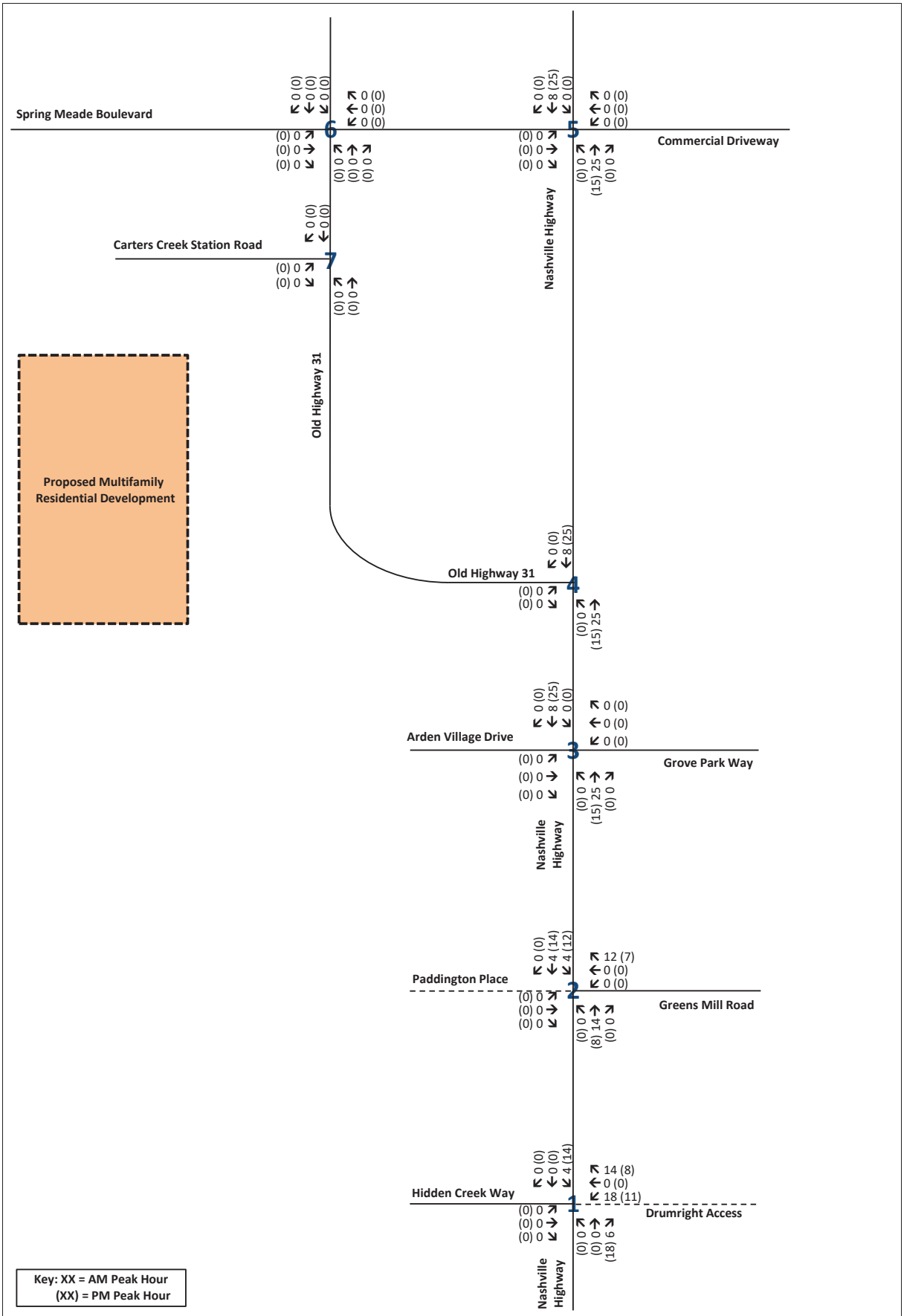
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



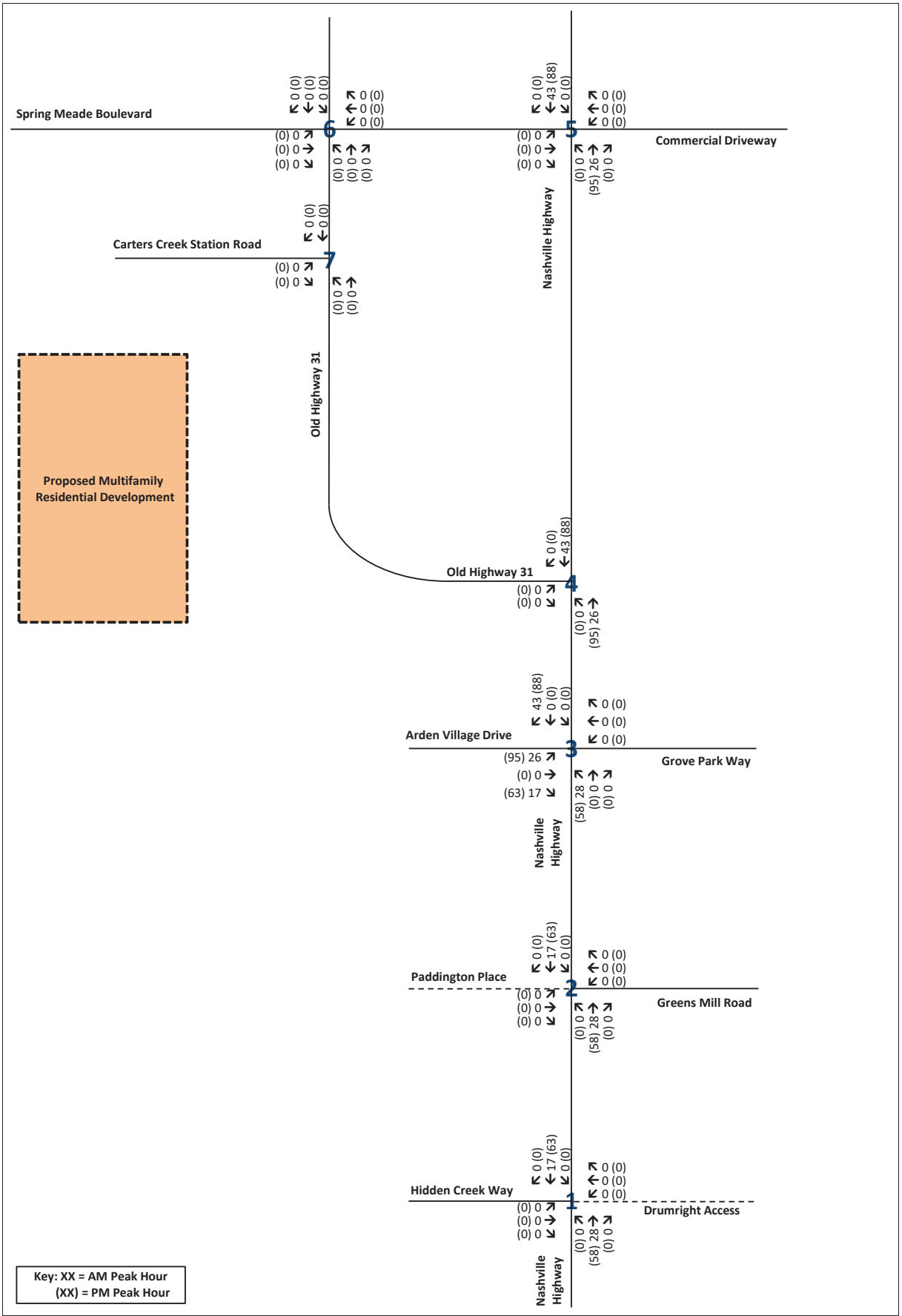
Traffic Assignment Worksheet
Off-Site Traffic Assignment - Drumright Property - Single Family Residential
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



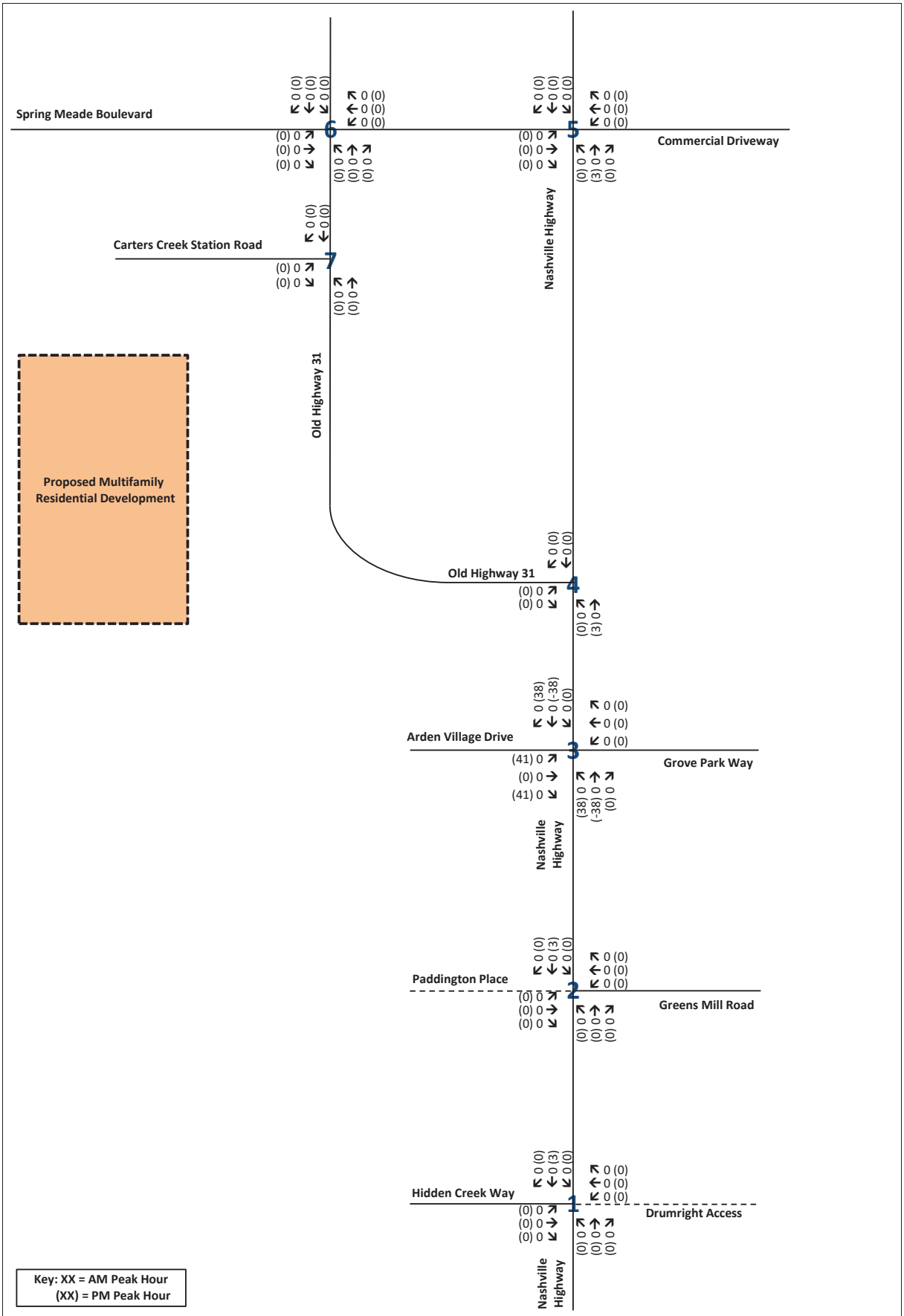
Traffic Assignment Worksheet
Off-Site Traffic Assignment - Drumright Property - Multifamily Residential
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



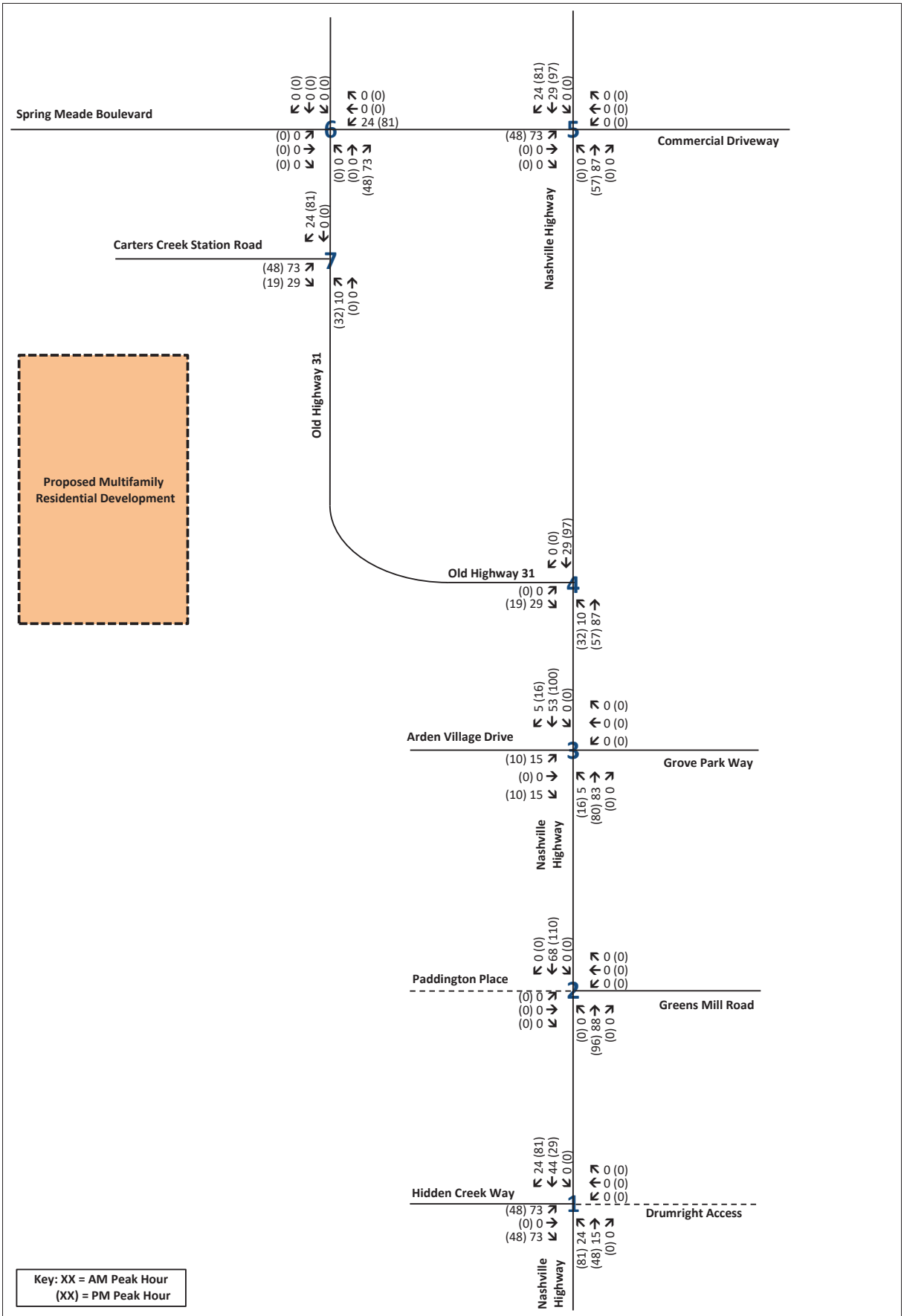
Traffic Assignment Worksheet
Off-Site Traffic Assignment - Arden Village - Retail (Primary Trips)
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



