# CITY OF PORTLAND
# PORTLAND MUNICIPAL PLANNING COMMISSION
# AGENDA
# January 9, 2024

1. **Call to Order**

2. **Roll Call**

3. **Election of 2024 Officers**

   **A.** 1. Chairman
   2. Vice-Chairman

4. **Approval of Agenda**

5. **Approval of Minutes**

   **A.** December 12, 2023

6. **Public Comments**

   *Anyone wishing to speak for or against an item on the agenda will have 5 minutes to do so and must sign-in on the public comment sheet before the start of the meeting.*

7. **Public Hearing**

   **A.** A request by Andy Leath (applicant) for rezone approval of the Munday College Street preliminary master plan development for a parcel of about 9.08 acres +/- at 403 College Street (Tax Map 033A, Group A, Parcel 005.01) zone R-7.5 (Medium Density Single Residential) Plan Unit Development (PUD).

   **B.** A request by James Hodges (applicant) for rezone approval of a parcel of about 36.62 +/-acers at 120,126,128 Davis Street (Tax Map 020P, Group A, Parcel 001.00. from HCD (Heavy Commercial District) to IG (Industrial General).

   **C.** A request by James Hodges (applicant) for rezone approval of a parcel of about 4.08 +/- acers at 131 Davis Street (Tax Map 020P Group A, Parcel 001.01) from HCD (Heavy Commercial District) to IG (Industrial General).

   **D.** Amendment of the Combined City of Portland Zoning Ordinance: Article XII: Planned Unit Development Districts

**8. Old Business**

**9. New Business**

**A.** A request by Andy Leath (applicant) approval of the Munday College Street preliminary master plan development for a parcel of about 9.08 acres +/- at 403 College Street (Tax Map 033A, Group A, Parcel 005.01) zone R-7.5 (Medium Density Single Residential) Plan Unit Development (PUD). *Design Review included.*

**B.** A request by James Hodges (applicant) for rezone approval of a parcel of about 36.62 +/-acers at 120,126,128 Davis Street (Tax Map 020P, Group A, Parcel 001.00. from HCD (Heavy Commercial District) to IG (Industrial General).

**C.** A request by James Hodges (applicant) for rezone approval of a parcel of about 4.08 +/- acers at 131 Davis Street (Tax Map 020P Group A, Parcel 001.01) from HCD (Heavy Commercial District) to IG (Industrial General).

**D.** A request by Richard Graves (applicant/surveyor) for approval of Sherburne Estates Subdivision Final Plat 2 lot minor, (Tax Map 033, Parcel 078.01) Zone R-15 Residential acreage 1.68.

**E.** A request by Kyle Schneider (applicant) for site plan approval of Procaps Laboratories location Eubanks Road, Robertson County (Tax Map 012, Paracel 61.03) 10.43 acres, Zoned IG (Industrial General).

**F.** Amendment of the Combined City of Portland Zoning Ordinance: Article XII: Planned Unit Development Districts

**10. City Planner's Comments**

**A.** Preserving Portland Townhall Meeting- 1.25.24 at 5:30PM located at the Temple Theater.

**11. Planning Commission Members Comments**

**Adjournment**

Project Name: Munday College Street RM1 PUD

IDT: 1066863

Current Zoning: R7.5

Total Units: 50

Applicant: Greenlid

Type: Multi Family- Townhomes

Location: College Street

| SITE DATA TABLE | |
|---|---|
| OWNER / DEVELOPER | C & C BUILDING GROUP, INC.<br>915A DOBBINS PIKE<br>GALLATIN, TN 37066 |
| SITE LOCATION | 403 COLLEGE STREET |
| TAX MAP | 033A, GROUP A |
| PARCEL | PARCEL 005.01<br>RB. 2762, PG. 22 |
| ACREAGE | ± 9.08 ACRES |
| CURRENT ZONE | R-7.5 |
| REQUESTED ZONE | R-7.5 PUD |
| EXISTING USE | VACANT |
| PROPOSED USE | DWELLING, TOWNHOME |

| PARKING REQUIREMENTS | | |
|---|---|---|
| TYPE | REQUIRED SPACES | PROPOSED SPACES |
| RESIDENTIAL - SINGLE-FAMILY | (2 SPCS / UNIT) x 50 UNITS = 100 | 119 |
| | OVERFLOW SPACES = 19 | TOTAL SPACES |
| | | 119 |

| 20' WIDE UNIT BUILDING DIMENSIONS | | | |
|---|---|---|---|
| BUILDING TYPE | LENGTH | WIDTH | HEIGHT |
| 5-UNIT BUILDING | 38' | 100' | 25' |
| IND. UNIT | 38' | 20' | 25' |

N

GRAPHIC SCALE

0 50 100 150

1 inch = 50 ft

LEGEND

- CONCRETE MONUMENT (OLD)
- CONCRETE MONUMENT (NEW)
- IRON ROD (OLD)
- IRON ROD (NEW)
- BENCHMARK
- BOUNDARY LINE
- BUFFER
- SETBACK / YARD
- PUDE
- EXTRUDED CURB
- SS — SANITARY SEWER LINE
- W — WATER LINE
- STORM SEWER
- G — GAS LINE
- OHE — OVERHEAD UTILITY LINE
- UGT — UNDERGROUND UTILITY LINE
- FENCE
- TREE LINE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- GUY ANCHOR
- TELEPHONE MANHOLE
- ELECTRIC JUNCTION BOX
- CABLE PEDESTAL
- SANITARY SEWER MANHOLE
- WATER METER
- WATER VALVE
- BLOW OFF VALVE
- AIR RELEASE ASSEMBLY
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- A/C PAD

NOTES:

- DESIGN SPEED = 20 MPH

IF YOU DIG IN TENNESSEE CALL 811 FIRST! or (800) 351-1111 or (615) 366-1987 TENNESSEE ONE CALL IT'S THE LAW


GreenLID Design

114 B West Main Street
Gallatin, TN 37066
615-230-7269
andy.leath@greenliddesign.com


JOHN ANTHONY LEATH — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — 0011189 — STATE OF TENNESSEE

12-11-23

MUNDAY - COLLEGE STREET
PLANNED UNIT DEVELOPMENT
403 COLLEGE STREET
CITY OF PORTLAND
SUMNER COUNTY, TENNESSEE

SITE LAYOUT

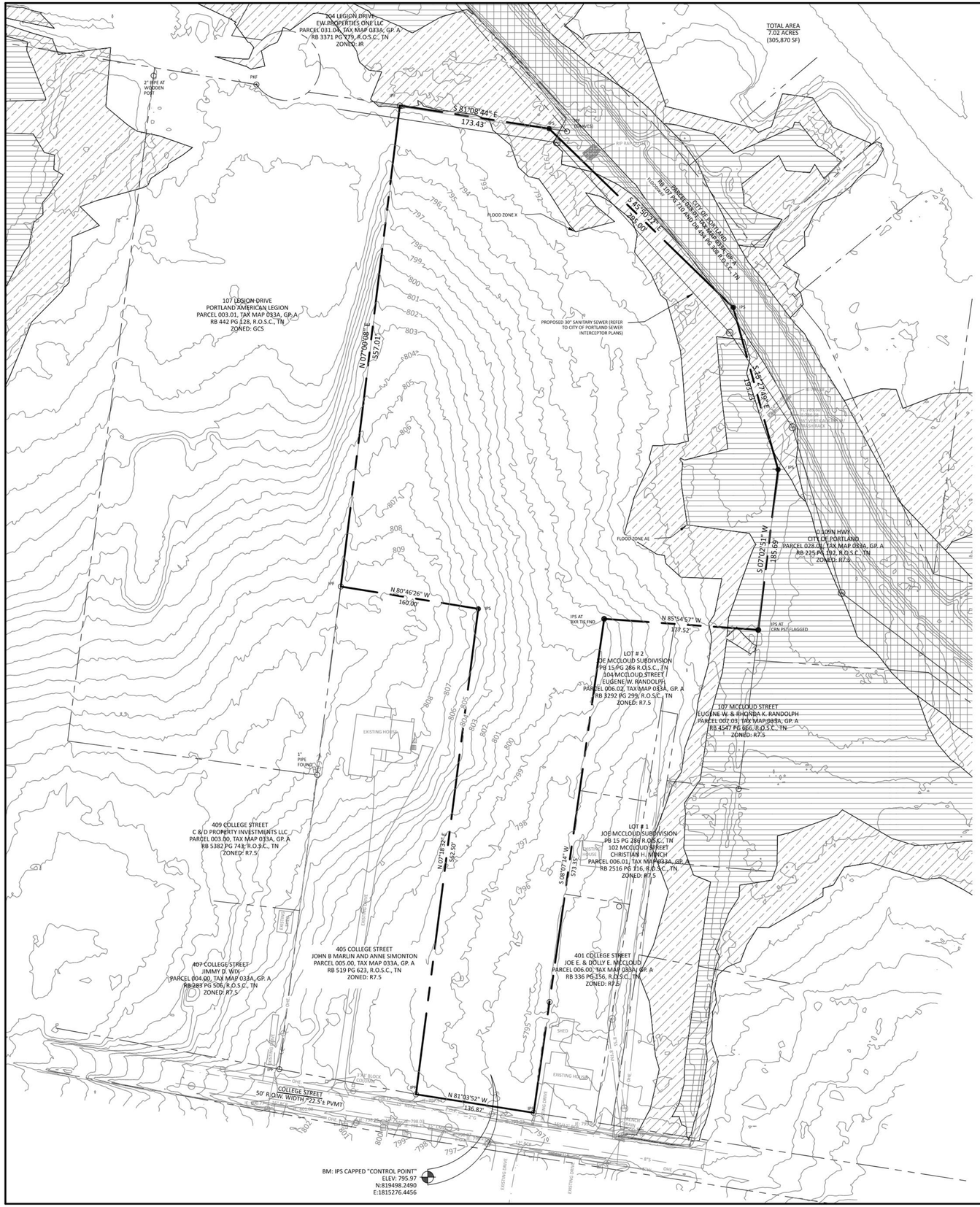
| NO. | DATE | REVISION |
|---|---|---|
| 1 | 07/17/23 | PER CITY COMMENTS |
| 2 | 08/31/23 | PER CITY COMMENTS |
| 3 | 10/05/23 | PER CITY COMMENTS |
| 4 | 11/01/23 | PER CITY COMMENTS/PLANNING COMMISSION |
| 5 | 12/11/23 | PER CITY COMMENTS |

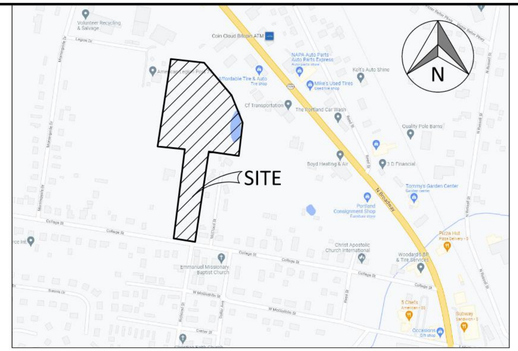
SHEET NO.

C 2.0

SHEET 3 OF 6

PROJ #21.122G 01 APRIL 2022

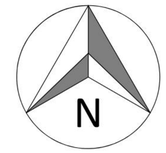



LOCATION MAP
NOT TO SCALE

DEED REFERENCE
BEING PART OF THE SAME PROPERTY CONVEYED TO ANNE C. MARLIN BY DEED OF RECORD IN RECORD BOOK 2762, PAGE 22, REGISTERS OFFICE OF SUMNER COUNTY, TN.

GENERAL NOTES:
1. THE PURPOSE OF THIS PLAT IS TO SHOW THE EXISTING CONDITIONS OF THE PROPERTY REFERENCED
2. SUBJECT PROPERTY SHOWN IDENTIFIED AS PARCEL 005.01 ON TAX MAP 033A GROUP A OF THE SUMNER COUNTY TAX ASSESSORS OFFICE.
3. SUBJECT PROPERTY IS ZONED R-7.5 AS OF THE DATE OF THIS SURVEY. SETBACKS ARE NOT SHOWN ON THIS PLAT.
4. SUBJECT SURVEY WAS PERFORMED 11-05-2021 UTILIZING RTK GPS TECHINQUES AND FIELD RUN MEASUREMENTS UTILIZING ROBOTIC TOTAL STATION.
5. BEARINGS SHOWN ARE REFERENCED TO TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD83 EPOCH 2010.00). THE TDOT GNSS REFERENCE NETWORK WAS USED TO ESTABLISH THESE COORDINATES UTILIZING NETWORK RTK TECHNIQUES.
   TYPE OF GPS EQUIPMENT USED: CARLSON BRX7 BASE AND ROVER
   TYPE OF TRANSIT USED: LEICA GEOSYSTEMS TS16 3" R500 TOTAL STATION
   RELATIVE POSITIONAL ACCURACY OF CONTROL POINTS SET IS LESS THAN:
   HRMS AVG: 0.03
   VRMS AVG: 0.05
   COMBINED GRID FACTOR: 1.00
6. VERTICAL CONTROL BASED ON NAVD1988 (GEOID 2018)
7. THIS SURVEYOR HAS NOT BEEN FURNISHED WITH A TITLE REPORT, THEREFORE SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH. ONLY DOCUMENTS NOTED HEREON WERE SUPPLIED TO THIS SURVEYOR. THERE MAY EXIST OTHER DOCUMENTS THAT WOULD AFFECT THE SUBJECT PROPERTY. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH.
8. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED ALL UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN HEREON WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HERON 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 AS INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES 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. ALWAYS CALL TN811 BEFORE YOU DIG.
9. ALL BUILDINGS, SURFACE IMPROVEMENTS, AND SUBSURFACE IMPROVEMENTS ON AND ADJACENT TO SITE ARE NOT NECESSARILY SHOWN HEREON.
10. SUBSURFACE AND/OR ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY.
11. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, A REVIEW OF FEMA FLOOD INSURANCE RATE MAPS, COMMUNITY PANEL NO. 47165C0134G, EFFECTIVE DATE APRIL 17, 2012, SHOWS A PORTION OF THIS PROPERTY TO BE WITHIN THE SPECIAL FLOOD HAZARD AREA.
    ONLY AN ELEVATION CERTIFICATE CAN DETERMINE THE EXACT DESIGNATION. BASED ON THE INFORMATION ABOVE, THIS PROPERTY IS IN A SPECIAL FLOOD HAZARD AREA.
12. CONTOURS SHOWN WERE GENERATED WITH FIELD RUN MEASUREMENTS IN COMBINATION WITH UTILIZATION OF LIDAR DATA PROVIDED BY THE TENNESSEE BASE MAPPING PROGRAM.




LEGEND

| | |
|---|---|
| CMF | CONCRETE MONUMENT (FOUND) |
| CMS | CONCRETE MONUMENT (SET) |
| IPF | 1/2"IRON REBAR (FOUND) |
| IPS | 1/2" IRON REBAR WITH RED CAP "2776 WILKINSON" (SET) |
| PKF | PK NAIL (FOUND) |
| PKS | PK NAIL (SET) |
| | BENCHMARK |
| | BOUNDARY LINE |
| | BUFFER |
| | SETBACK / YARD |
| | P.U.D.E. |
| SS | SANITARY SEWER LINE |
| W | WATER LINE |
| | STORM SEWER |
| G | GAS LINE |
| OHE | OVERHEAD UTILITY LINE |
| UGT | UNDERGROUND UTILITY LINE |
| | FENCE |
| | TREE LINE |
| | UTILITY POLE |
| | UTILITY POLE W/ LIGHT |
| | GUY ANCHOR |
| | LIGHT POLE |
| ET | ELECTRICAL TRANSFORMER |
| EV | ELECTRICAL VAULT |
| CV | COMMUNICATIONS VAULT |
| | COMMUNICATIONS PEDESTAL |
| | SANITARY SEWER MANHOLE |
| | WATER METER |
| | WATER VALVE |
| | BLOW OFF VALVE |
| FH | FIRE HYDRANT |
| | GAS METER |
| | GAS VALVE |

GRAPHIC SCALE
0 60' 120' 180'
1 inch = 60 ft

SURVEYORS CERTIFICATE

I HEREBY CERTIFY THAT THIS IS A CATEGORY I SURVEY AND THE SURVEY WAS PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS OF PRACTICE FOR SURVEYORS IN THE STATE OF TENNESSEE AND THE UNADJUSTED ERROR OF CLOSURE EXCEEDS 1:10,000.

JOHN ZACHARY WILKINSON
REGISTERED LAND SURVEYOR
2776
AGRICULTURE
COMMERCE
TENNESSEE NO. 2776

TN RLS #2776

DATE : 2-15-2022

IF YOU DIG IN TENNESSEE
CALL 811 FIRST!
or (800) 351-1111 or (615) 366-1987
TENNESSEE ONE CALL IT'S THE LAW

GreenLID Design
114 B West Main Street
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andy.leath@greenliddesign.com

C&C MUNDAY
BOUNDARY AND TOPOGRAPHICAL SURVEY
407 COLLEGE STREET
PORTLAND
SUMNER COUNTY, TENNESSEE

EXISTING CONDITIONS

| NO. | DATE | REVISION |
|---|---|---|
| | | |

SHEET NO.
1
SHEET 1 OF 1

PROJECT #: 21.122G DATE: 12-2-2021

| LAND USE AREA TABLE | |
|---|---|
| USE | AREA |
| ROW | 1.263 ACRES |
| FLOOD PLAIN | 1.178 ACRES |
| USABLE OPEN SPACE | 4.460 ACRES |
| LOTS | 2.181 ACRES |

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COMMERCE
STATE OF TENNESSEE
12-11-23

# MUNDAY - COLLEGE STREET
PLANNED UNIT DEVELOPMENT
403 COLLEGE STREET
CITY OF PORTLAND
SUMNER COUNTY, TENNESSEE

GRADING PLAN

| NO. | DATE | REVISION |
|---|---|---|
| 1 | 07/17/23 | PER CITY COMMENTS |
| 2 | 08/31/23 | PER CITY COMMENTS |
| 3 | 10/05/23 | PER CITY COMMENTS |
| 4 | 11/01/23 | PER CITY COMMENTS/PLANNING COMMISSION |
| 5 | 12/11/23 | PER CITY COMMENTS |

SHEET NO.
C 3.0
SHEET 4 OF 6

PROJ #21.122G 01 APRIL 2022

## FRONT ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 1213 SQFT .....73%
TRANSPARENCY - 445 SQFT .....27%
TOTAL - 1658 SQFT .....100%

## REAR ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 1005 SQFT .....72%
TRANSPARENCY - 400 SQFT .....28%
TOTAL - 1405 SQFT .....100%

2' 4' 8' 16'
Graphic Scale

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL, STRUCTURAL, ELECTRICAL AND SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME

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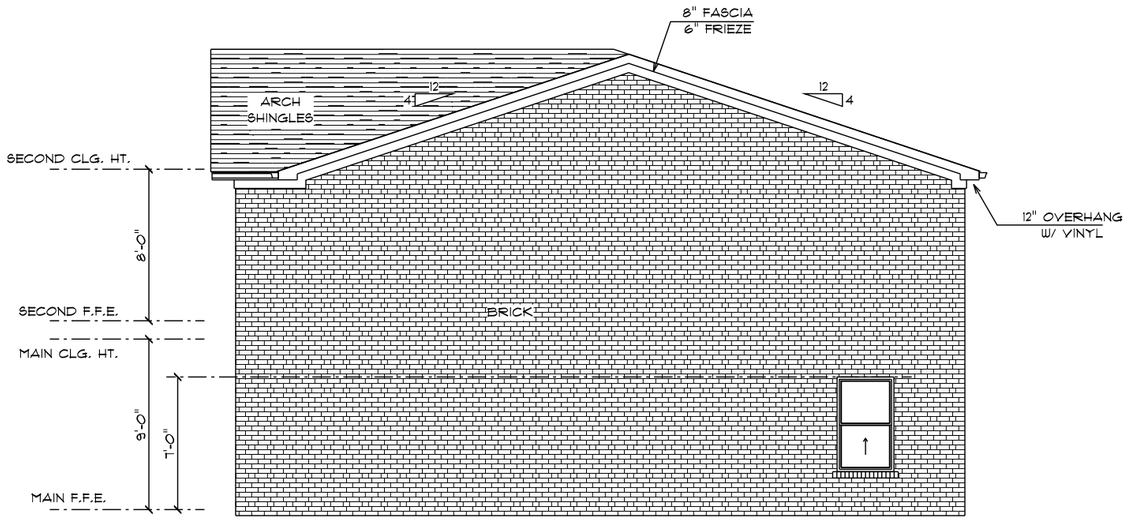
HOME DESIGNS
@GMAIL.COM
615.720.7598

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

Front and Rear Elevation
Scale 1/4" = 1' ON 24"X36" PAPER
Scale 1/8" = 1' ON 11"X17" PAPER

Date: 6-24-22

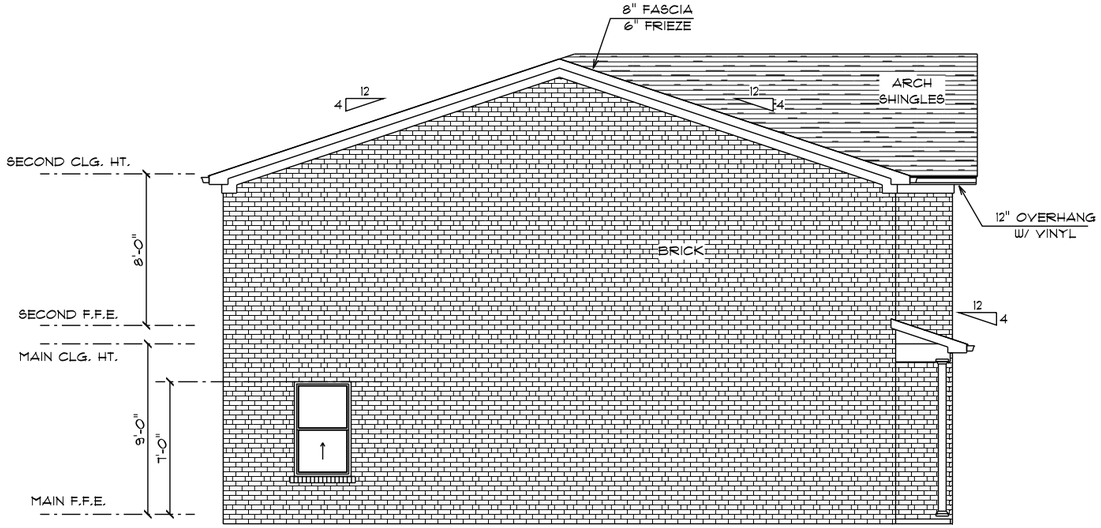
A-4




RIGHT ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 798 SQFT .....98%
TRANSPARENCY - 15 SQFT .....2%
TOTAL - 813 SQFT .....100%




LEFT ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 798 SQFT .....98%
TRANSPARENCY - 15 SQFT .....2%
TOTAL - 813 SQFT .....100%

2' 4' 8' 16'
Graphic Scale

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Right and Left Elevation
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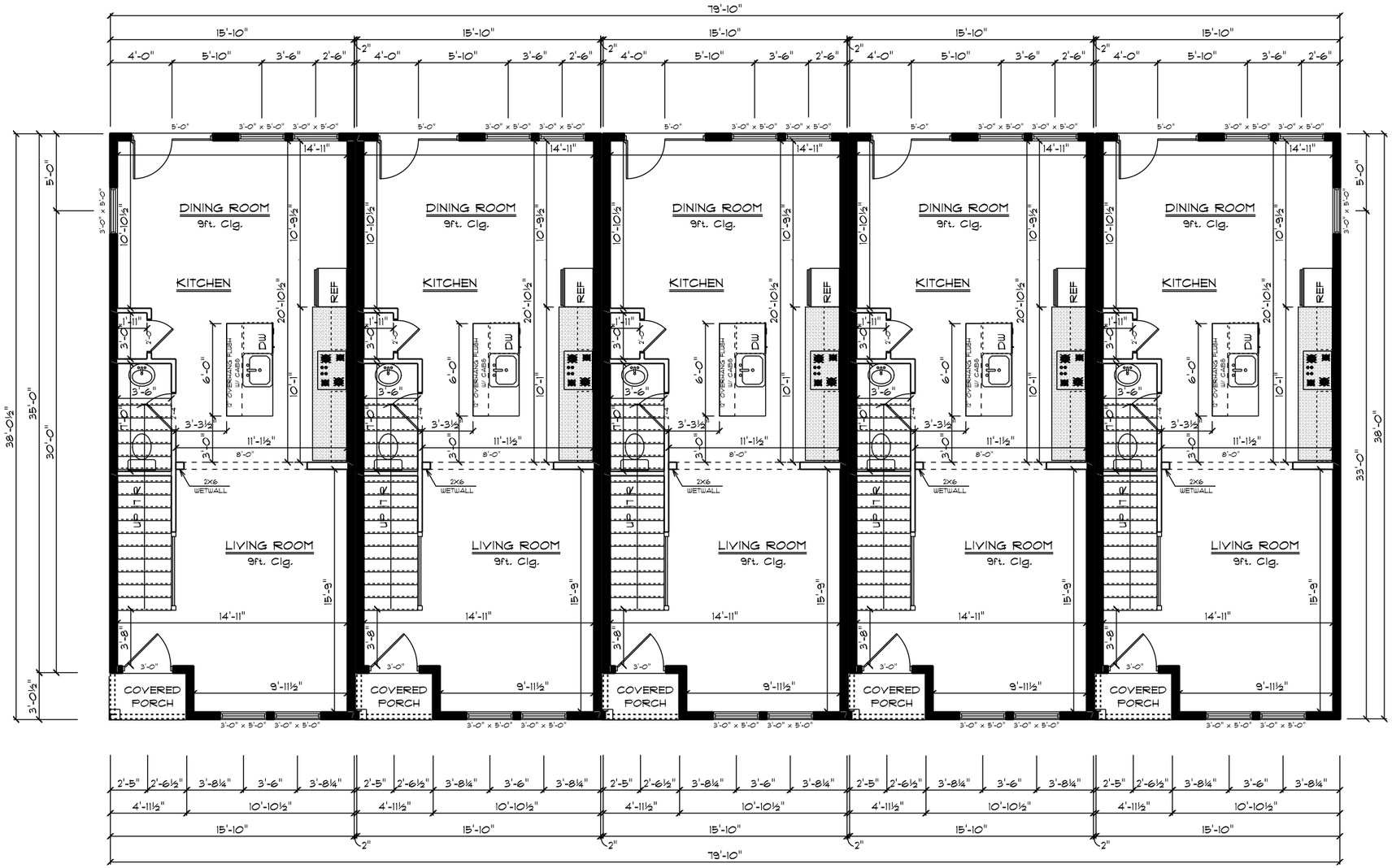
Date: 6-24-22

A-5




## MAIN FLOOR PLAN

2' 4' 8' 16'
Graphic Scale

## GENERAL NOTES

1. ALL WORK SHALL BE PREFORMED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES, REGULATIONS AND FHA/VA MPS.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT SITE BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGNER FOR JUSTIFICATION AND/OR CORRECTION BEFORE PROCEEDING WITH WORK. CONTRACTORS SHALL ASSUME ALL RESPONSIBILITY FOR ANY DISCREPANCIES THAT ARE NOT REPORTED.
3. ALL DIMENSIONS SHALL BE READ OR CALCULATED, NEVER SCALED.
4. ALL FOOTINGS TO BE BELOW FROST LINE (SEE LOCAL CODE), AND MUST REST ON UNDISTURBED SOIL CAPABLE OF HANDELING THE BUILDING. CONSULT WITH LOCAL ENGINEER FOR PROPER FOOTING AND REINFORCEMENT SIZES.
5. CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.
6. IF BACKFILL EXCEEDS 4' AGAINST ANY FOUNDATION WALL, REINFORCE AS PER CODE.
7. ALL FOUNDATION AND STRUCTURAL MEMBERS SHOULD BE VERIFIED AND AN ENGINEER IN THE STATE WHERE THE CONSTRUCTION IS OCCURING.
8. ALL WOOD, CONCRETE, AND STEEL STRUCTURAL MEMBERS SHALL BE OF A GOOD GRADE AND QUALITY AND MEET ALL NATIONAL, STATE, AND LOCAL BUILDING CODES WHERE APPLICABLE.
9. ALL COLUMNS OR SOLID FRAMING SHOULD BE DESIGNED TO CARRY LOADS AND SHOULD EXTEND DOWN THROUGH THE LEVELS BELOW AND TERMINATE AT THE BASEMENT FLOOR OR AT OTHER BEARING POINTS DESIGNED TO CARRY THE LOAD.
10. ALL WINDOW HEADERS FIRST FLOOR ARE TO BE AT 7'-0" UNLESS OTHERWISE NOTED.

## OPENING SCHEDULE

| TYPE | SIZE | HINGE | COUNT | R.O. HEIGHT | COMMENT |
|---|---|---|---|---|---|
| DOOR | 3'-0" | L | 5 | 6'-9½" | |
| DOOR | 5'-0" | NR | 5 | 6'-9½" | |
| DOOR | 2'-4" | L | 5 | 6'-9" | |
| DOOR | 2'-0" | R | 5 | 6'-9" | |
| WINDOW | 3'-0" x 5'-0" | U | 10 | 5'-0" | |
| WINDOW | 3'-0" x 5'-0" | U | 12 | 5'-0" | |

AREA PER UNIT:

Ext. Footage Per Unit
Main.....590 SF
Second.....590 SF
Total..... 1180 SF
Front Porch.....35 SF

FRAMING NOTE:
1. ALL DIMENSIONS TO FACE OF FRAMING.
2. EXTERIOR WALLS DIMENSIONED @ 5 1/2".
3. INTERIOR WALLS DIMENSIONED @ 3 1/2".

PLAN NOTES:
IT IS THE RESPONSIBILITY OF THE BUILDER TO VERIFY THE CONSTRUCTION OF THE HOME MEETS ALL LOCAL CODES AND ENERGY TYPES PRIOR TO CONSTRUCTION. BUILDER SHOULD VERIFY SITE CONDITIONS AND ALL DIMENSIONS PRIOR TO CONSTRUCTION.

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES.

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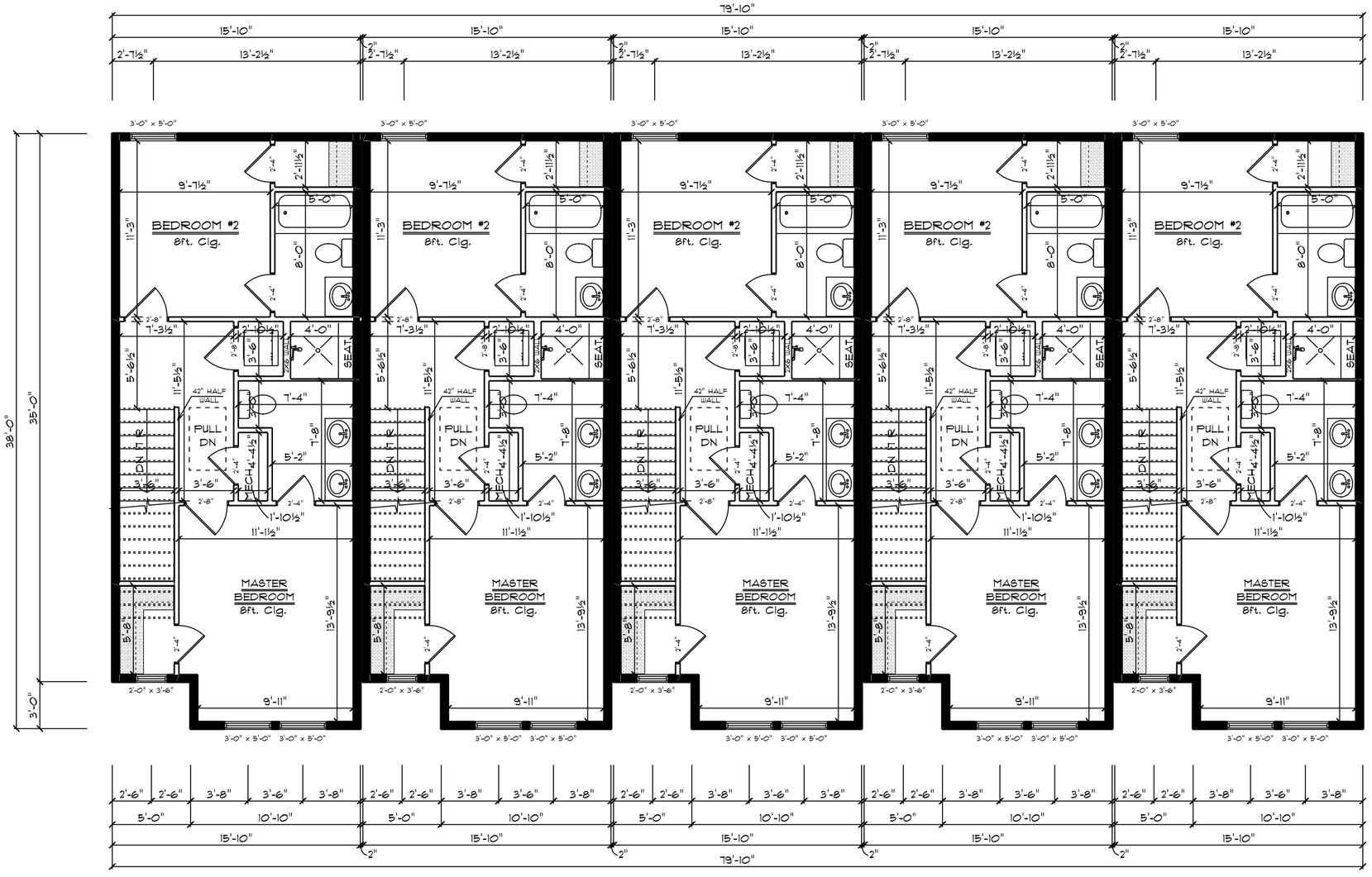
Portland, Tn 37148

Main Floor Plan
Scale 1/4" = 1' ON 24"x36" PAPER
Scale 1/8" = 1' ON 11"x17" PAPER

Date: 6-24-22

A-1




## SECOND FLOOR PLAN

Graphic Scale 2' 4' 8' 16'

## GENERAL NOTES

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4. ALL FOOTINGS TO BE BELOW FROST LINE (SEE LOCAL CODE), AND MUST REST ON UNDISTURBED SOIL CAPABLE OF HANDELING THE BUILDING. CONSULT WITH LOCAL ENGINEER FOR PROPER FOOTING AND REINFORCEMENT SIZES.
5. CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.
6. IF BACKFILL EXCEEDS 4' AGAINST ANY FOUNDATION WALL, REINFORCE AS PER CODE.
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## OPENING SCHEDULE

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|---|---|---|---|---|---|
| DOOR | 2'-4" | L | 15 | 6'-9" | |
| DOOR | 2'-4" | R | 10 | 6'-9" | |
| DOOR | 2'-8" | L | 5 | 6'-9" | |
| DOOR | 2'-8" | R | 10 | 6'-9" | |
| WINDOW | 2'-0" x 3'-6" | N | 5 | 3'-6" | |
| WINDOW | 3'-0" x 5'-0" | N | 5 | 5'-0" | |
| WINDOW | 3'-0" x 5'-0" | N | 10 | 5'-0" | |

AREA PER UNIT:

Ext. Footage Per Unit
Main.....590 SF
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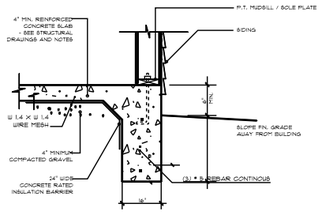
Portland, Tn 37148

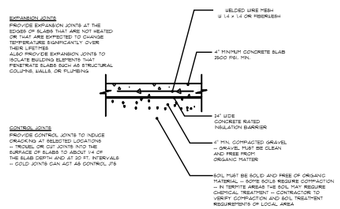
Second Floor Plan
Scale 1/4" = 1' ON 24"x36" PAPER
Scale 1/8" = 1' ON 11"x17" PAPER

Date: 6-24-22

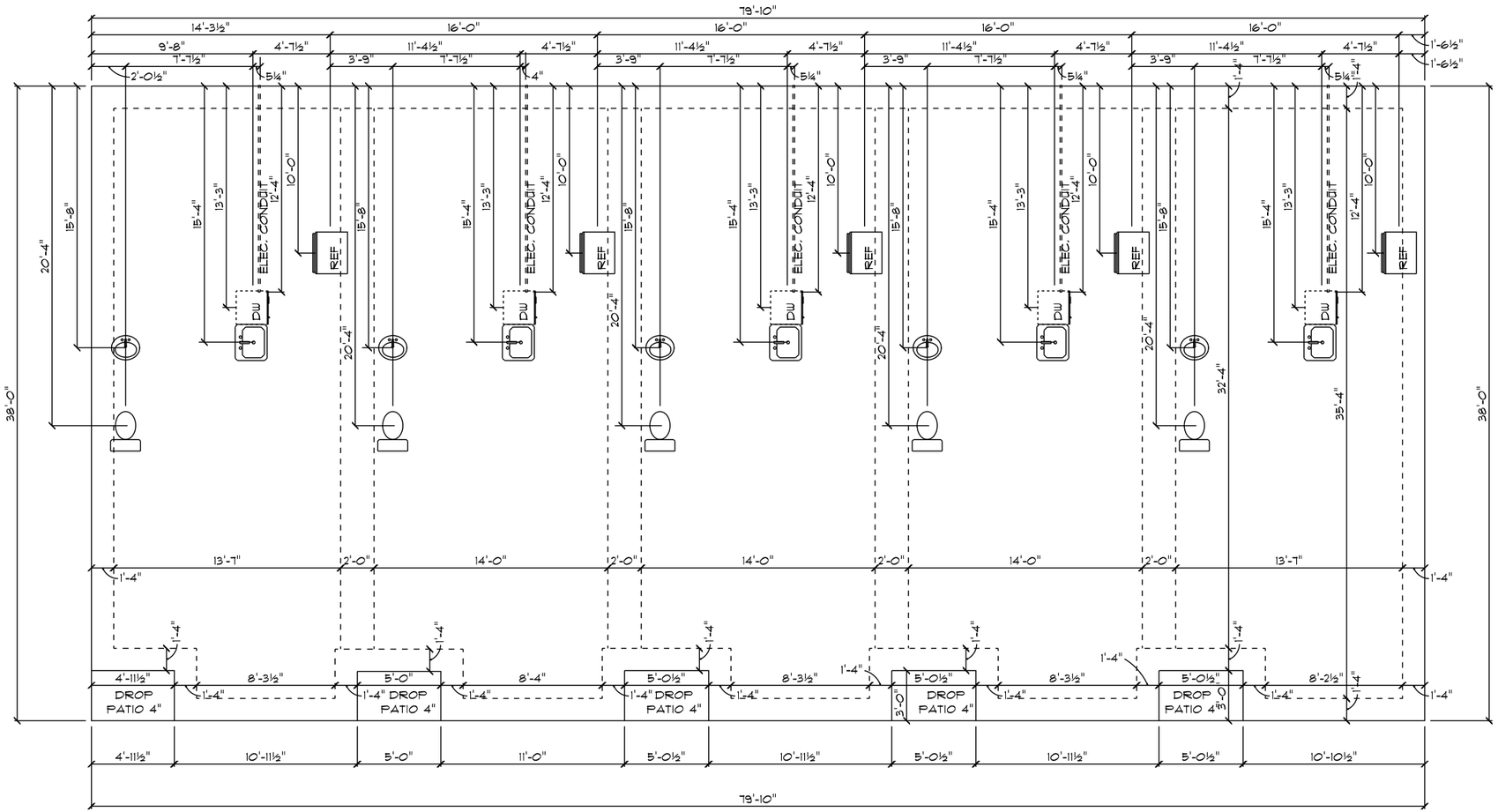
A-2




TURN-DOWN
FOOTING DETAIL




CONCRETE SLAB
DETAILS / NOTES




SLAB PLAN

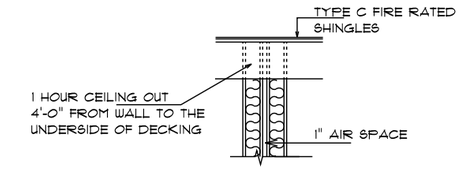
Graphic Scale 2' 4' 8' 16'

# * NOTE: *

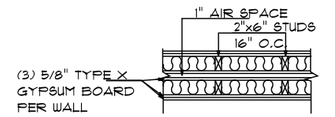
## Deisgn No. U342
## Bearing Wall Rating -- 2 Hr.