Traffic Assignment Worksheet
Off-Site Traffic Assignment - Arden Village - Retail (Pass-By Trips)
Traffic Study for MSC Apartments
Columbia, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

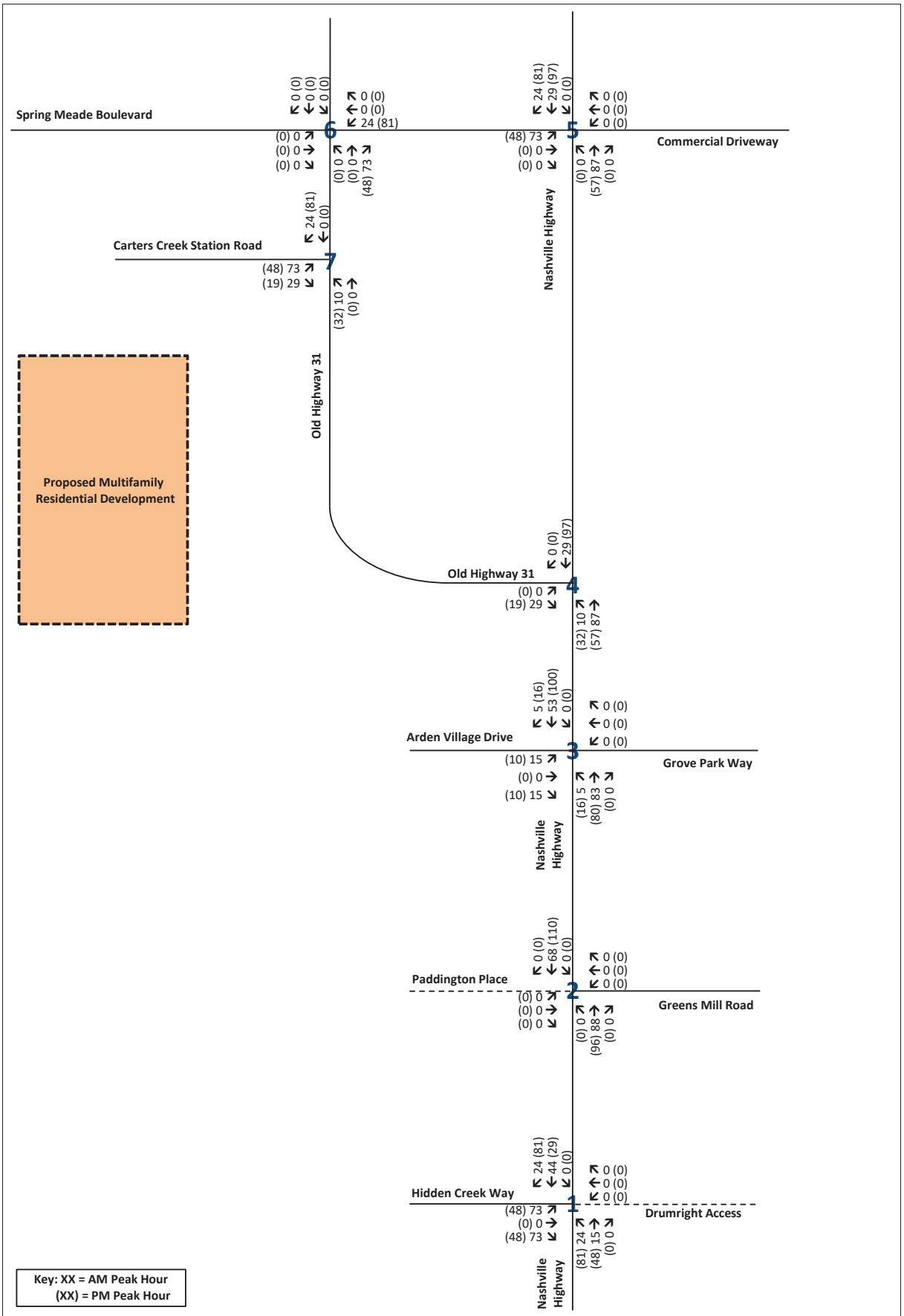


Traffic Assignment Worksheet

Off-Site Traffic Assignment - Carters Station Master Plan - Single Family Residential

Traffic Study for MSC Apartments

Columbia, Tennessee



Traffic Assignment Worksheet

Off-Site Traffic Assignment - Carters Station Master Plan - Single Family Residential

Traffic Study for MSC Apartments

Columbia, Tennessee

APPENDIX H
TRIP GENERATION CALCULATIONS

TRIP GENERATION

Single-Family Detached Housing

210 ITE Land Code

745 units

Average Daily Traffic:

Ln(T) = (0.92 * Ln(X) + 2.71)

Ln(T) = (0.92 * Ln(745) + 2.71)

T = 6597

A.M. Peak Hour:

T = 0.71 * (X) + 4.80

T = 0.71 * (745) + 4.80

T = 534

Enter =	134	25%
Exit =	400	75%

P.M. Peak Hour:

Ln(T) = (0.96 * Ln(X) + 0.2)

Ln(T) = (0.96 * Ln(745) + 0.2)

T = 698

Enter =	440	63%
Exit =	258	37%

APPENDIX I
WARRANT ANALYSIS

Projected Conditions (Peak Hours)

MINOR APPROACH ANALYSES

(Based on Intersection Channelization Design Guide)

Intersection Approach		AM Peak Hour			PM Peak Hour		
		Minor Road Volume	Major Road Volume	2-Lane Approach?	Minor Road Volume	Major Road Volume	2-Lane Approach?
Greens Mill Road and Site Access A		340	295	N	219	538	N
Double Branch Road and Site Access B		60	77	N	39	132	N
Nashville Highway and Double Branch Road		83	4076	Y	49	4350	N
Major Street and Site Access							
Major Street and Site Access							
Major Street and Site Access							
Major Street and Site Access							

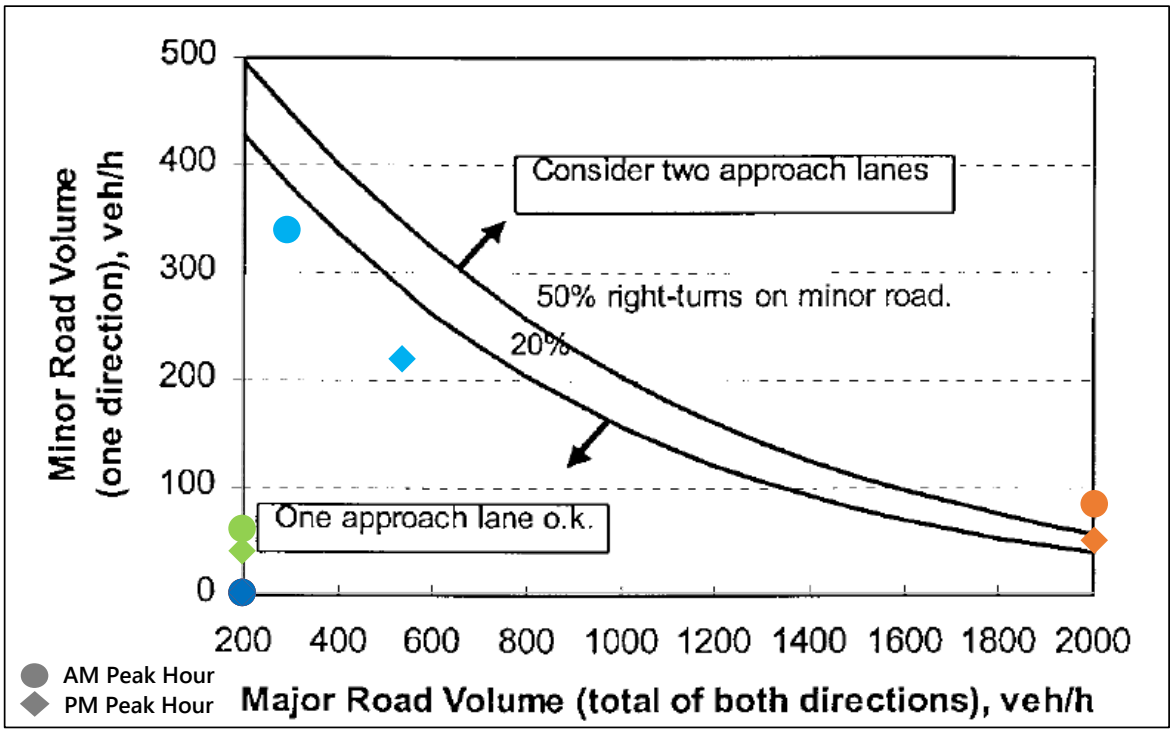


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

4-lane roadway

INPUT

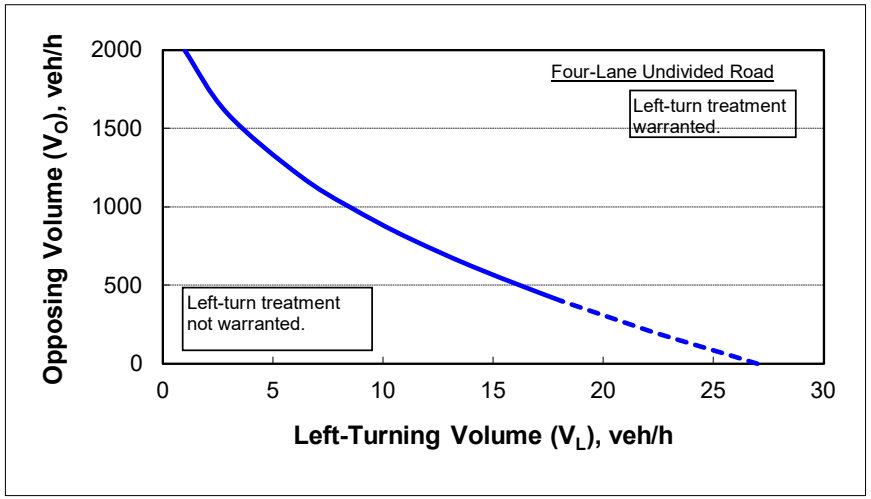
Variable	Value
Left-turning volume (V_L), veh/h:	15
Advancing volume (V_A), veh/h:	1983
Opposing volume (V_O), veh/h:	2102

OUTPUT

Variable	Message
Opposing volume (Vo) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

4-lane roadway

INPUT

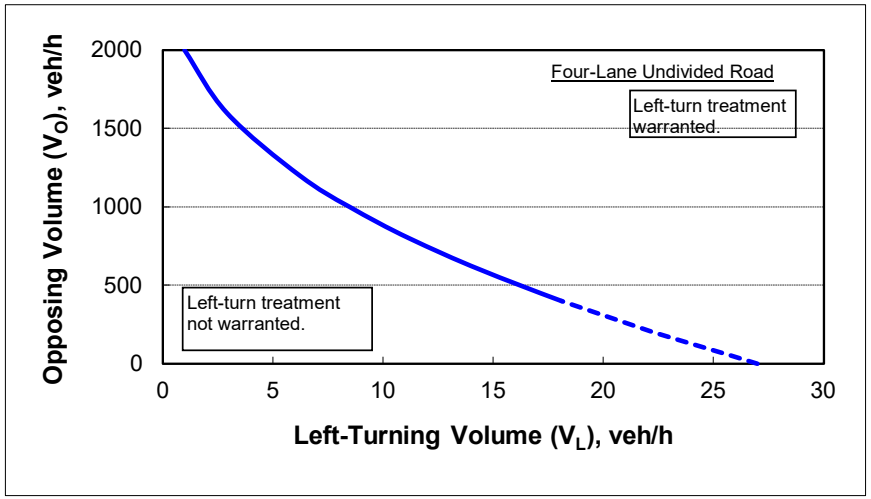
Variable	Value
Left-turning volume (V_L), veh/h:	48
Advancing volume (V_A), veh/h:	2238
Opposing volume (V_O), veh/h:	2112

OUTPUT

Variable	Message
Opposing volume (Vo) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

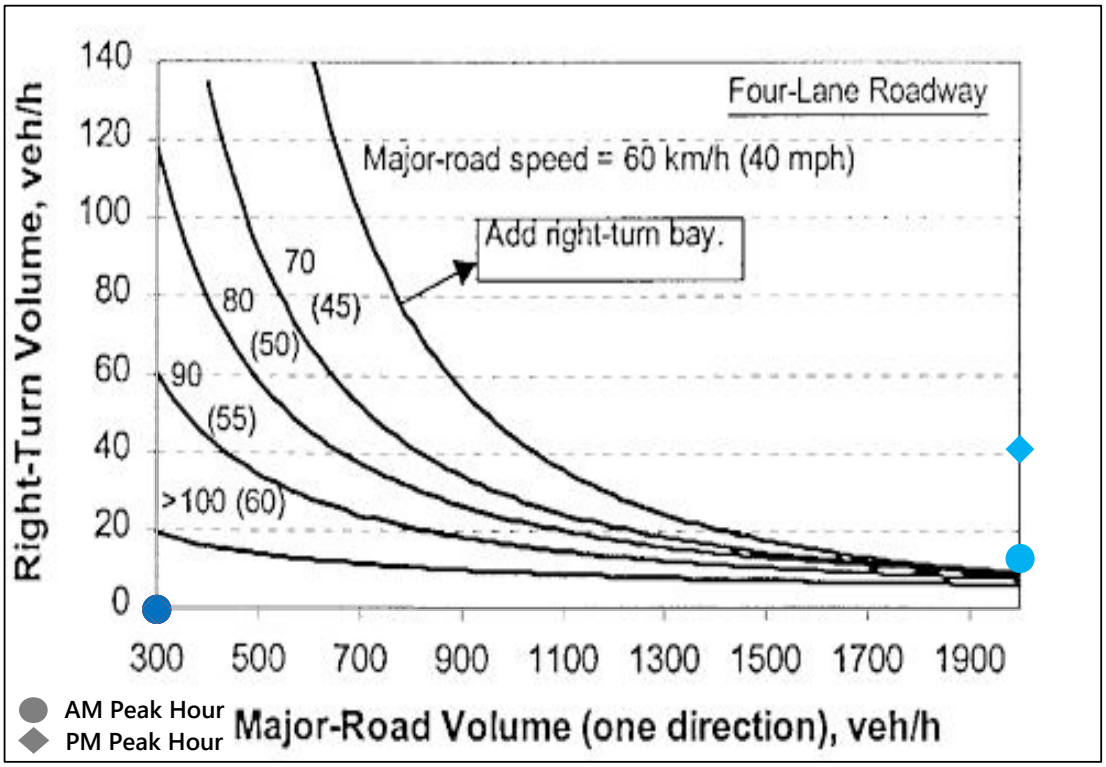
Projected Conditions (Peak Hours)

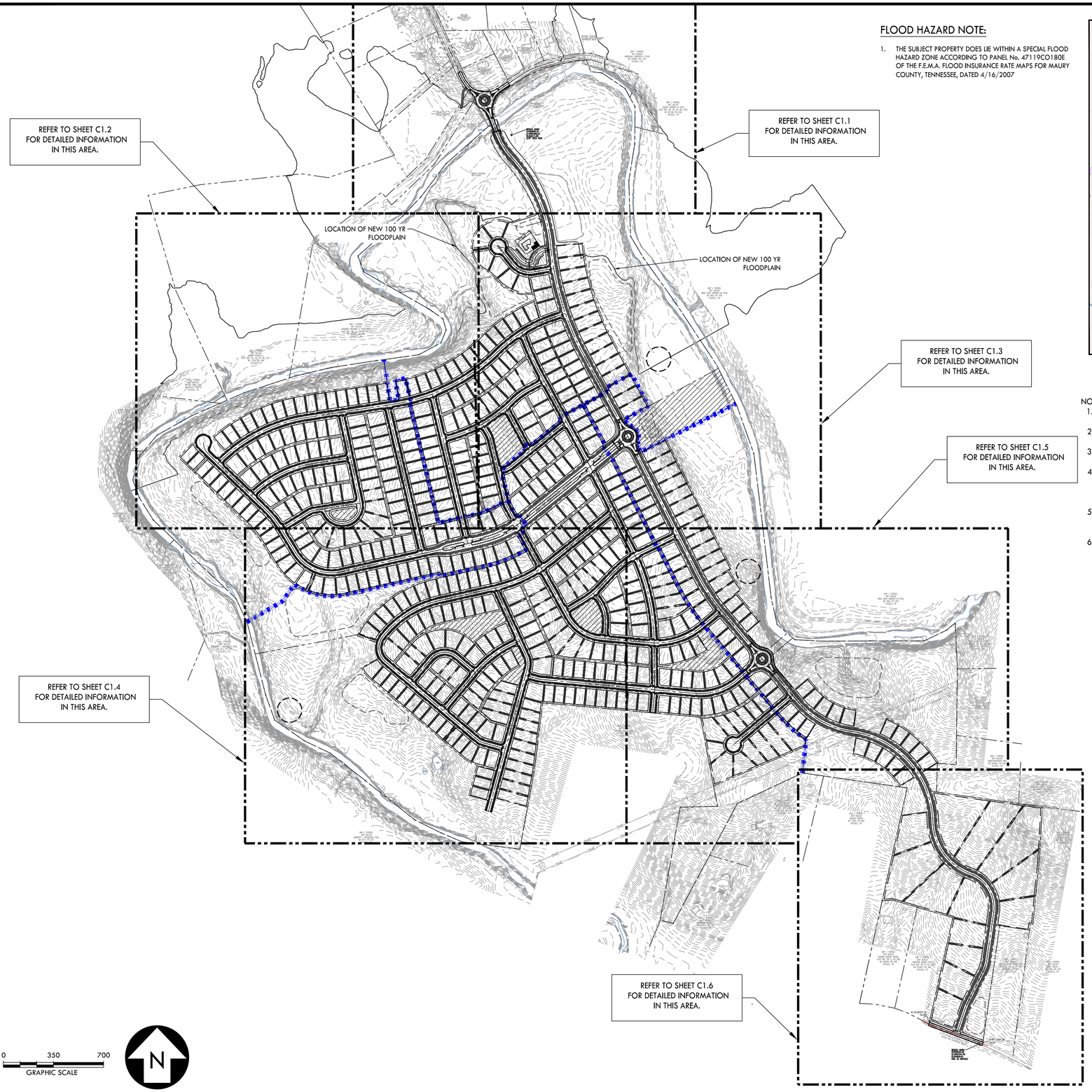
RIGHT-TURN LANE WARRANT ANALYSIS

(Based on NCHRP 457: Evaluating Intersection Improvements)

Intersection Approach		Speed Limit	AM Peak Hour			PM Peak Hour		
			V_R*	V_A*	Warrant Met?	V_R*	V_A*	Warrant Met?
Nashville Highway and Double Branch Road		45	13	2089	Y	41	2071	Y
Major Street and Site Access		0	0	0		0	0	
Major Street and Site Access		0	0	0		0	0	
Major Street and Site Access		0	0	0		0	0	
Major Street and Site Access		0	0	0		0	0	
Major Street and Site Access		0	0	0		0	0	
Major Street and Site Access		0	0	0		0	0	
Major Street and Site Access		0	0	0		0	0	

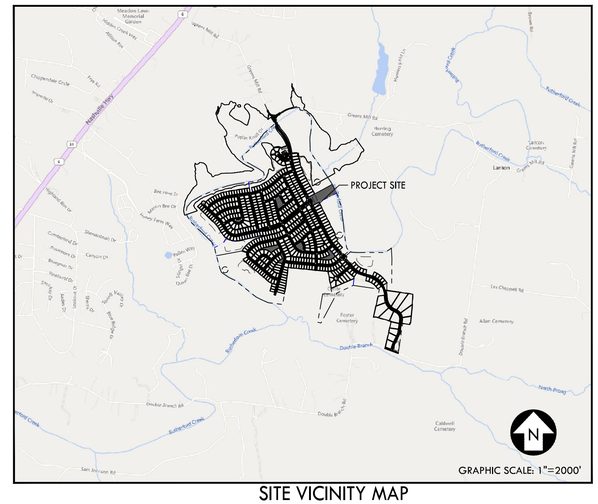
V_R = Right Turn Volumes, V_A = Advancing Volumes





FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/16/2007



SITE VICINITY MAP

NOTES:
1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

SITE DATA TABLE

PROJECT: GREENS MILL ROAD PUD	
ADDRESS: GREENS MILL ROAD 2558	
PARCEL ID: 051 055.00	
SITE ACREAGE: 376.96 ACRES	
PROPOSED DENSITY: 1.46 DUA	
PROPOSED ZONING: RS10	
ZONING DISTRICT:	RS10
AREA:	376.96 AC
LOT TYPE:	
10,000 SQ-FT	528 LOTS
1-ACRE	22 LOTS
PROPOSED LOTS:	
PHASE 1 LOTS:	100
PHASE 2 LOTS:	218
PHASE 3: LOTS:	232
TOTAL	550
MIN. LOT SIZE:	10,000 SF
MIN. LOT WIDTH:	73 FT
FRONT YARD:	
MINOR COLLECTOR:	30 FT
LOCAL STREET:	25 FT
SIDE SETBACK:	
10,000 SQ-FT	10 FT
1-ACRE	25 FT
REAR SETBACK:	20 FT
OPEN SPACE REQ'D:	6% OF TOTAL AREA (22.62 AC)
OPEN SPACE PROVIDED:	160.85 AC (42.67%)
REQUIRED USABLE OPEN SPACE (33% OF REQUIRED OPEN SPACE):	7.46 AC
USABLE OPEN SPACE PROVIDED:	9.20 AC

***REFER TO SHEET C1.8 FOR OPEN SPACE PARCEL TABLE

Sheet List Table

Sheet Number	Sheet Title
C1.0	OVERALL SITE LAYOUT PLAN
C1.1	SITE LAYOUT PLAN
C1.2	SITE LAYOUT PLAN
C1.3	SITE LAYOUT PLAN
C1.4	SITE LAYOUT PLAN
C1.5	SITE LAYOUT PLAN
C1.6	SITE LAYOUT PLAN
C1.7	TYPICAL LOT LAYOUT
C1.8	PARCEL TABLES
C1.9	OFFSITE IMPROVEMENTS
C2.0	OVERALL GRADING, DRAINAGE, & UTILITY PLAN
C2.1	GRADING, DRAINAGE, & UTILITY PLAN
C2.2	GRADING, DRAINAGE, & UTILITY PLAN
C2.3	GRADING, DRAINAGE, & UTILITY PLAN
C2.4	GRADING, DRAINAGE, & UTILITY PLAN
C2.5	GRADING, DRAINAGE, & UTILITY PLAN
C2.6	GRADING, DRAINAGE, & UTILITY PLAN
C2.7	MCWS WATERMAIN EXTENSION EXHIBIT
C3.0	ROADWAY CROSS SECTIONS

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

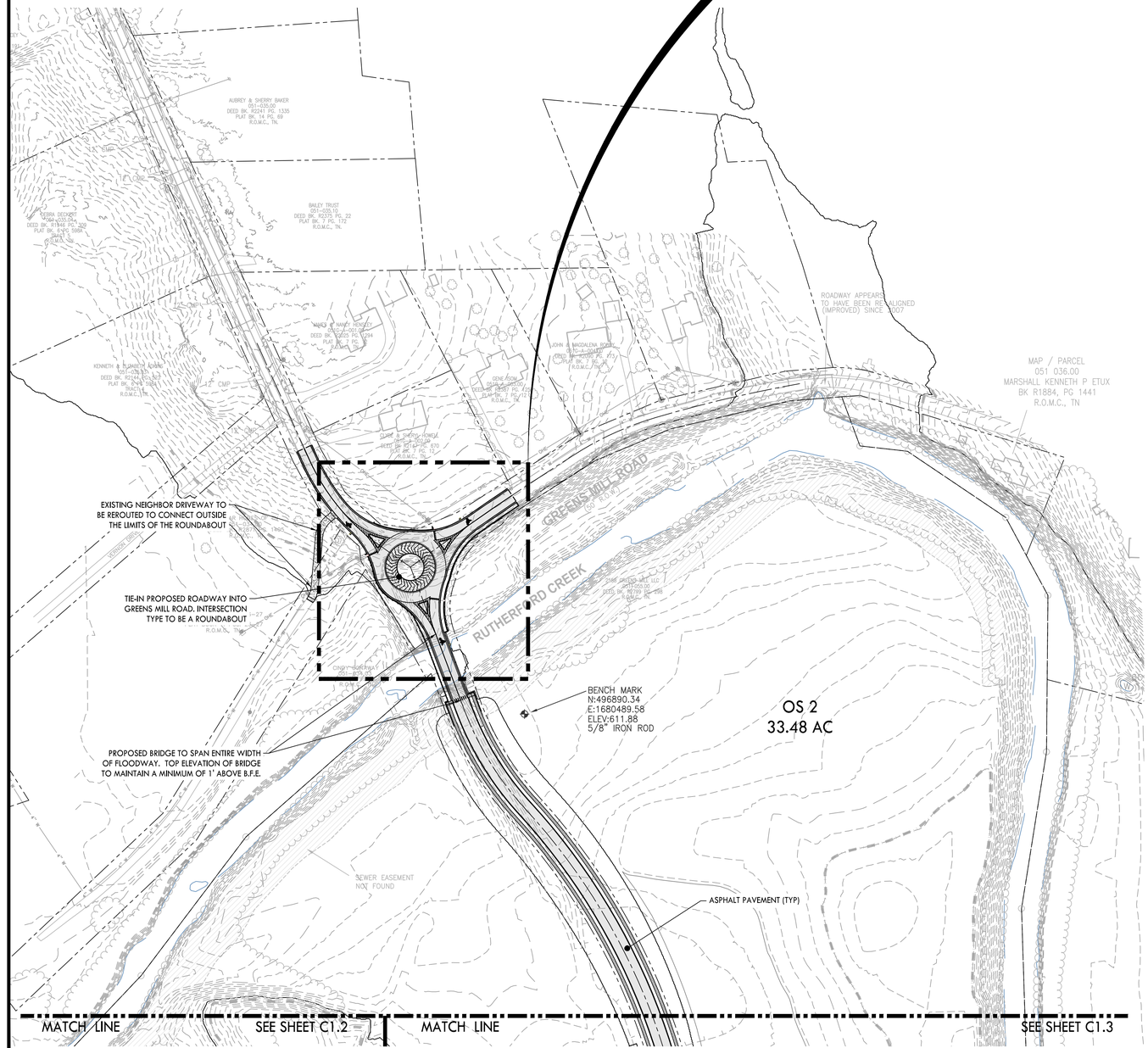
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
3/18/24

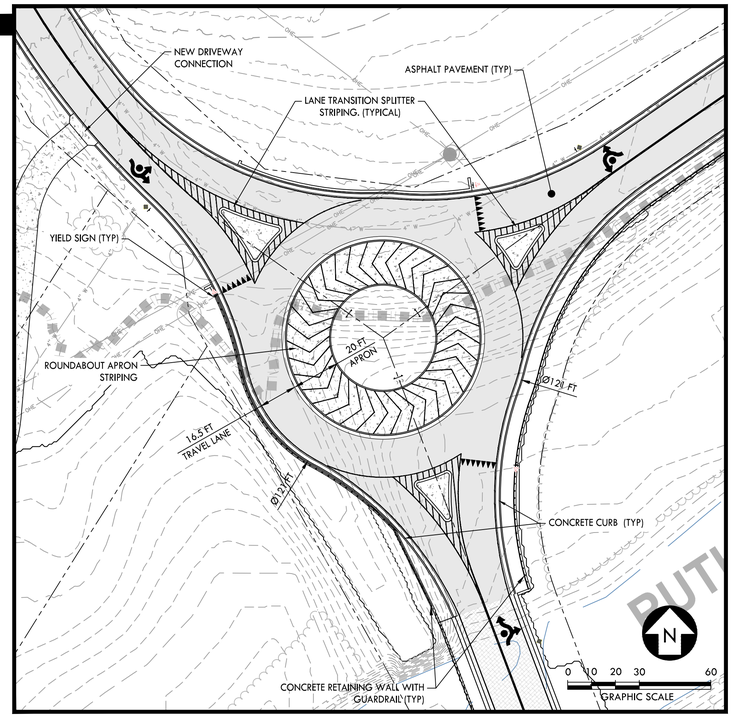
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS		
No.	DATE	