1. Wood Studs - Nom 2 by 4 in. Cross braced at mid-height and effectively firestopped at top and bottom of wall. Spaced max of 16 in. OC depending on tyle of wallboard. See Item 2 below.
2. Gypsum Board* - 5/8 in. thick, 4 ft wide. Applied either horizontally or vertically. Inners layers nailed to studs and bearing plates 6 in. O.C. with 6d cement coated nails, 1 - 7/8 in. long, 0.0915 in. shank diam and 1/4 in. dia. head. Outer layer of double layered side nailed to studs and bearing plates 8 in. O.C. with 8d cement coated nails, 2-3/8 in. long, 0.113 in. shank diam and 9/32 in. diam head. Vertical joints located over studs. As an alternate, No. 6 bugle-head drywall screws, 1-7/8 or 2-3/8 in. long for the inner and outer layers, respectively, may be substituted for the cement coated nails. All joints in outer layer of double layer sides staggered with joints in inner layer. When used in widths other than 48 in., gypsum board to be installed horizontally.
3. Joint and Nailheads - Wallboard joints of outer layer covered with taps and joint compound. Nail heads of outer layer covered with joint compound.
4. Batts and Blankets* - (Optional) - 3-1/2 in. max thickness glass or mineral fiber batt insulation.

## FIRE RESISTANCE RATING - ANSI/UL 263




## HORIZONTAL SECTION TOP VIEW




FOOTING

TYPICAL PARTY FIREWALL DETAIL

PREMIER HOME DESIGNS
@GMAIL.COM
615.730.7598

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES.

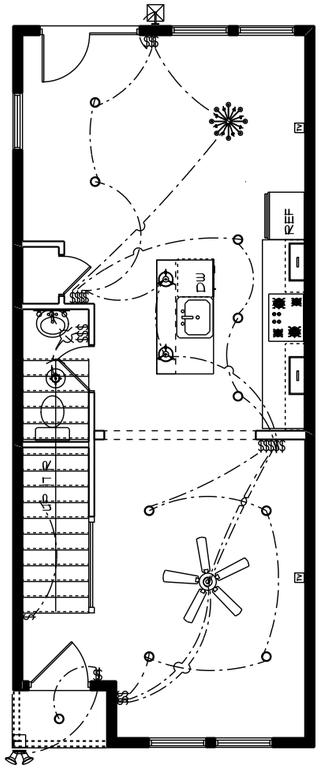
IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL, STRUCTURAL, ELECTRICAL, AND SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

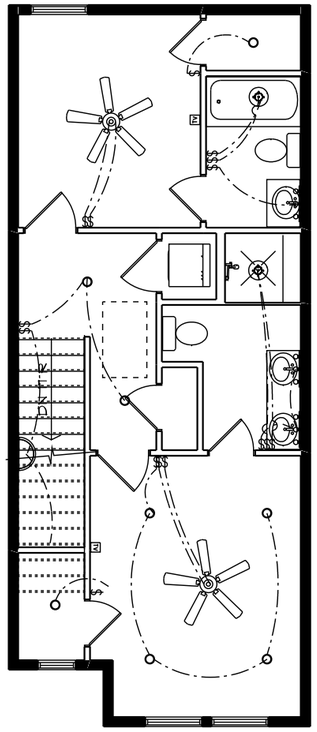
Slab Plan
Scale 1/4" = 1' ON 24"X36" PAPER
Scale 1/8" = 1' ON 11"X17" PAPER

Date: 6-24-22

A-3




MAIN FLOOR PLAN



SECOND FLOOR PLAN

| ELECTRICAL LEGEND PER UNIT | | |
|---|---|---|
| ELECTRICAL | COUNT | SYMBOL |
| ceiling fan | 3 | |
| can light | 18 | o |
| chandelier | 1 | |
| cabinet light | 2 | |
| pendant | 2 | |
| ceiling light / vent | 3 | |
| exterior light | 1 | |
| spotlight motion detector | 1 | |
| cable tv outlet | 4 | TV |
| switch | | $ |
| wall sconce | 1 | |
| vanity bar light | 4 | |

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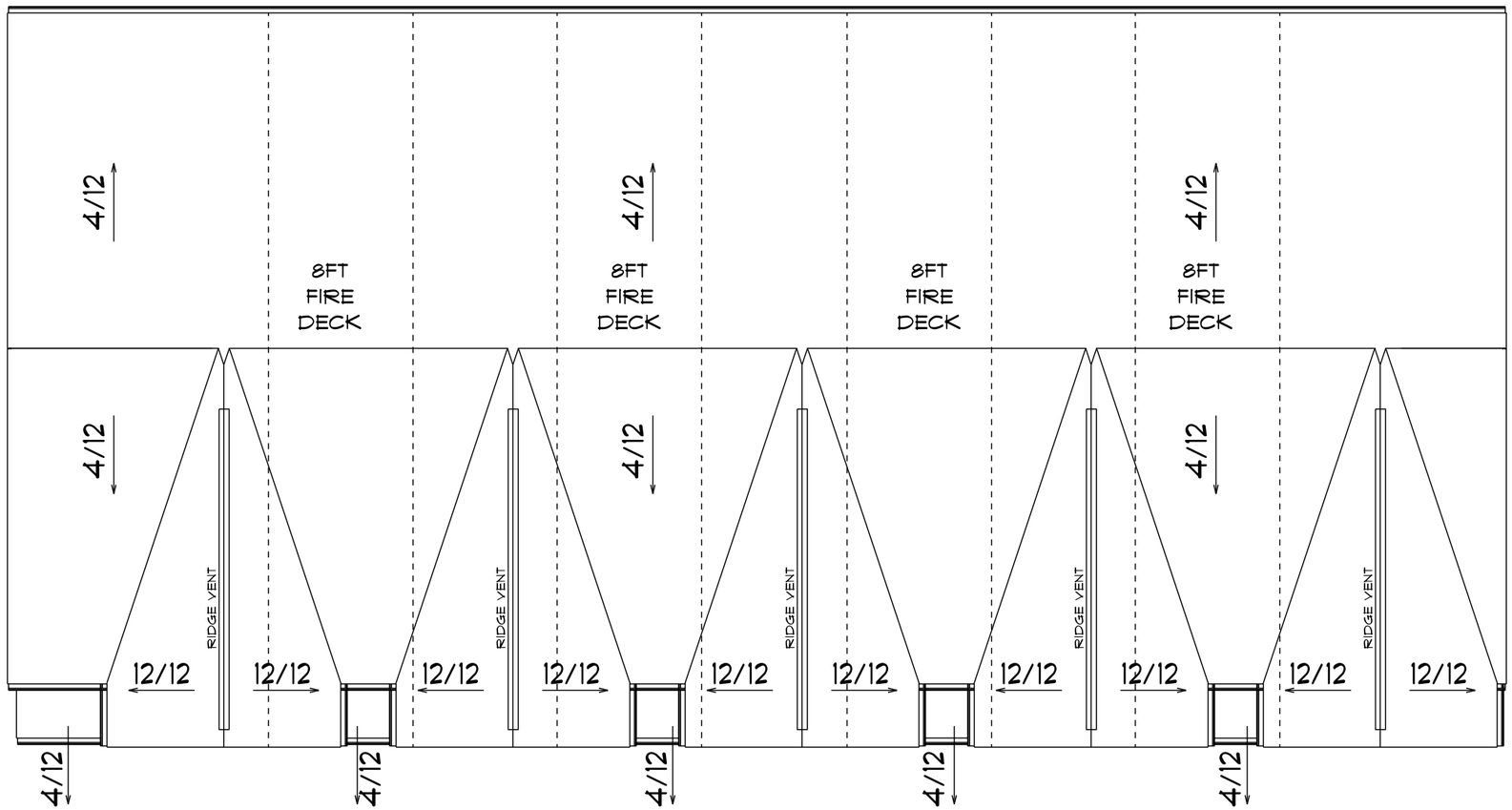
PREMIER HOME DESIGNS

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

Lighting Plan
Scale 1/4" = 1'
Scale 1/8" = 1'
ON 24"x36" PAPER
ON 11"x17" PAPER

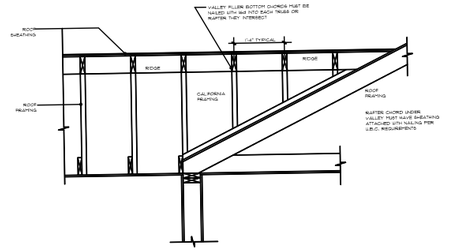
Date: 6-24-22

E-1

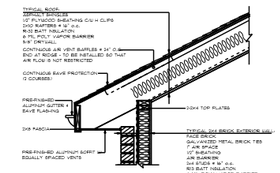



ROOF PLAN

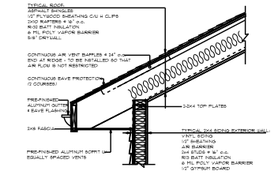
Graphic Scale 2' 4' 8' 16'



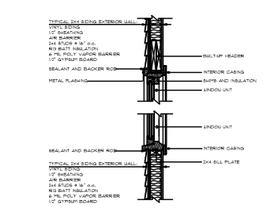

OVERFRAMING ROOF FRAMING



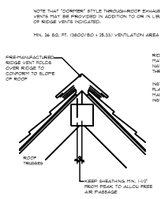

2x4/BRICK CATHEDRAL EAVE



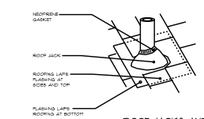

2x4/SIDING CATHEDRAL EAVE




2x4/SIDING HEADER & SILL




RIDGE VENT




ROOF JACKS AND VENTS

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PREMIER
HOME DESIGNS
@GMAIL.COM
615.730.7598

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

Roof Plan
Scale 1/4" = 1' ON 24"X36" PAPER
Scale 1/8" = 1' ON 11"X17" PAPER

Date: 6-24-22

A-6

30 20 10 0 30

Scale: 1" = 30'-0"

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SOLAR POWERED PLANS

Date: 06-30-2023
Revisions:
10-13-2023

'D' CLASS BUFFERYARD
ALTERNATE 2 CANOPY
175 LF AT 25' WIDE
CANOPY 4 X 1.75 = 7
ACCENT 10 X 1.75 = 18
SHRUBS 17 X 1.75 = 30

8" W

25' REAR YARD

TREE PROTECTING FENCING

'B' CLASS BUFFERYARD
ALTERNATE 2 CANOPY
175 LF AT 15' WIDE
CANOPY 2 X 7.75 = 16
ACCENT 6 X 7.75 = 47
SHRUBS 9 X 7.75 = 70

107 LEGION DRIVE
PORTLAND AMERICAN LEGION
PARCEL 003.01, TAX MAP 033A, GP. A
RB 442 PG 128, R.O.S.C., TN
ZONED: GCS

TREES TO REMAIN

8" W

NO BUFFERYARD REQUIRED

428 NORTH BROADWAY
MALVERN RAHRER
PARCEL 027.00, TAX MAP 033A, GP. A
RB 4087 PG 565, R.O.S.C., TN
ZONED: GCS

CITY OF PORTLAND
PARCEL 028.01, TAX MAP 033A, GP. A
RB 107 PG 210 AND DB 454 PG 308 R.O.S.C. TN

426 NORTH BROADWAY
WAYNE BANDY
PARCEL 026.01, TAX MAP 033A, GP. A
RB 489 PG 220, R.O.S.C., TN
ZONED: GCS

PAR

8" W

UNIT "E"
UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"

DOG PARK

10' SIDE YARD

8" W

8" W

OPEN AIR PAVILION

MULTI-USE COURT

UNIT "E"
UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"

TREES TO REMAIN

UNIT "E"
UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"

MATCHLINE

NO BUFFERYARD REQUIRED

LOT # 2
JOE MCCLOUD SUBDIVISION
PB 15 PG 286 R.O.S.C., TN
104 MCCLOUD STREET
EUGENE W. RANDOLPH
PARCEL 006.02, TAX MAP 033A, GP. A
RB 3292 PG 299, R.O.S.C., TN
ZONED: R7.5

TREES TO REMAIN

TREE PROTECTING FENCING

0 109N HWY
CITY OF PORTLAND
PARCEL 028.01, TAX MAP 033A, GP. A
RB 225 PG 192, R.O.S.C., TN
ZONED: R7.5

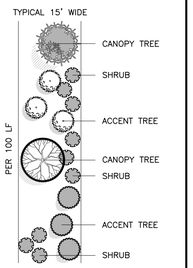
TREES TO REMAIN

NO BUFFERYARD REQUIRED

10' SIDE YARD

## TYPICAL BUFFER

EXISTING TREES AND SHRUBS SHALL SATISFY BUFFERS WHERE LIMITS OF GRADING & PRESERVED VEGETATION SATISFY REQUIREMENTS




CANOPY TREES MAY INCLUDE:
OAK, MAPLE, POPLAR, SWEETGUM, ASH, ETC.
MAGNOLIA, PINE, CYPRESS, FIR, ETC.

ACCENT TREES MAY INCLUDE:
REDBUD, SERVICEBERRY, CHERRY, ETC.
HOLLY, ARBORVITAE, JUNIPER, ETC.

SHRUBS MAY INCLUDE:
VIBURNUM, ELEAGNUS, YEW, ETC.

## REQUIREMENTS

USE: MULTI-FAMILY
ZONING: R7.5

PARKING LOT LANDSCAPING
90 UNITS X 2 STALLS = 180
180 / 15 = 12 TREES

INTERIOR PARKING REQUIREMENTS
50% OF BUILDING FACADE LANDSCAPED

FRONT YARD LANDSCAPING
PROVIDED AT COLLEGE STREET

BUFFERYARDS
15' B AT GCS ZONING
25' D AT IR ZONING
SPECIAL YARD BUFFERS

NOTE: WHERE A TREE SURVEY IS PROVIDED EXISTING CREDIT WILL BE SOUGHT

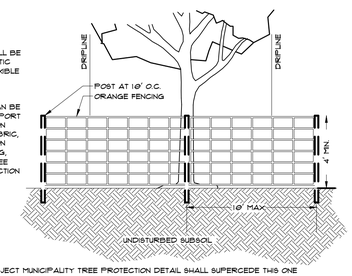
## KEY

CANOPY TREES (RED MAPLE)
ACCENT TREES (CRAPE MYRTLE)
STREET TREES (PRINCETON GINKGO)

NOTE:

FENCING SHALL BE 4' HIGH PLASTIC ORANGE FLEXIBLE BARRIER MATERIAL.

"T" POSTS CAN BE USED TO SUPPORT BOTH EROSION CONTROL FABRIC, CONSTRUCTION LIMITS FENCING, AND / OR TREE PROTECTION FENCING.




SUBJECT MUNICIPALITY TREE PROTECTION DETAIL SHALL SUPERCEDE THIS ONE

TREE PROTECTION FENCING DETAIL


www.landscapearchitect-tn.com 615-333-4636
CLD@landscapearchitect-tn.com 615-512-3018


2023 - Cumberland Landesign Inc. Nashville, TN


Preliminary PUD Landscape Plan
for
Portland College Street
Portland, Tennessee

CLD

ROBERT BRIAN LAY
REGISTERED LANDSCAPE ARCHITECT
LANDSCAPE ARCHITECTURE
TENNESSEE

# 23122
Sheet:
L1.0
1 of 2

30 20 10 0 30

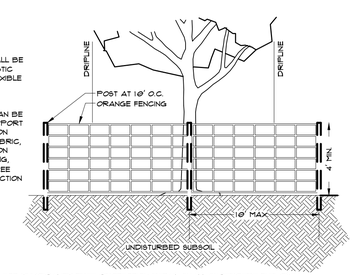
Scale: 1" = 30'-0"

811 CALL BEFORE YOU DIG

NOTE:

FENCING SHALL BE 4' HIGH PLASTIC ORANGE FLEXIBLE BARRIER MATERIAL.

"T" POSTS CAN BE USED TO SUPPORT BOTH EROSION CONTROL FABRIC, CONSTRUCTION LIMITS FENCING, AND / OR TREE PROTECTION FENCING.




SUBJECT MUNICIPALITY TREE PROTECTION DETAIL SHALL SUPERCEDE THIS ONE

TREE PROTECTION FENCING DETAIL

www.landscapearchitect-tn.com 615-333-4636
CLD@landscapearchitect-tn.com 615-512-3018
2023 - Cumberland Landesign Inc.
Nashville, TN

SOLAR POWERED PLANS

Date: 06-30-2023
Revisions:
10-13-2023

# Preliminary PUD Landscape Plan for Portland College Street Portland, Tennessee

CLD

ROBERT BRIAN MAPLE
REGISTERED LANDSCAPE ARCHITECT
STATE OF TENNESSEE
LANDSCAPE ARCHITECTURE
LANDMAPLE ARCHITECTURE

# 23122

Sheet:

L2.0

2 of 2

City of Portland
Rezoning
Planning Commission
This property is subject of an annexation request.
For more details call 615-325-6776

# TRAFFIC IMPACT STUDY

## COLLEGE STREET TOWNHOMES
## RESIDENTIAL DEVELOPMENT
## PORTLAND, TENNESSEE

**PREPARED ON BEHALF OF:**

GreenLID Design

**PREPARED BY:**

RG PHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

**AUGUST 2022**

# TRAFFIC IMPACT STUDY

## COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
## PORTLAND, TENNESSEE

**PREPARED BY:**

**RG Phillips Consulting, LLC**

**Richard G. Phillips, P.E.**

**106 Mission Court, Suite 301**

**Franklin, TN 37067**

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

**Traffic Impact Study**

**College Street Townhomes Residential Development**
**Portland, Tennessee**

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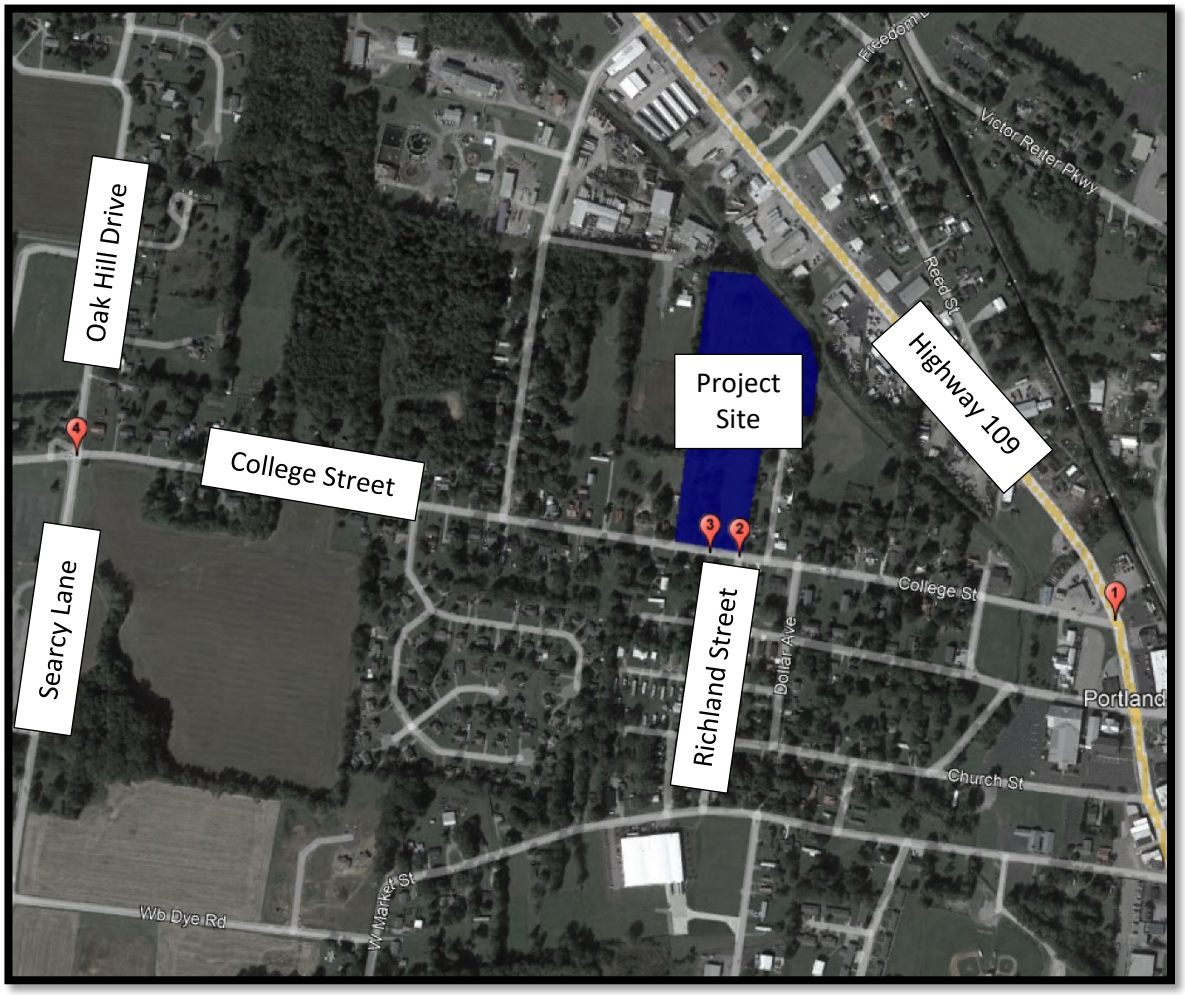
## *1. INTRODUCTION*

The purpose of this study is to evaluate the traffic impacts associated with the proposed College Street Townhomes residential development and to identify if any offsite access or traffic control improvements will be required to address those impacts.

The project site is located in Portland, Tennessee, west of Highway 109, along the north side of College Street. Figure 1 shows the proposed project site, along with the intersections that will be included as part of the study.



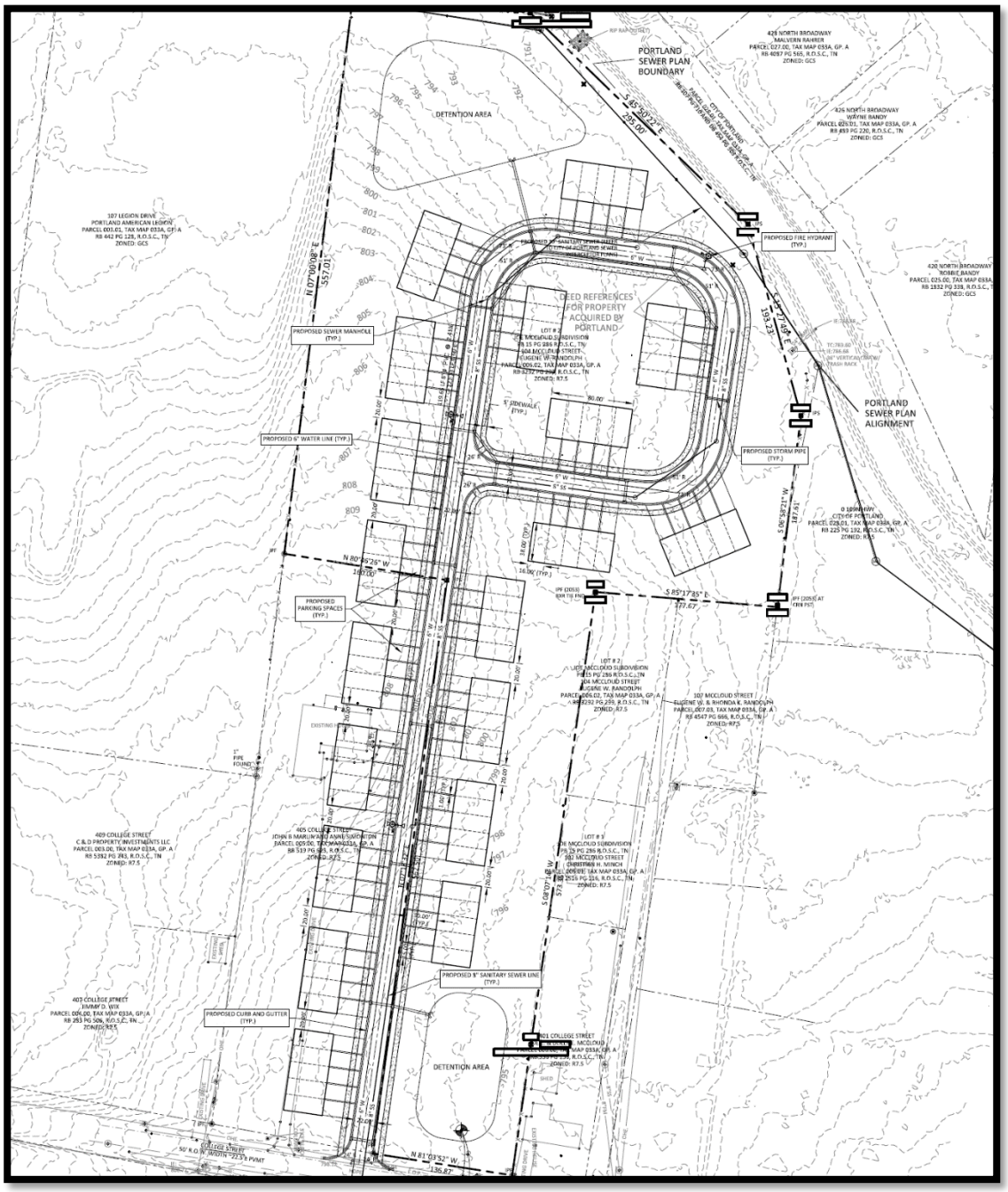

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

**Figure 1.**
**Project Location &**
**Study Intersections**

## ***2. PROJECT DESCRIPTION***

The current site development plan, provided by GreenLID Design, is illustrated in Figure 2. As detailed in Figure 2, the current plan proposes the development of 95 townhomes. The project site has a single proposed access drive on College Street.

For the purposes of this study, a three-year horizon was assumed (2025).




GreenLID Design

**Figure 2.**
**Conceptual Site Development Plan**

*Project Scope*

This report identifies potential traffic impacts to the surrounding roadway network based on the proposed development. Three scenarios were considered for analysis, as follows:

- Existing Traffic Conditions (2022)
- Background Traffic Conditions (2025)
- Total Future Traffic Conditions at Project Buildout (2025)

The following intersections were included in the scope of the traffic study:

- #1 – Highway 109 & College Street
- #2 – College Street & Richland Street
- #3 – College Street & Project Access
- #4 – College Street & Searcy Lane / Oak Hill Drive

To simplify review of the traffic study, each intersection was assigned a reference number, as shown above. The traffic assignment and capacity analyses worksheets contained in this report refer to each intersection by both name and assigned intersection number.

## *3. 2022 EXISTING TRAFFIC CONDITIONS*

### *Methodology*

The traffic analyses performed in this report were conducted using *Synchro* software, which emulates the methodologies set forth in the *Highway Capacity Manual, 6th Edition,* for evaluation of signalized and unsignalized intersections.

The intersections considered in this study were evaluated in terms of level of service (LOS), which is a rating of traffic conditions for a given roadway or intersection. For comparative purposes, the descriptions for the various levels of service at both signalized and unsignalized intersections are shown in Table 1 and Table 2, respectively.

**Table 1**
**Level of Service Criteria for Signalized Intersections**

| Level of Service | Description | Control Delay (Seconds) |
|---|---|---|
| A | Very low delay with minimal stops. | <10 |
| B | Stable traffic flow, low delay, few traffic stops. | >10 to ≤20 |
| C | Operations with stable flow, moderate delay. | >20 to ≤ 35 |
| D | Noticeable delays, many stopped vehicles. | >35 and ≤ 55 |
| E | Unstable flow, high delays and congestion. | >55 and ≤ 80 |
| F | Unacceptable delay, excessive congestion. | >80 |

**Table 2**
**Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Description | Control Delay (Seconds) |
|---|---|---|
| A | Minimal or no delay | ≤ 10 |
| B | Minor traffic delay | >10 and ≤ 15 |
| C | Average traffic delay | >15 and ≤ 25 |
| D | Long traffic delay | >25 and ≤ 35 |
| E | Very long traffic delay | >35 and ≤ 50 |
| F | Extreme traffic delay | > 50 |

*Existing Roadway Network*

The roadways in the vicinity of the site that will provide access to the College Street Townhomes development are described as follows:

- *Highway 109 (Ronnie McDowell Boulevard / North Broadway)* is functionally classified as a principal arterial roadway. At its signalized intersection with College Street, Highway 109 runs north-south, with two travel lanes in each direction. The speed limit on Highway 109 is posted at 30 mph near its intersection with College Street.

- *College Street* is functionally classified as a collector roadway and has a posted speed limit of 30 mph in the vicinity of the project site. College Street has a paved width of approximately 22'.

- *Richland Street* is a local roadway with a paved width that varies between 18' and 24'. The speed limit on Richland Street is posted at 30 mph.

- *Searcy Lane* is a local roadway with posted speed limit of 30 mph. South of College Street, Searcy Lane generally has a paved width of approximately 24'.

- *Oak Hill Drive* is a local roadway with a paved width that varies between 18' and 20'. The speed limit on Oak Hill Drive is posted at 20 mph.

*Existing Traffic Operations*

To provide data for the analysis, manual turning movement traffic counts were performed at the following locations:

- #1 – Highway 109 & College Street
- #2 – College Street & Richland Street
- #3 – College Street & Project Access
- #4 – College Street & Searcy Lane / Oak Hill Drive

Traffic counts were collected on Thursday, May 19th, 2022, while school was in session. The counts were conducted from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. From the traffic counts collected, it was determined that the AM peak hour was 7:00 AM to 8:00 AM and the PM peak hour was 4:00 PM to 5:00 PM.

The existing 2022 peak hour traffic volumes for the intersections studied are illustrated in Figure 3. The traffic count data utilized for this study are included in summary form in Appendix A.