03/18/2024 17067

C1.0
OVERALL SITE LAYOUT PLAN





GREENS MILL ROAD - ROAD A ROUNDABOUT - DETAILED LAYOUT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

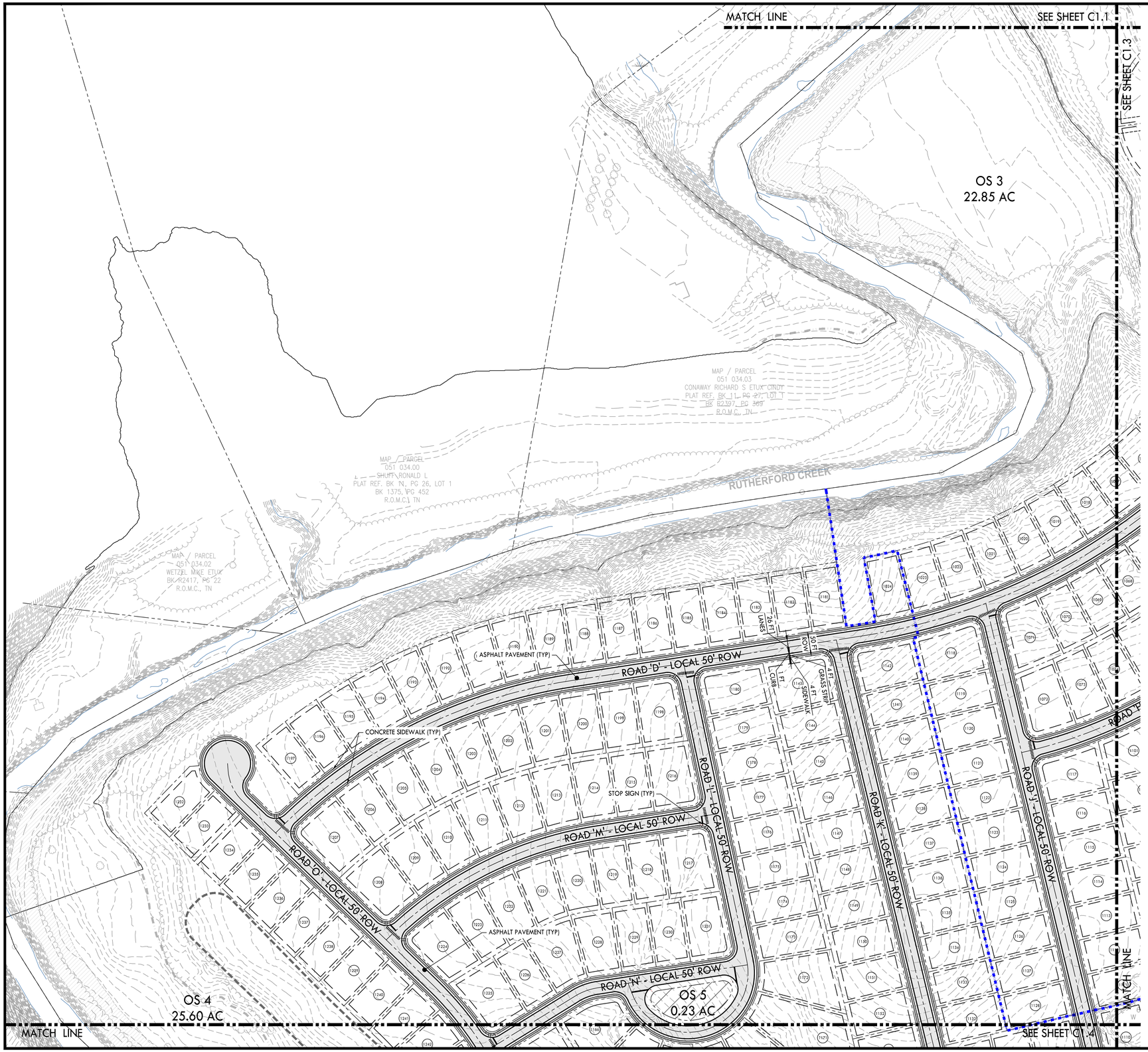
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

03/18/2024 17067

C1.1
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C1.2
SITE LAYOUT PLAN

MATCH LINE

SEE SHEET C1.1

SEE SHEET C1.2

OS 1
1.82 AC

ROAD 'C' - LOCAL - 50' ROW

SEE DETAIL B THIS SHEET FOR DETAILED LAYOUT

STORMWATER POND 1

CONCRETE SIDEWALK (TYP)

ROAD 'D' - LOCAL 50' ROW

STOP SIGN (TYP)

ROAD 'A' - COLLECTOR 60' ROW

ROAD 'E' - LOCAL 50' ROW

ROAD 'F' - LOCAL 50' ROW

ROAD 'G' - LOCAL 50' ROW

ROAD 'H' - LOCAL 50' ROW

OS 6
1.14 AC

SEE DETAIL A THIS SHEET FOR DETAILED LAYOUT

ROAD 'O' - BOULEVARD 100' ROW

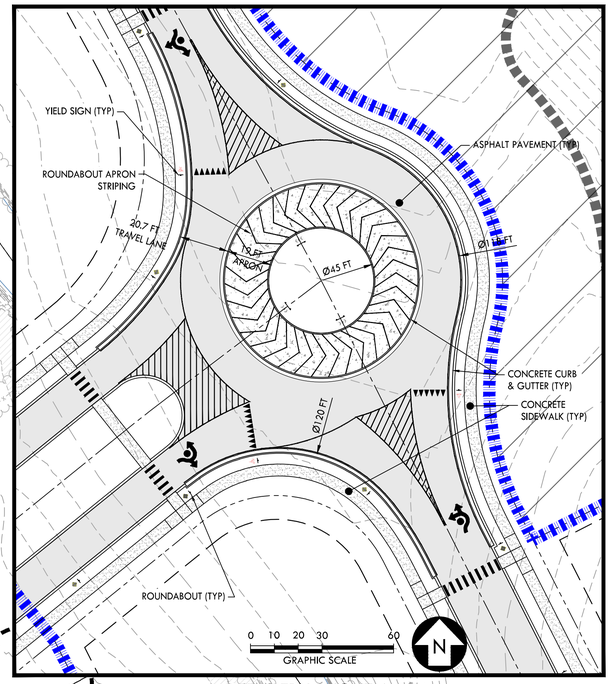
OS 7
17.39 AC

CONCRETE SIDEWALK (TYP)

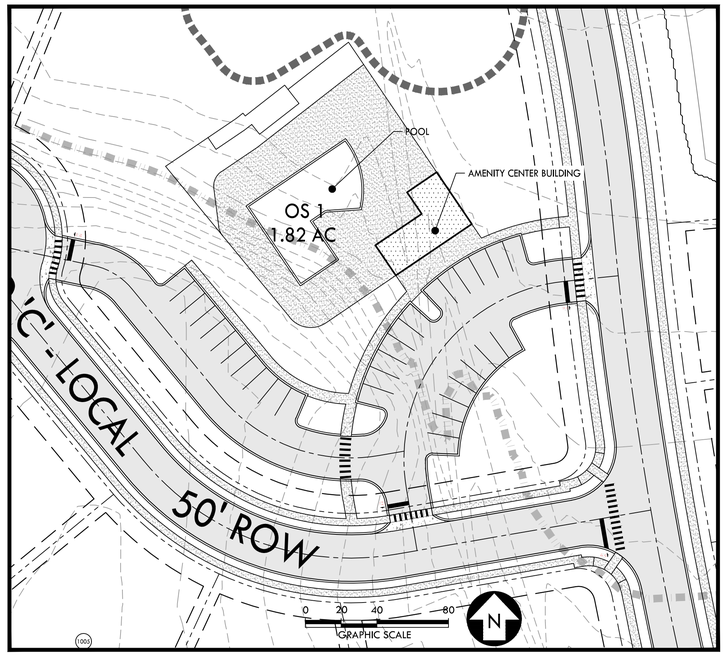
ASPHALT PAVEMENT (TYP)

MATCH LINE

SEE SHEET C1.4



DETAILED LAYOUT A



DETAILED LAYOUT B

SITE DATA TABLE (AMENITY CENTER):

EXISTING ZONING: RS-10
PROPOSED ZONING: RS-10

AMENITY CENTER

AREA:	1.82 AC
PARKING SPACE:	31 SPACES
USAGE:	AMENITY CENTER AND POOL
BUILDING AREA:	1,340 SQ-FT
POOL AREA:	2,400 SQ-FT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

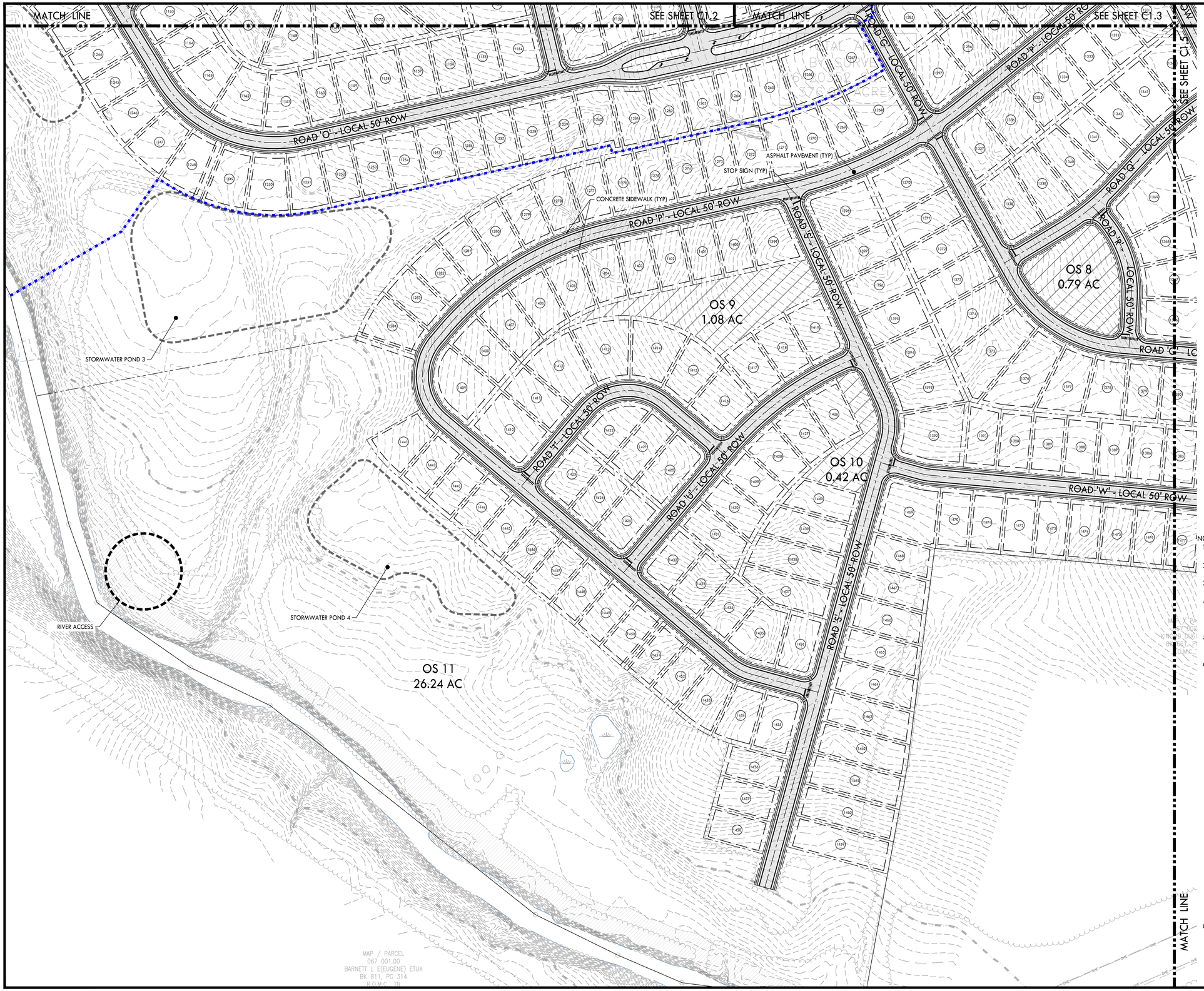
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
3/18/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C1.3
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
3/18/24
LICENSE No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

03/18/2024 17067

C1.4
SITE LAYOUT PLAN

MATCH LINE

SEE SHEET C1.4

SEE SHEET C1.3

ROAD A - COLLECTOR 60' ROW

ROAD F - LOCAL 50' ROW

CAL 50' ROW

ROAD A - COLLECTOR 60' ROW

ROAD VI - LOCAL 50' ROW

RIVER ACCESS

CONCRETE SIDEWALK (TYP)

ASPHALT PAVEMENT (TYP)

STOP SIGN (TYP)

RETAINING WALL

STORMWATER POND 5

RETAINING WALL

RUTHERFORD CREEK

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

OS 12
1.09 AC

OS 15
16.15 AC

OS 14
3.41 AC

MAP / PARCEL
067 004.00
NAME:FREEDMAN RON
BK R1824, PG 946
R.O.M.C., TN

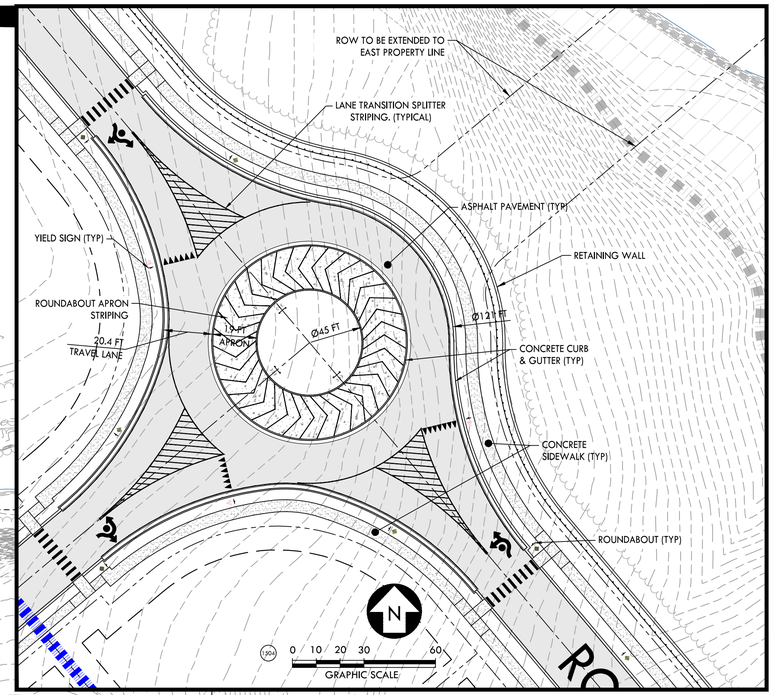
MAP / PARCEL
067 003.00
SIMMONS MICHAEL C
BK/PG: BK/PG: 1564/ 206
BK1265/PG: 818
R.O.M.C., TN

CEMETERY

75' TVA EASEMENT

SEE SHEET C1.6

MATCH LINE



ROAD A - ROAD W ROUNDABOUT - DETAILED LAYOUT

NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

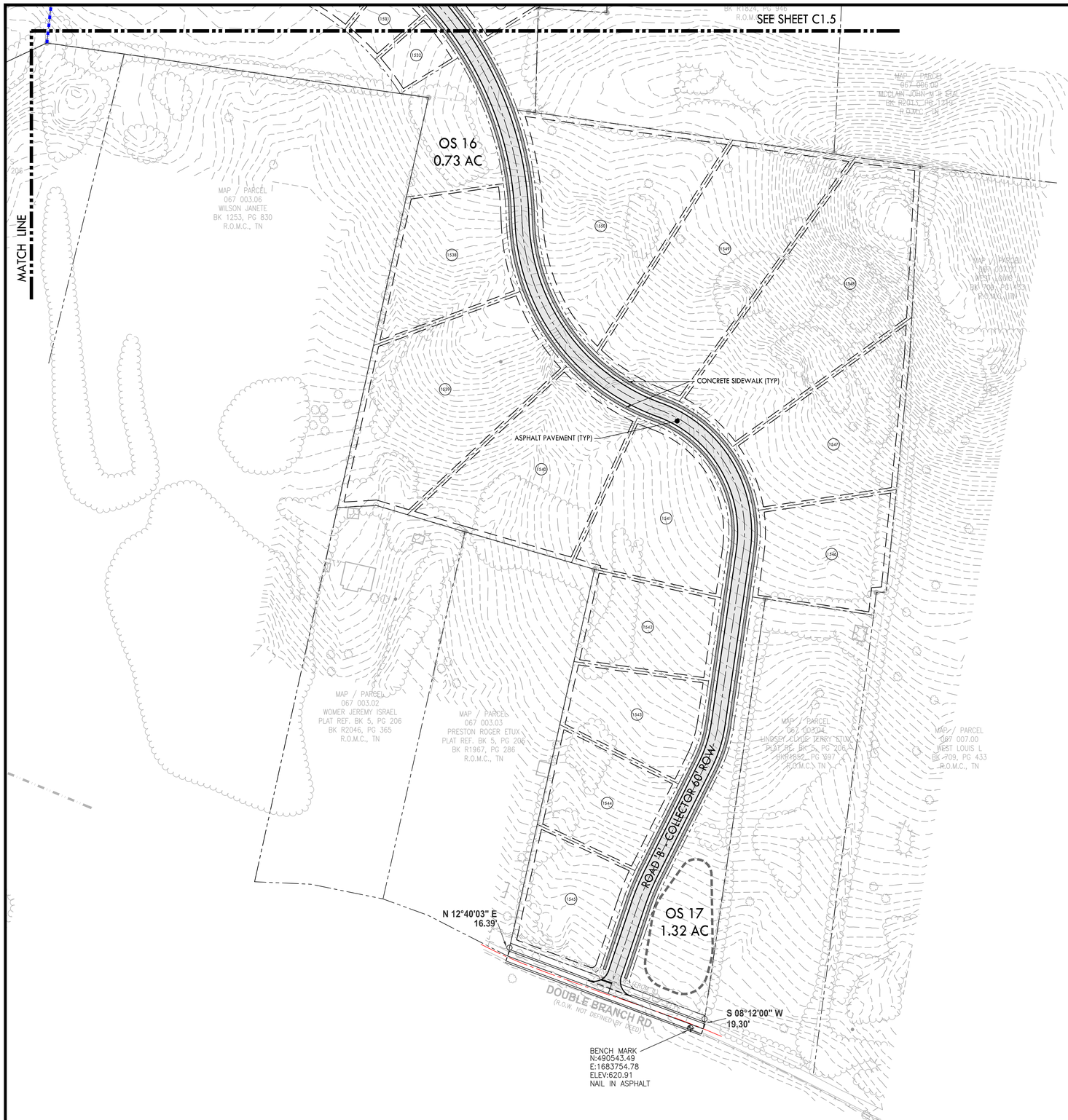
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
3/18/24
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C1.5
SITE LAYOUT PLAN



NOTES:

1. REFER TO SHEET C1.8 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.7 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.
6. NAD83 TENNESSEE STATE PLANE COORDINATE SYSTEM

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGREEMENT
3/18/24
No. 124695
STATE OF TENNESSEE

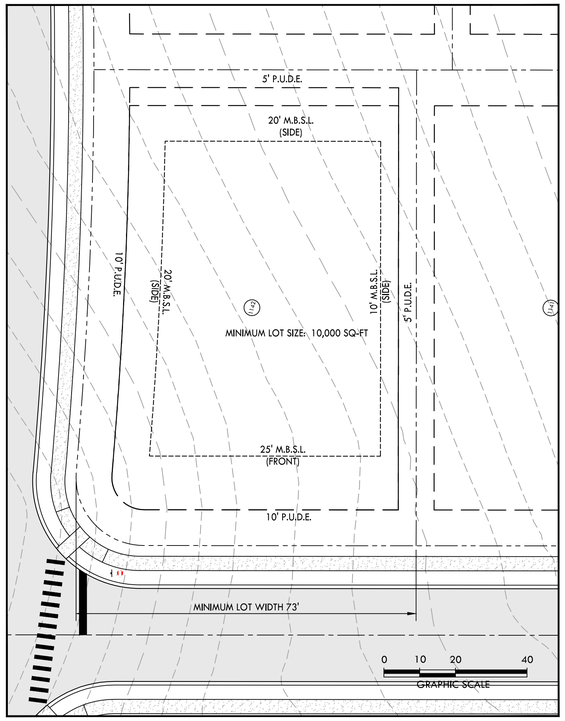
GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

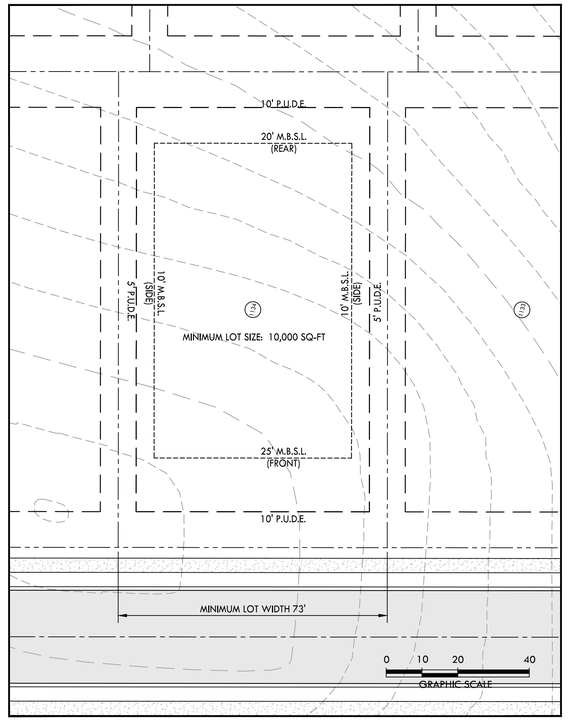
No.	DATE

03/18/2024 17067

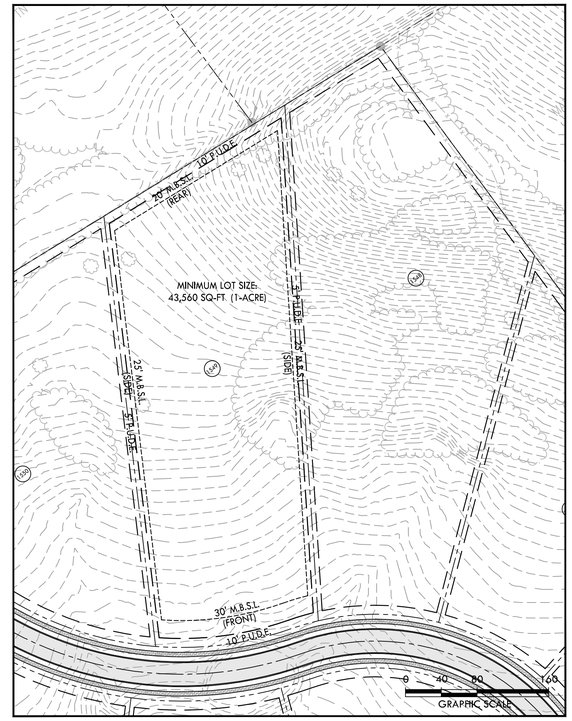
C1.6
SITE LAYOUT PLAN



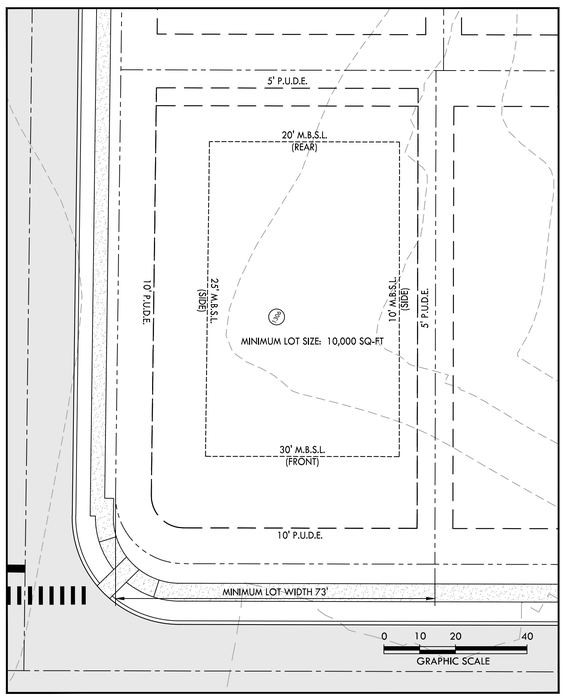
TYPICAL CORNER LOT LAYOUT AT LOCAL ROADWAYS



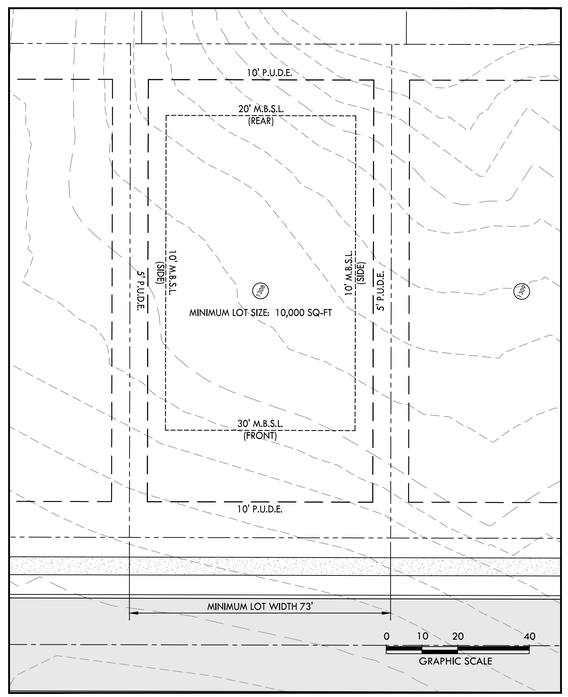
TYPICAL LOT LAYOUT AT LOCAL ROADWAYS



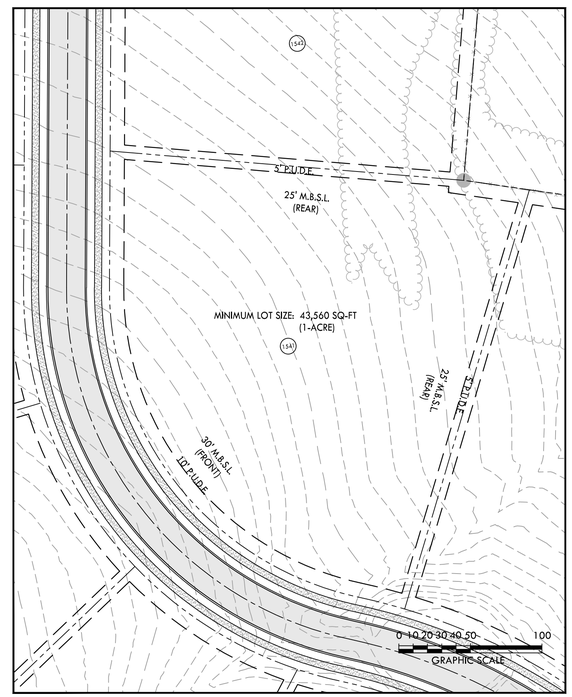
TYPICAL 1-ACRE LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL CORNER LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL LOT LAYOUT AT COLLECTOR ROADWAYS



TYPICAL 1-ACRE LOT CORNER LAYOUT AT COLLECTOR ROADWAYS

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD

PRELIMINARY PLAT

COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C1.7

TYPICAL LOT LAYOUT

PHASE 1 LOTS	
LOT NUMBER	AREA (SQ-FT)
1001	17,017
1002	17,017
1003	17,017
1004	14,912
1005	13,469
1006	14,496
1007	15,290
1008	12,968
1009	15,337
1010	11,104
1011	10,417
1012	10,417
1013	10,417
1014	10,417
1015	10,066
1016	10,422
1017	10,422
1018	10,422
1019	10,422
1020	10,422
1021	10,422
1022	10,422
1023	10,422
1025	17,079
1026	17,079
1027	17,079
1028	17,079
1029	17,079
1030	17,079
1031	17,079
1032	17,079
1033	17,252
1034	17,000
1035	17,000
1036	17,000
1040	12,511
1041	10,407
1042	10,407
1043	10,397
1044	10,212
1045	10,212
1046	10,212
1047	10,212
1055	10,412
1056	10,412
1057	10,412
1058	10,428
1059	10,645
1060	10,645
1061	10,645
1062	11,912
1063	14,209
1064	10,242
1065	10,325
1066	10,325
1067	10,325
1068	10,325
1069	10,325
1070	10,325
1071	13,240
1072	13,199
1073	11,412
1074	11,614
1075	11,632
1076	11,468
1077	11,118
1078	10,741
1079	11,609
1080	19,233
1081	13,477
1082	11,692
1083	14,631
1084	14,553
1085	11,805
1086	15,013
1101	12,377
1102	10,001
1103	10,001
1104	10,001
1105	10,001
1106	10,001
1107	11,400
1111	10,530
1112	10,138
1113	10,138
1114	10,138
1115	10,138
1116	10,138
1117	12,950
1118	14,369
1119	10,575
1120	10,575
1121	10,575
1122	10,575
1123	10,575
1124	10,575
1125	10,575
1126	10,575
1127	10,575
1128	10,575

PHASE 1: 100 LOTS

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1024	10,422
1037	17,000
1038	17,000
1039	17,000
1048	10,212
1049	10,212
1050	21,033
1108	13,627
1109	12,515
1110	13,458
1129	13,142
1130	11,363
1131	14,589
1132	11,080
1133	10,000
1134	10,000
1135	10,000
1136	10,000
1137	10,000
1138	10,000
1139	10,000
1140	10,000
1141	10,000
1142	12,197
1143	14,491
1144	10,686
1145	10,686
1146	10,686
1147	10,686
1148	10,686
1149	10,686
1150	10,686
1151	10,686
1152	10,686
1153	10,596
1154	12,335
1155	10,138
1156	10,138
1157	10,138
1158	10,138
1159	10,138
1160	10,138
1161	12,028
1162	12,884
1163	12,813
1164	10,001
1165	12,566
1166	14,743
1167	15,953
1168	15,175
1169	12,843
1170	17,613
1171	26,172
1172	16,613
1173	11,994
1174	11,307
1175	11,163
1176	11,018
1177	10,874
1178	10,730
1179	10,585
1180	12,589
1181	10,001
1182	10,001
1183	10,001
1184	10,001
1185	10,001
1186	10,001
1187	10,001
1188	10,001
1189	10,350
1190	10,381
1191	10,381
1192	10,381
1193	10,381
1194	10,381
1195	10,381
1196	10,381
1197	10,381
1198	12,488
1199	10,686
1200	10,855
1201	11,187
1202	11,218
1203	11,237
1204	11,245
1205	11,240
1206	11,222
1207	14,934
1208	13,726
1209	11,237
1210	11,237
1211	11,237
1212	11,237
1213	11,237
1214	10,915
1215	10,686
1216	13,080
1217	14,112
1218	10,001