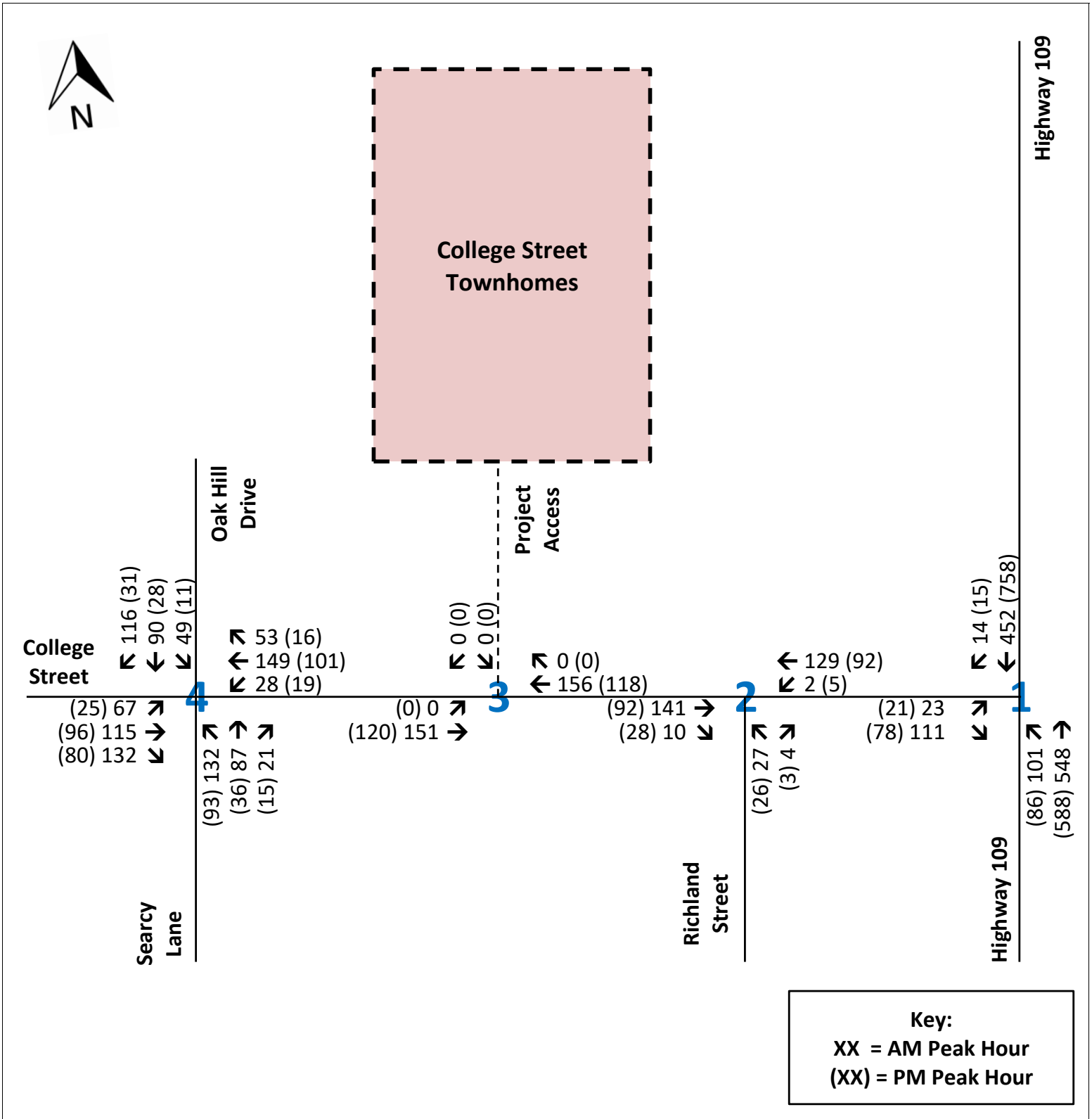



**Figure 3.**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

*Existing Intersection Capacity Analyses*

To determine the current LOS of the intersections studied, capacity analyses were performed for the AM and PM peak hours of traffic. The capacity calculations were performed in accordance with the methods outlined in the *Highway Capacity Manual*.

As previously described, the capacity analyses result in the determination of a Level of Service (LOS) for an intersection. 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.

As shown in Table 3, the intersections contained in the study area presently operate at relatively good levels of service (LOS C or better) during the AM and PM peak traffic hours.

Appendix B contains the capacity analysis worksheets for the 2022 existing traffic conditions.

**Table 3**
**2022 Existing Traffic Conditions Analyses**
**Peak Hour Levels of Service**

| Intersection | | | Level of Service/ Delay (Seconds) | |
|---|---|---|---|---|
| **#** | **Description** | **Movement [(1)]** | **AM Peak Hour** | **PM Peak Hour** |
| 1 | Highway 109 & College Street | Overall (Signalized) | A (8.3) | A (6.7) |
| 2 | College Street & Richland Street | Northbound | B (10.7) | A (9.9) |
| | | Westbound Left | A (7.6) | A (7.5) |
| 3 | College Street & Project Access | Southbound | --- | --- |
| | | Eastbound Left | --- | --- |
| 4 | College Street & Searcy Lane / Oak Hill Drive | Overall (All-Way Stop) | C (18.5) | A (8.9) |

[(1)] For signalized locations and all-way stop control, the overall LOS and delay are listed for the intersection. For intersections with stop control on the minor approaches only, the LOS and delay are listed for movements that are required to stop or yield the right-of-way.

## *4. 2025 BACKGROUND TRAFFIC CONDITIONS*

The 2025 background conditions analyses are presented to evaluate the traffic levels expected at the project buildout year due to growth. Data from a nearby count station, #12 on College Street, west of the project site, was obtained from TDOT. Based on historical ADT traffic counts at this count station, an average rate of 2.3% traffic growth was indicated in the vicinity of the project site over the last ten-year period. In view of this, the 2022 existing traffic volumes were increased by 3.0% for the three-year development period to obtain the 2025 background traffic volumes.

These 2025 background traffic volumes represent the traffic which could be expected to travel through the study area even if the proposed project is not developed. The historical TDOT data from count station #12 is included in Appendix A. The resulting 2025 background traffic volumes are illustrated in Figure 4.

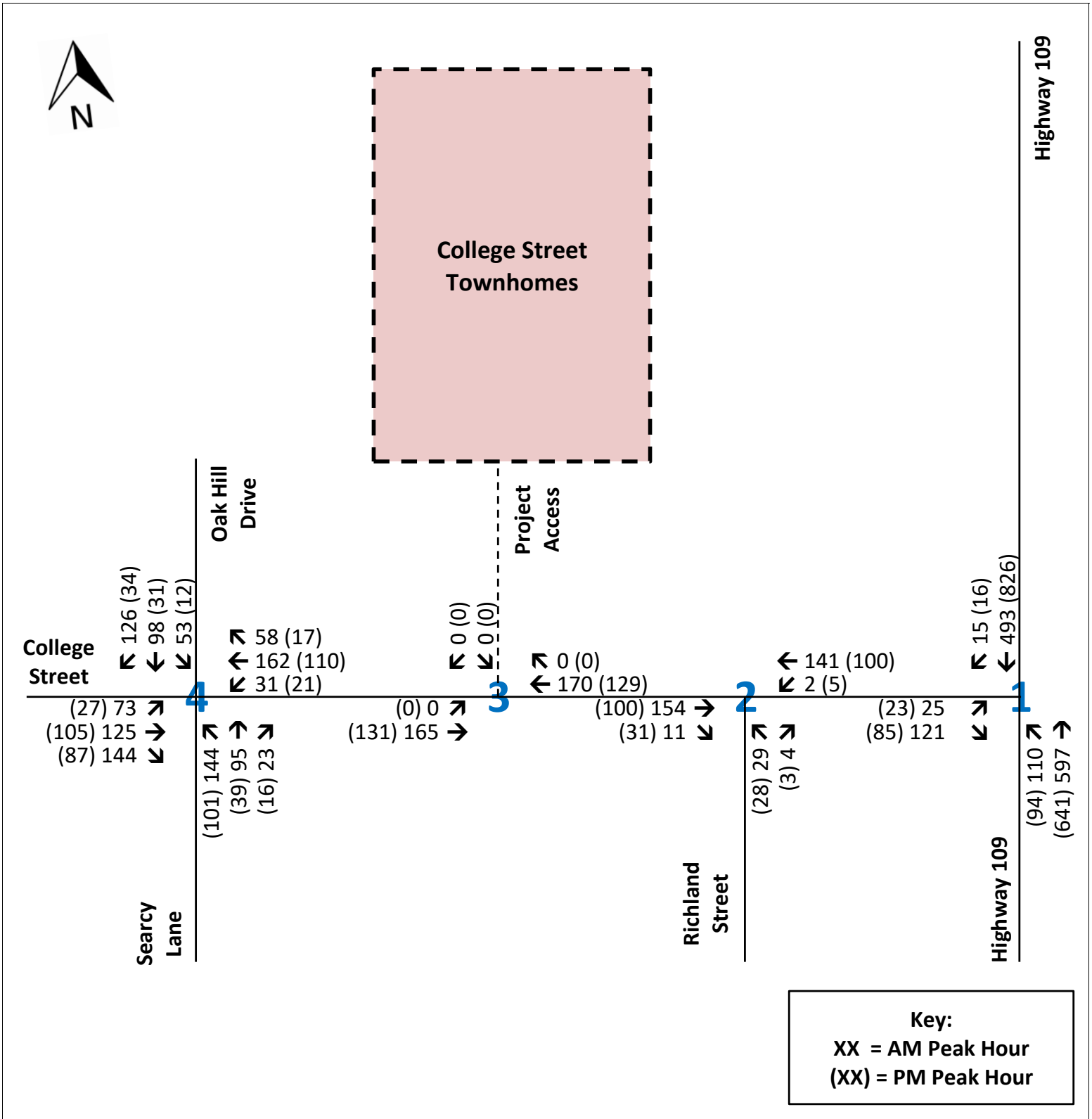



**Figure 4.**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

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*2025 Background Intersection Capacity Analyses*

To determine the LOS of the intersections studied, capacity analyses were performed for the AM and PM peak hours of traffic for the 2025 background traffic conditions. The capacity calculations were performed in accordance with the methods outlined in the *Highway Capacity Manual*. As previously described, the capacity analyses result in the determination of a Level of Service (LOS) for an intersection. 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.

The 2025 background traffic volumes represent the traffic which could be expected to travel through the study area even if the proposed project is not developed. As shown in Table 4, the intersections included in this study are expected to operate at acceptable levels of service (LOS D or better) during the AM and PM peak traffic hours.

Appendix B contains the capacity analysis worksheets for the 2025 background traffic conditions.

**Table 4**
**2025 Background Traffic Conditions Analyses**
**Peak Hour Levels of Service**

| Intersection | | | Level of Service/ Delay (Seconds) | |
|---|---|---|---|---|
| **#** | **Description** | **Movement [(1)]** | **AM Peak Hour** | **PM Peak Hour** |
| 1 | Highway 109 & College Street | Overall (Signalized) | A (8.6) | A (6.9) |
| 2 | College Street & Richland Street | Northbound | B (11.0) | B (10.1) |
| | | Westbound Left | A (7.6) | A (7.5) |
| 3 | College Street & Project Access | Southbound | --- | --- |
| | | Eastbound Left | --- | --- |
| 4 | College Street & Searcy Lane / Oak Hill Drive | Overall (All-Way Stop) | D (25.8) | A (9.2) |

[(1)] For signalized locations and all-way stop control, the overall LOS and delay are listed for the intersection. For intersections with stop control on the minor approaches only, the LOS and delay are listed for movements that are required to stop or yield the right-of-way.

## *5. 2025 PROJECTED TRAFFIC CONDITIONS*

To develop the projected traffic conditions, the trips expected to be generated by the proposed development were determined. These trips were then assigned to the roadway network using a directional traffic distribution.

### *Trip Generation*

As mentioned in the project description, the proposed development will include 95 townhomes. Trips expected to be generated by the proposed development were calculated using data from *Trip Generation* (11th Edition), which is a publication of the Institute of Transportation Engineers (ITE). The results of the trip generation calculations are presented in Table 5.

**Table 5**
**Trip Generation for the Proposed**
**College Street Townhomes Development**

| Description | ITE Land Use Code (LUC) | SIZE | Daily Trips | AM Peak Hour Trips | | PM Peak Hour Trips | |
|---|---|---|---|---|---|---|---|
| | | | | Enter | Exit | Enter | Exit |
| Townhomes | 215 | 95 Units | 674 | 14 | 31 | 31 | 23 |

Additional information regarding the trip generation calculations for the site development included in this study is contained in Appendix C.

*Trip Distribution*

The trips that will be generated by the proposed residential development were assigned to the roadway network using a trip distribution that is detailed in Appendix D. This directional distribution, which is illustrated in Figure 5, was based on the existing directional split of traffic, the access proposed for the site, and the employment centers in the area and is described as follows:

- 50% to / from the east on College Street
- 40% to / from the west on College Street
- 10% to / from the south on Richland Street

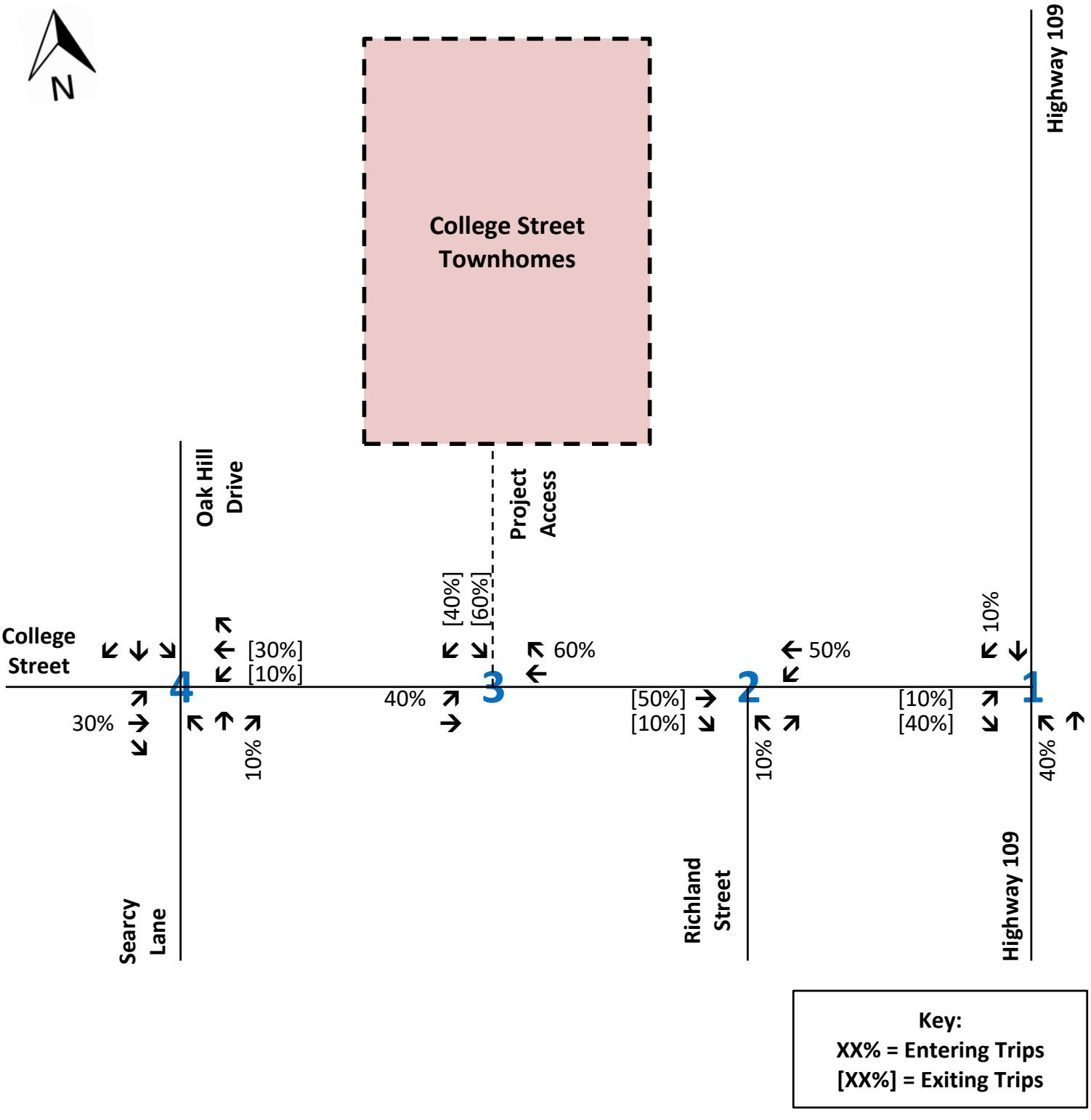


**Figure 5.**
**Trip Distribution - Townhomes (95 Units)**
College Street Townhomes
Portland, Tennessee

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## *Traffic Assignment*

The assignments of the total trips that will be generated by the proposed College Street Townhomes development are presented in Figure 6. These trips represent the new traffic expected to be generated by the site development of the project.

Appendix E contains the traffic assignment figures utilized in developing the projected traffic volumes at buildout conditions. Traffic assignment information included in Appendix E is listed as follows:

- Existing Traffic Volumes (2022)
- Background Traffic Volumes (2025)
    - Historical Growth (3.0% per year for 3 years)
    - Total Background Traffic (2025)
- Total Site Generated Traffic Assignment (95 Townhomes)
- Total Projected Traffic Volumes at Project Buildout (2025)

Figure 7 presents the total projected AM and PM peak hour traffic volumes expected at the completion of the proposed project in 2025.

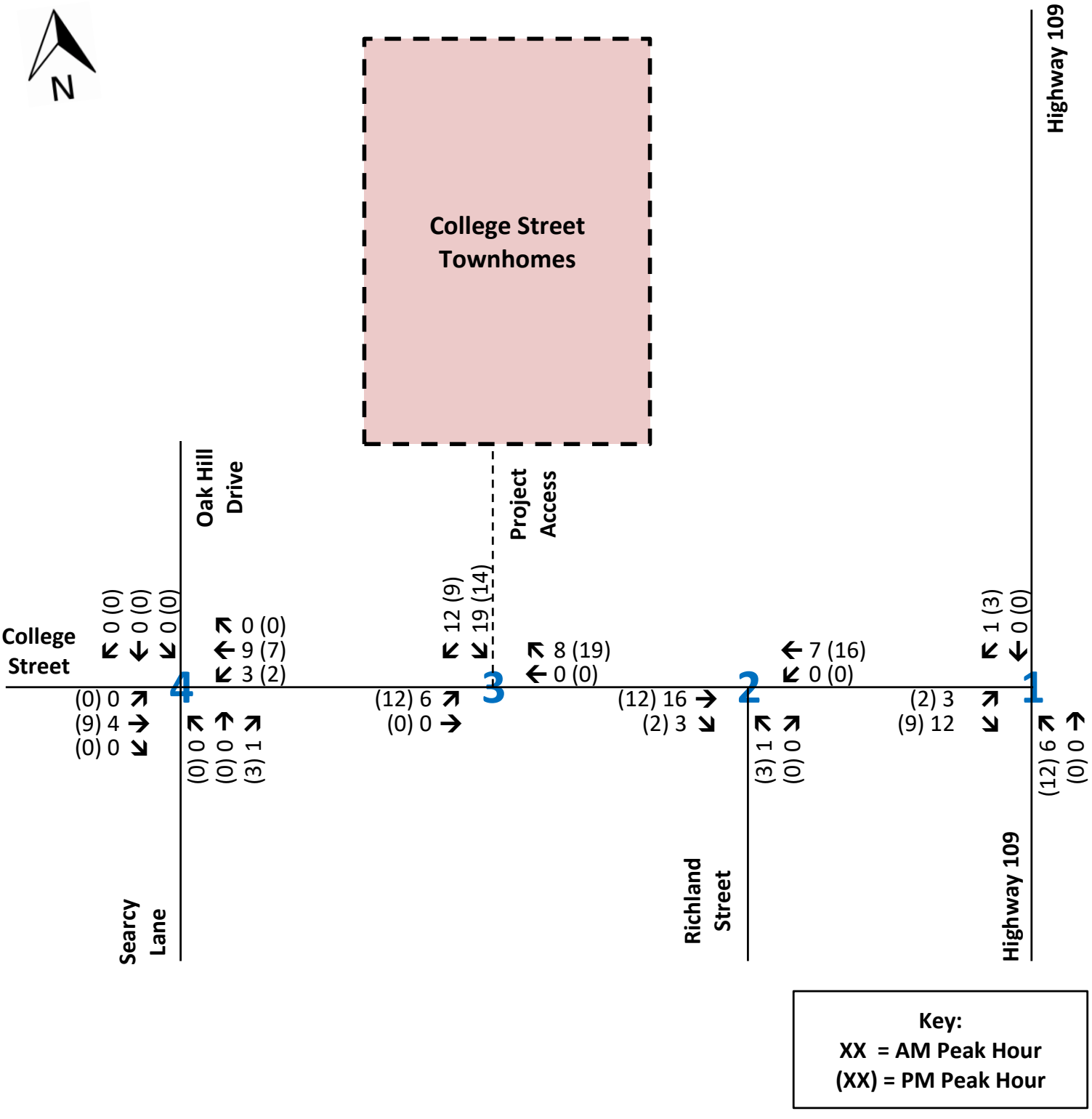


**Figure 6.**
**Total Site Generated Traffic**
College Street Townhomes
Portland, Tennessee

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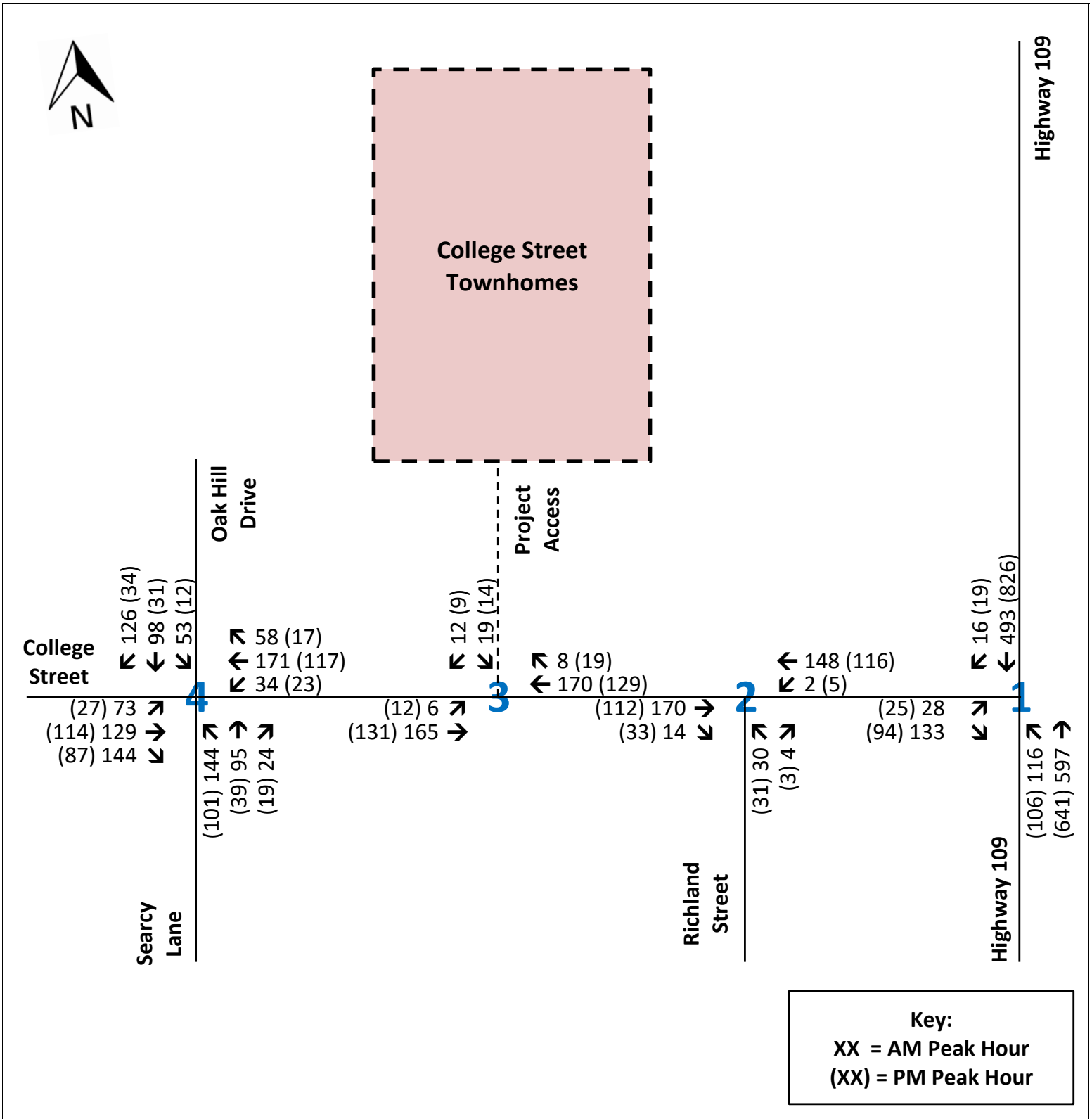


**Figure 7.**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

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*2025 Projected Intersection Capacity Analyses*

Capacity analyses were performed in order to determine the impact of the project on the intersections included in the scope of the study. These capacity analyses were used to evaluate the need for roadway and traffic control improvements at the intersections studied.

The results of the capacity analyses for the 2025 projected traffic conditions at the intersections studied are presented in Table 6. As shown, the intersections included in this study are projected to operate at acceptable levels of service (LOS D or better) during the AM and PM peak traffic hours.

Appendix B contains the capacity analysis worksheets for the 2025 projected traffic conditions.

**Table 6**
**2025 Projected Traffic Conditions at Project Buildout**
**Peak Hour Levels of Service**

| Intersection | | | Level of Service/ Delay (Seconds) | |
|---|---|---|---|---|
| **#** | **Description** | **Movement [(1)]** | **AM Peak Hour** | **PM Peak Hour** |
| 1 | Highway 109 & College Street | Overall (Signalized) | A (9.2) | A (7.4) |
| 2 | College Street & Richland Street | Northbound | B (11.2) | B (10.4) |
| | | Westbound Left | A (7.7) | A (7.6) |
| 3 | College Street & Project Access | Southbound | B (10.9) | B (10.2) |
| | | Eastbound Left | A (7.7) | A (7.6) |
| 4 | College Street & Searcy Lane / Oak Hill Drive | Overall (All-Way Stop) | D (27.5) | A (9.4) |

[(1)] For signalized locations and all-way stop control, the overall LOS and delay are listed for the intersection. For intersections with stop control on the minor approaches only, the LOS and delay are listed for movements that are required to stop or yield the right-of-way.

*Consideration of Offsite Improvements*

Based on the results of the 2025 projected intersection capacity analyses, various offsite improvements were evaluated. Specifically, the need for left and right turn lane improvements was assessed.

*Left Turn Lane Warrants*

The 2025 projected traffic volumes were compared to the standards set forth in M.D. Harmelink's Volume Warrants for Left-Turn Storage Lanes at Unsignalized Intersections. Analyses were conducted to determine the need for left turn lane improvements at the following locations:

- #2 – College Street & Richland Street
- #3 – College Street & Project Access

#2 – College Street & Richland Street

The results of the analyses show that the projected volumes do not meet the thresholds required for the installation of a westbound left turn lane at the intersection of College Street and Richland Street.

#3 – College Street & Project Access

The results of the analyses show that the projected volumes do not meet the thresholds required for the installation of an eastbound left turn lane at the intersection of College Street and the proposed Project Access.

Copies of the left turn warrant analyses sheets for the 2025 projected traffic conditions are included in Appendix F.

*Right Turn Lane Evaluations*

To evaluate the need for right turn lane improvements, the criteria contained in NCHRP 457 were compared to the 2025 projected traffic volumes at the following locations:

- #2 – College Street & Richland Street
- #3 – College Street & Project Access

For each location, the AM and PM peak hour volumes were compared to the data for a two-lane, 40-mph roadway.

#2 – College Street & Richland Street

The results of the analyses show that the projected volumes do not meet the thresholds indicated for the installation of an eastbound right turn lane at the intersection of College Street and Richland Street.

#3 – College Street & Project Access

The results of the analyses show that the projected volumes do not meet the thresholds indicated for the installation of a westbound right turn lane at the intersection of College Street and the proposed Project Access.

Copies of the right turn analyses are included in Appendix F.

## *6. CONCLUSIONS AND RECOMMENDATIONS*

The analyses presented in this study indicate that the traffic generated by the College Street Townhomes residential development can be supported by the existing roadway network without any offsite improvements. The analyses of the 2025 projected traffic conditions at each intersection included in the scope of the study indicate acceptable levels of service (LOS D or better) during both the AM and PM peak hours of traffic. Additionally, the 2025 projected traffic volumes do not meet the thresholds indicated for the installation of left or right turn lanes at the proposed Project Access.

In conclusion, the proposed College Street Townhomes development is not expected to have a significant impact on the traffic operations in the area.

APPENDIX A

TRAFFIC COUNT DATA

INTERSECTION TURNING

MOVEMENT COUNTS

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #1 - Highway 109 & College Street
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highway 109 | | | Highway 109 | | | College Street | | | | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | 11 | 135 | | | 112 | 3 | 3 | | 22 | | | | |
| 7:15 AM - 7:30 AM | 19 | 147 | | | 127 | 5 | 3 | | 33 | | | | |
| 7:30 AM - 7:45 AM | 39 | 128 | | | 105 | 4 | 9 | | 24 | | | | |
| 7:45 AM - 8:00 AM | 32 | 138 | | | 108 | 2 | 8 | | 32 | | | | |
| 8:00 AM - 8:15 AM | 11 | 112 | | | 101 | 2 | 1 | | 18 | | | | |
| 8:15 AM - 8:30 AM | 14 | 132 | | | 101 | 4 | 4 | | 8 | | | | |
| 8:30 AM - 8:45 AM | 4 | 121 | | | 94 | 1 | 2 | | 15 | | | | |
| 8:45 AM - 9:00 AM | 7 | 141 | | | 89 | 5 | 1 | | 13 | | | | |
| 4:00 PM - 4:15 PM | 30 | 153 | | | 181 | 6 | 6 | | 16 | | | | |
| 4:15 PM - 4:30 PM | 25 | 155 | | | 158 | 3 | 7 | | 24 | | | | |
| 4:30 PM - 4:45 PM | 13 | 121 | | | 229 | 4 | 2 | | 19 | | | | |
| 4:45 PM - 5:00 PM | 18 | 159 | | | 190 | 2 | 6 | | 19 | | | | |
| 5:00 PM - 5:15 PM | 21 | 154 | | | 175 | 5 | 5 | | 16 | | | | |
| 5:15 PM - 5:30 PM | 14 | 143 | | | 141 | 4 | 3 | | 29 | | | | |
| 5:30 PM - 5:45 PM | 28 | 140 | | | 158 | 4 | 1 | | 29 | | | | |
| 5:45 PM - 6:00 PM | 19 | 162 | | | 126 | 3 | 2 | | 28 | | | | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 101 | 548 | 0 | 0 | 452 | 14 | 23 | 0 | 111 | 0 | 0 | 0 | 0.93 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 86 | 588 | 0 | 0 | 758 | 15 | 21 | 0 | 78 | 0 | 0 | 0 | 0.98 |

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #2 - College Street & Richland Street
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Richland Street | | | | | | College Street | | | College Street | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | 7 | | 1 | | | | | 26 | 2 | 0 | 20 | | |
| 7:15 AM - 7:30 AM | 6 | | 0 | | | | | 31 | 2 | 2 | 28 | | |
| 7:30 AM - 7:45 AM | 8 | | 2 | | | | | 39 | 1 | 0 | 47 | | |
| 7:45 AM - 8:00 AM | 6 | | 1 | | | | | 45 | 5 | 0 | 34 | | |
| 8:00 AM - 8:15 AM | 1 | | 0 | | | | | 20 | 2 | 0 | 10 | | |
| 8:15 AM - 8:30 AM | 2 | | 1 | | | | | 10 | 4 | 0 | 16 | | |
| 8:30 AM - 8:45 AM | 0 | | 0 | | | | | 15 | 1 | 0 | 11 | | |
| 8:45 AM - 9:00 AM | 1 | | 1 | | | | | 12 | 1 | 1 | 5 | | |
| 4:00 PM - 4:15 PM | 5 | | 1 | | | | | 20 | 9 | 0 | 31 | | |
| 4:15 PM - 4:30 PM | 6 | | 0 | | | | | 28 | 8 | 2 | 27 | | |
| 4:30 PM - 4:45 PM | 7 | | 1 | | | | | 23 | 6 | 2 | 16 | | |
| 4:45 PM - 5:00 PM | 8 | | 1 | | | | | 21 | 5 | 1 | 18 | | |
| 5:00 PM - 5:15 PM | 2 | | 1 | | | | | 22 | 5 | 1 | 32 | | |
| 5:15 PM - 5:30 PM | 4 | | 3 | | | | | 33 | 8 | 0 | 19 | | |
| 5:30 PM - 5:45 PM | 8 | | 1 | | | | | 30 | 3 | 2 | 34 | | |
| 5:45 PM - 6:00 PM | 4 | | 1 | | | | | 28 | 6 | 27 | 1 | | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 27 | 0 | 4 | 0 | 0 | 0 | 0 | 141 | 10 | 2 | 129 | 0 | 0.81 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 26 | 0 | 3 | 0 | 0 | 0 | 0 | 92 | 28 | 5 | 92 | 0 | 0.87 |

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #3 - College Street & Project Access
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Project Access | | | College Street | | | College Street | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | | | | | | | | 28 | | | 27 | | |
| 7:15 AM - 7:30 AM | | | | | | | | 33 | | | 34 | | |
| 7:30 AM - 7:45 AM | | | | | | | | 40 | | | 55 | | |
| 7:45 AM - 8:00 AM | | | | | | | | 50 | | | 40 | | |
| 8:00 AM - 8:15 AM | | | | | | | | 22 | | | 11 | | |
| 8:15 AM - 8:30 AM | | | | | | | | 14 | | | 18 | | |
| 8:30 AM - 8:45 AM | | | | | | | | 16 | | | 11 | | |
| 8:45 AM - 9:00 AM | | | | | | | | 13 | | | 6 | | |
| 4:00 PM - 4:15 PM | | | | | | | | 29 | | | 36 | | |
| 4:15 PM - 4:30 PM | | | | | | | | 36 | | | 33 | | |
| 4:30 PM - 4:45 PM | | | | | | | | 29 | | | 23 | | |
| 4:45 PM - 5:00 PM | | | | | | | | 26 | | | 26 | | |
| 5:00 PM - 5:15 PM | | | | | | | | 27 | | | 34 | | |
| 5:15 PM - 5:30 PM | | | | | | | | 41 | | | 23 | | |
| 5:30 PM - 5:45 PM | | | | | | | | 33 | | | 42 | | |
| 5:45 PM - 6:00 PM | | | | | | | | 34 | | | 5 | | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 151 | 0 | 0 | 156 | 0 | 0.81 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 0 | 118 | 0 | 0.86 |