PHASE 2: 218 LOTS

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1219	10,165
1220	10,430
1221	10,358
1222	10,775
1223	10,989
1224	13,203
1225	13,566
1226	10,046
1227	12,710
1228	11,056
1229	10,001
1230	10,001
1231	11,904
1232	10,289
1233	10,001
1234	10,001
1235	10,001
1236	10,001
1237	10,001
1238	10,001
1239	10,001
1240	10,001
1241	10,000
1242	10,000
1243	10,000
1244	10,001
1245	10,001
1246	11,766
1247	12,142
1248	12,142
1249	12,142
1250	12,142
1251	11,339
1252	10,001
1253	10,001
1254	10,001
1255	10,001
1256	10,001
1257	10,001
1258	10,001
1259	10,001
1260	11,330
1261	11,027
1262	10,000
1263	10,000
1264	10,000
1265	10,216
1266	13,453
1267	13,313
1306	12,173
1307	10,074
1308	10,074
1309	10,074
1310	10,074
1311	10,074
1312	10,074
1313	19,125
1314	17,000
1315	17,000
1316	17,000
1317	17,000
1318	17,000
1319	17,000
1320	17,000
1321	17,000
1322	17,000
1323	17,000
1324	17,000
1325	16,824
1326	15,140
1327	15,140
1328	11,113
1329	11,050
1330	11,050
1345	13,979
1346	11,830
1347	11,830
1348	12,096
1349	12,142
1350	13,963
1491	14,121
1492	11,050
1493	11,050
1494	12,923
1504	13,998
1505	9,782
1506	11,447
1520	12,625
1521	10,832
1522	10,828
1523	11,103
1524	12,148
1525	12,148
1526	12,148
1527	12,343
1528	12,039
1529	12,039
1530	12,039
1531	12,039
1532	12,039

PHASE 2 LOTS	
LOT NUMBER	AREA (SQ-FT)
1533	11,595
1534	11,595
1535	11,595
1536	11,595
1537	11,595
1538	55,487
1539	103,201
1540	83,113
1541	66,437
1542	43,560
1543	43,560
1544	43,560
1545	42,380
1546	51,402
1547	69,933
1548	122,430
1549	106,367
1550	102,630

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1381	10,549
1382	13,236
1383	13,283
1384	10,138
1385	10,138
1386	10,138
1387	10,138
1388	10,138
1389	10,138
1390	10,138
1391	10,371
1392	18,573
1393	14,089
1394	12,450
1395	12,450
1396	12,450
1397	12,450
1398	17,223
1420	14,047
1421	11,714
1422	11,981
1423	11,979
1424	10,001
1425	11,979
1426	10,749
1427	10,742
1428	10,742
1429	10,247
1430	10,556
1431	11,790
1432	11,183
1433	11,261
1434	11,261
1435	13,875
1436	11,183
1437	13,756
1438	15,131
1439	13,708
1440	11,460
1441	12,162
1442	10,001
1443	10,001
1444	10,001
1445	10,001
1446	10,001
1447	10,001
1448	10,001
1449	10,001
1450	10,001
1451	10,001
1452	10,001
1453	11,560
1454	11,049
1455	11,961
1456	10,001
1457	10,001
1458	10,001
1459	16,669
1460	16,215
1461	15,760
1462	15,247
1463	14,811
1464	13,753
1465	12,995
1466	12,237
1467	11,479
1468	10,721
1469	16,952
1470	10,001
1471	10,001
1472	10,001
1473	10,001
1474	10,001
1475	10,001
1476	10,001
1477	10,001
1478	10,001
1479	11,979
1480	10,800
1481	10,800
1482	10,800
1483	13,003
1484	12,263
1485	10,275
1486	10,275
1487	11,566
1488	12,250
1489	12,250
1490	10,382
1495	11,979
1496	10,001
1497	10,001
1498	10,692
1499	10,980
1500	10,980
1501	10,980
1502	10,980
1503	10,938
1507	10,366
1508	10,513

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1051	14,594
1052	10,412
1053	10,412
1054	10,412
1087	13,310
1088	10,138
1089	10,138
1090	10,138
1091	10,138
1092	11,168
1093	14,266
1094	15,338
1095	10,686
1096	10,686
1097	10,686
1098	10,686
1099	10,686
1100	13,799
1268	15,723
1269	10,000
1270	10,000
1271	10,000
1272	10,220
1273	10,220
1274	10,220
1275	10,220
1276	10,218
1277	10,316
1278	10,587
1279	10,587
1280	10,587
1281	10,587
1282	10,587
1283	10,413
1284	12,258
1285	14,363
1286	11,960
1287	11,960
1288	11,960
1289	11,960
1290	15,305
1291	14,579
1292	10,549
1293	10,549
1294	10,549
1295	10,549
1296	10,549
1297	13,830
1298	14,636
1299	10,138
1300	10,138
1301	10,138
1302	10,138
1303	10,138
1304	10,138
1305	12,185
1331	13,840
1332	10,686
1333	10,001
1334	10,001
1335	10,001
1336	11,722
1337	13,741
1338	15,280
1339	13,241
1340	13,493
1341	11,980
1342	11,512
1343	11,211
1344	14,642
1351	12,438
1352	12,941
1353	14,839
1354	15,337
1355	17,114
1356	14,971
1357	13,500
1358	12,409
1359	14,257
1360	15,369
1361	10,368
1362	10,368
1363	10,368
1364	10,368
1365	13,193
1366	13,877
1367	12,355
1368	12,396
1369	18,871
1370	16,393
1371	12,508
1372	12,968
1373	13,428
1374	16,130
1375	20,036
1376	18,180
1377	13,637
1378	11,552
1379	10,549
1380	10,549

PHASE 3: 232 LOTS

PHASE 3 LOTS	
LOT NUMBER	AREA (SQ-FT)
1509	11,275
1510	12,781
1511	13,522
1512	23,466
1513	15,113
1514	28,036
1515	18,575
1516	17,547
1517	21,477
1518	23,805
1519	29,735

OPEN SPACE	
OPEN SPACE NUMBER	AREA (SQ-FT)
OS1	79,170
OS2	1,458,307
OS3	995,488
OS4	1,115,170
OS5	10,007
OS6	49,797
OS7	757,551
OS8	34,518
OS9	47,158
OS10	18,195
OS11	1,142,952
OS12	47,626
OS13	309,323
OS14	148,353
OS15	703,561
OS16	31,905
OS17	57,342

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

03/18/2024 17067

C1.8
PARCEL TABLES



NASHVILLE HIGHWAY AND GREENS MILL ROAD INTERSECTION:

GENERAL IMPROVEMENTS:
1. MODIFY LEFT-TURN LANE PHASING ON THE NORTHBOUND AND SOUTHBOUND APPROACHES FROM PROTECTED TO PROTECTED-PERMISSIVE.
2. MODIFY SIGNAL PHASING ON THE EASTBOUND AND WESTBOUND APPROACHES TO RUN LEFT-TURNS CONCURRENTLY.
3. MODIFY THE SIGNAL TO INCLUDE RIGHT-TURN OVERLAPS ON THE NORTHBOUND, WESTBOUND, AND SOUTHBOUND APPROACHES.

GREENS MILL ROAD IMPROVEMENTS:
1. INSTALL A DEDICATED LEFT-TURN LANE ALONG EASTBOUND APPROACH WITH A MINIMUM LENGTH OF 150'.

*** THE CURRENT INTERSECTION IS UNSIGNALIZED HOWEVER THE DEVELOPMENT OF THE VILLAGE AT CARTER'S STATION WILL INSTALL THE INITIAL SIGNALS WHICH WILL BE MODIFIED ONCE THE GREENS MILL ROAD DEVELOPMENT IS UNDERWAY.

GREENS MILL ROAD AND SITE INTERSECTION:

GENERAL IMPROVEMENTS:
1. INSTALL 3-LEG ROUNDABOUT.

NASHVILLE HIGHWAY AND DOUBLE BRANCH ROAD INTERSECTION:

NASHVILLE HIGHWAY IMPROVEMENTS:
1. DEDICATED RIGHT-TURN LANE WITH A MINIMUM OF 75' OF STORAGE TO BE INSTALLED ALONG THE NORTHBOUND APPROACH.
2. DEDICATED LEFT-TURN LANE WITH A MINIMUM OF 75' OF STORAGE TO BE INSTALLED ALONG THE SOUTHBOUND APPROACH.

DOUBLE BRANCH ROAD IMPROVEMENTS:
1. DEDICATED RIGHT-TURN LANE WITH A MINIMUM OF 200' OF STORAGE ALONG THE WESTBOUND APPROACH.
2. EXISTING LANE TO BE CONVERTED TO AN EXCLUSIVE LEFT-TURN LANE.

DOUBLE BRANCH ROAD AND SITE INTERSECTION:

SITE IMPROVEMENTS:
1. INSTALL UNSIGNALIZED STOP CONDITION ON SITE ROADWAY.

DOUBLE BRANCH ROAD IMPROVEMENTS:
1. REVISE ROADWAY CROSS-SECTION AND BRING UP TO COUNTY STANDARDS.

NOTES:

ALL IMPROVEMENTS SHOWN WERE RECOMMENDED BY THE GREENS MILL MASTER PLAN, TRAFFIC IMPACT STUDY CONDUCTED BY KCI TECHNOLOGIES IN NOVEMBER, 2020.

SCHEDULE OF IMPROVEMENTS:

GREENS MILL ROAD AND SITE IMPROVEMENTS:
- TO BE INSTALLED PRIOR TO PHASE 1 COMPLETION.

DOUBLE BRANCH ROAD AND SITE IMPROVEMENTS.
- TO BE INSTALLED AFTER PHASE 1 COMPLETION AND PRIOR TO PHASE 2 COMPLETION.

NASHVILLE HIGHWAY AND GREENS MILL ROAD IMPROVEMENTS:
- TO BE INSTALLED AFTER PHASE 1 COMPLETION AND PRIOR TO PHASE 2 COMPLETION.

NASHVILLE HIGHWAY AND DOUBLE BRANCH ROADIMPROVEMENTS:
- TO BE INSTALLED PRIOR TO PHASE 2 COMPLETION.

0 50 1,000 2,000
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

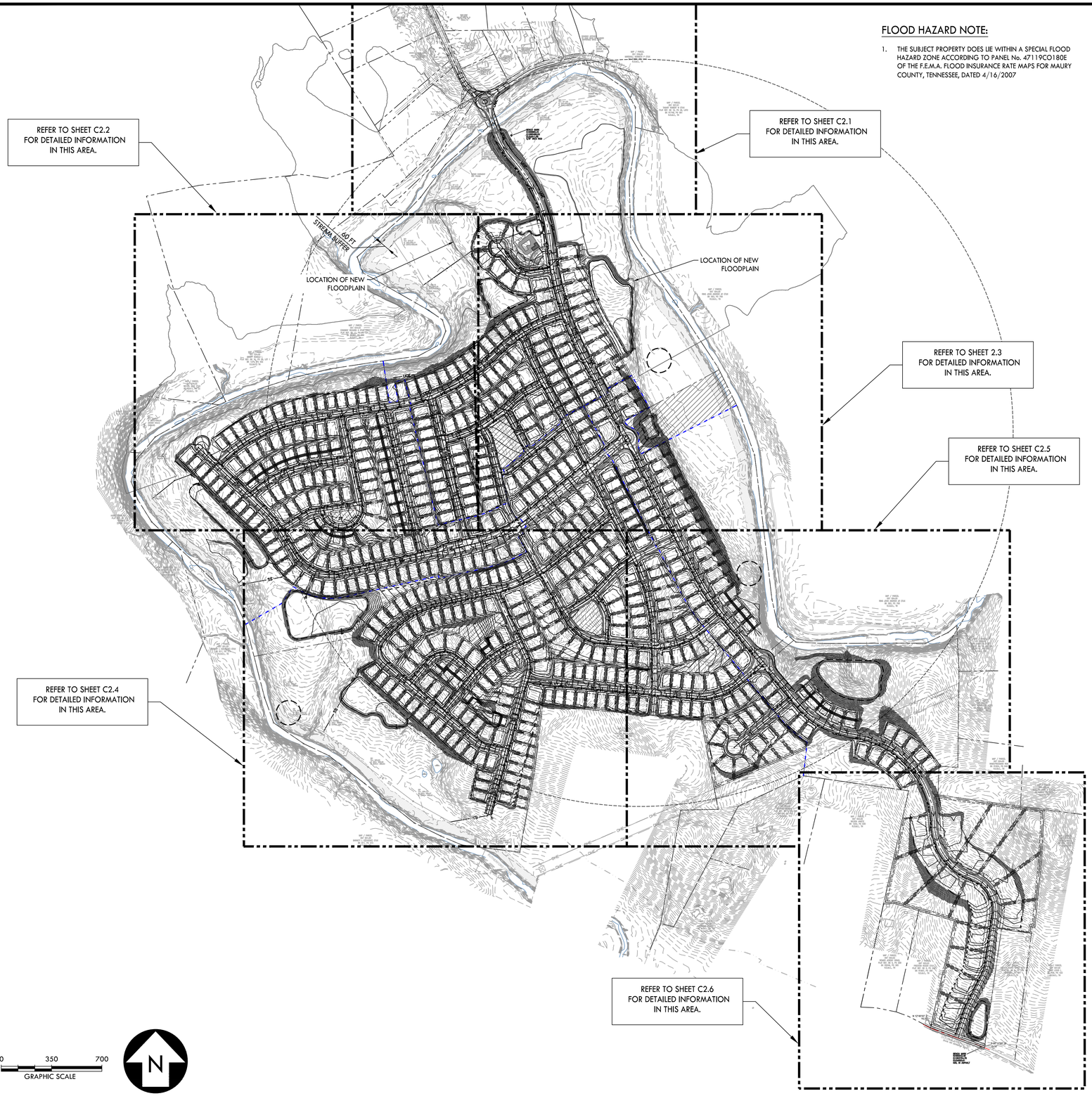
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
3/18/24
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C1.9
OFFSITE IMPROVEMENTS



FLOOD HAZARD NOTE:

1. THE SUBJECT PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL No. 47119C0180E OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MAURY COUNTY, TENNESSEE, DATED 4/16/2007

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

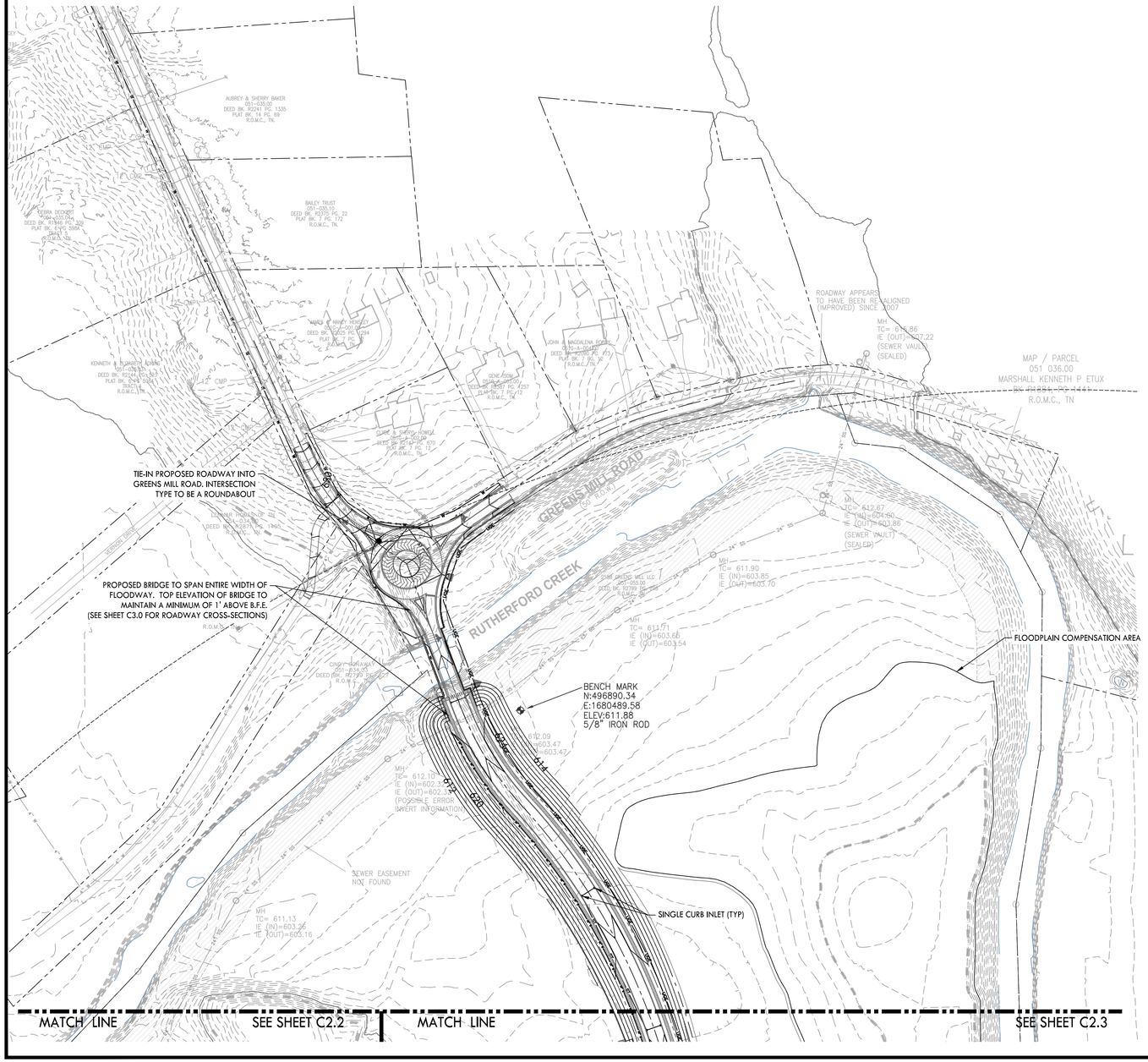
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C2.0
OVERALL GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

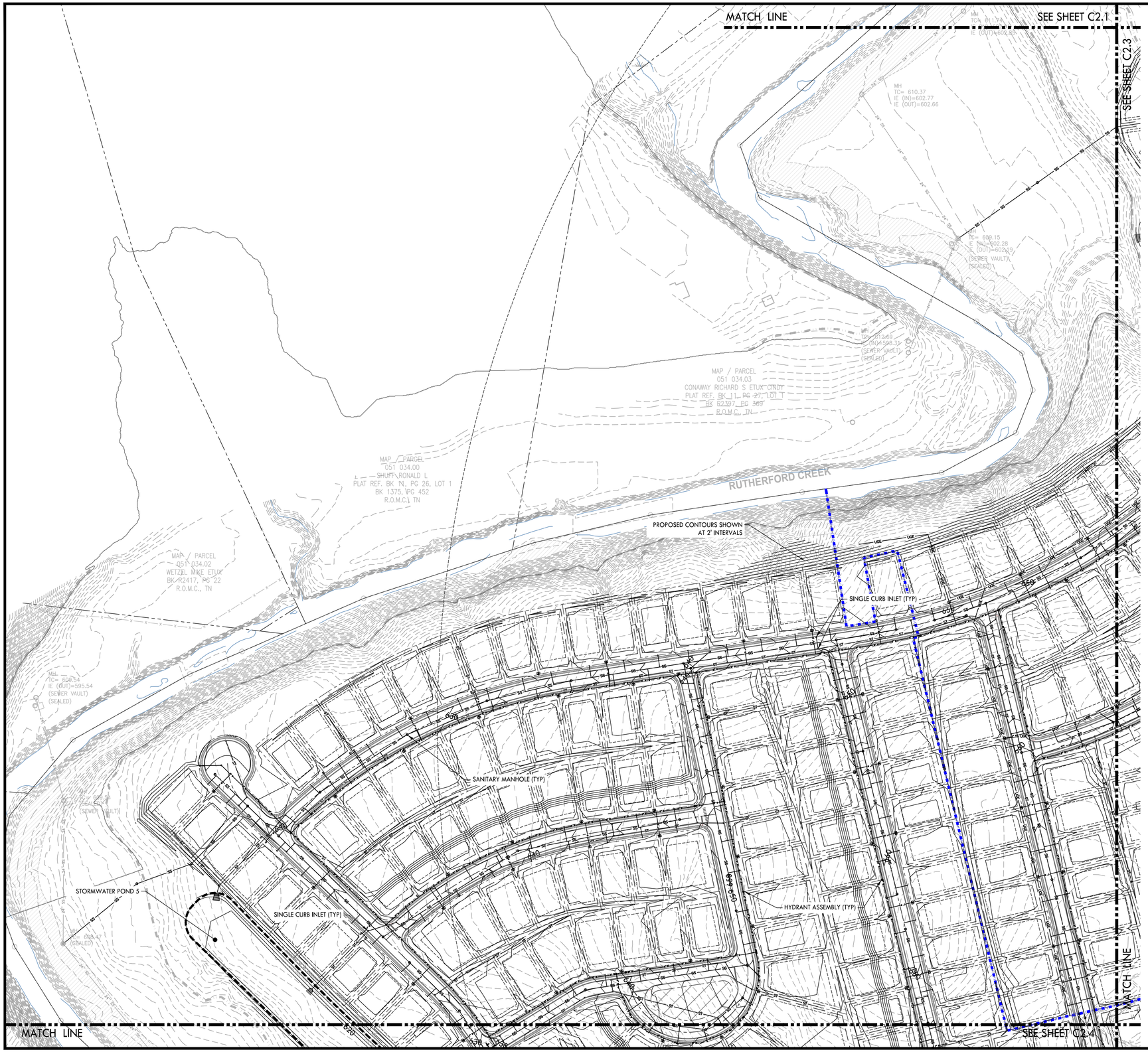
PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS
No. | DATE

03/18/2024 17067

C2.1
GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- PROPOSED CONTOUR
- STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SANITARY SEWER LINE
- WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
3/18/24
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS
No. | DATE

03/18/2024 17067

C2.2
GRADING, DRAINAGE, & UTILITY PLAN

MATCH LINE

SEE SHEET C2.1

SEE SHEET C2.4

MATCH LINE

STORMWATER POND 1

SINGLE CURB INLET (TYP)

STORM JUNCTION MANHOLE (TYP)

POND 1 OUTLET STRUCTURE (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 2

8" TEE AND GATE VALVES (3) (TYP)

SANITARY MANHOLE (TYP)

STORMWATER POND 3

PROPOSED CONTOURS SHOWN AT 2' INTERVALS

CONCRETE HEADWALL (TYP)

8" TEE AND GATE VALVES (3) (TYP)

HYDRANT ASSEMBLY (TYP)

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 4

SANITARY MANHOLE (TYP)

PROPOSED CONTOURS SHOWN AT 2' INTERVALS

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
3/18/24
No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

03/18/2024 17067

C2.3
GRADING, DRAINAGE, & UTILITY PLAN

MATCH LINE

SEE SHEET C2.2

MATCH LINE

SEE SHEET C2.3

MATCH LINE

SEE THIS SHEET

MATCH LINE

SEE THIS SHEET

STORMWATER POND 5

20' PUBLIC UTILITY EASEMENT

STORMWATER POND 6

POND OUTLET STRUCTURE (TYP)

CONCRETE HEADWALL (TYP)

20' PUBLIC UTILITY EASEMENT

SINGLE CURB INLET (TYP)

SANITARY MANHOLE (TYP)

STORMWATER POND 7

POND OUTLET STRUCTURE (TYP)

CONCRETE HEADWALL (TYP)

20' PUBLIC UTILITY EASEMENT

SANITARY MANHOLE (TYP)

CONNECT TO EXISTING SANITARY MANHOLE

CONNECT TO EXISTING SANITARY MANHOLE

CONNECT TO EXISTING SANITARY MANHOLE

MAP / PARCEL
067 001.00
BARNETT L E(EUGENE) ETUX
BK 811, PG 314
R.O.M.C., TN

PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:

1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

CRUNK ENGINEERING

PATRICK JOSEPH PARROTT
LICENSED PROFESSIONAL ENGINEER
AGRICULTURE
3/18/24
LICENSE No. 124695
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS

No.	DATE

03/18/2024 17067

C2.4
GRADING, DRAINAGE, & UTILITY PLAN

MATCH LINE

SEE SHEET C2.4

SEE SHEET C2.3

SINGLE CURB INLET (TYP)

HYDRANT ASSEMBLY (TYP)

SANITARY MANHOLE (TYP)

HYDRANT ASSEMBLY (TYP)

8" TEE AND GATE VALVES (3) (TYP)

HYDRANT ASSEMBLY (TYP)

STORMWATER POND 8

RUTHERFORD CREEK

MAP / PARCEL
051 054.00
RING JOHN ANDREW JR ETUX
BK 583, PG 708
R.O.M.C., TN

MAP / PARCEL
051 052.00
RING TANDY VS ETUX
BK/PG 86/10, 86/12
R.O.M.C., TN

MAP / PARCEL
067 005.00
HALL MARSHALL HEIRS
BK R1196, PG 647
R.O.M.C., TN

MAP / PARCEL
067 004.00
NAME:FREEDMAN RON
BK R1824, PG 946
R.O.M.C., TN

MAP / PARCEL
067 003.00
SULLIVAN MICHAEL S
ELKI REF / BK 5, PG 208
BK/PG 86/10, 86/12
R.O.M.C., TN

75' TVA EASEMENT

CEMETERY

SEE SHEET C2.6

MATCH LINE

PROPOSED GRADING & DRAINAGE LEGEND

- 650 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

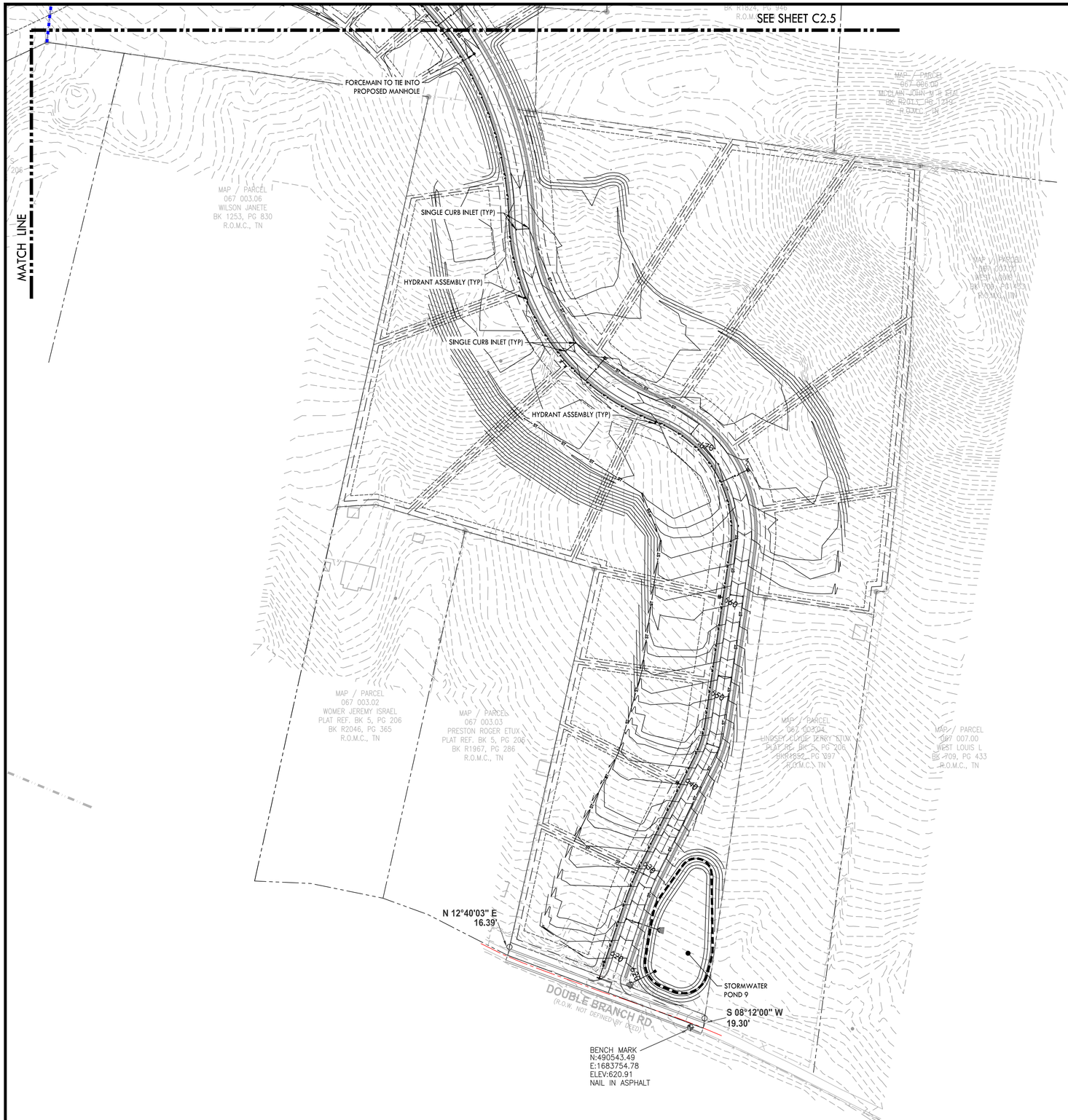
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
3/18/24
STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS
No. | DATE

03/18/2024 17067

C2.5
GRADING, DRAINAGE, & UTILITY PLAN



NOTES:
1. REFER TO SHEET C1.6 FOR PARCEL AREA TABLES.
2. REFER TO SHEET C1.6 FOR TYPICAL LOT LAYOUT.
3. REFER TO SHEET C3.0 FOR ROADWAY SECTIONS.
4. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
5. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