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #4 - College Street & Searcy Lane / Oak Hill Drive
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Searcy Lane | | | Oak Hill Drive | | | College Street | | | College Street | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | 23 | 19 | 7 | 7 | 27 | 17 | 13 | 22 | 20 | 11 | 20 | 7 | |
| 7:15 AM - 7:30 AM | 28 | 27 | 6 | 18 | 18 | 28 | 16 | 24 | 36 | 5 | 20 | 14 | |
| 7:30 AM - 7:45 AM | 41 | 25 | 5 | 14 | 23 | 39 | 21 | 26 | 39 | 4 | 43 | 26 | |
| 7:45 AM - 8:00 AM | 40 | 16 | 3 | 10 | 22 | 32 | 17 | 43 | 37 | 8 | 66 | 6 | |
| 8:00 AM - 8:15 AM | 20 | 4 | 3 | 2 | 6 | 5 | 8 | 16 | 31 | 2 | 14 | 1 | |
| 8:15 AM - 8:30 AM | 13 | 2 | 3 | 3 | 2 | 4 | 2 | 5 | 13 | 2 | 13 | 2 | |
| 8:30 AM - 8:45 AM | 6 | 4 | 1 | 1 | 2 | 3 | 0 | 12 | 9 | 1 | 8 | 0 | |
| 8:45 AM - 9:00 AM | 8 | 3 | 1 | 0 | 7 | 2 | 3 | 12 | 14 | 0 | 4 | 1 | |
| 4:00 PM - 4:15 PM | 26 | 6 | 5 | 2 | 8 | 3 | 3 | 19 | 17 | 8 | 34 | 4 | |
| 4:15 PM - 4:30 PM | 20 | 7 | 2 | 5 | 12 | 7 | 7 | 28 | 20 | 4 | 27 | 4 | |
| 4:30 PM - 4:45 PM | 24 | 8 | 6 | 1 | 3 | 13 | 6 | 26 | 22 | 2 | 18 | 5 | |
| 4:45 PM - 5:00 PM | 23 | 15 | 2 | 3 | 5 | 8 | 9 | 23 | 21 | 5 | 22 | 3 | |
| 5:00 PM - 5:15 PM | 21 | 11 | 3 | 6 | 10 | 8 | 4 | 20 | 12 | 4 | 32 | 8 | |
| 5:15 PM - 5:30 PM | 22 | 3 | 1 | 4 | 8 | 7 | 9 | 34 | 10 | 1 | 18 | 4 | |
| 5:30 PM - 5:45 PM | 31 | 7 | 2 | 4 | 5 | 12 | 8 | 32 | 11 | 2 | 41 | 5 | |
| 5:45 PM - 6:00 PM | 30 | 9 | 4 | 4 | 8 | 6 | 6 | 23 | 15 | 2 | 26 | 5 | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 132 | 87 | 21 | 49 | 90 | 116 | 67 | 115 | 132 | 28 | 149 | 53 | 0.85 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 93 | 36 | 15 | 11 | 28 | 31 | 25 | 96 | 80 | 19 | 101 | 16 | 0.96 |

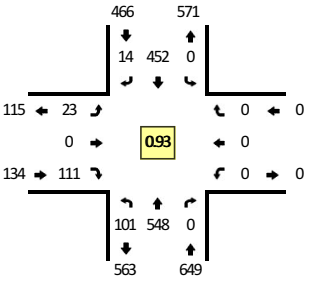
QUALITY COUNTS

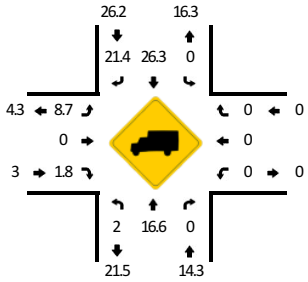
TMC REPORTS

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

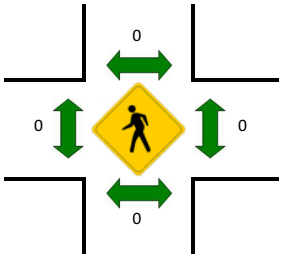
**LOCATION:** N Broadway -- College St | **QC JOB #:** 15831804
**CITY/STATE:** Portland, TN | **DATE:** Thu, May 19 2022

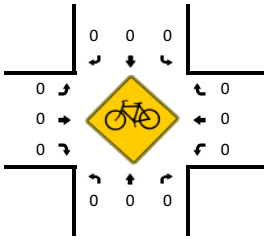
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:15 AM -- 7:30 AM**

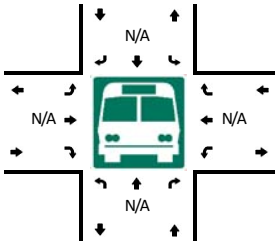


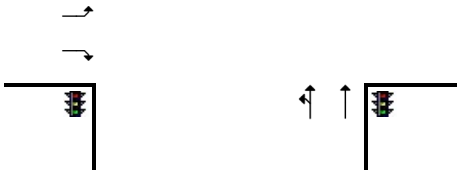



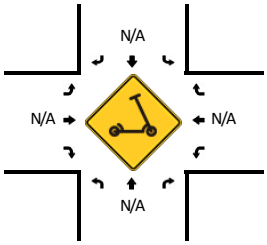

Quality Counts
DATA THAT DRIVES COMMUNITIES








| 15-Min Count Period Beginning At | N Broadway (Northbound) | | | | N Broadway (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 11 | 135 | 0 | 0 | 0 | 112 | 3 | 0 | 3 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 286 | |
| 7:15 AM | 19 | 147 | 0 | 0 | 0 | 127 | 5 | 0 | 3 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 334 | |
| 7:30 AM | 39 | 128 | 0 | 0 | 0 | 105 | 4 | 0 | 9 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 309 | |
| 7:45 AM | 32 | 138 | 0 | 0 | 0 | 108 | 2 | 0 | 8 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 320 | 1249 |
| 8:00 AM | 11 | 112 | 0 | 0 | 0 | 101 | 2 | 0 | 1 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 245 | 1208 |
| 8:15 AM | 14 | 132 | 0 | 0 | 0 | 101 | 4 | 0 | 4 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 263 | 1137 |
| 8:30 AM | 4 | 121 | 0 | 0 | 0 | 94 | 1 | 0 | 2 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 237 | 1065 |
| 8:45 AM | 7 | 141 | 0 | 0 | 0 | 89 | 5 | 0 | 1 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 256 | 1001 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 76 | 588 | 0 | 0 | 0 | 508 | 20 | 0 | 12 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 1336 |
| Heavy Trucks | 4 | 88 | 0 | | 0 | 132 | 4 | | 0 | 0 | 4 | | 0 | 0 | 0 | | 232 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

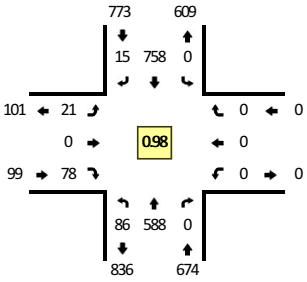
*Comments:*

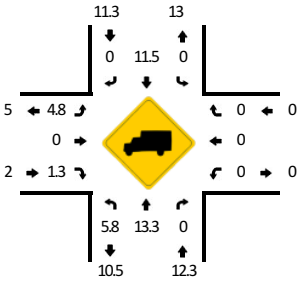
Report generated on 5/31/2022 5:40 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

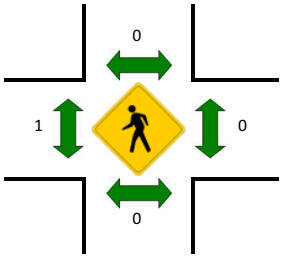
**LOCATION:** N Broadway -- College St | **QC JOB #:** 15831805
**CITY/STATE:** Portland, TN | **DATE:** Thu, May 19 2022

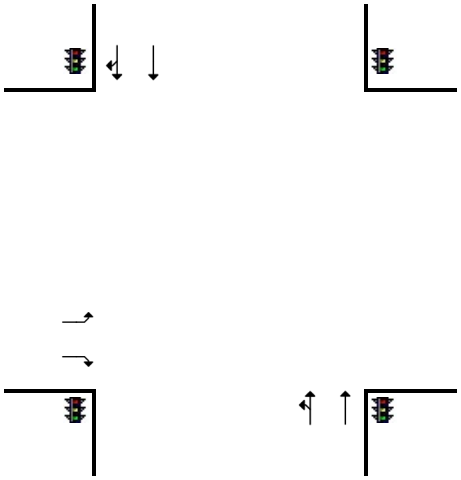
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:45 PM -- 5:00 PM**

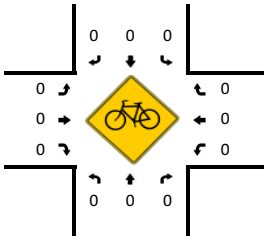


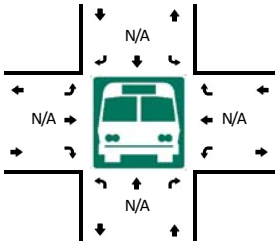




Quality Counts
DATA THAT DRIVES COMMUNITIES

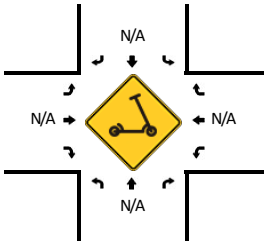







| 15-Min Count Period Beginning At | N Broadway (Northbound) | | | | N Broadway (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 30 | 153 | 0 | 0 | 0 | 181 | 6 | 0 | 6 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 392 | |
| 4:15 PM | 25 | 155 | 0 | 0 | 0 | 158 | 3 | 0 | 7 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 372 | |
| 4:30 PM | 13 | 121 | 0 | 0 | 0 | 229 | 4 | 0 | 2 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 388 | |
| 4:45 PM | 18 | 159 | 0 | 0 | 0 | 190 | 2 | 0 | 6 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 394 | 1546 |
| 5:00 PM | 21 | 154 | 0 | 0 | 0 | 175 | 5 | 0 | 5 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 376 | 1530 |
| 5:15 PM | 14 | 143 | 0 | 0 | 0 | 141 | 4 | 0 | 3 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 334 | 1492 |
| 5:30 PM | 28 | 140 | 0 | 0 | 0 | 158 | 4 | 0 | 1 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 360 | 1464 |
| 5:45 PM | 19 | 162 | 0 | 0 | 0 | 126 | 3 | 0 | 2 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 340 | 1410 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 72 | 636 | 0 | 0 | 0 | 760 | 8 | 0 | 24 | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 1576 |
| Heavy Trucks | 0 | 60 | 0 | | 0 | 120 | 0 | | 4 | 0 | 0 | | 0 | 0 | 0 | | 184 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

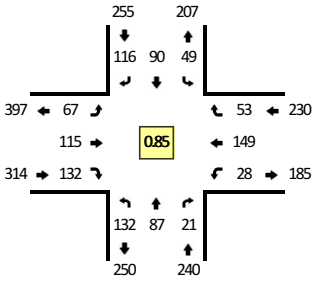
*Comments:*

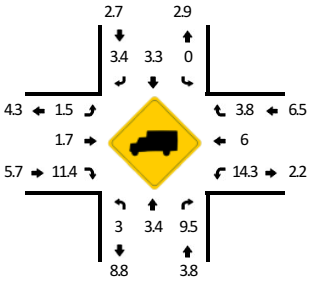
Report generated on 5/31/2022 5:40 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

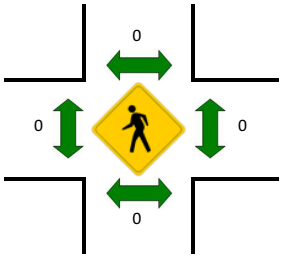
**LOCATION:** Searcy Ln -- College St | **QC JOB #:** 15831801
**CITY/STATE:** Portland, TN | **DATE:** Thu, May 19 2022

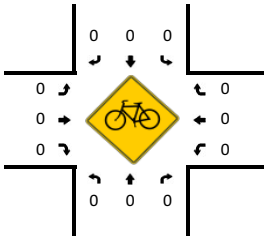
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:30 AM -- 7:45 AM**

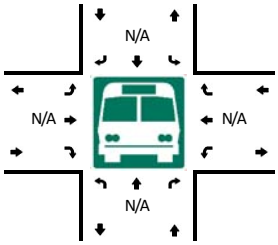


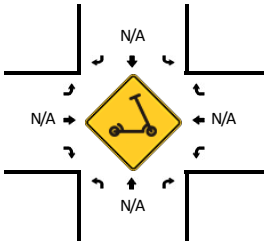




Quality Counts
DATA THAT DRIVES COMMUNITIES








| 15-Min Count Period Beginning At | Searcy Ln (Northbound) | | | | Searcy Ln (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 23 | 19 | 7 | 0 | 7 | 27 | 17 | 0 | 13 | 22 | 20 | 0 | 11 | 20 | 7 | 0 | 193 | |
| 7:15 AM | 28 | 27 | 6 | 0 | 18 | 18 | 28 | 0 | 16 | 24 | 36 | 0 | 5 | 20 | 14 | 0 | 240 | |
| 7:30 AM | 41 | 25 | 5 | 0 | 14 | 23 | 39 | 0 | 21 | 26 | 39 | 0 | 4 | 43 | 26 | 0 | 306 | |
| 7:45 AM | 40 | 16 | 3 | 0 | 10 | 22 | 32 | 0 | 17 | 43 | 37 | 0 | 8 | 66 | 6 | 0 | 300 | 1039 |
| 8:00 AM | 20 | 4 | 3 | 0 | 2 | 6 | 5 | 0 | 8 | 16 | 31 | 0 | 2 | 14 | 1 | 0 | 112 | 958 |
| 8:15 AM | 13 | 2 | 3 | 0 | 3 | 2 | 4 | 0 | 2 | 5 | 13 | 0 | 2 | 13 | 2 | 0 | 64 | 782 |
| 8:30 AM | 6 | 4 | 1 | 0 | 1 | 2 | 3 | 0 | 0 | 12 | 9 | 0 | 1 | 8 | 0 | 0 | 47 | 523 |
| 8:45 AM | 8 | 3 | 1 | 1 | 0 | 7 | 2 | 0 | 3 | 12 | 14 | 0 | 0 | 4 | 1 | 0 | 56 | 279 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 164 | 100 | 20 | 0 | 56 | 92 | 156 | 0 | 84 | 104 | 156 | 0 | 16 | 172 | 104 | 0 | 1224 |
| Heavy Trucks | 0 | 0 | 4 | | 0 | 0 | 0 | | 0 | 4 | 20 | | 0 | 12 | 0 | | 40 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 5/31/2022 5:40 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

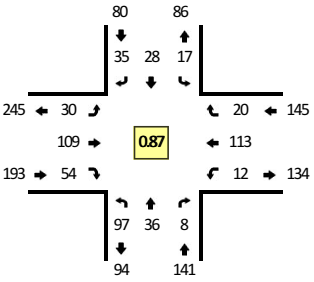
Type of peak hour being reported: Intersection Peak

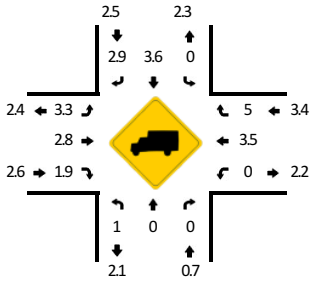
Method for determining peak hour: Total Entering Volume

**LOCATION:** Searcy Ln -- College St
**CITY/STATE:** Portland, TN

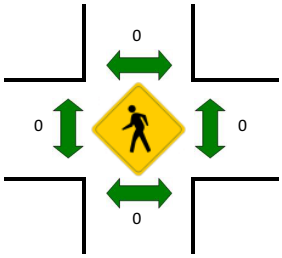
**QC JOB #:** 15831802
**DATE:** Thu, May 19 2022

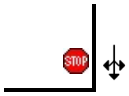
**Peak-Hour: 4:45 PM -- 5:45 PM**
**Peak 15-Min: 5:30 PM -- 5:45 PM**

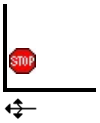


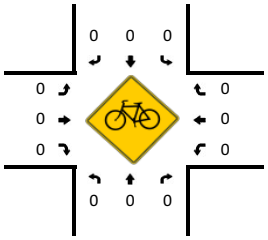



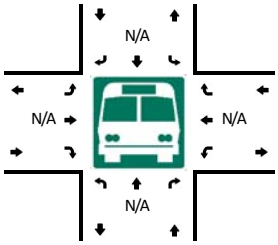

Quality Counts
DATA THAT DRIVES COMMUNITIES

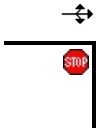


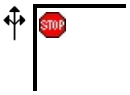



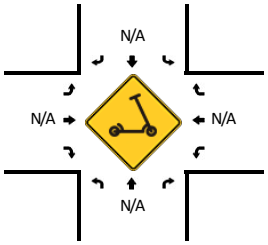




| 15-Min Count Period Beginning At | Searcy Ln (Northbound) | | | | Searcy Ln (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 26 | 6 | 5 | 0 | 2 | 8 | 3 | 0 | 3 | 19 | 17 | 0 | 8 | 34 | 4 | 0 | 135 | |
| 4:15 PM | 20 | 7 | 2 | 0 | 5 | 12 | 7 | 0 | 7 | 28 | 20 | 0 | 4 | 27 | 4 | 0 | 143 | |
| 4:30 PM | 24 | 8 | 6 | 0 | 1 | 3 | 13 | 0 | 6 | 26 | 22 | 0 | 2 | 18 | 5 | 0 | 134 | |
| 4:45 PM | 23 | 15 | 2 | 0 | 3 | 5 | 8 | 0 | 9 | 23 | 21 | 0 | 5 | 22 | 3 | 0 | 139 | 551 |
| 5:00 PM | 21 | 11 | 3 | 0 | 6 | 10 | 8 | 0 | 4 | 20 | 12 | 0 | 4 | 32 | 8 | 0 | 139 | 555 |
| 5:15 PM | 22 | 3 | 1 | 0 | 4 | 8 | 7 | 0 | 9 | 34 | 10 | 0 | 1 | 18 | 4 | 0 | 121 | 533 |
| 5:30 PM | 31 | 7 | 2 | 0 | 4 | 5 | 12 | 0 | 8 | 32 | 11 | 0 | 2 | 41 | 5 | 0 | 160 | 559 |
| 5:45 PM | 30 | 9 | 4 | 0 | 4 | 8 | 6 | 0 | 6 | 23 | 15 | 0 | 2 | 26 | 5 | 0 | 138 | 558 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 124 | 28 | 8 | 0 | 16 | 20 | 48 | 0 | 32 | 128 | 44 | 0 | 8 | 164 | 20 | 0 | 640 |
| Heavy Trucks | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 4 | 0 | | 4 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 5/31/2022 5:40 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

TDOT TRAFFIC DATA

**TDOT Traffic Count Historical Data**

**Sumner County Station #12 (College Street)**

**Average Annual Growth, 2011-2021: 2.3% Per Year**

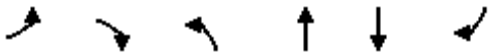
| | ADT | Average Per Year |
|---|---|---|
| 2021 | 3,624 | |
| | | 17.8% |
| 2020 | 3,076 | |
| | | -16.5% |
| 2019 | 3,682 | |
| | | 23.4% |
| 2018 | 2,985 | |
| | | -12.7% |
| 2017 | 3,421 | |
| | | 2.8% |
| 2016 | 3,327 | |
| | | -1.8% |
| 2015 | 3,389 | |
| | | -1.5% |
| 2014 | 3,439 | |
| | | 7.4% |
| 2013 | 3,201 | |
| | | 1.0% |
| 2012 | 3,169 | |
| | | 8.0% |
| 2011 | 2,935 | |

APPENDIX B

TRAFFIC ANALYSES

EXISTING TRAFFIC CONDITIONS (2022)

AM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 23 | 111 | 101 | 548 | 452 | 14 |
| Future Volume (veh/h) | 23 | 111 | 101 | 548 | 452 | 14 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 25 | 119 | 109 | 589 | 486 | 15 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 193 | 171 | 351 | 1820 | 2464 | 76 |
| Arrive On Green | 0.11 | 0.11 | 0.75 | 0.75 | 0.75 | 0.75 |
| Sat Flow, veh/h | 1781 | 1585 | 399 | 2514 | 3384 | 102 |
| Grp Volume(v), veh/h | 25 | 119 | 331 | 367 | 245 | 256 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1319 | 1514 | 1664 | 1734 |
| Q Serve(g_s), s | 1.1 | 6.5 | 1.8 | 7.3 | 3.9 | 3.9 |
| Cycle Q Clear(g_c), s | 1.1 | 6.5 | 5.9 | 7.3 | 3.9 | 3.9 |
| Prop In Lane | 1.00 | 1.00 | 0.33 | | | 0.06 |
| Lane Grp Cap(c), veh/h | 193 | 171 | 1039 | 1132 | 1244 | 1296 |
| V/C Ratio(X) | 0.13 | 0.69 | 0.32 | 0.32 | 0.20 | 0.20 |
| Avail Cap(c_a), veh/h | 455 | 405 | 1039 | 1132 | 1244 | 1296 |
| 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 | 36.3 | 38.7 | 3.6 | 3.8 | 3.4 | 3.4 |
| Incr Delay (d2), s/veh | 0.3 | 5.0 | 0.8 | 0.8 | 0.4 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 2.7 | 1.6 | 1.9 | 1.1 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.6 | 43.7 | 4.4 | 4.5 | 3.7 | 3.7 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 144 | | | 698 | 501 | |
| Approach Delay, s/veh | 42.5 | | | 4.5 | 3.7 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 73.3 | | 16.7 | | 73.3 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 54.0 | | 23.0 | | 54.0 |
| Max Q Clear Time (g_c+I1), s | | 9.3 | | 8.5 | | 5.9 |
| Green Ext Time (p_c), s | | 3.5 | | 0.4 | | 2.1 |

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

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 141 | 10 | 2 | 129 | 27 | 4 |
| Future Vol, veh/h | 141 | 10 | 2 | 129 | 27 | 4 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 174 | 12 | 2 | 159 | 33 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 186 | 0 | 343 | 180 |
| Stage 1 | - | - | - | - | 180 | - |
| Stage 2 | - | - | - | - | 163 | - |
| 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 | - | - | 1388 | - | 653 | 863 |
| Stage 1 | - | - | - | - | 851 | - |
| Stage 2 | - | - | - | - | 866 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1388 | - | 652 | 863 |
| Mov Cap-2 Maneuver | - | - | - | - | 652 | - |
| Stage 1 | - | - | - | - | 851 | - |
| Stage 2 | - | - | - | - | 864 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 10.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 673 | - | - | 1388 | - |
| HCM Lane V/C Ratio | 0.057 | - | - | 0.002 | - |
| HCM Control Delay (s) | 10.7 | - | - | 7.6 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 18.5 |
| Intersection LOS | C |

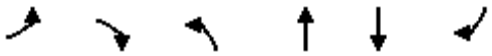
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 67 | 115 | 132 | 28 | 149 | 53 | 132 | 87 | 21 | 49 | 90 | 116 |
| Future Vol, veh/h | 67 | 115 | 132 | 28 | 149 | 53 | 132 | 87 | 21 | 49 | 90 | 116 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 79 | 135 | 155 | 33 | 175 | 62 | 155 | 102 | 25 | 58 | 106 | 136 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 21.1 | 16.6 | 18 | 17.6 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 21% | 12% | 19% |
| Vol Thru, % | 36% | 37% | 65% | 35% |
| Vol Right, % | 9% | 42% | 23% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 240 | 314 | 230 | 255 |
| LT Vol | 132 | 67 | 28 | 49 |
| Through Vol | 87 | 115 | 149 | 90 |
| RT Vol | 21 | 132 | 53 | 116 |
| Lane Flow Rate | 282 | 369 | 271 | 300 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.544 | 0.66 | 0.508 | 0.552 |
| Departure Headway (Hd) | 6.932 | 6.434 | 6.756 | 6.621 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 520 | 562 | 533 | 546 |
| Service Time | 4.97 | 4.473 | 4.814 | 4.657 |
| HCM Lane V/C Ratio | 0.542 | 0.657 | 0.508 | 0.549 |
| HCM Control Delay | 18 | 21.1 | 16.6 | 17.6 |
| HCM Lane LOS | C | C | C | C |
| HCM 95th-tile Q | 3.2 | 4.8 | 2.8 | 3.3 |

EXISTING TRAFFIC CONDITIONS (2022)

PM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 21 | 78 | 86 | 588 | 758 | 15 |
| Future Volume (veh/h) | 21 | 78 | 86 | 588 | 758 | 15 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 21 | 80 | 88 | 600 | 773 | 15 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 155 | 138 | 286 | 1906 | 2655 | 52 |
| Arrive On Green | 0.09 | 0.09 | 0.80 | 0.80 | 0.80 | 0.80 |
| Sat Flow, veh/h | 1781 | 1585 | 307 | 2477 | 3427 | 65 |
| Grp Volume(v), veh/h | 21 | 80 | 312 | 376 | 385 | 403 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1190 | 1514 | 1664 | 1740 |
| Q Serve(g_s), s | 1.2 | 5.3 | 0.6 | 7.4 | 6.8 | 6.8 |
| Cycle Q Clear(g_c), s | 1.2 | 5.3 | 7.4 | 7.4 | 6.8 | 6.8 |
| Prop In Lane | 1.00 | 1.00 | 0.28 | | | 0.04 |
| Lane Grp Cap(c), veh/h | 155 | 138 | 988 | 1204 | 1323 | 1384 |
| V/C Ratio(X) | 0.14 | 0.58 | 0.32 | 0.31 | 0.29 | 0.29 |
| Avail Cap(c_a), veh/h | 453 | 403 | 988 | 1204 | 1323 | 1384 |
| 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 | 46.4 | 48.3 | 2.8 | 3.1 | 3.0 | 3.0 |
| Incr Delay (d2), s/veh | 0.4 | 3.9 | 0.8 | 0.7 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 2.3 | 1.5 | 1.9 | 1.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.8 | 52.2 | 3.7 | 3.7 | 3.6 | 3.5 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 101 | | | 688 | 788 | |
| Approach Delay, s/veh | 51.1 | | | 3.7 | 3.6 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 93.5 | | 16.5 | | 93.5 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | 28.0 | | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 9.4 | | 7.3 | | 8.8 |
| Green Ext Time (p_c), s | | 3.7 | | 0.3 | | 3.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.7 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 92 | 28 | 5 | 92 | 26 | 3 |
| Future Vol, veh/h | 92 | 28 | 5 | 92 | 26 | 3 |
| 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 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 106 | 32 | 6 | 106 | 30 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 138 | 0 | 240 | 122 |
| Stage 1 | - | - | - | - | 122 | - |
| Stage 2 | - | - | - | - | 118 | - |
| 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 | - | - | 1446 | - | 748 | 929 |
| Stage 1 | - | - | - | - | 903 | - |
| Stage 2 | - | - | - | - | 907 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1446 | - | 745 | 929 |
| Mov Cap-2 Maneuver | - | - | - | - | 745 | - |
| Stage 1 | - | - | - | - | 903 | - |
| Stage 2 | - | - | - | - | 903 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 9.9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 761 | - | - | 1446 | - |
| HCM Lane V/C Ratio | 0.044 | - | - | 0.004 | - |
| HCM Control Delay (s) | 9.9 | - | - | 7.5 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

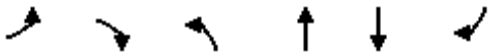
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 25 | 96 | 80 | 19 | 101 | 16 | 93 | 36 | 15 | 11 | 28 | 31 |
| Future Vol, veh/h | 25 | 96 | 80 | 19 | 101 | 16 | 93 | 36 | 15 | 11 | 28 | 31 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 26 | 100 | 83 | 20 | 105 | 17 | 97 | 38 | 16 | 11 | 29 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9 | 8.8 | 9.2 | 8.2 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 65% | 12% | 14% | 16% |
| Vol Thru, % | 25% | 48% | 74% | 40% |
| Vol Right, % | 10% | 40% | 12% | 44% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 144 | 201 | 136 | 70 |
| LT Vol | 93 | 25 | 19 | 11 |
| Through Vol | 36 | 96 | 101 | 28 |
| RT Vol | 15 | 80 | 16 | 31 |
| Lane Flow Rate | 150 | 209 | 142 | 73 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.204 | 0.258 | 0.184 | 0.095 |
| Departure Headway (Hd) | 4.89 | 4.434 | 4.674 | 4.696 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 732 | 808 | 765 | 759 |
| Service Time | 2.937 | 2.472 | 2.717 | 2.75 |
| HCM Lane V/C Ratio | 0.205 | 0.259 | 0.186 | 0.096 |
| HCM Control Delay | 9.2 | 9 | 8.8 | 8.2 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.8 | 1 | 0.7 | 0.3 |

BACKGROUND TRAFFIC CONDITIONS (2025)

AM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 25 | 121 | 110 | 597 | 493 | 15 |
| Future Volume (veh/h) | 25 | 121 | 110 | 597 | 493 | 15 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 27 | 130 | 118 | 642 | 530 | 16 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 194 | 173 | 346 | 1797 | 2463 | 74 |
| Arrive On Green | 0.11 | 0.11 | 0.75 | 0.75 | 0.75 | 0.75 |
| Sat Flow, veh/h | 1781 | 1585 | 391 | 2486 | 3386 | 99 |
| Grp Volume(v), veh/h | 27 | 130 | 355 | 405 | 267 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1284 | 1514 | 1664 | 1734 |
| Q Serve(g_s), s | 1.2 | 7.2 | 2.9 | 8.3 | 4.4 | 4.4 |
| Cycle Q Clear(g_c), s | 1.2 | 7.2 | 7.3 | 8.3 | 4.4 | 4.4 |
| Prop In Lane | 1.00 | 1.00 | 0.33 | | | 0.06 |
| Lane Grp Cap(c), veh/h | 194 | 173 | 1012 | 1131 | 1243 | 1295 |
| V/C Ratio(X) | 0.14 | 0.75 | 0.35 | 0.36 | 0.21 | 0.22 |
| Avail Cap(c_a), veh/h | 455 | 405 | 1012 | 1131 | 1243 | 1295 |
| 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 | 36.3 | 38.9 | 3.7 | 3.9 | 3.4 | 3.4 |
| Incr Delay (d2), s/veh | 0.3 | 6.5 | 1.0 | 0.9 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 3.1 | 1.8 | 2.2 | 1.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.6 | 45.4 | 4.7 | 4.8 | 3.8 | 3.8 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 157 | | | 760 | 546 | |
| Approach Delay, s/veh | 43.9 | | | 4.7 | 3.8 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 73.2 | | 16.8 | | 73.2 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 54.0 | | 23.0 | | 54.0 |
| Max Q Clear Time (g_c+I1), s | | 10.3 | | 9.2 | | 6.4 |
| Green Ext Time (p_c), s | | 4.0 | | 0.5 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.6 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 154 | 11 | 2 | 141 | 29 | 4 |
| Future Vol, veh/h | 154 | 11 | 2 | 141 | 29 | 4 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 190 | 14 | 2 | 174 | 36 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 204 | 0 | 375 | 197 |
| Stage 1 | - | - | - | - | 197 | - |
| Stage 2 | - | - | - | - | 178 | - |
| 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 | - | - | 1368 | - | 626 | 844 |
| Stage 1 | - | - | - | - | 836 | - |
| Stage 2 | - | - | - | - | 853 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1368 | - | 625 | 844 |
| Mov Cap-2 Maneuver | - | - | - | - | 625 | - |
| Stage 1 | - | - | - | - | 836 | - |
| Stage 2 | - | - | - | - | 851 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 11 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 645 | - | - | 1368 | - |
| HCM Lane V/C Ratio | 0.063 | - | - | 0.002 | - |
| HCM Control Delay (s) | 11 | - | - | 7.6 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 25.8 |
| Intersection LOS | D |

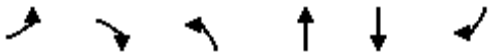
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 125 | 144 | 31 | 162 | 58 | 144 | 95 | 23 | 53 | 98 | 126 |
| Future Vol, veh/h | 73 | 125 | 144 | 31 | 162 | 58 | 144 | 95 | 23 | 53 | 98 | 126 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 147 | 169 | 36 | 191 | 68 | 169 | 112 | 27 | 62 | 115 | 148 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 31.9 | 21.7 | 24 | 23.5 |
| HCM LOS | D | C | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 21% | 12% | 19% |
| Vol Thru, % | 36% | 37% | 65% | 35% |
| Vol Right, % | 9% | 42% | 23% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 262 | 342 | 251 | 277 |
| LT Vol | 144 | 73 | 31 | 53 |
| Through Vol | 95 | 125 | 162 | 98 |
| RT Vol | 23 | 144 | 58 | 126 |
| Lane Flow Rate | 308 | 402 | 295 | 326 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.653 | 0.79 | 0.612 | 0.661 |
| Departure Headway (Hd) | 7.624 | 7.066 | 7.464 | 7.307 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 475 | 511 | 481 | 495 |
| Service Time | 5.669 | 5.11 | 5.532 | 5.352 |
| HCM Lane V/C Ratio | 0.648 | 0.787 | 0.613 | 0.659 |
| HCM Control Delay | 24 | 31.9 | 21.7 | 23.5 |
| HCM Lane LOS | C | D | C | C |
| HCM 95th-tile Q | 4.6 | 7.3 | 4 | 4.8 |

BACKGROUND TRAFFIC CONDITIONS (2025)

PM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 23 | 85 | 94 | 641 | 826 | 16 |
| Future Volume (veh/h) | 23 | 85 | 94 | 641 | 826 | 16 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 23 | 87 | 96 | 654 | 843 | 16 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 156 | 139 | 279 | 1861 | 2653 | 50 |
| Arrive On Green | 0.09 | 0.09 | 0.79 | 0.79 | 0.79 | 0.79 |
| Sat Flow, veh/h | 1781 | 1585 | 298 | 2423 | 3429 | 63 |
| Grp Volume(v), veh/h | 23 | 87 | 331 | 419 | 420 | 439 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1127 | 1514 | 1664 | 1740 |
| Q Serve(g_s), s | 1.3 | 5.8 | 1.8 | 8.7 | 7.6 | 7.6 |
| Cycle Q Clear(g_c), s | 1.3 | 5.8 | 9.5 | 8.7 | 7.6 | 7.6 |
| Prop In Lane | 1.00 | 1.00 | 0.29 | | | 0.04 |
| Lane Grp Cap(c), veh/h | 156 | 139 | 937 | 1203 | 1321 | 1382 |
| V/C Ratio(X) | 0.15 | 0.63 | 0.35 | 0.35 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 453 | 403 | 937 | 1203 | 1321 | 1382 |
| 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 | 46.4 | 48.4 | 3.0 | 3.2 | 3.1 | 3.1 |
| Incr Delay (d2), s/veh | 0.4 | 4.5 | 1.0 | 0.8 | 0.6 | 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 | 0.6 | 2.5 | 1.7 | 2.2 | 2.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.8 | 53.0 | 4.0 | 4.0 | 3.8 | 3.7 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 110 | | | 750 | 859 | |
| Approach Delay, s/veh | 51.7 | | | 4.0 | 3.7 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 93.3 | | 16.7 | | 93.3 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | 28.0 | | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 11.5 | | 7.8 | | 9.6 |
| Green Ext Time (p_c), s | | 4.2 | | 0.4 | | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.9 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 100 | 31 | 5 | 100 | 28 | 3 |
| Future Vol, veh/h | 100 | 31 | 5 | 100 | 28 | 3 |
| 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 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 115 | 36 | 6 | 115 | 32 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 151 | 0 | 260 | 133 |
| Stage 1 | - | - | - | - | 133 | - |
| Stage 2 | - | - | - | - | 127 | - |
| 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 | - | - | 1430 | - | 729 | 916 |
| Stage 1 | - | - | - | - | 893 | - |
| Stage 2 | - | - | - | - | 899 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1430 | - | 726 | 916 |
| Mov Cap-2 Maneuver | - | - | - | - | 726 | - |
| Stage 1 | - | - | - | - | 893 | - |
| Stage 2 | - | - | - | - | 895 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 10.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 741 | - | - | 1430 | - |
| HCM Lane V/C Ratio | 0.048 | - | - | 0.004 | - |
| HCM Control Delay (s) | 10.1 | - | - | 7.5 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.2 |
| Intersection LOS | A |