PROPOSED LAYOUT LEGEND

- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- PROPERTY LINE
- EDGE OF NEW PAVEMENT
- USABLE OPEN SPACE

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

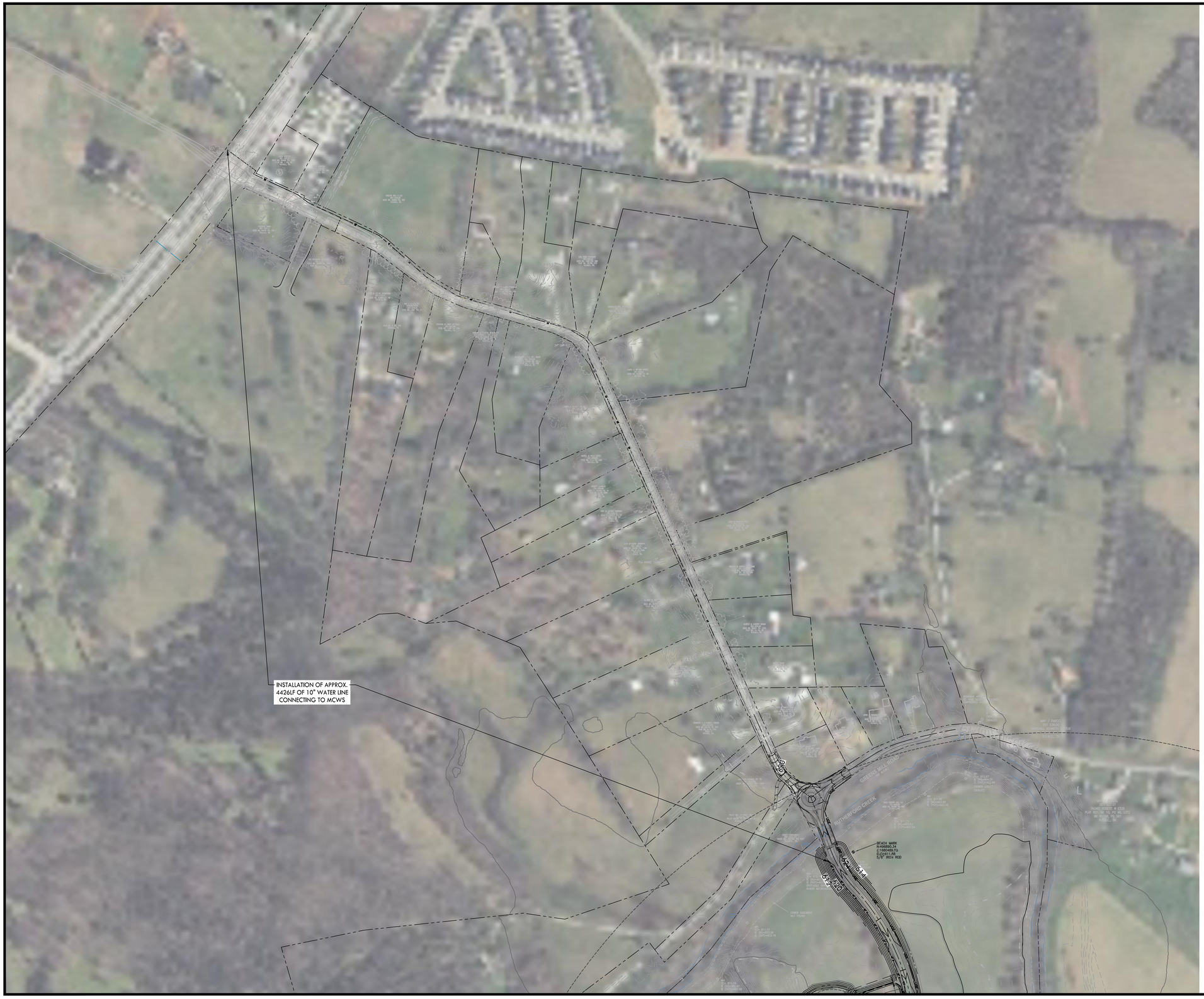
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGREEMENT
No. 124695
STATE OF TENNESSEE
3/18/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS
No. | DATE

03/18/2024 17067

C2.6
GRADING, DRAINAGE, & UTILITY PLAN



PROPOSED GRADING & DRAINAGE LEGEND

- 55 — PROPOSED CONTOUR
- ST — STORM PIPE
- SINGLE CURB INLET
- SINGLE CATCH BASIN
- JUNCTION BOX

PROPOSED UTILITY LEGEND

- SS — SANITARY SEWER LINE
- W — WATER LINE

NOTES:
1. GEOTECH INVESTIGATION TO BE PERFORMED ON ALL DEPRESSED AREAS DURING CONSTRUCTION DOCUMENT PERMITTING.
2. DOUBLE BRANCH ROAD BRIDGE TO INCLUDE SIGNAGE FOR BRIDGE WEIGHT MAXIMUM.

0 50 100 200
GRAPHIC SCALE

N

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

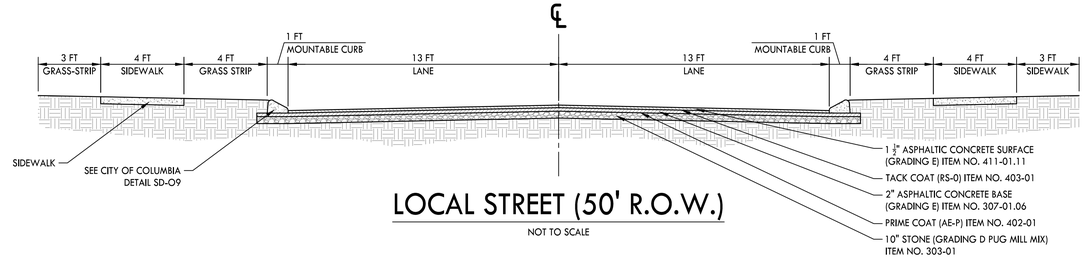
PATRICK JOSEPH PARROTT
REGISTERED ENGINEER
AGRICULTURE
No. 124695
STATE OF TENNESSEE
3/18/24

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

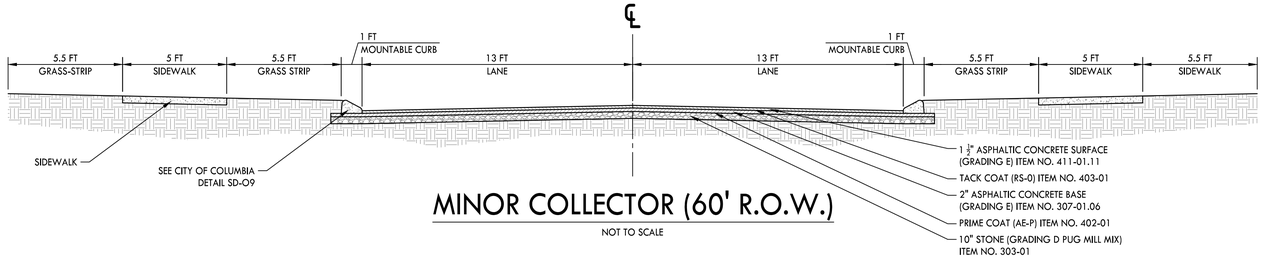
03/18/2024 17067

C2.7
MCWS WATERMAIN EXTENSION EXHIBIT



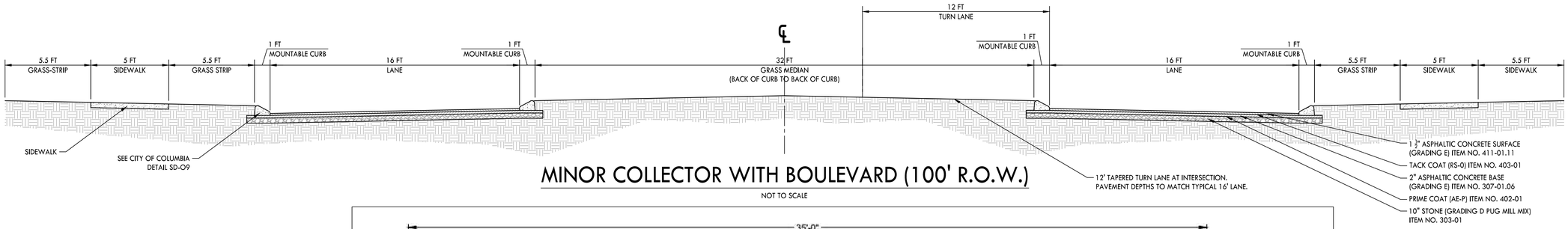
LOCAL STREET (50' R.O.W.)

NOT TO SCALE



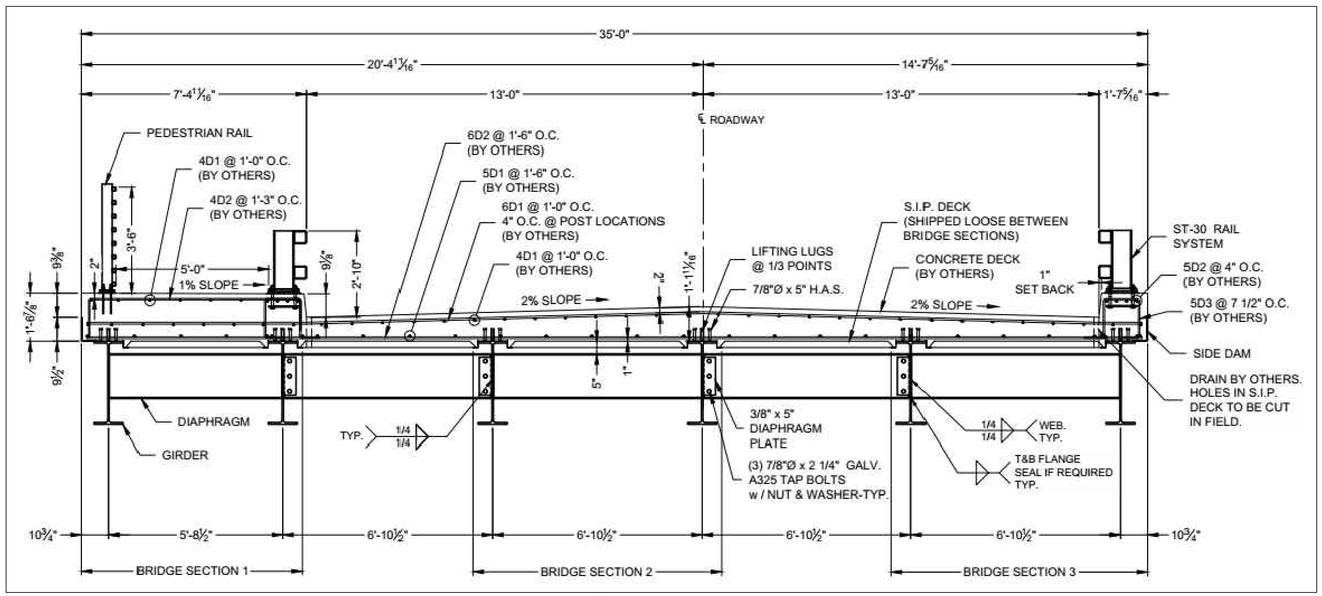
MINOR COLLECTOR (60' R.O.W.)

NOT TO SCALE



MINOR COLLECTOR WITH BOULEVARD (100' R.O.W.)

NOT TO SCALE



BRIDGE

NOT TO SCALE

CRUNK ENGINEERING LLC
7112 CROSSROADS BLVD
SUITE 201
BRENTWOOD, TN 37027
(615) 873-1795
WWW.CRUNKENG.COM

ENGINEERING CRUNK

PATRICK JOSEPH PARROTT REGISTERED ENGINEER AGRICULTURE 03/18/24 No. 124695 STATE OF TENNESSEE

GREENS MILL ROAD
PRELIMINARY PLAT
COLUMBIA, TENNESSEE

REVISIONS	
No.	DATE

03/18/2024 17067

C3.0

ROADWAY CROSS SECTIONS

CITY OF COLUMBIA TENNESSEE

DEVELOPMENT SERVICES
700 NORTH GARDEN STREET
COLUMBIA, TN 38401
PHONE: (931) 560-1560
FAX: (931) 560-1541

PLANNING COMMISSION
PROJECT DEVELOPMENT APPLICATION

SUBMITTAL REQUIREMENTS

** 1 hard copy of all materials for submittal + PDF copy on a USB thumb drive or CD (no multiple applications on one storage device)*
Fold hard copy submittals larger than 8½"x11"

ADDRESS/LOCATION	2558 Greens Mill Rd., Columbia, TN 38401		
	TAX MAP: 51	GROUP:	PARCEL: 55.00
SUMMARY OF NATURE OF REQUEST AND WORK	The purpose of this plat is to display the layout of the 550 residential lot subdivision 'The Landings at Greens Mill Road'.		

DATE OF PRE-APPLICATION CONFERENCE	03/13/2024	*Pre-application meetings are scheduled for Wednesdays.*

SELECT REQUEST	SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO:
❑ Annexation ❑ Rezoning ☒ Preliminary Plat ❑ Final Plat ❑ PUD Preliminary Master Plan ❑ PUD Final Site Plan ❑ Multi-Family Site Plan ❑ Other: **File naming nomenclature examples:* *Freedom Point Site Plan* *Freedom Point Master Plan* *Freedom Point Final Plat*	**Annexations/Rezoning/PUD's:** ❑ Written Legal Description copy ❑ Requested Zone Listed ❑ Compliance with Comprehensive Plan ❑ Annexation Permission Form ❑ Plans and/or Plats conforming to City standards with check list completed ❑ Columbia Water System Availability Letter **Plats/PUDs:** ❑ Project Name (include Sections & Phases) The Landing at Greens Mill Rd. ❑ Total Number of Lots 550 Lots ❑ Total acreage 376.96 acres

Applications and all required submittals must be filed with the Department of Development Services prior to the established deadline. Both the applicant and property owner (if different from applicant) must sign the application.

Any requests to defer or move the item to future meetings dates must be requested by the resubmittal date listed on the Planning Commission schedule.

APPLICANT

All communications go to the Applicant's email that is provided.

NAME	Crunk Engineering, LLC	PHONE	615-873-1795
ADDRESS	7112 Crossroads Blvd., #201, Brentwood, TN 37027	EMAIL	alex@crunkeng.com

PROPERTY OWNER NAME	Safe Harbor Residential	PHONE	865-622-1774
ADDRESS	105 Westpark Dr., #365, Brentwood, TN 37027	EMAIL	taylor@safeharborresidential.com

In filling out this application, I attest that (1) I am familiar with the rules, regulations, and procedures of the City of Columbia & (2) all information contained herein is accurate & true to the best of my knowledge.

Adam Crunk, PE		12/18/2023
APPLICANT NAME	APPLICANT SIGNATURE	DATE
Kelsey DuMont		12/18/2023
PROPERTY OWNER NAME	PROPERTY OWNER SIGNATURE	DATE

STAFF USE ONLY

DOCKET NO.		FEE PAID	
RECEIPT NO.		REQUESTED AGENDA	

DATE NOTICES SENT TO ADJACENT PROPERTY OWNERS	
DATE OF PUBLIC NOTICES IN DAILY HERALD	

BOARD ACTION	