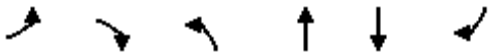
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 27 | 105 | 87 | 21 | 110 | 17 | 101 | 39 | 16 | 12 | 31 | 34 |
| Future Vol, veh/h | 27 | 105 | 87 | 21 | 110 | 17 | 101 | 39 | 16 | 12 | 31 | 34 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 109 | 91 | 22 | 115 | 18 | 105 | 41 | 17 | 13 | 32 | 35 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.4 | 9 | 9.5 | 8.4 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 65% | 12% | 14% | 16% |
| Vol Thru, % | 25% | 48% | 74% | 40% |
| Vol Right, % | 10% | 40% | 11% | 44% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 156 | 219 | 148 | 77 |
| LT Vol | 101 | 27 | 21 | 12 |
| Through Vol | 39 | 105 | 110 | 31 |
| RT Vol | 16 | 87 | 17 | 34 |
| Lane Flow Rate | 162 | 228 | 154 | 80 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.225 | 0.286 | 0.204 | 0.107 |
| Departure Headway (Hd) | 4.983 | 4.509 | 4.759 | 4.801 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 717 | 794 | 751 | 741 |
| Service Time | 3.041 | 2.557 | 2.814 | 2.866 |
| HCM Lane V/C Ratio | 0.226 | 0.287 | 0.205 | 0.108 |
| HCM Control Delay | 9.5 | 9.4 | 9 | 8.4 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.9 | 1.2 | 0.8 | 0.4 |

PROJECTED TRAFFIC CONDITIONS (2025)

AM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 28 | 133 | 116 | 597 | 493 | 16 |
| Future Volume (veh/h) | 28 | 133 | 116 | 597 | 493 | 16 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 30 | 143 | 125 | 642 | 530 | 17 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 204 | 181 | 355 | 1750 | 2440 | 78 |
| Arrive On Green | 0.11 | 0.11 | 0.74 | 0.74 | 0.74 | 0.74 |
| Sat Flow, veh/h | 1781 | 1585 | 407 | 2441 | 3379 | 105 |
| Grp Volume(v), veh/h | 30 | 143 | 356 | 411 | 268 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1253 | 1514 | 1664 | 1733 |
| Q Serve(g_s), s | 1.4 | 7.9 | 3.9 | 8.7 | 4.5 | 4.5 |
| Cycle Q Clear(g_c), s | 1.4 | 7.9 | 8.3 | 8.7 | 4.5 | 4.5 |
| Prop In Lane | 1.00 | 1.00 | 0.35 | | | 0.06 |
| Lane Grp Cap(c), veh/h | 204 | 181 | 983 | 1122 | 1234 | 1284 |
| V/C Ratio(X) | 0.15 | 0.79 | 0.36 | 0.37 | 0.22 | 0.22 |
| Avail Cap(c_a), veh/h | 455 | 405 | 983 | 1122 | 1234 | 1284 |
| 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 | 35.9 | 38.8 | 4.0 | 4.1 | 3.6 | 3.6 |
| Incr Delay (d2), s/veh | 0.3 | 7.4 | 1.0 | 0.9 | 0.4 | 0.4 |
| 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 | 3.4 | 1.9 | 2.3 | 1.3 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.2 | 46.2 | 5.0 | 5.1 | 4.0 | 4.0 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 173 | | | 767 | 547 | |
| Approach Delay, s/veh | 44.5 | | | 5.0 | 4.0 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 72.7 | | 17.3 | | 72.7 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 54.0 | | 23.0 | | 54.0 |
| Max Q Clear Time (g_c+I1), s | | 10.7 | | 9.9 | | 6.5 |
| Green Ext Time (p_c), s | | 4.0 | | 0.5 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.2 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 170 | 14 | 2 | 148 | 30 | 4 |
| Future Vol, veh/h | 170 | 14 | 2 | 148 | 30 | 4 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 210 | 17 | 2 | 183 | 37 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 227 | 0 | 406 | 219 |
| Stage 1 | - | - | - | - | 219 | - |
| Stage 2 | - | - | - | - | 187 | - |
| 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 | - | - | 1341 | - | 601 | 821 |
| Stage 1 | - | - | - | - | 817 | - |
| Stage 2 | - | - | - | - | 845 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1341 | - | 600 | 821 |
| Mov Cap-2 Maneuver | - | - | - | - | 600 | - |
| Stage 1 | - | - | - | - | 817 | - |
| Stage 2 | - | - | - | - | 843 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 11.2 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 620 | - | - | 1341 | - |
| HCM Lane V/C Ratio | 0.068 | - | - | 0.002 | - |
| HCM Control Delay (s) | 11.2 | - | - | 7.7 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 6 | 165 | 170 | 8 | 19 | 12 |
| Future Vol, veh/h | 6 | 165 | 170 | 8 | 19 | 12 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 204 | 210 | 10 | 23 | 15 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 220 | 0 | - | 0 | 433 | 215 |
| Stage 1 | - | - | - | - | 215 | - |
| Stage 2 | - | - | - | - | 218 | - |
| 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 | 1349 | - | - | - | 580 | 825 |
| Stage 1 | - | - | - | - | 821 | - |
| Stage 2 | - | - | - | - | 818 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1349 | - | - | - | 577 | 825 |
| Mov Cap-2 Maneuver | - | - | - | - | 577 | - |
| Stage 1 | - | - | - | - | 816 | - |
| Stage 2 | - | - | - | - | 818 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0 | 10.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1349 | - | - | - | 653 |
| HCM Lane V/C Ratio | 0.005 | - | - | - | 0.059 |
| HCM Control Delay (s) | 7.7 | 0 | - | - | 10.9 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 27.5 |
| Intersection LOS | D |

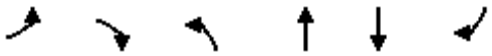
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 129 | 144 | 34 | 171 | 58 | 144 | 95 | 24 | 53 | 98 | 126 |
| Future Vol, veh/h | 73 | 129 | 144 | 34 | 171 | 58 | 144 | 95 | 24 | 53 | 98 | 126 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 152 | 169 | 40 | 201 | 68 | 169 | 112 | 28 | 62 | 115 | 148 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 34.5 | 23.8 | 25.1 | 24.7 |
| HCM LOS | D | C | D | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 21% | 13% | 19% |
| Vol Thru, % | 36% | 37% | 65% | 35% |
| Vol Right, % | 9% | 42% | 22% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 263 | 346 | 263 | 277 |
| LT Vol | 144 | 73 | 34 | 53 |
| Through Vol | 95 | 129 | 171 | 98 |
| RT Vol | 24 | 144 | 58 | 126 |
| Lane Flow Rate | 309 | 407 | 309 | 326 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.667 | 0.812 | 0.651 | 0.674 |
| Departure Headway (Hd) | 7.758 | 7.18 | 7.575 | 7.446 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 464 | 505 | 476 | 486 |
| Service Time | 5.827 | 5.242 | 5.644 | 5.514 |
| HCM Lane V/C Ratio | 0.666 | 0.806 | 0.649 | 0.671 |
| HCM Control Delay | 25.1 | 34.5 | 23.8 | 24.7 |
| HCM Lane LOS | D | D | C | C |
| HCM 95th-tile Q | 4.8 | 7.8 | 4.6 | 4.9 |

PROJECTED TRAFFIC CONDITIONS (2025)

PM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 25 | 94 | 106 | 641 | 826 | 19 |
| Future Volume (veh/h) | 25 | 94 | 106 | 641 | 826 | 19 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 26 | 96 | 108 | 654 | 843 | 19 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 158 | 141 | 300 | 1785 | 2639 | 59 |
| Arrive On Green | 0.09 | 0.09 | 0.79 | 0.79 | 0.79 | 0.79 |
| Sat Flow, veh/h | 1781 | 1585 | 323 | 2331 | 3415 | 75 |
| Grp Volume(v), veh/h | 26 | 96 | 327 | 435 | 422 | 440 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1060 | 1514 | 1664 | 1738 |
| Q Serve(g_s), s | 1.5 | 6.5 | 3.8 | 9.2 | 7.7 | 7.7 |
| Cycle Q Clear(g_c), s | 1.5 | 6.5 | 11.6 | 9.2 | 7.7 | 7.7 |
| Prop In Lane | 1.00 | 1.00 | 0.33 | | | 0.04 |
| Lane Grp Cap(c), veh/h | 158 | 141 | 884 | 1201 | 1320 | 1379 |
| V/C Ratio(X) | 0.16 | 0.68 | 0.37 | 0.36 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 453 | 403 | 884 | 1201 | 1320 | 1379 |
| 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 | 46.3 | 48.6 | 3.3 | 3.3 | 3.2 | 3.2 |
| Incr Delay (d2), s/veh | 0.5 | 5.7 | 1.2 | 0.8 | 0.6 | 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 | 0.7 | 2.8 | 1.7 | 2.4 | 2.2 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.8 | 54.3 | 4.4 | 4.2 | 3.8 | 3.8 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 122 | | | 762 | 862 | |
| Approach Delay, s/veh | 52.7 | | | 4.3 | 3.8 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 93.2 | | 16.8 | | 93.2 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | 28.0 | | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 13.6 | | 8.5 | | 9.7 |
| Green Ext Time (p_c), s | | 4.4 | | 0.4 | | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.4 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.3 | | | | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 112 | 33 | 5 | 116 | 31 | 3 |
| Future Vol, veh/h | 112 | 33 | 5 | 116 | 31 | 3 |
| 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 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 129 | 38 | 6 | 133 | 36 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 167 | 0 | 293 | 148 |
| Stage 1 | - | - | - | - | 148 | - |
| Stage 2 | - | - | - | - | 145 | - |
| 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 | - | - | 1411 | - | 698 | 899 |
| Stage 1 | - | - | - | - | 880 | - |
| Stage 2 | - | - | - | - | 882 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1411 | - | 695 | 899 |
| Mov Cap-2 Maneuver | - | - | - | - | 695 | - |
| Stage 1 | - | - | - | - | 880 | - |
| Stage 2 | - | - | - | - | 878 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 10.4 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 709 | - | - | 1411 | - |
| HCM Lane V/C Ratio | 0.055 | - | - | 0.004 | - |
| HCM Control Delay (s) | 10.4 | - | - | 7.6 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 12 | 131 | 129 | 19 | 14 | 9 |
| Future Vol, veh/h | 12 | 131 | 129 | 19 | 14 | 9 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 152 | 150 | 22 | 16 | 10 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 172 | 0 | - | 0 | 341 | 161 |
| Stage 1 | - | - | - | - | 161 | - |
| Stage 2 | - | - | - | - | 180 | - |
| 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 | 1405 | - | - | - | 655 | 884 |
| Stage 1 | - | - | - | - | 868 | - |
| Stage 2 | - | - | - | - | 851 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1405 | - | - | - | 648 | 884 |
| Mov Cap-2 Maneuver | - | - | - | - | 648 | - |
| Stage 1 | - | - | - | - | 858 | - |
| Stage 2 | - | - | - | - | 851 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 10.2 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1405 | - | - | - | 724 |
| HCM Lane V/C Ratio | 0.01 | - | - | - | 0.037 |
| HCM Control Delay (s) | 7.6 | 0 | - | - | 10.2 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 27 | 114 | 87 | 23 | 117 | 17 | 101 | 39 | 19 | 12 | 31 | 34 |
| Future Vol, veh/h | 27 | 114 | 87 | 23 | 117 | 17 | 101 | 39 | 19 | 12 | 31 | 34 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 119 | 91 | 24 | 122 | 18 | 105 | 41 | 20 | 13 | 32 | 35 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.6 | 9.2 | 9.6 | 8.5 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 64% | 12% | 15% | 16% |
| Vol Thru, % | 25% | 50% | 75% | 40% |
| Vol Right, % | 12% | 38% | 11% | 44% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 159 | 228 | 157 | 77 |
| LT Vol | 101 | 27 | 23 | 12 |
| Through Vol | 39 | 114 | 117 | 31 |
| RT Vol | 19 | 87 | 17 | 34 |
| Lane Flow Rate | 166 | 238 | 164 | 80 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.231 | 0.3 | 0.218 | 0.108 |
| Departure Headway (Hd) | 5.018 | 4.541 | 4.789 | 4.855 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 711 | 786 | 746 | 732 |
| Service Time | 3.081 | 2.594 | 2.847 | 2.927 |
| HCM Lane V/C Ratio | 0.233 | 0.303 | 0.22 | 0.109 |
| HCM Control Delay | 9.6 | 9.6 | 9.2 | 8.5 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.9 | 1.3 | 0.8 | 0.4 |

APPENDIX C

TRIP GENERATION

# Land Use: 215
# Single-Family Attached Housing

## Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

## Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

## Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

# COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
# TRIP GENERATION
# AM PEAK HOUR

| VEHICLE TRIPS BEFORE REDUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Use & Data Source** | **Location** | **Independent Variable** | **Size** | **Time Period** | **Method** | **Entry** | **Exit** | **Total** |
| | | | | | **Rate/Equation** | **Split%** | **Split%** | |
| 215 - Single-Family Attached Housing | General Urban/Suburban | Dwelling Units | 95 | AM Peak Hour | Average | 14 | 31 | 45 |
| | | | | | 0.48 | 31% | 69% | |

| NEW VEHICLE TRIPS | | | |
|---|---|---|---|
| Land Use | New Vehicle Trips | | |
| | Entry | Exit | Total |
| 215 - Single-Family Attached Housing | 14 | 31 | 45 |

| RESULTS | | | |
|---|---|---|---|
| Site Totals | Entry | Exit | Total |
| New Vehicle Trips | 14 | 31 | 45 |

Data Source: Trip Generation Manual, 11th Ed

# COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
# TRIP GENERATION
# PM PEAK HOUR

| VEHICLE TRIPS BEFORE REDUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Use & Data Source** | **Location** | **Independent Variable** | **Size** | **Time Period** | **Method** | **Entry** | **Exit** | **Total** |
| | | | | | **Rate/Equation** | **Split%** | **Split%** | |
| 215 - Single-Family Attached Housing | General Urban/Suburban | Dwelling Units | 95 | PM Peak Hour | Average | 31 | 23 | 54 |
| | | | | | 0.57 | 57% | 43% | |

| NEW VEHICLE TRIPS | | | |
|---|---|---|---|
| Land Use | New Vehicle Trips | | |
| | Entry | Exit | Total |
| 215 - Single-Family Attached Housing | 31 | 23 | 54 |

| RESULTS | | | |
|---|---|---|---|
| Site Totals | Entry | Exit | Total |
| New Vehicle Trips | 31 | 23 | 54 |

Data Source: Trip Generation Manual, 11th Ed

# COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
# TRIP GENERATION
# WEEKDAY

| VEHICLE TRIPS BEFORE REDUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Use & Data Source** | **Location** | **Independent Variable** | **Size** | **Time Period** | **Method** | **Entry** | **Exit** | **Total** |
| | | | | | **Rate/Equation** | **Split%** | **Split%** | |
| 215 - Single-Family Attached Housing | General Urban/Suburban | Dwelling Units | 95 | Weekday | Best Fit (LIN) | 337 | 337 | 674 |
| | | | | | T = 7.62(X) - 50.48 | 50% | 50% | |

| NEW VEHICLE TRIPS | | | |
|---|---|---|---|
| Land Use | New Vehicle Trips | | |
| | Entry | Exit | Total |
| 215 - Single-Family Attached Housing | 337 | 337 | 674 |

| RESULTS | | | |
|---|---|---|---|
| Site Totals | Entry | Exit | Total |
| New Vehicle Trips | 337 | 337 | 674 |

Data Source: Trip Generation Manual, 11th Ed

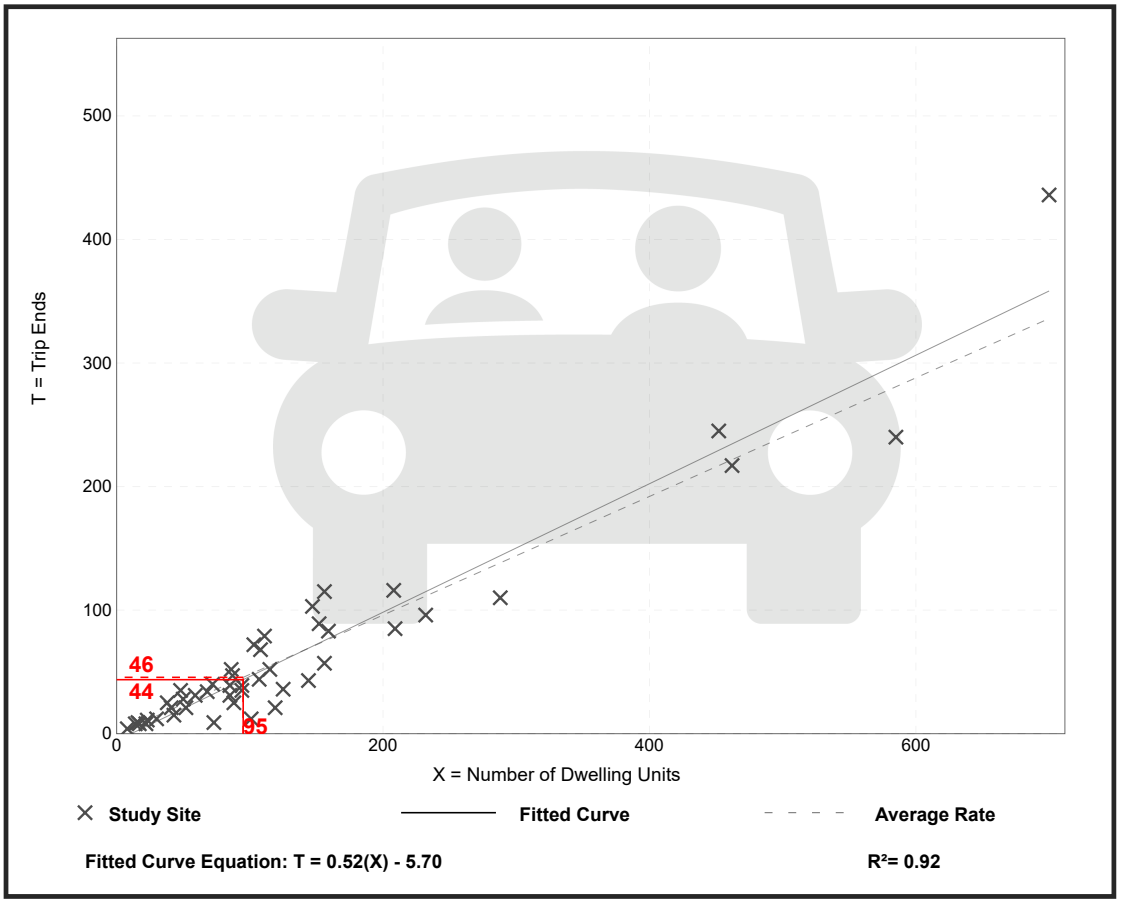
# Single-Family Attached Housing
(215)

**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: 46
Avg. Num. of Dwelling Units: 135
Directional Distribution: 31% entering, 69% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.48 | 0.12 - 0.74 | 0.14 |

## Data Plot and Equation



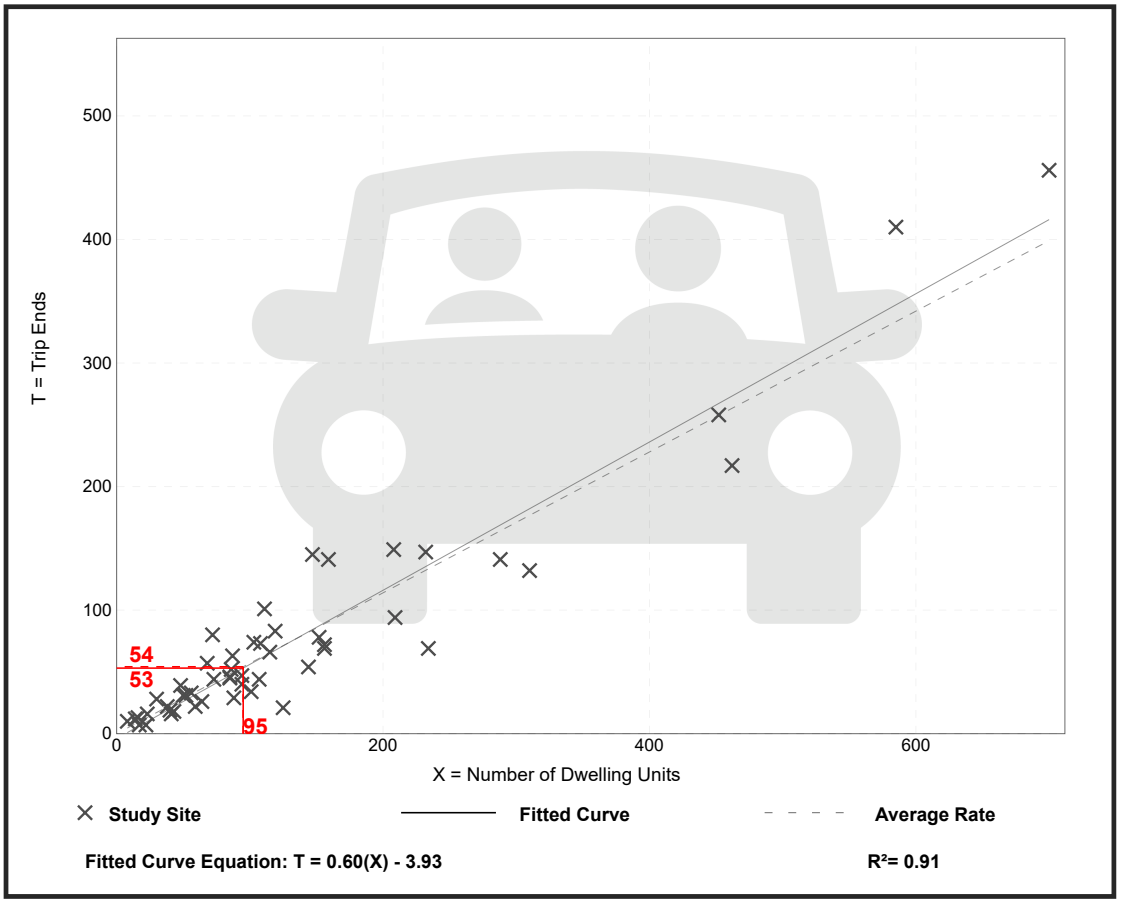
# Single-Family Attached Housing
(215)

**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: 51
Avg. Num. of Dwelling Units: 136
Directional Distribution: 57% entering, 43% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.57 | 0.17 - 1.25 | 0.18 |

## Data Plot and Equation



# Single-Family Attached Housing
(215)

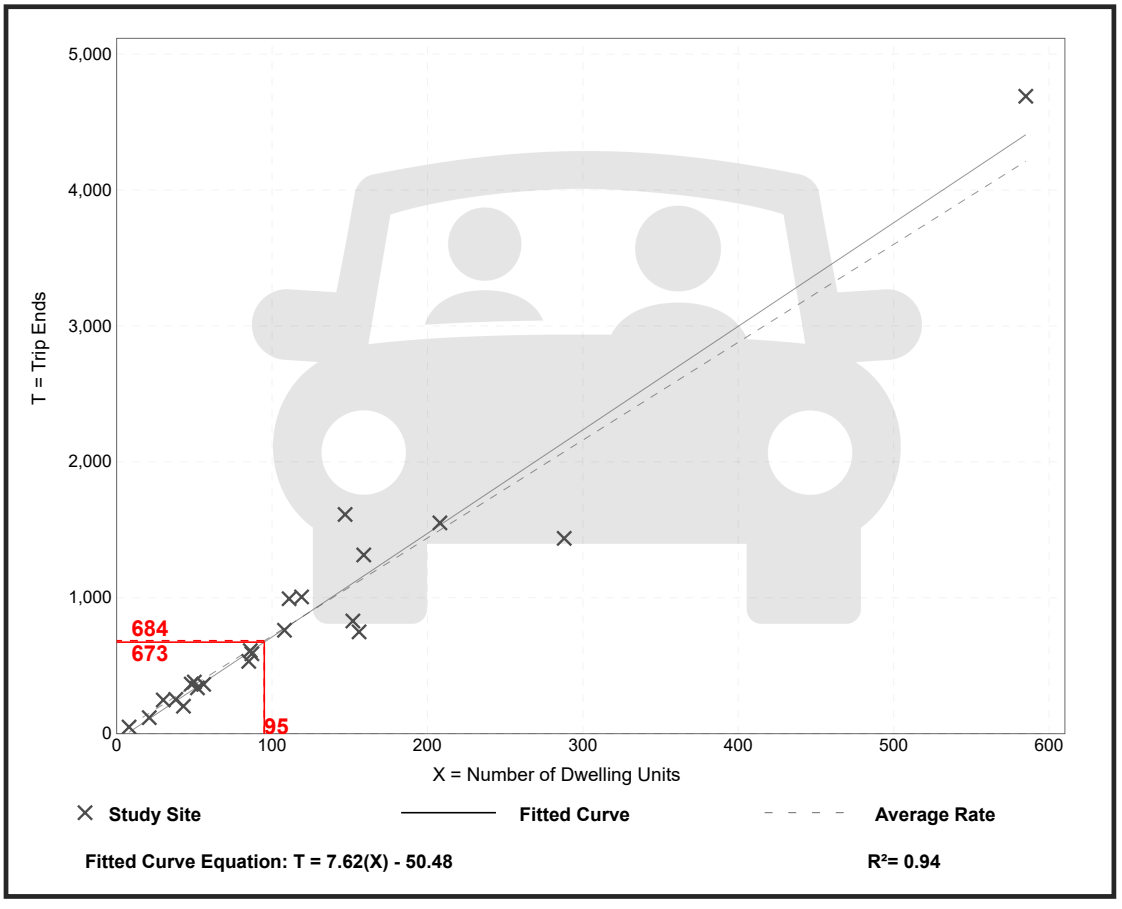
**Vehicle Trip Ends vs:** **Dwelling Units**
**On a:** **Weekday**

**Setting/Location:** **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 120
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

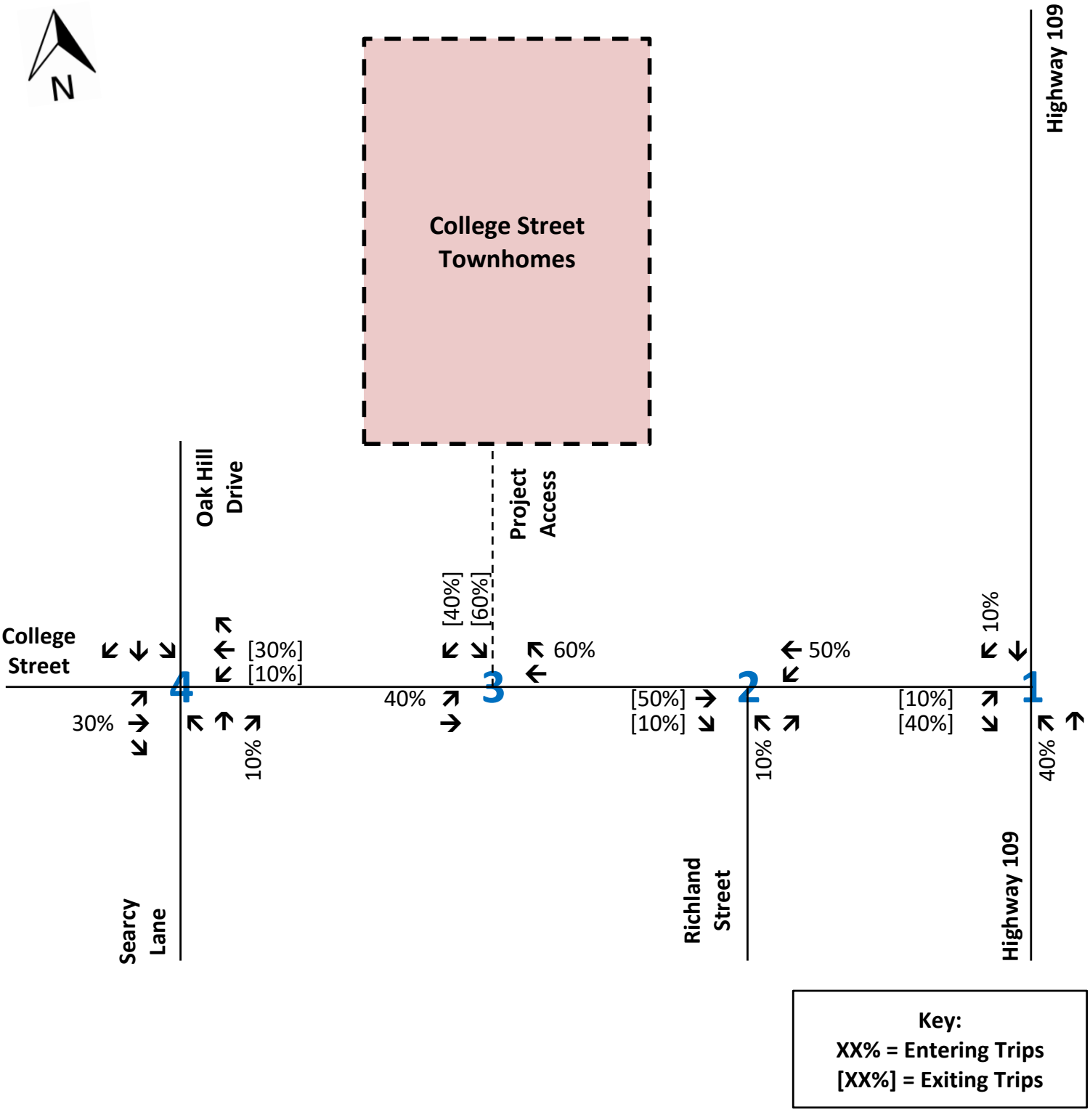
| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 7.20 | 4.70 - 10.97 | 1.61 |

## Data Plot and Equation



APPENDIX D

TRIP DISTRIBUTION




**Trip Distribution Worksheet**

**Trip Distribution - Townhomes (95 Units)**

College Street Townhomes

Portland, Tennessee

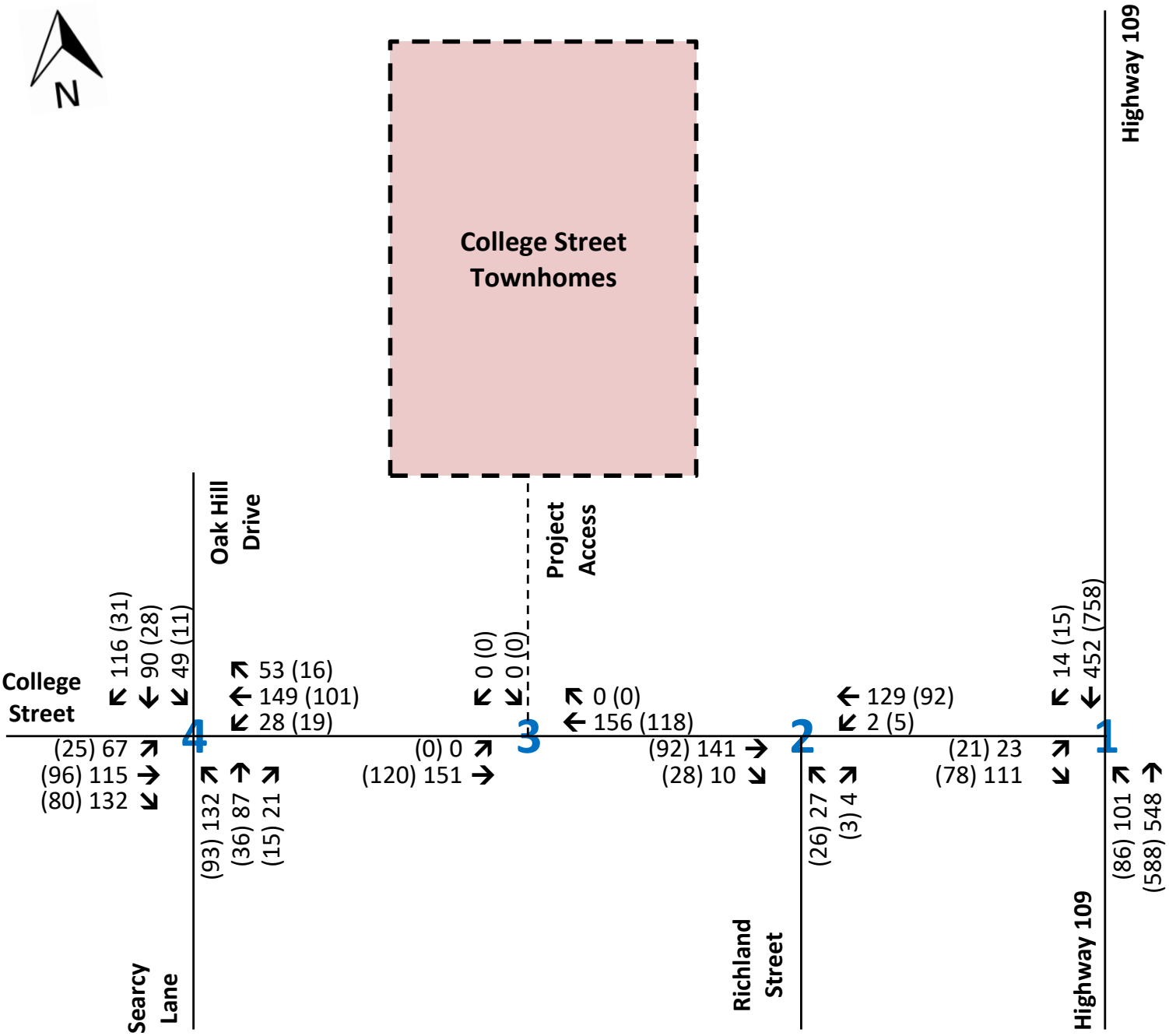
RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

APPENDIX E

TRAFFIC ASSIGNMENT

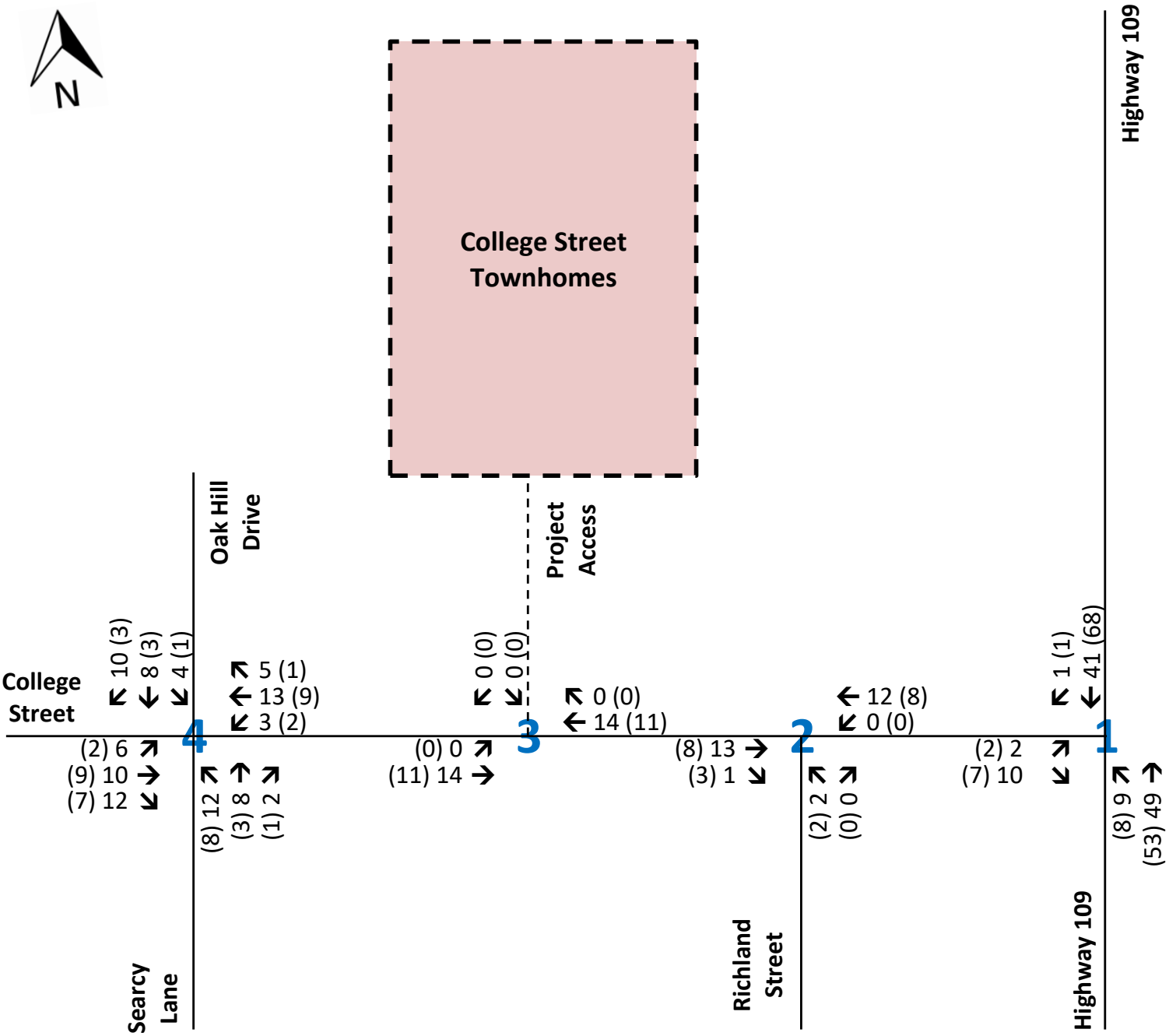
TRAFFIC ASSIGNMENT WORKSHEETS

AM & PM PEAK HOURS



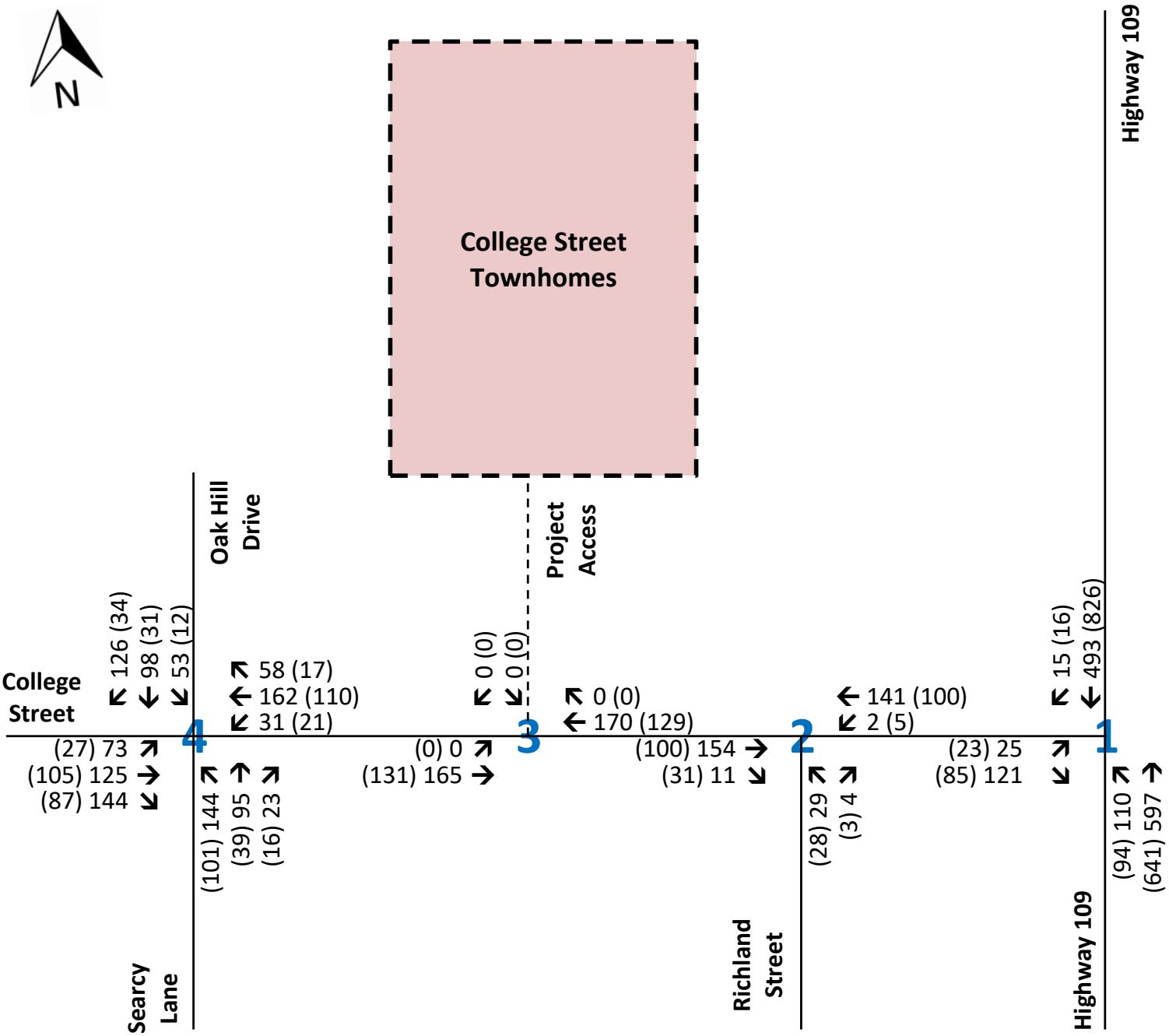

**Traffic Assignment Worksheet**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background - Historical Growth Only (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

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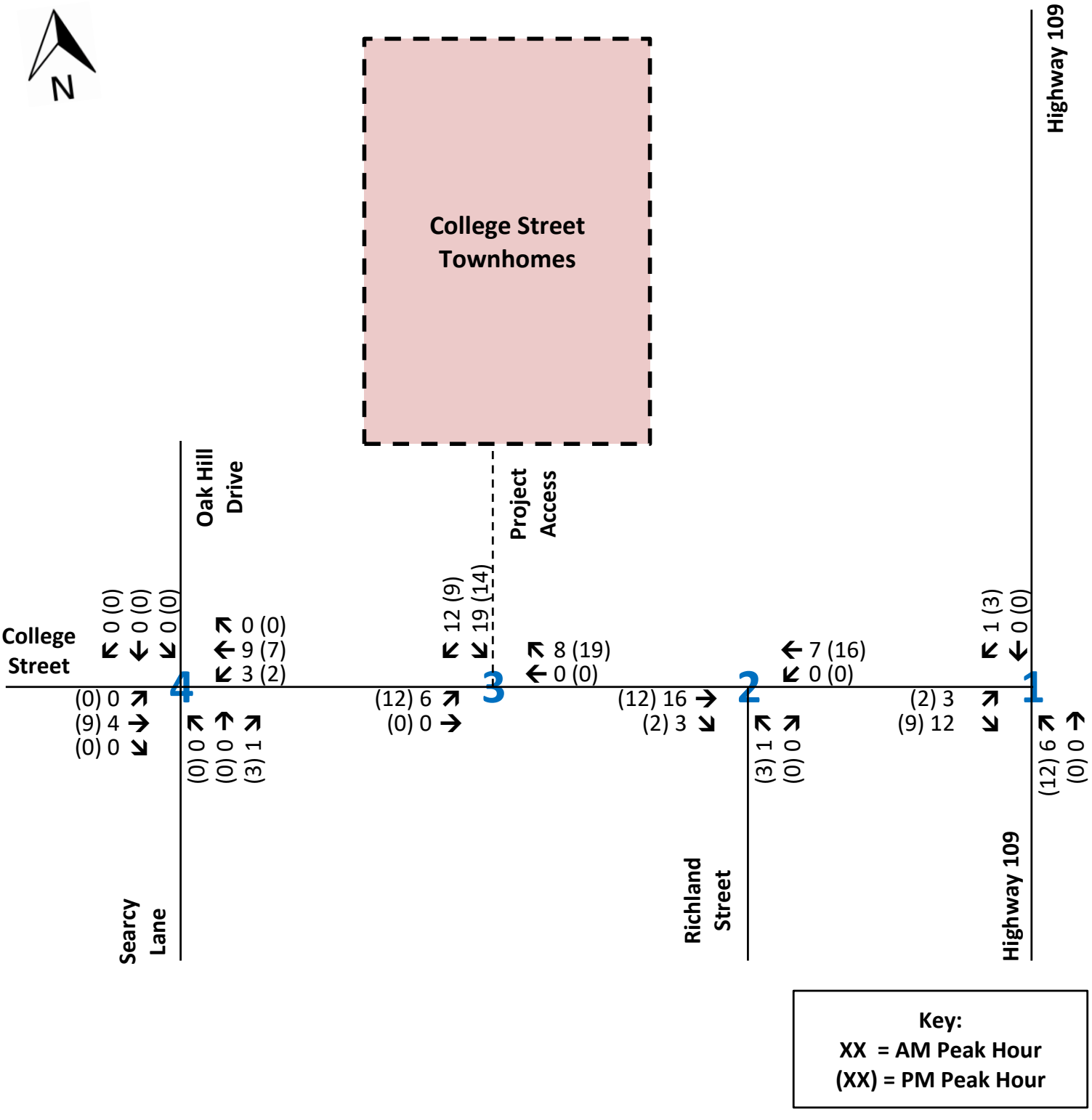
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Traffic Assignment - Townhomes (95 Units)**
College Street Townhomes
Portland, Tennessee

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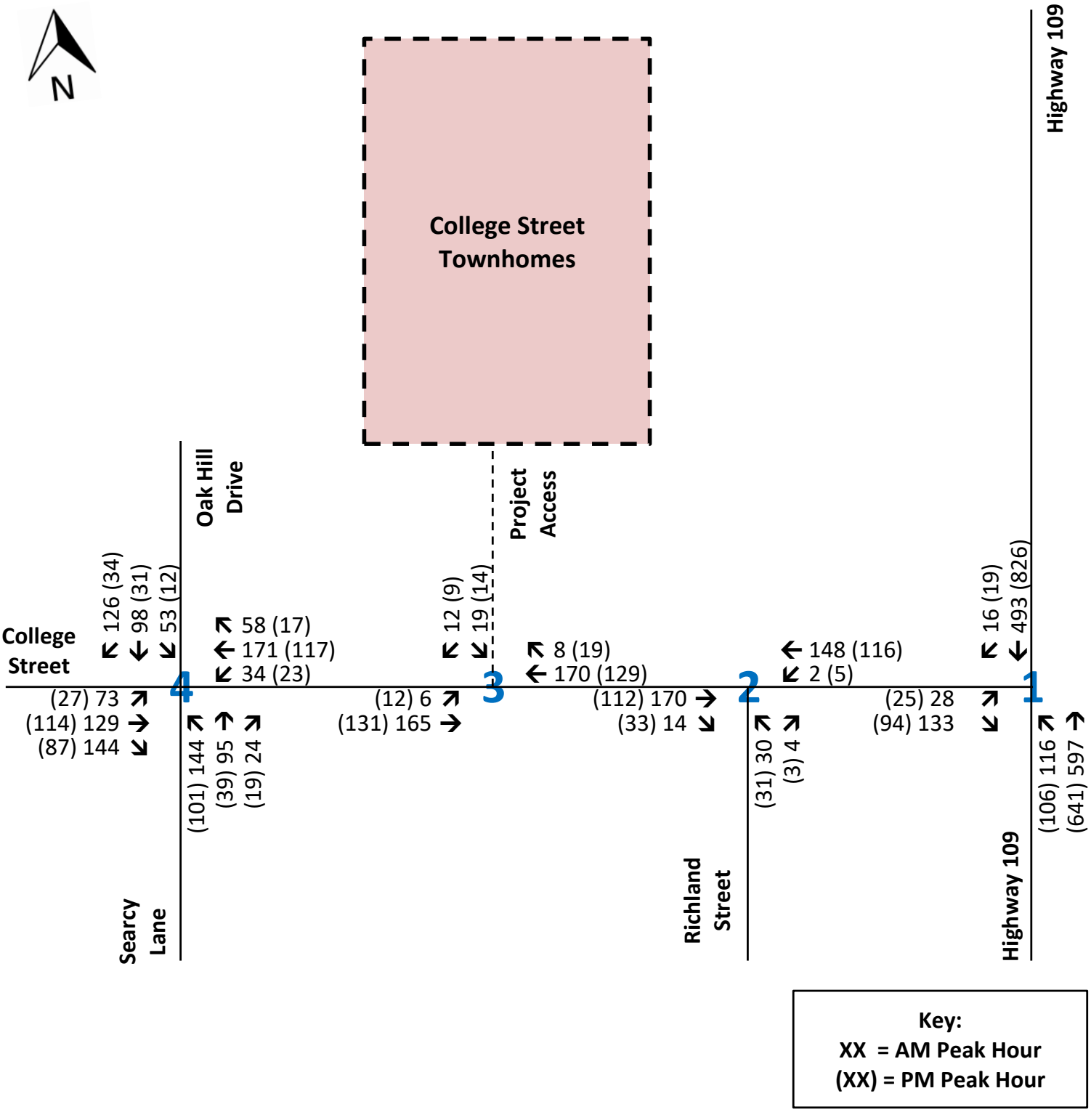
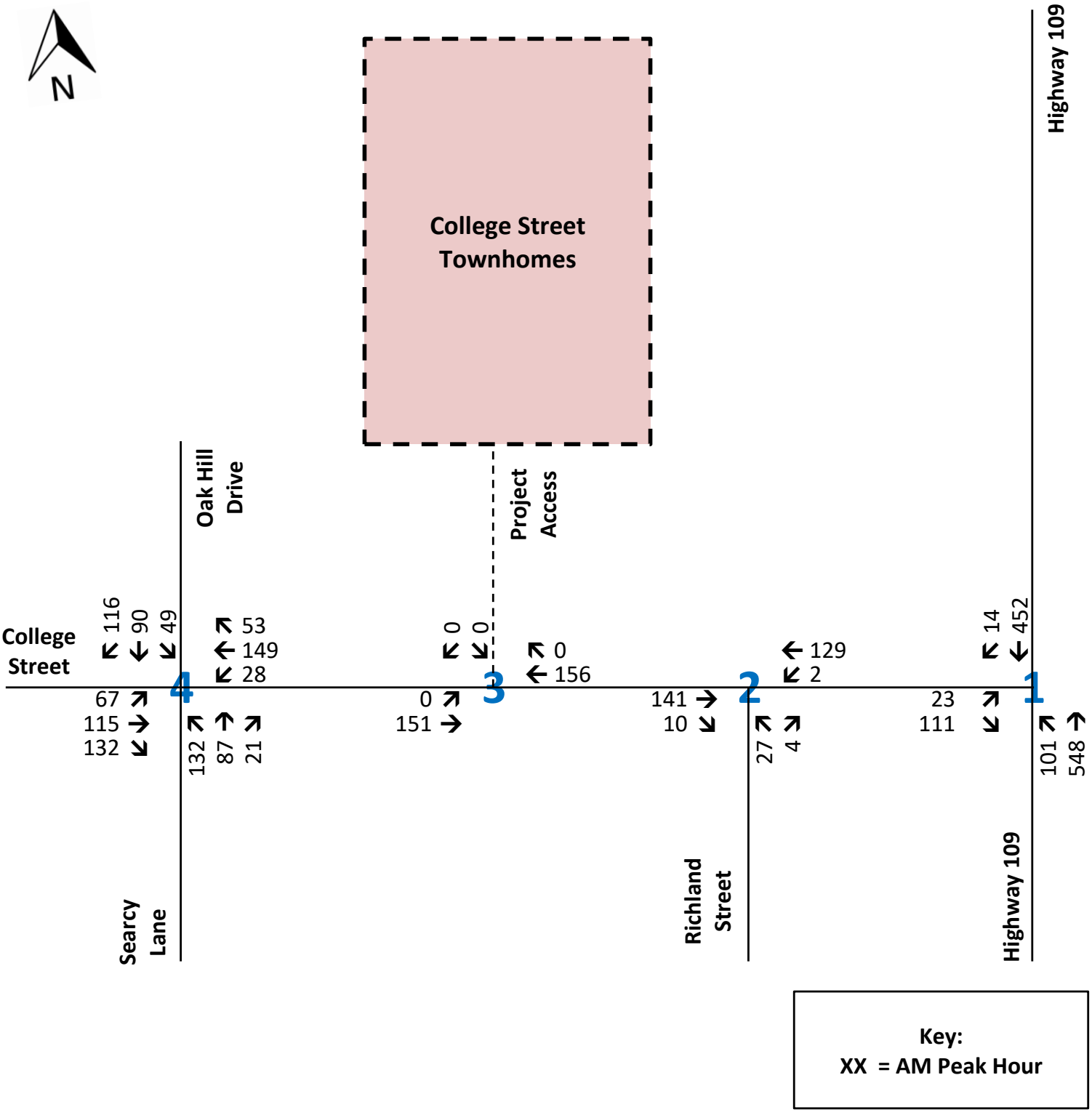



**Traffic Assignment Worksheet**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

TRAFFIC ASSIGNMENT WORKSHEETS

AM PEAK HOUR




**Traffic Assignment Worksheet**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

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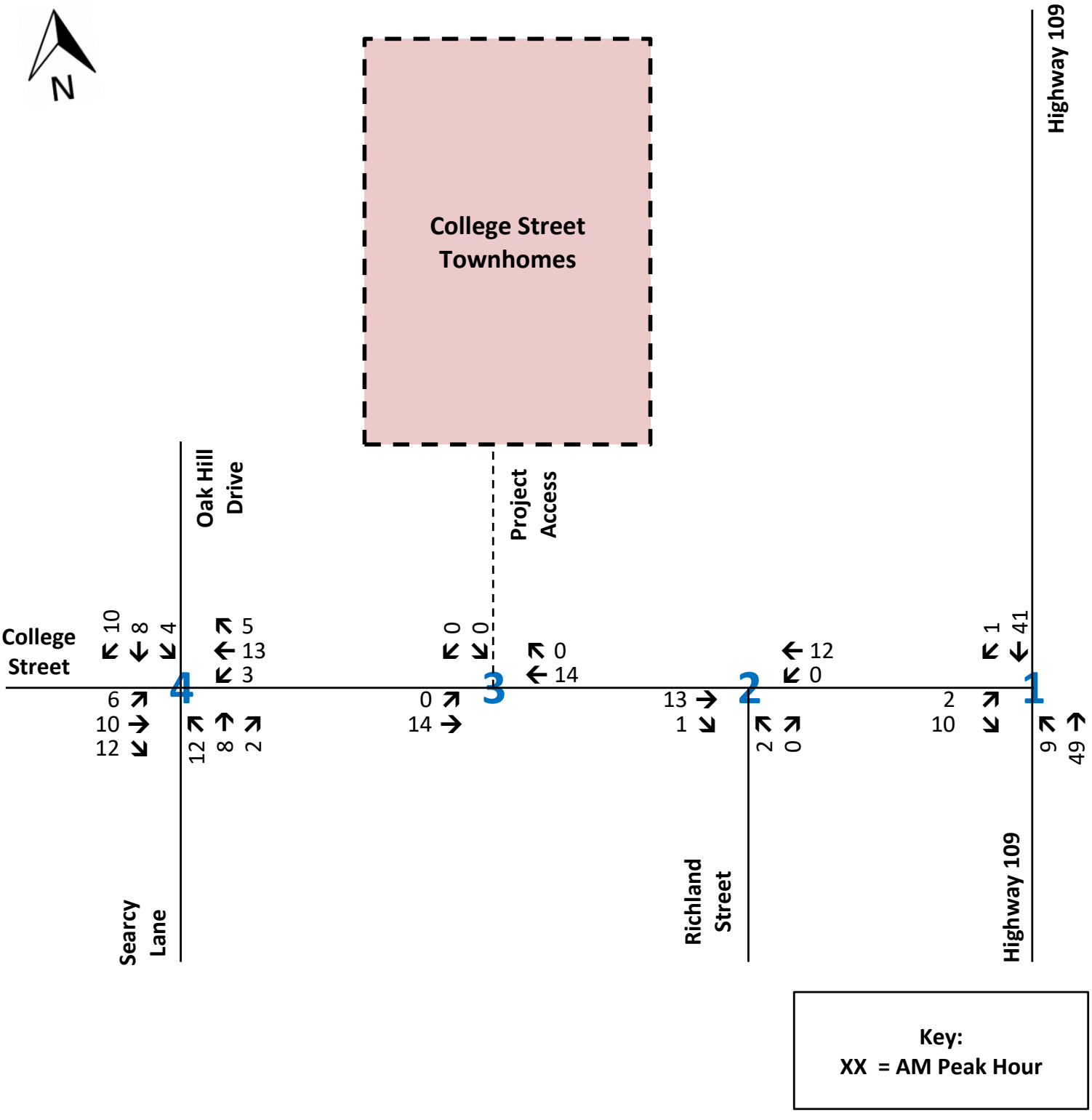
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background - Historical Growth Only (2025)**
College Street Townhomes
Portland, Tennessee

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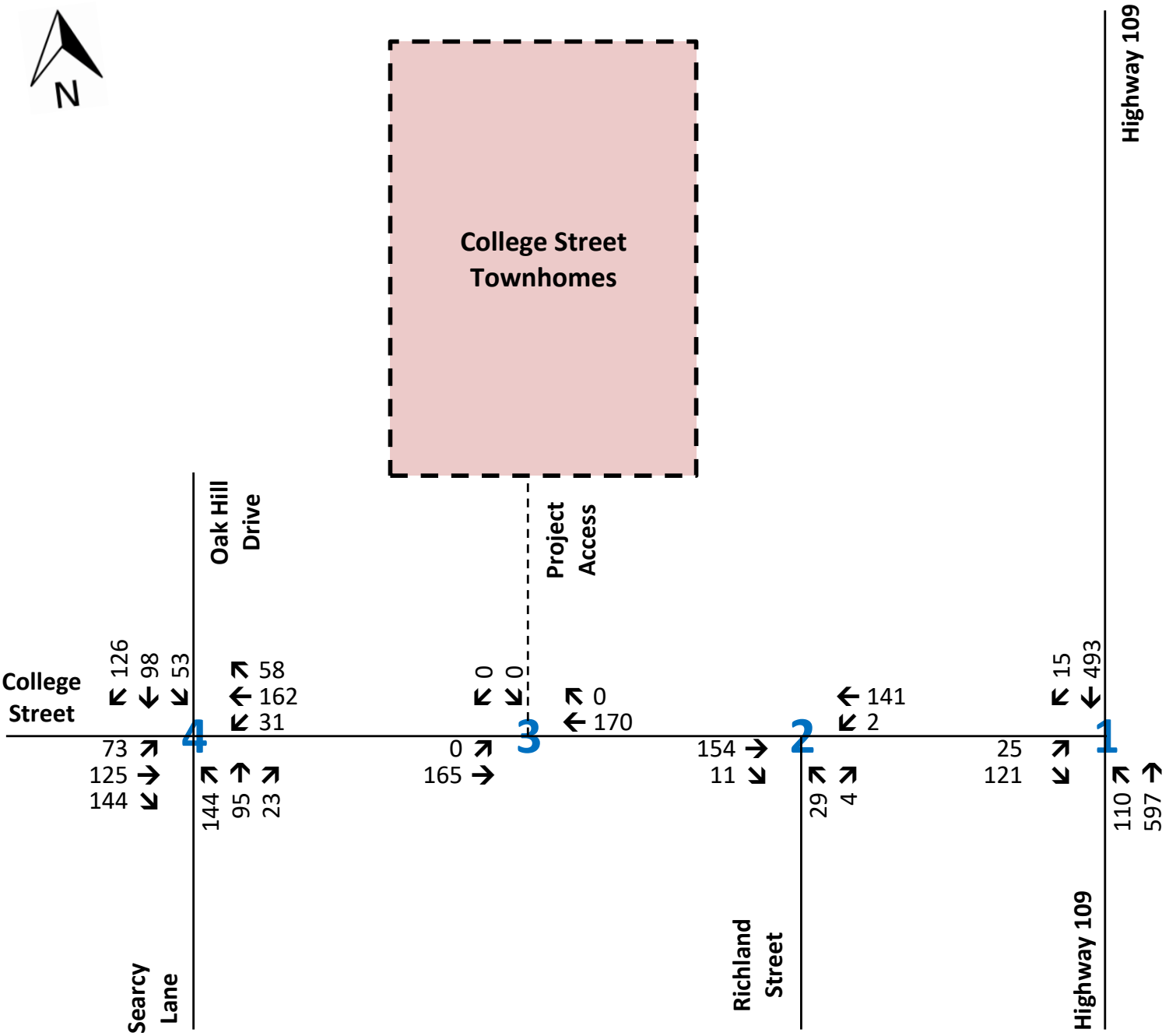
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

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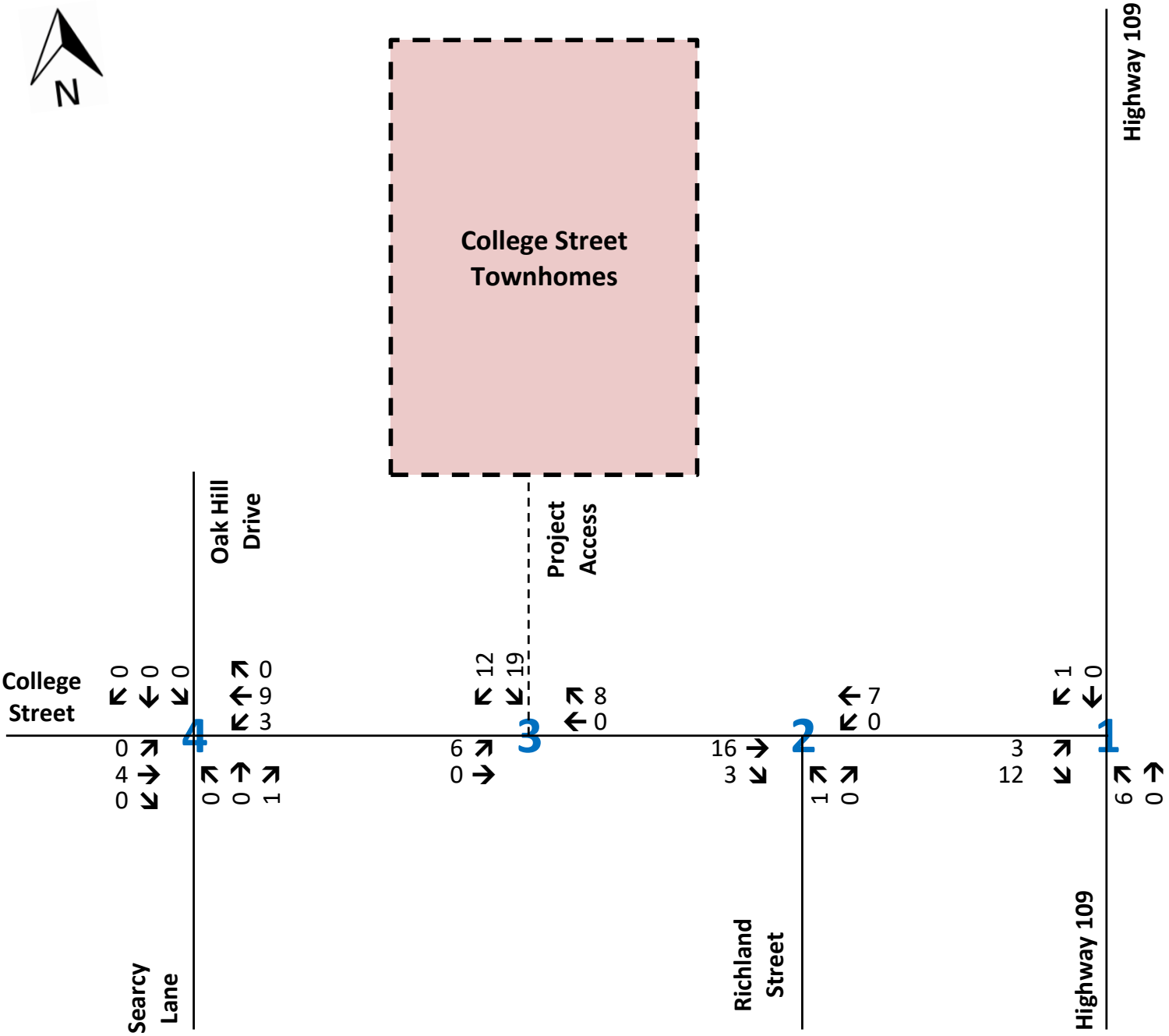


**Traffic Assignment Worksheet**

**Traffic Assignment - Townhomes (95 Units)**

College Street Townhomes

Portland, Tennessee

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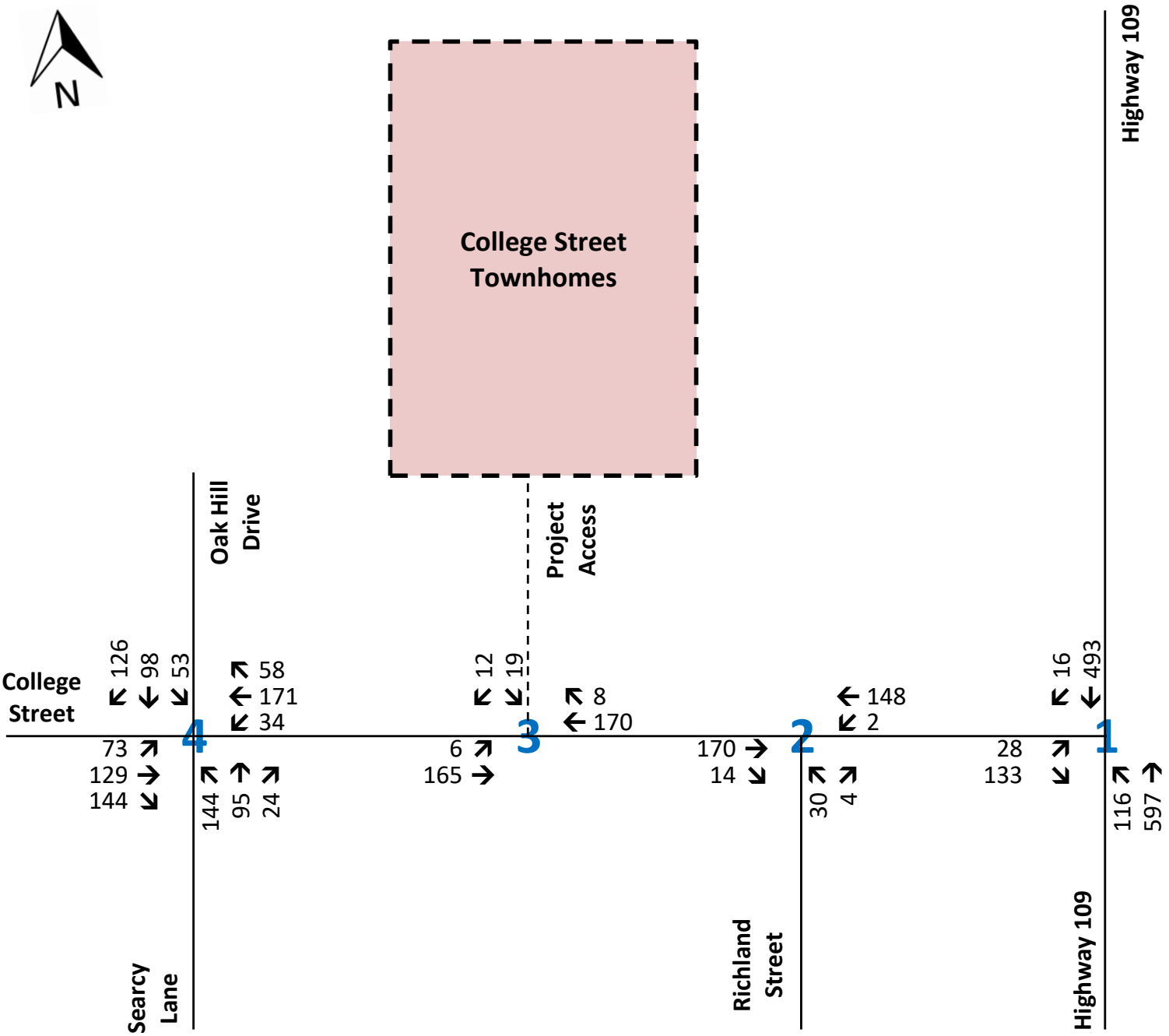
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

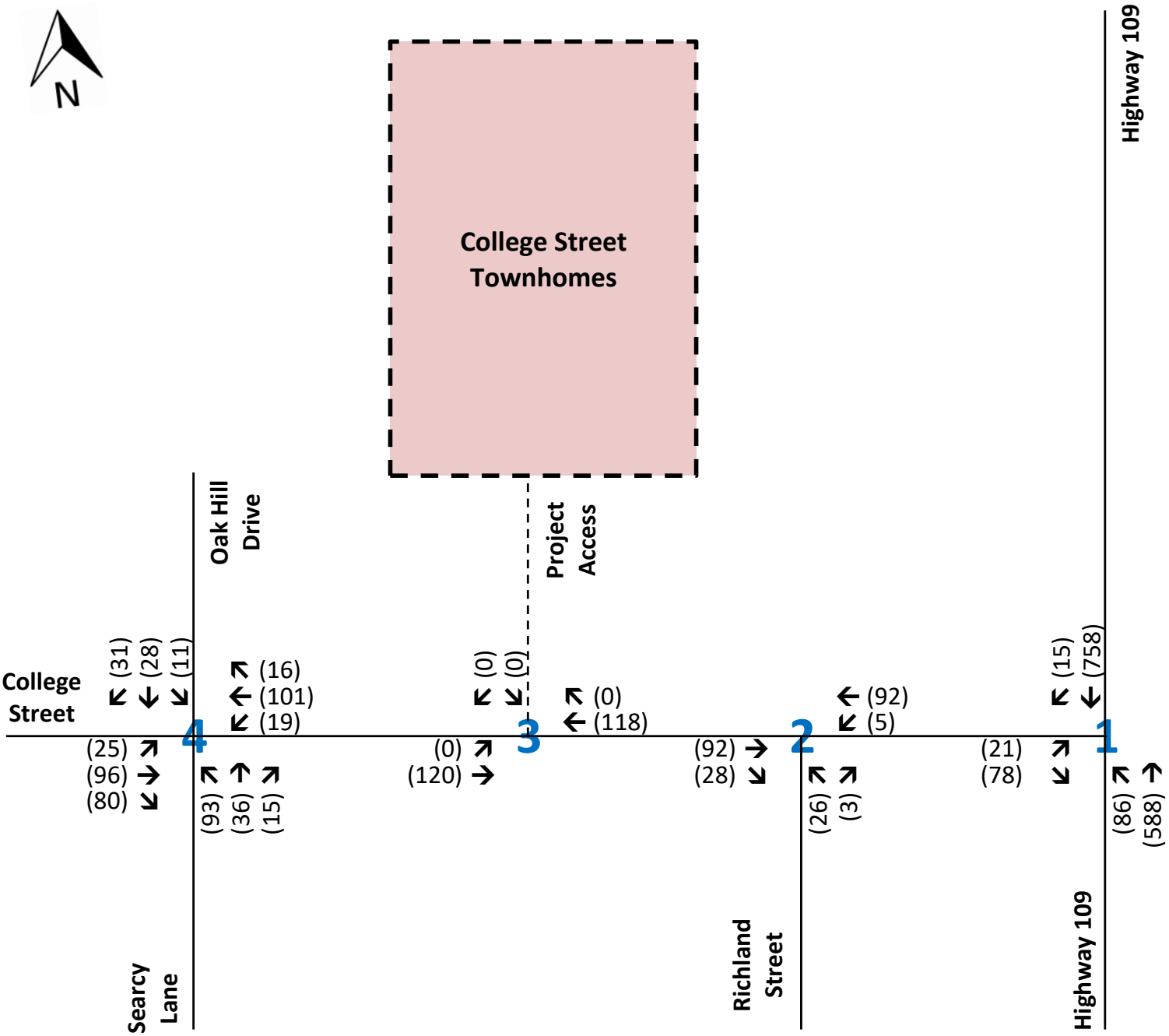



**Traffic Assignment Worksheet**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

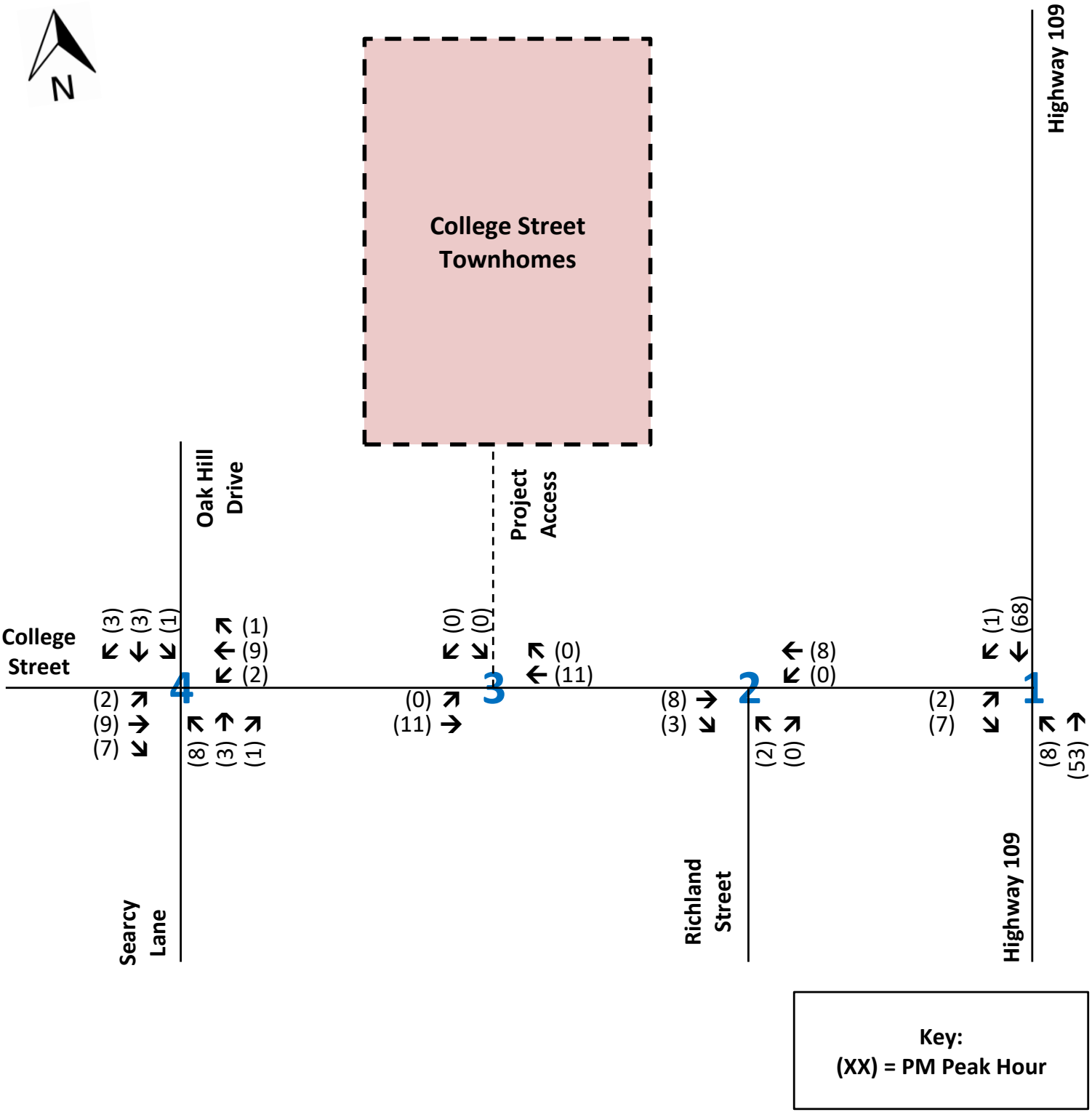
TRAFFIC ASSIGNMENT WORKSHEETS

PM PEAK HOUR




**Traffic Assignment Worksheet**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background - Historical Growth Only (2025)**
College Street Townhomes
Portland, Tennessee

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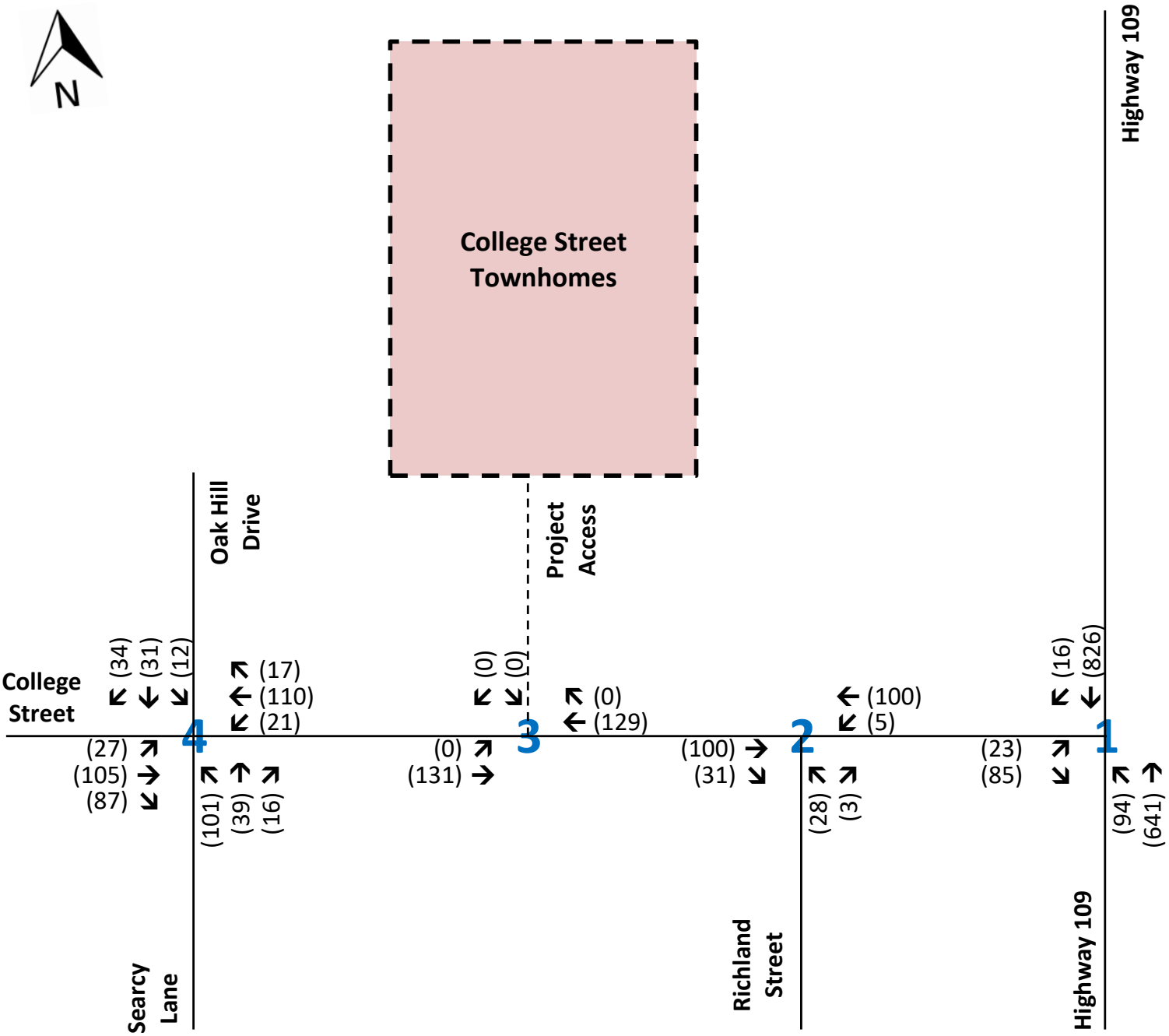
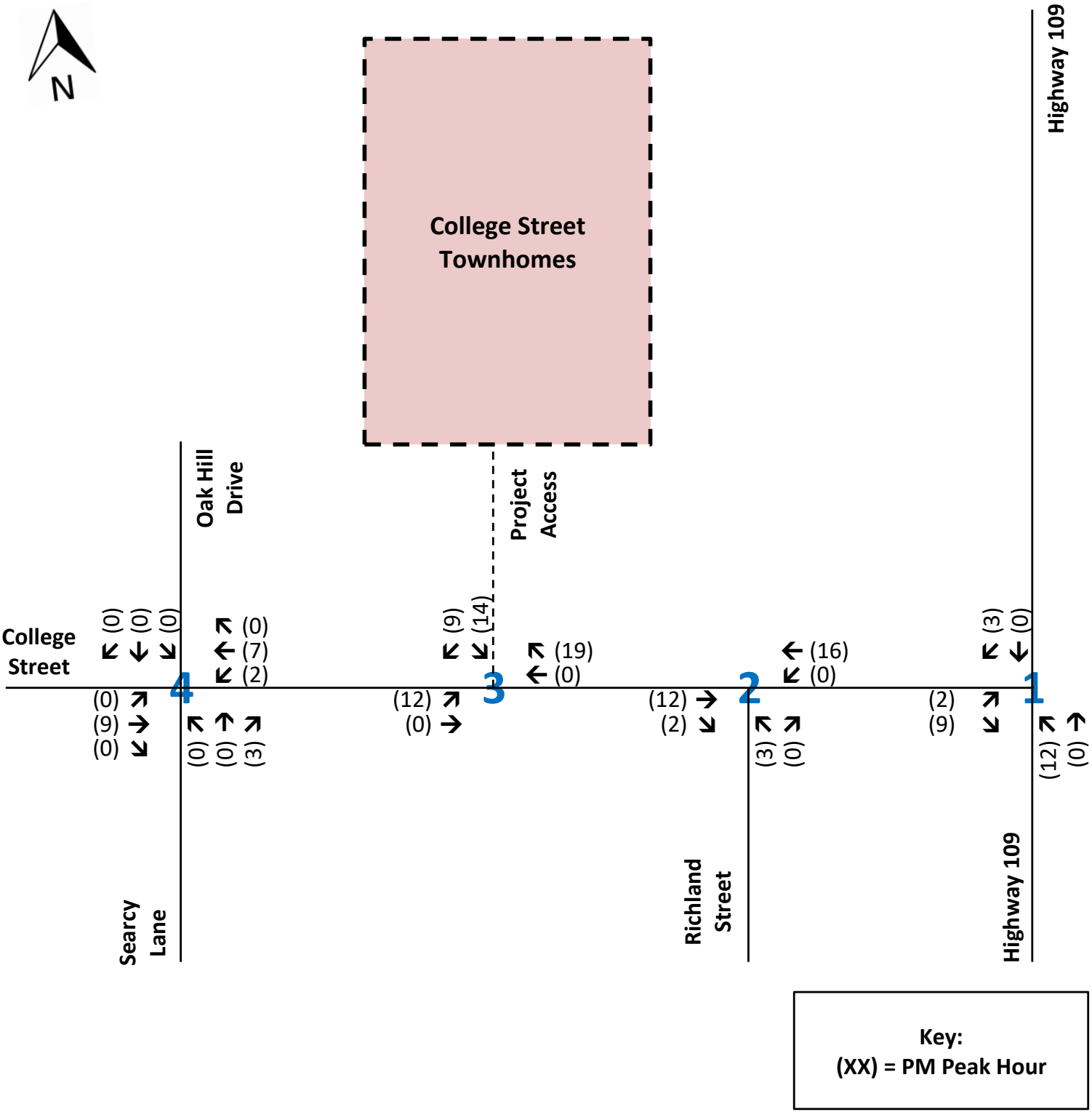
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



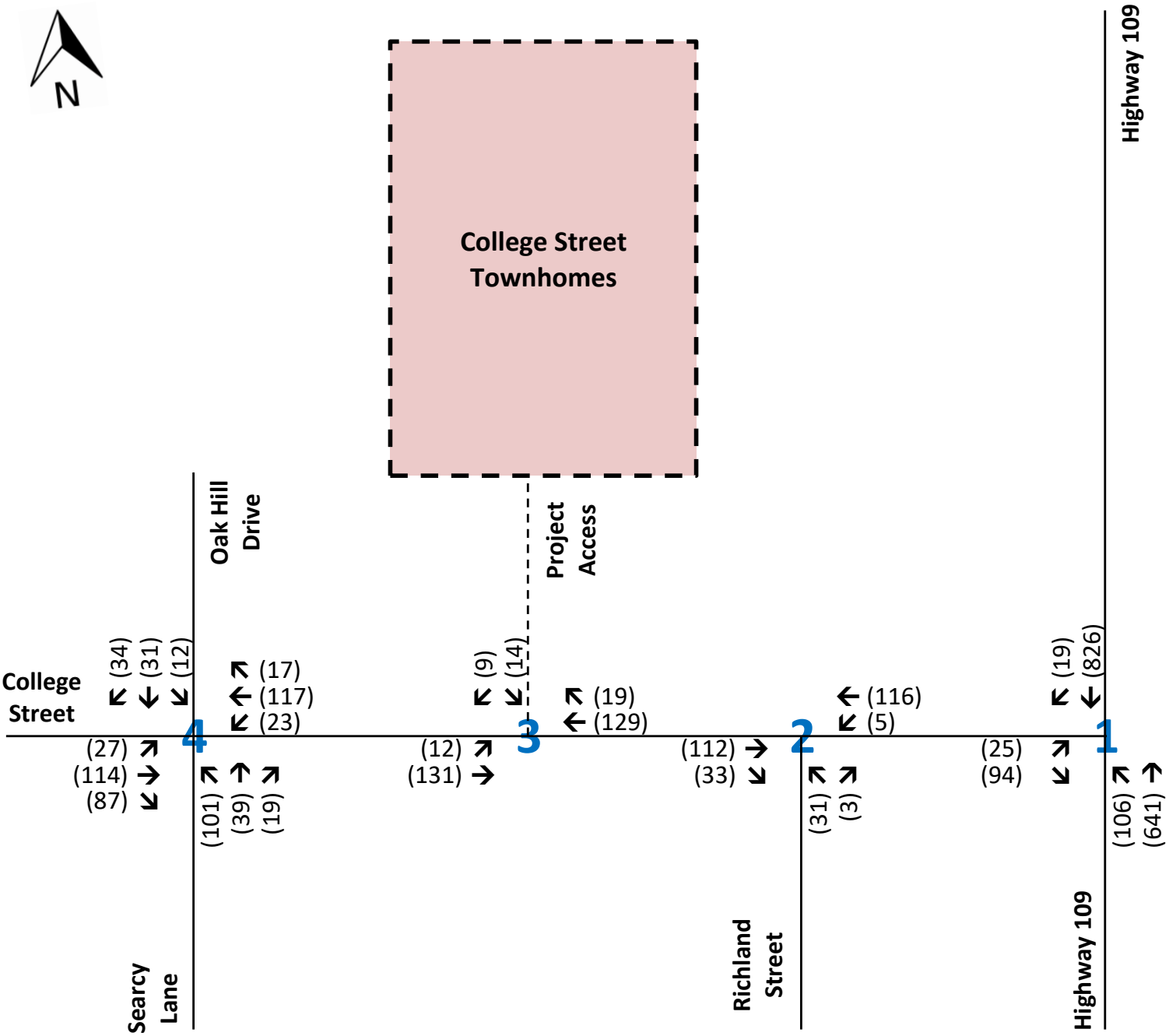

**Traffic Assignment Worksheet**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Traffic Assignment - Townhomes (95 Units)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

APPENDIX F

TURN LANE

EVALUATIONS

LEFT TURN LANE

WARRANTS

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #2 - COLLEGE STREET & RICHLAND STREET

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

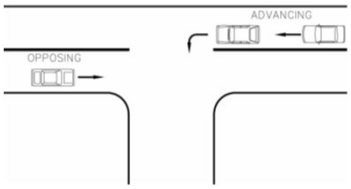
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **AM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 2 | 148 | | **150** |

| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 170 | 14 | **184** |

| WB LT | LT % |
|---|---|
| 2 | 1.3% |
| **Use Chart For:** | **5%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

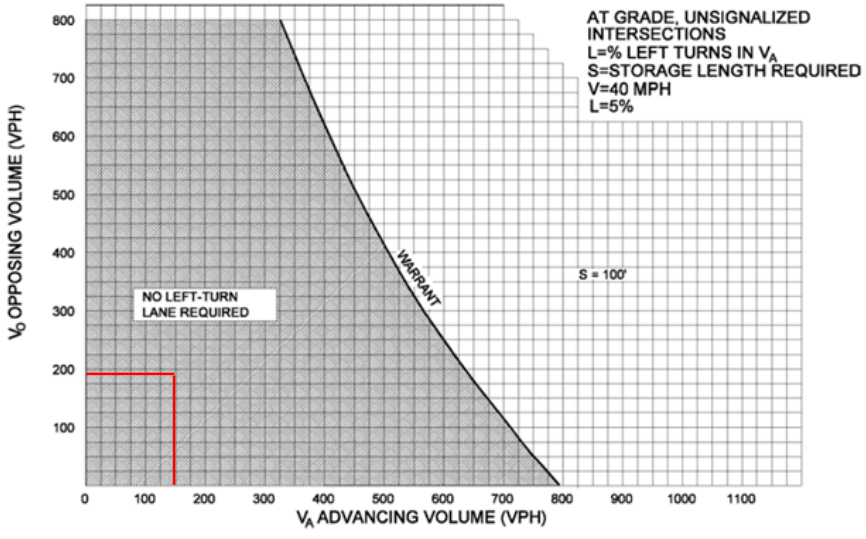



**Figure 2-14a**
**Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40mph and L = 5%)**

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #2 - COLLEGE STREET & RICHLAND STREET

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

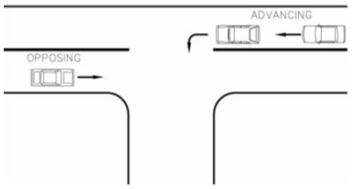
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **PM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 5 | 116 | | **121** |

| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 112 | 33 | **145** |

| WB LT | LT % |
|---|---|
| 5 | 4.1% |
| **Use Chart For:** | **5%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

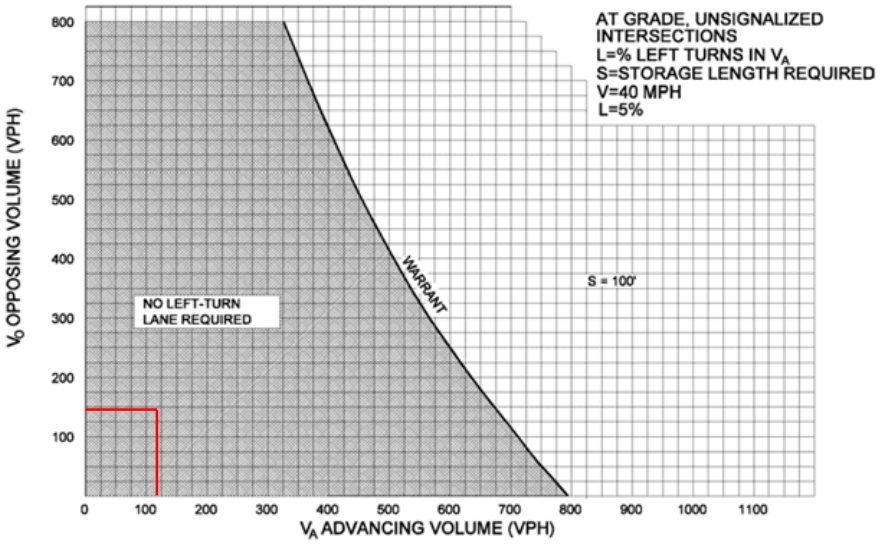



**Figure 2-14a**
**Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40mph and L = 5%)**

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #3 - COLLEGE STREET & PROJECT ACCESS

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

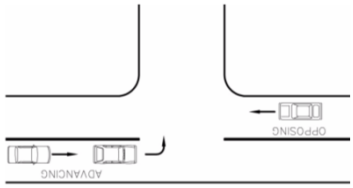
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **AM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 6 | 165 | | **171** |

| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 170 | 8 | **178** |

| EB LT | LT % |
|---|---|
| 6 | 3.5% |
| **Use Chart For:** | **5%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

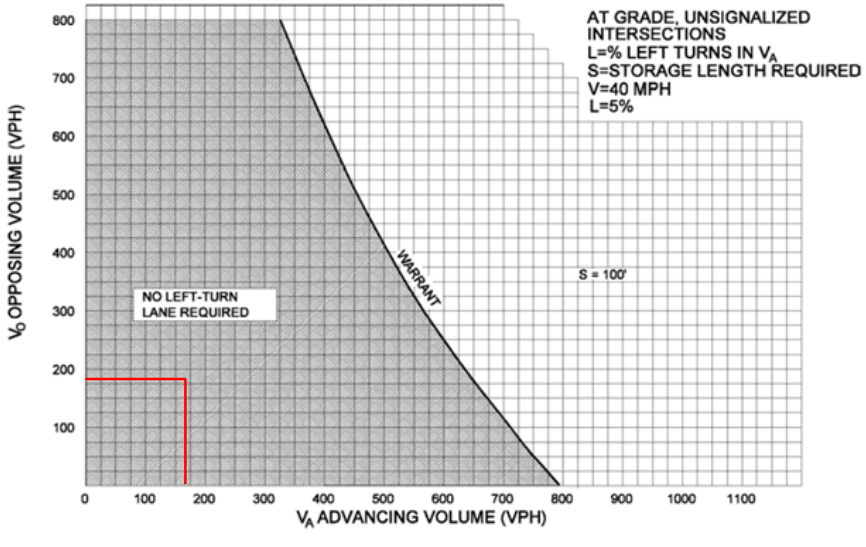



**Figure 2-14a**
**Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40mph and L = 5%)**

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #3 - COLLEGE STREET & PROJECT ACCESS

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

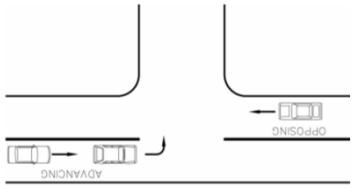
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **PM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 12 | 131 | | **143** |

| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 129 | 19 | **148** |

| EB LT | LT % |
|---|---|
| 12 | 8.4% |
| **Use Chart For:** | **10%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

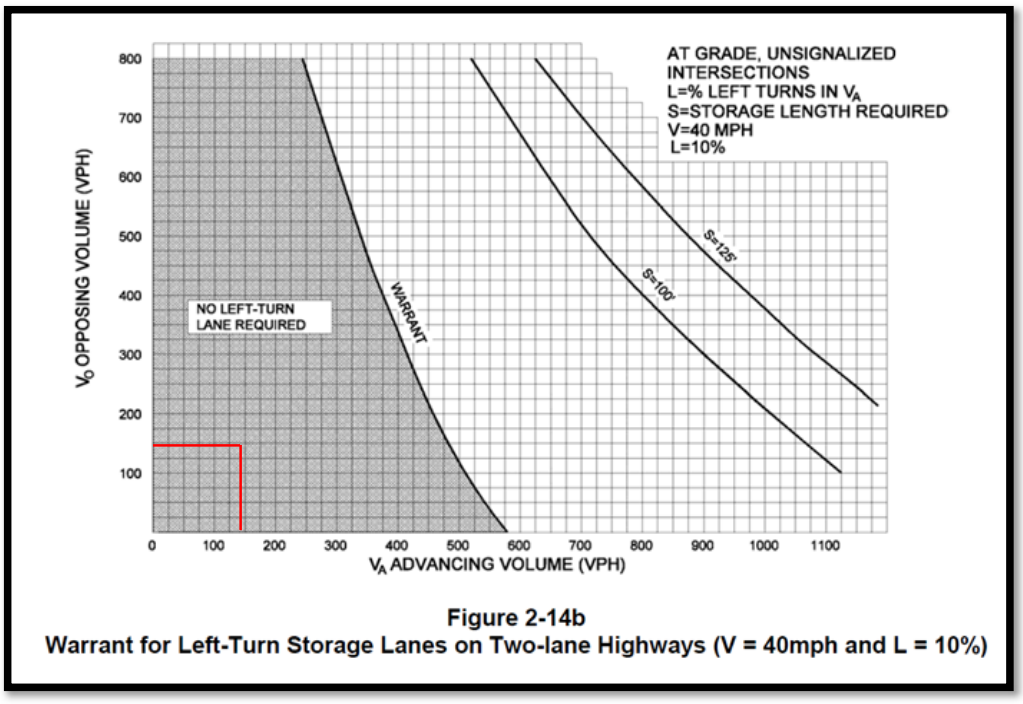



**Figure 2-14b**
**Warrant for Left-Turn Storage Lanes on Two-lane Highways (V = 40mph and L = 10%)**

RIGHT TURN LANE

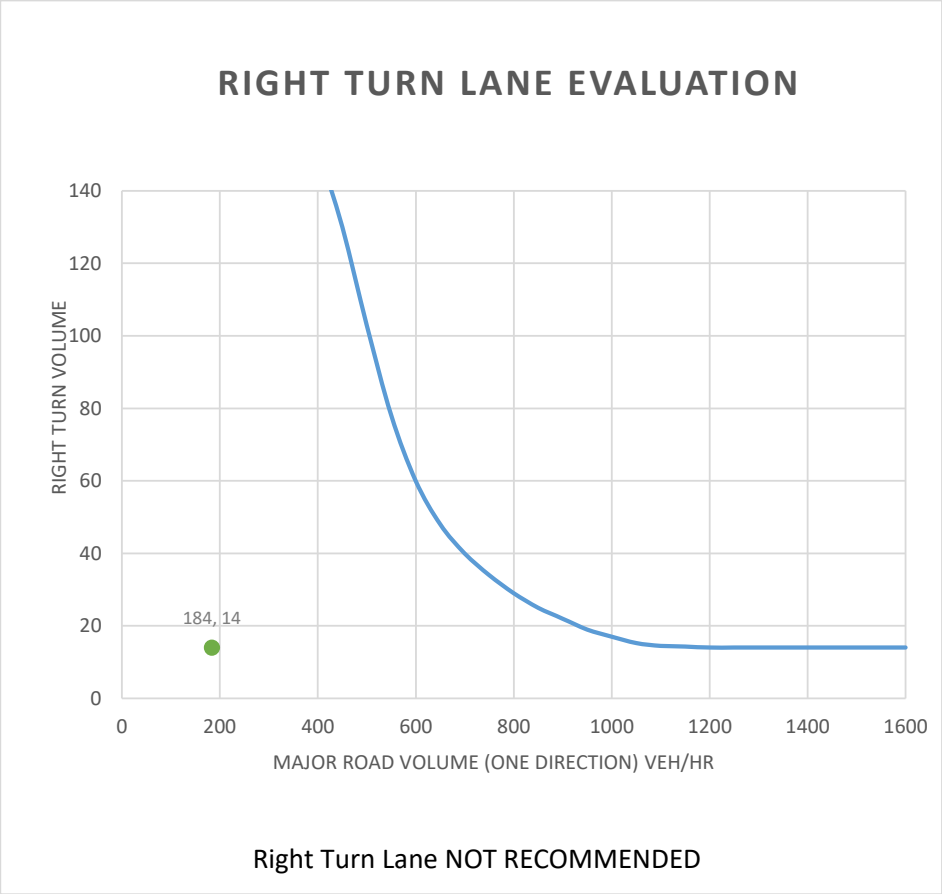
EVALUATIONS

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #2 - COLLEGE STREET & RICHLAND STREET |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | EASTBOUND |
| TIME PERIOD | AM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 14 |
| ADVANCING VOLUME (VPH) | 184 |



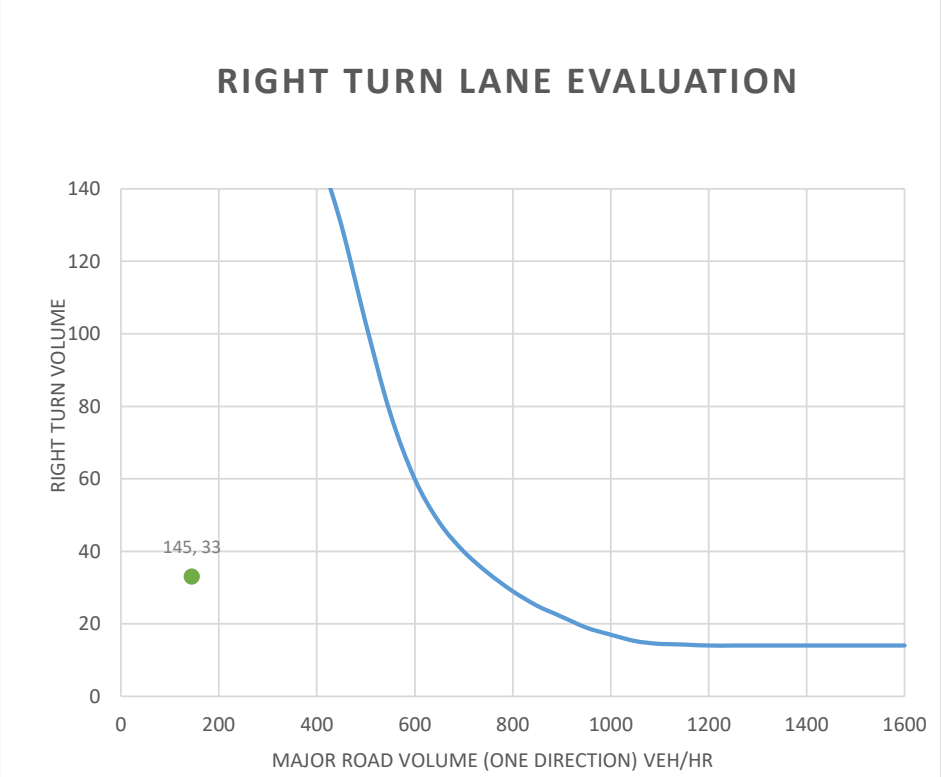

Right Turn Lane NOT RECOMMENDED

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #2 - COLLEGE STREET & RICHLAND STREET |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | EASTBOUND |
| TIME PERIOD | PM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 33 |
| ADVANCING VOLUME (VPH) | 145 |



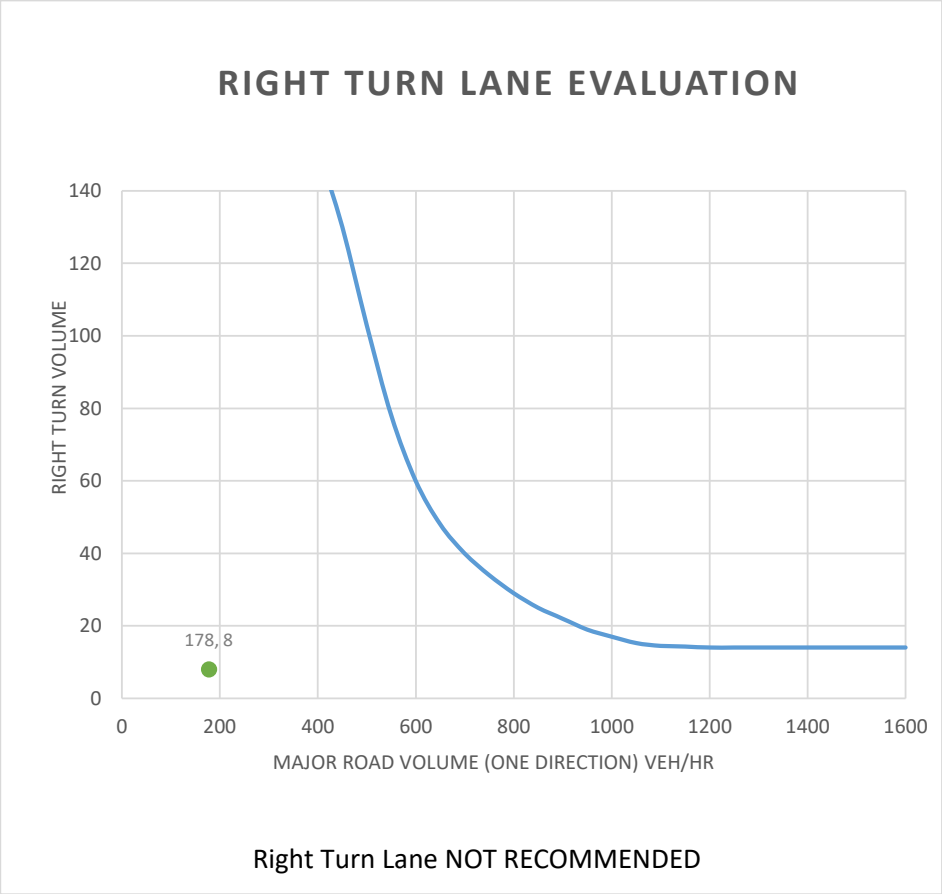

Right Turn Lane NOT RECOMMENDED

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #3 - COLLEGE STREET & PROJECT ACCESS |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | WESTBOUND |
| TIME PERIOD | AM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 8 |
| ADVANCING VOLUME (VPH) | 178 |



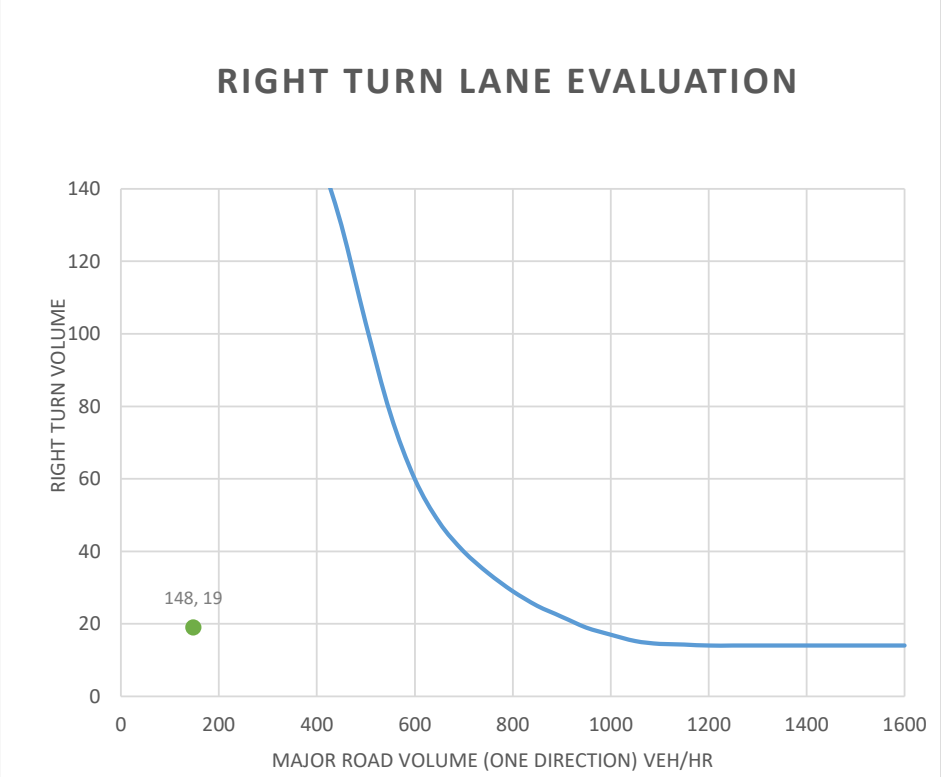

Right Turn Lane NOT RECOMMENDED

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #3 - COLLEGE STREET & PROJECT ACCESS |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | WESTBOUND |
| TIME PERIOD | PM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 19 |
| ADVANCING VOLUME (VPH) | 148 |




Right Turn Lane NOT RECOMMENDED

Cummings St
N Russell St
Davis St
Victor Reiter Pkwy
N Broadway
Delrose Dr
Teton
CL Powell St
Gibson St
Freedie St
Stevison Ham Rd
Freedom Dr
IG
HCD
GCS
RS-20
RM-1
CBD
R-15
R-10
IR
109

IG
HCD
GCS
RS-20
RM-1
CBD
R-15
R-10
IR
Seaboard System Railroad
Davis St
N Broadway
Victor Reiter Pkwy
N Russell St
Cummings St
Delrose Dr
Stevison Ham Rd
Freddie St
CL Powell St
Freedom Dr
Teton
Gibson St
109

# City of Portland, Tennessee Proposed Planned Unit Development Regulations

## Table of Contents:

**Chapter 1: Purpose and Objectives**

**Chapter 2: Relationship Between Planned Unit Developments and Other Regulations**

**Chapter 3: Minimum Standards for All Planned Unit Developments**

**Chapter 4: Open Space, Amenities and Perpetual Maintenance Standards**

**Chapter 5: Review and Approval Process**

**Chapter 6: Submittal Requirements**

**Chapter 7: Procedure for Amending an Existing Final Development Plan and Regulating Pattern Book**

**Chapter 8: Expiration of Approved Plans**

**Chapter 9: Other Issues**

**Appendix A: Planned Unit Development Checklist**

**Appendix B: PUD Review/Approval Process Summary**

# ARTICLE XII: PLANNED UNIT DEVELOPMENTS

## CHAPTER 1: PURPOSE AND OBJECTIVES

### 12.101 PURPOSE:

The purpose of this Article is to provide design freedom to the developer in order to create a better living environment for current and future residents of the City. Quality private development requires a flexible approach to be available both to the City and to the developer. Deviations from the uniformity characteristic of traditional zoning regulations and the use of new and innovative techniques are henceforth to be encouraged as a matter of policy. However, this section is not intended to make increased densities more acceptable without corresponding benefits to the City, nor is it to be utilized as a means of circumventing the City's development regulations.

### 12.102 OBJECTIVES:

In return for greater flexibility in site design requirements, Planned Unit Developments are expected to deliver exceptional quality community designs that accomplish the following objectives:

Objective #1: Accountability:
Developments shall strictly adhere to the guidelines provided herein. No waiver of any City requirement may be granted unless specifically authorized by this Article.

Objective #2: Demonstration of Public Benefit:
Developments shall demonstrate substantial public benefit, to potentially include developer assistance in implementing City recreation, transportation, utility, and public safety goals.

Objective #3: Innovative and Flexible Project Design:
Developments shall incorporate a creative approach to the use of land that avoids monotony and that results in a higher quality design than might otherwise be accomplished.

Objective #4: Neighborhood Compatibility:
Developments shall be designed in order to ensure compatibility and a harmonious relationship with surrounding land uses.

Objective #5: Quality Architectural Design:
Developments shall be designed to incorporate quality architectural design via the submittal and approval of detailed renderings and elevations as part of the entitlement process.

Objective #6: Preservation of High Quality Open Space:
Developments shall be designed in order to encourage the conservation of high quality open space, as well as the preservation of natural features and environmentally sensitive areas.

Objective #7: Provision of Amenities
Developments shall provide unique amenities, such as interconnected pedestrian pathways and on-site recreational facilities such as clubhouses, swimming pools, fishing ponds, etc.

Objective #8: Efficiency:
Developments shall make efficient use of land, resulting in networks of utilities, streets, and other infrastructure features that maximize allocation of fiscal and natural resources.

## CHAPTER 2: RELATIONSHIP BETWEEN PLANNED UNIT DEVELOPMENTS AND OTHER REGULATIONS

### 12.201: ZONING STATUS OF PLANNED UNIT DEVELOPMENTS:

Planned Unit Development (PUD) districts shall be structured so as to reference their base zoning district or districts, and to make clear that they are subject to an adopted PUD. Such zoning designation shall be reflected upon the official City Zoning Map.

*For example, R-15 PUD, GCS-PUD, RM1-PUD, etc.*

### 12.202: DISTRICTS IN WHICH PLANNED UNIT DEVELOPMENTS ARE PERMITTED:

Planned Unit Developments shall be permitted in all zoning districts, except for the Central Business District (CBD) zoning district.

### 12.203: EXCEPTIONS FROM ZONING AND SUBDIVISION STANDARDS, GENERAL AUTHORIZATION:

Within PUDs, the Planning Commission may recommend, and the City Council may grant, specific exceptions to the underlying district's lot, density, use and bulk standards, as well as other applicable Zoning and Subdivision Regulations standards where it is determined that such modifications shall not negatively affect the value and enjoyment of surrounding property, the provision of municipal services, or the flow of traffic.

### 12.204: EXCEPTIONS FROM REQUIREMENTS OF THIS ARTICLE PROHIBITED:

While exceptions to other Zoning requirements are permissible, no exceptions may be granted to any requirement of this Article unless specifically authorized by this Article. All requirements of this Article shall apply to all PUDs unless otherwise stated.

### 12.205: EXCEPTIONS FROM OTHER ZONING AND SUBDIVISION STANDARDS, APPROVAL REQUIRED:

The underlying zoning district's requirements as well as all other applicable Zoning and Subdivision Regulation standards shall by default apply, unless an exception is specifically granted as part of the approved PUD. To be considered for approval by the City Council, any exception must have been reviewed by the Planning Commission and must be specifically noted within the Preliminary Development Plan and Regulating Pattern Book within a table created and labeled for that purpose.

*To clarify: Unless the exception is specifically granted as part of the PUD approval, and unless such exception is specifically reflected on the governing documents for the development, the underlying district requirements shall apply. No exceptions shall be implied unless explicitly stated or shown on the PUD's governing documents.*

### 12.206: CRITERIA FOR GRANTING EXCEPTIONS:

To be granted such exceptions, the applicant must demonstrate compliance with the Purpose and Objectives provided at Chapter 1 of this Article, above. *In no case shall an exception to district regulations within a PUD be granted unless the applicant demonstrates a substantial benefit to the City.*

Design characteristics and amenities to be considered in this determination shall include, but are not limited to the following:

(A) Landscaping, buffering, or screening within or around the perimeter of the PUD that is in addition to the minimum required by this Ordinance.
(B) The provision of additional landscaping and screening of parking lots and structures in addition to the minimum required by this Ordinance.
(C) Reduced use of impervious surface materials, including use of semi-pervious material such as grass-crete.
(D) Design characteristics including, but not limited to, mixed use development circulation systems that utilize alleys or traffic-calming techniques, and pedestrian-oriented environment.
(E) Community amenities including plazas, malls, formal gardens, places to congregate, outdoor seating, public art, and pedestrian facilities.
(F) Preservation of environmental features such as wetlands, conservation areas, hillsides, streams, or other unique features.
(G) Preservation of historic or other culturally significant features.
(H) Recreational amenities such as:
    (1) Swimming Pools
    (2) Outdoor rooms, arbors, gazebos, seating areas, and other hardscape
    (3) Clubhouse with meeting and fitness facilities
    (4) Jogging trails and fitness courses
    (5) Playgrounds and dog parks
    (6) Lakes and natural water features
(I) Retention ponds and detention areas which are accessible to occupants or the public via nature trails, boardwalks, and/or perimeter walkways, but only if they are designed as natural water features and are landscaped with native vegetation.
(J) Additional public infrastructure improvements in addition to the minimum required by this Ordinance, such as ornamental streetlights, street name signs, stop signs, and mailboxes.
(K) Dedication of lands for public uses.
(L) Offsite Traffic, Recreational, or Public Safety Improvements, or payments in lieu of such improvements.
(M) Provision of sign standards which exceed the minimum required by this Ordinance.
(N) Provision of a Design Guide with design standards which exceed the minimum required by City's Design Guidelines. For residential PUDs, this includes provision of draft elevations and floorplans of the homes which are to be built, as well as renderings depicting entryway monumentation, landscaping, fencing etc.
(O) Restrictive covenants which prohibit, limit, or provide standards for utility buildings, fences, and similar structures.
(P) Provision of requirements within the governing documents of the Owner's Association which stipulate that maintenance for all Open Space areas shall be performed by a 3rd party vendor at the Owner's Association's expense.

## CHAPTER 3: MINIMUM STANDARDS FOR ALL PLANNED UNIT DEVELOPMENTS

### 12.301: GENERAL STANDARDS:

All applications for PUD approval will be evaluated using the following standards of review:

(A) The site of the PUD shall be under common ownership and/or unified control. If there are two (2) or more owners, the application for the PUD shall be jointly filed by all owners.

(B) There shall be a minimum size of two (2) acres for any new PUD, with the exception that all rezoning requests containing a multi-family component shall be submitted in accordance with this Article regardless of acreage.

(1) "Multi-family" as used within this Article shall mean a building containing three (3) or more dwelling units, including apartments, condominiums and the like. It shall not include townhome developments, in which each dwelling unit is on an individual lot with each dwelling unit being separated from the other units by a party wall.

(2) This requirement shall in no way limit or abrogate any existing zoning entitlement.

(C) The proposed PUD must be in agreement with the adopted Land Use Plan and any adopted Area Plan for the City. Planning Staff shall clarify upon the record whether this is the case. It shall be incumbent upon the applicant to seek amendment to any applicable City Plans simultaneously with submitting the proposed PUD. The Planning Commission shall not recommend for approval any proposed PUD not in compliance with such adopted plans.

(D) All rezoning requests that wholly, or in part, contain multi-family uses as defined by this Zoning Ordinance shall be required to be submitted in accordance with this Article.

(E) Approval of a PUD shall be based upon a finding by the Planning Commission that studies provided by the applicant do confirm that streets, utilities, and drainage features have adequate capacity to serve the proposed development. If deficiencies do exist, the applicant shall offer to upgrade or otherwise provide adequate facilities to support their development.

(F) Any PUD shall be responsive to the character of surrounding properties and the existing neighborhood area. When located in an area where land use types and/or intensities or densities vary, the development shall be designed in such a manner as to provide for gradual changes in intensity and/or density.

(G) Street System connectivity to adjoining properties shall be provided wherever possible in the judgment of the Planning Commission and City Council.

(H) Walkways and trails are encouraged to be provided within the PUD in a manner which promotes pedestrian safety and circulation. Where appropriate, the plan shall provide pedestrian/bicycle access to, between or through open space areas and to appropriate off-site amenities.

(I) No sidewalk waivers shall be allowed for any PUD containing a residential component. Sidewalk waivers may be allowed for nonresidential PUDs at the discretion of the Planning Commission and City Council.

(J) No action of the Board of Zoning Appeals shall be required in the approval of a PUD.

(K) PUD districts shall be designed to preserve the natural features of the land and historic resources, such as existing trees, natural topography, and archaeological and historic sites, as much as possible.

(L) The PUD shall include additional screening, buffering, transitional uses or other design features as necessary to adequately protect existing or proposed uses of surrounding property;

(M) Homeowner associations or some other responsible party shall be required to maintain any and all common and open space and/or common elements, unless accepted to be conveyed to the City.

(N) All utilities shall be underground within PUD districts.

(O) No PUD application shall be considered unless such proposed plan includes a certification that the services of one or more design professionals in one or more of the following disciplines were utilized in the preparation of the Development Plan and Regulating Pattern Book in addition to a licensed civil engineer.

(1) An urban planner who possesses the education and experience to qualify for membership in a recognized professional planning association;

(2) A practicing landscape architect licensed by the State of Tennessee

(3) A practicing architect licensed by the State of Tennessee.

(P) A Development Agreement shall be required at the Platting/Site Plan stage for all developments that will involve the installation of any infrastructure to be owned and/or maintained by the City.

(Q) In order to provide feedback to the applicant, an optional and nonbinding conceptual review of any proposed PUD is authorized to be undertaken by the Planning Commission.

(R) City standards for public notice and advertisement shall be met for all applications. Any additional notice requirements provided by this Article are in addition to any required by the City and by State law.

(S) All PUDs shall be designed to facilitate safe and efficient ingress and egress for municipal and/or private solid waste vehicles. All developments shall be designed to ensure such access without otherwise blocking or obstructing the flow of traffic along bordering streets.

(T) All PUDs shall be designed to facilitate safe and efficient ingress and egress for school buses. All developments, and non-single family residential developments in particular, may be required to provide bus turnouts, pull out stops, covered rider shelters, or other design elements in order to ensure safety.

**12.302: SPECIFIC STANDARDS:**

In addition to the General Standards noted above, the following Specific Standards shall apply to all PUDs:

(A) Minimum Lot Sizes:

Lot Sizes may not be less than 50% of that allowed by the base zoning. However, except as indicated in these standards, no proposed building lot within a PUD may be reduced to less than 5,000 square feet.

*Note: Townhome lots under individual units shall not be less than 2,000 square feet. Townhome development lots as a whole (meaning groups or blocks of Townhomes) shall not be less than 6,000 square feet (2000 sq/ft per unit X minimum of 3 units=6,000 sq/ft)*

*Note: Multi-family developments shall provide a minimum of 5,000 square feet of lot area per residential unit.*

*Note: Horizontal Property Regimes (HPR) shall also comply with these standards in that each HPR dwelling unit or group of dwelling units within such Regime shall be provided with sufficient open space around each unit or group of units to meet these minimum area requirements.*

(B) Minimum Setbacks:

In no event shall setbacks be reduced to less than:

Front: 20 feet

Side: 5 feet

Rear: 15 feet

*Note: A side yard of at least these dimensions is required on each end of a group or block of attached townhomes and multi-family dwellings. Zero (0) feet is required on the interior sides of each townhome and multi-family dwelling (shared wall).*

*Note: Horizontal Property Regimes (HPR) shall also comply with all of these standards. Each HPR dwelling unit within such Regime shall be provided with sufficient open space around each unit or group of units to meet this minimum yard requirement.*

*Note: Certain zoning districts contained in this Ordinance may allow "build to" lines that reduce setbacks to less than these PUD standards. These PUD standards shall govern in the event of a conflict.*

(C) Allowable Uses:

All uses allowed and allowed upon appeal as per the base zoning shall be allowed. However, the Planning Commission may recommend, and the City Council may require, the elimination of certain uses that may be deemed objectionable or not in keeping with the area as part of a PUD approval. In addition, the applicant may voluntarily limit uses that would otherwise be allowable in the base zoning district.

The applicant may request the addition of uses or mix of uses that may not be allowed as per the base zoning, and such uses may be approved by the City Council upon recommendation by the Planning Commission. Such uses must be noted as a requested exception as required at Chapter 2 of this Article.

*For example: In a district that might otherwise only allow standard detached single family dwellings, the applicant may request the addition of a convenience commercial use for the development. Any such items must be noted as an exception upon the governing documents for the development, and must be clearly indicated upon the Preliminary/Final Development Plan and Regulating Pattern Book.*

(D) Buffers:

(1) A 15 foot Type B buffer yard shall be provided around the perimeter of all PUDs consisting solely of a single family residential uses.
(2) A 20 foot Type C buffer yard shall be provided around the perimeter of all PUDs containing a commercial component, or a residential component containing townhomes, two family dwellings of any kind, or semi-detached dwellings.
(3) A 25 foot Type D buffer yard shall be provided around the perimeter of all PUDs containing an industrial component or a residential component containing multi-family residential.
(4) Specific planting requirements for various buffer yards are found at Table 4-502 of this ordinance.

(5) As used within this article, "perimeter" is intended to mean the sides and rear, as well as the front of a subject property.

(a) In other words, at any point in which a proposed development fronts existing right of way, a buffer meeting these requirements shall be provided in addition to buffering along the sides and rear of the property.

(b) Within the front buffer, the applicant may substitute decorative fencing, entryway monumentation, and other similar amenities for required canopy tree plantings, provided that required accent trees and shrubs are planted as required by this ordinance.

(c) Sidewalks shall be required to be installed along or within all front buffers. No exceptions or in lieu of payments are allowed within PUDs containing a residential component.

(6) All required buffers shall be located in Open Space under ownership of the homeowner or property owners' association. No required buffer of any kind shall be contained on any single family residential building lot. Landscape easements etc, are prohibited on single family residential building lots.

(E) Transitions

Proposed lot sizes around the perimeter of the development which directly border other property currently used for single family residential uses shall not be less than the minimum required by the requested base zoning if such homes are within 250 feet of the property proposed for rezoning. This requirement shall be applied to each boundary of the project independently, to include the front of the property, and shall be in addition to any required buffers.

*Example #1: if the applicant is requesting an R-15 PUD zoning, the minimum lot size for lots around the perimeter of the development shall be 15,000 square feet if those lots will border property in which existing homes are within 250 feet of the proposed PUD.*

*Example #2: If a new PUD is to be surrounded by property in which there are no homes within 250 feet of the development's boundaries, this requirement shall not apply.*

*Example #3: If homes are located within 250 feet of one side of a development, and the other sides contain no homes within 250 feet of the proposed development, this requirement shall be applied only to the side containing homes within 250 feet of the proposed development.*

(F) Market Analysis:

The Planning Commission or City Council may require the developer to provide a market analysis for any PUD containing a nonresidential component. The analysis will be utilized, among other things, to determine the economic feasibility of the proposed project, and to determine the impact of the proposed development on the long-term development of commercial/industrial land use in the area.

(G) All PUDs containing a residential component shall submit population projection data, to include projected adult and school aged population at build out.

# CHAPTER 4: OPEN SPACE, AMENITIES, AND PERPETUAL MAINTENANCE STANDARDS

## 12.401: QUALITY AND CHARACTER OF OPEN SPACE:

The following requirements shall apply for all common elements and associated improvements located within any PUD:

(A) At least 20% of the gross site acreage of the PUD shall be comprised of open space.
(B) All Open Space shall be classified as either:
    (1) Usable Open Space
    (2) Passive Open Space
(C) Not less than 10% of the gross site acreage shall be Useable Open Space, which is defined as follows:
    (1) Useable Open Space: An area or areas within the boundaries of a development that are designed, set aside and maintained for either active or passive recreation, or both, and are available and accessible for use and enjoyment by all residents of the development.
        (a) Useable Open Space must be suitably improved for its intended use. Active recreation facilities are encouraged. Permitted uses for usable open space may include, but are not limited to pedestrian, bike and multi-purpose trails, pocket parks, playgrounds, etc.
        (b) Areas of Useable Open Space must be clearly delineated on the Amenities Plan Sheet, along with table of calculations showing that these requirements have been met.
(D) All Open Space not classified as Usable shall be classified as Passive Open Space, which may include, but not be limited to, required landscape buffers, important natural features, cemeteries, agricultural uses, and Stormwater detention facilities.
(E) Public right of way, as well as any right of way that may be set aside for private streets, may not be counted toward any Open Space calculations.
(F) Existing Public Utility Easements, including TVA transmission easements, pipeline easements and other similar easements owned by utilities not controlled by the City may not be counted toward any Usable Open Space calculations.
(G) Lands Located within the Floodplain or Floodway or that are located within a designated wetland may not be counted toward Usable Open Space requirements, unless the developer proposes to install recreational amenities within them, such as boardwalks, pedestrian footpaths/bridge crossings etc. Any applicable federal/state/local permitting requirements shall apply, and shall be the developer's responsibility.
(H) Lands to be dedicated to the City may be counted toward Usable Open Space requirements if actually accepted by the City.

## 12.402: AMENITIES PLAN REQUIRED:

All PUDs shall provide an Amenities plan within the Preliminary Development Plan and Regulating Pattern Book, which at minimum shall provide:

(A) A description and location of all proposed amenities
(B) A table indicating overall useable and passive open space proposed,
(C) A specific phasing plan for all amenities and open space improvements.

**12.403: SURETY FOR PROPOSED AMENITIES REQUIRED:**

The City shall require that surety guaranteeing all private amenities for the entire development be posted prior to initiation of construction for the first phase of the development. Such surety shall be held by the city until the final phase of the project is completed.

**12.404: TIMING FOR AMENITY INSTALLATION:**

Amenities should be installed and completed in the phase in which they are to be located. However, all amenities must be installed by the developer and approved by the City prior to commencement of grading activities for the final phase of the development.

**12.405: MAINTENANCE OF OPEN SPACE:**

All open space and usable open space shall be deeded to a homeowners or property owners' association, and the developer shall submit a draft declaration of covenants and restrictions that will govern the association concurrently with the application for Preliminary Development Plan and Regulating Pattern Book approval. The City Attorney shall review the documentation as to conformity with this Article. The provisions shall include, but not be limited to the following:

(A) The association must be set up before the recording of the first Final Plat for the development;
(B) Membership must be mandatory for each buyer and any successive buyer;
(C) The open space and usable open space restrictions must be permanent and not just for a period of years;
(D) The association must be responsible for liability insurance, local taxes and the maintenance of recreational and other facilities;
(E) Property owners must pay their prorated share of the cost to the assessment levied by the association to meet changed needs.
(F) The association must assume perpetual responsibility for all Stormwater infrastructure located within an Open Space area, and must enter into a Long Term Stormwater Maintenance Agreement with the City as per state and local requirements.

**12.406: DEDICATION OF OPEN SPACE BY DEVELOPER:**

(A) All land shown on the approved Final Development Plan and Regulating Pattern Book as Open Space may be either:
    (1) Conveyed to a public body, if the public body agrees to accept conveyance and to maintain the common open space and any buildings, structures or improvements which have been placed on it; or
    (2) Conveyed to an homeowner or property owner's organization for ownership and maintenance
(B) No common open space of a PUD shall be conveyed or dedicated by the developer or any other person to any public body, homeowner's association or other responsible party unless the Planning Commission has determined that all required improvements, to include Stormwater improvements, have been completely and satisfactorily installed.

**12.407: OWNER'S ASSOCIATION DEFAULT:**

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 PUD fail to maintain the open

space in accordance with the adopted Final Development Plan and Regulating Pattern Book, the City may serve written notice upon such organization and/or the owners or residents of the PUD and hold a public hearing.

If, 30 days following the public hearing, the deficiencies of maintenance remain uncorrected, the City Attorney shall call upon all the owners of property within the PUD to maintain the common open space, and, in default thereof, the City may maintain same.

The cost of such maintenance by the City shall be assessed severally and proportionally against the properties within the PUD that have a right of enjoyment of the common open space and shall become a lien on the properties.

# CHAPTER 5: REVIEW AND APPROVAL PROCESS

## 12.501 GENERAL:

Review and approval of a proposed PUD shall entail the following steps. With the exception of an optional and nonvoting conceptual review by the Planning Commission, there shall be no portion of this process which may be waived by city staff or the Planning Commission.

## 12.502: STEP 1: PRELIMINARY CONCEPT MEETING:

The applicant shall meet with the Planning Department to discuss the initial concepts of the PUD. The applicant shall supply preliminary information including, but not limited to, proposed uses, site constraints, road access, utility availability, and proposed density. Staff shall make the applicant aware of any applicable plans and ordinances. All staff comments are purely advisory in nature.

## 12.503: STEP 2: PRE-APPLICATION CONFERENCE:

Within 90 days of the preliminary concept meeting, and not less than 10 days prior to any required Neighborhood Meeting, the applicant shall meet with the Planning Department and other departments, as appropriate, for a pre-application conference.

(A) The applicant shall supply preliminary information to the Planning Department in a form established by the Planning Department. Such information shall be submitted at least three business days prior to the pre-application conference meeting.
(B) The purpose of the pre-application conference shall be to review refined plans and concepts for the PUD, the submittal requirements for the formal application, and the neighborhood meeting.
(C) All staff comments provided at the preapplication meeting are purely advisory in nature.

## 12.504: STEP 3: NEIGHBORHOOD MEETING:

Within 30 days of the pre-application conference, the applicant is required to hold at least one formal neighborhood meeting. This neighborhood meeting shall be held prior to formal submittal of the application for Preliminary Development Plan and Regulating Pattern Book approval. The applicant shall meet the following standards when conducting a neighborhood meeting:

(A) At least five (5) business days prior to the neighborhood meeting, provide written notice to the Planning Department, including the project name, time, date, and location of the meeting.
(B) Conduct the neighborhood meeting within proximity of the location of the proposed development. If it is not possible to hold the meeting in proximity to the location of the proposed development, due to lack of public facilities, the meeting shall be held in a nearby convenient location.
(C) An effort shall be made to provide adequate notice of the neighborhood meeting to the community. At a minimum, informational letters shall be distributed by the applicant to property owners within a 500-foot radius of the proposed PUD.
(D) Provide the Planning Department with a written summary of the meeting as part of the Preliminary Development Plan and Regulating Pattern Book application. The summary shall include a brief description of the method used to provide notice of the neighborhood meeting to the community and highlight the primary concerns of the neighboring property owners raised at the neighborhood meeting.

(E) The Planning Director may waive the neighborhood meeting requirement for reapplications under the following circumstances:

(1) For reapplications: If a formal neighborhood meeting has been conducted for the PUD application in the last 12 months and no changes to the original application are being proposed.

**12.505: STEP 4: OPTIONAL CONCEPTUAL REVIEW BY PLANNING COMMISSION:**

Prior to submittal of a formal application for a PUD, the applicant may make a conceptual presentation to the Planning Commission at a regularly scheduled meeting. The purpose of this submission is to obtain information and guidance prior to entering into binding commitments or incurring substantial expense. There shall be no formal vote on the conceptual presentation. The applicant may furnish whatever information that may assist the Planning Commission with understanding the proposal, but at minimum, such a conceptual presentation shall consist of the following:

(A) A map or maps in general form containing the proposed land uses, the natural features of the development site, the character and general location of all roadways and access drives proposed within the potential development, the location of adjacent public streets, thoroughfares and public utilities, and approximate schematic drawings showing the size, character, and location of buildings on the site.

(B) A written cover letter containing a general explanation of the potential development, including a statement of the present ownership of all the land within the development.

**12.506: STEP 5: PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:**

Within 90 days of the pre-application conference, the applicant shall submit an application in accordance with the application requirements contained herein. If the applicant fails to submit an application within 90 days of the pre-application conference, the applicant shall be required to begin the review procedure again from the pre-application conference (Step 2).

**12.507: STEP 6: PLANNING COMMISSION REVIEW AND RECOMMENDATION OF PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:**

The Planning Commission shall review the application, hold a public hearing, and make a recommendation to the City Council. The Planning Commission shall recommend approval, denial, or approval with conditions within 60 days after the initial consideration of the application. The applicant may waive the 60 day time requirement and consent to an extension or extensions.

**12.508: STEP 7: CITY COUNCIL REVIEW OF PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:**

The City Council shall review the application, hold a public hearing, and make a final decision in accordance with the city's ordinance review process generally. In making such a decision, the City Council shall consider but not be bound by, the recommendation of the Planning Commission. The City Council shall approve, deny, or approve with conditions. The City Council may defer the application for a reasonable amount of time if more information is needed to make an informed decision. Within 30 days after approval of a Preliminary Development Plan and Regulating Pattern Book, the zoning map will be amended to show the PUD as a zoning district.

**12.509: <u>STEP 8: PLANNING COMMISSION REVIEW OF FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:</u>**

The Planning Commission shall review the Final Development Plan and Regulating Pattern Book and hold a public hearing. If the Final Development Plan is in substantial compliance with the approved Preliminary Development Plan and Regulating Pattern Book to include any applicable conditions or modifications made by the City Council, the Planning Commission shall vote to approve it.

*Note: If the Final Development Plan and Regulating Pattern Book is not in substantial compliance with the approved Preliminary Development Plan, it <u>shall not</u> be approved by the Planning Commission. In such cases, the applicant shall either revise the Final Development Plan and Regulating Pattern Book in order to bring it into conformity with the approved Preliminary Development Plan, or else recommence the Review and Approval Process for new Planned Unit Developments outlined at Chapter 5 of this Article.*

*Note: The grounds for determining if the Final Development Plan is in substantial compliance with the approved Preliminary Development Plan are provided at 12.607, below.*

**12.510: <u>STEP 9: SITE DEVELOPMENT PLAN AND/OR SUBDIVISION PLAT SUBMITTAL AND DESIGN REVIEW:</u>**

If approved, the Final Development Plan and Regulating Pattern Book, as described in this Article, will become the controlling document for all future development in that established PUD zone. Parcels approved for a PUD will continue to be regulated by the Final Development Plan and Regulating Pattern Book regardless of future subdivision and sale of the property.

(A) The procedure for Site Development Plan review will be required as established by Article 14-202.2 of the Portland Zoning Ordinance.
   a. *Note: Site Development Plan approval shall be required for any Planned Unit Development utilizing a Horizontal Property Regime (HPR). Subdivision review is not required for such Regimes as they are exempted from municipal subdivision requirements (See Tennessee Attorney General's Opinion, 01-147).*

(B) The procedure for Preliminary Subdivision Plat and Final Subdivision Plat review will be required as established in the Portland Subdivision Regulations.

(C) The procedure for design review shall be required as established by the City of Portland's Zoning Ordinance and Design Guidelines.

## CHAPTER 6: SUBMITTAL REQUIREMENTS

### 12.601: COMPLETE APPLICATION REQUIRED:

A totally complete application shall be required for all PUD submittals. Under no circumstance is the Planning Commission empowered to consider an application unless all submittal requirements herein have been fulfilled. In no circumstance shall the Planning Commission recommend approval of an application "contingent upon" required information being provided.

### 12.602: COMPLETED PUD CHECKLIST REQUIRED:

It shall be the responsibility of the City Planner to provide the City's official PUD checklist to the applicant during the Preapplication conference. It shall be the responsibility of the applicant to return the signed and completed checklist to the City Planner as part of the PUD application submittal.

### 12.603: PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK: OVERALL INTENT:

The overall intent of requiring a Preliminary Development Plan and Regulating Pattern Book is to ensure that the applicant furnishes adequate information so that the Planning Commission and City Council fully understand the scope and impact of the project, its compliance with the Goals and Objectives of this Article, and the proposed project's benefit to the public. The approval of such a plan by the City Council constitutes a vested property right per state law.

It is incumbent on the applicant to furnish sufficient information at the Preliminary Development Plan stage, so that so that elected and appointed officials can have confidence that they fully understand what is proposed prior to any approvals which would convey a vested property right.

### 12.604: APPLICATION REQUIREMENTS: PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:

The following items shall be the minimum required for all applications to be submitted to the Planning Commission for Preliminary Development Plan and Regulating Pattern Book review:

(A) Completed Application and any required review fees
(B) Completed PUD Application Checklist
(C) Completed Letter of Agency
(D) Current Deed
(E) Cover sheet addressed from the developer's representative to the City Planner describing how the project conforms to the Purpose and to each of the Objectives found at Chapter 1 of this Article.
(F) Preliminary Development Plan, which shall be submitted in black and white 24 X 36 format, and which shall contain the following
    (1) Sheet 1: Title Sheet, containing the following information:
        (a) Name of Development
        (b) Name and address of Current property owner
        (c) Name and Address of Developer (if different)
        (d) Name and contact information for professionals who prepared plan.
        (e) Current Zoning
        (f) Proposed Zoning
        (g) Property identification information (address, map/parcel, deed information)

(2) Sheet 2: Plot plan prepared and stamped by a licensed surveyor for overall property depicting existing conditions, boundaries and topography
(3) Sheet 3: Overall layout sheet, with:
    (a) Proposed street network
    (b) All proposed lots with conceptual building and driveway footprints clearly indicated in relation to proposed setbacks
    (c) All open space and areas proposed for public use (fire station, park etc)
(4) Sheet 4: Preliminary Utilities plan sheet, showing how water, sewer and gas utilities will be run through the site and how they will be connected to existing utilities in the area
(5) Sheet 5: Preliminary Landscape plan sheet depicting all open space areas, including buffers
(6) Sheet 6: Preliminary Roadway improvements Plan Sheet if improvements within existing public right of way are to be required.
(7) Sheet 7: Preliminary Drainage Plan indicating how surface drainage will be controlled and managed
(8) Sheet 8: Preliminary Amenities Plan Sheet, containing the following:
    (a) A description and location of all proposed amenities
    (b) A table indicating overall useable and passive open space proposed,
    (c) A specific phasing plan for all amenities and open space improvements.

(G) Regulating Pattern Book, which shall be submitted in color 11 X 17 format, and which shall contain the following:
(1) Title sheet
(2) Name, address, contact information of applicant and professional architect, planner, or engineer responsible for preparing the Regulating Pattern Book
(3) Table of Contents
(4) Narrative describing the subject property's context, history and existing conditions
(5) Narrative describing the proposed development
(6) Table of Exceptions from City Zoning and Subdivision Regulations being sought
(7) Listing of permitted uses within the development
(8) Proposed density/intensity of project
(9) A tabulation of the number of lots which would be allowed under the existing and proposed zoning.
(10) Typical lot layout(s) and proposed setbacks
(11) Colorized graphic rendering showing all natural features, such as topography, soils, woodlands, wetlands, floodplain, and existing drainage patterns which affect the property
(12) Architectural Renderings/Floorplans/Photographs of proposed structures with sufficient clarity to convey the appearance of proposed structures
(13) Written description of materials to be used as well as any to be prohibited
(14) Amenities renderings, photographs and depictions
(15) Signage Plan Sheet
    (a) For Residential Developments: Horizontal depiction of entryway monumentation and associated landscaping

(b) For Nonresidential Developments: Horizontal depiction of proposed signage, as well as formal PUD sign policy regarding size, illumination, and materials.

(16) For projects that include nonresidential or multifamily uses, a photometric lighting plan of the project location and environs complete with light cut sheets and lighting fixtures examples

(17) Overall Phasing Schedule for the development

(H) Utility Availability Letter(s), for public water, sewer and natural gas

(I) Traffic Impact Study (if required by City staff)

(J) Documentation summary of neighborhood meeting

(K) Draft Covenants, Conditions, Restrictions

**12.605: <u>FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK: OVERALL INTENT:</u>**

The intent of the Final Development Plan and Regulating Pattern Book is to incorporate any terms, conditions, or other modifications to the Preliminary Development Plan and Regulating Pattern Book that may have been made by the City Council during their review and approval. In addition, the developer shall ensure that sufficient engineering work shall have occurred to ensure with reasonable certainty that the actual locations of future roads, utilities and other amenities are depicted in what will be their actual locations.

**12.606: <u>MINIMUM APPLICATION REQUIREMENTS: FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:</u>**

Following approval of the Preliminary Development Plan and Regulating Pattern Book by the City Council, the developer may make an application to the Planning Commission for Final Development Plan approval. The following items shall be the minimum required for all such applications to be submitted to the Planning Commission for Preliminary Development Plan and Regulating Pattern Book review:

(A) In final form, all of the information required for the Preliminary Development Plan and Regulating Pattern Book.

**12.607: <u>CONFORMITY OF FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK WITH APPROVED PRELIMINARY DEVELOPMENT PLANS:</u>**

The Final Development Plan and Regulating Pattern Book submitted for Planning Commission review and approval shall be in substantial compliance with the approved Preliminary Development Plan. The following criteria shall be utilized in determining whether a submitted Final Development Plan is in conformity with the approved Preliminary Development Plan.

If any of the following occur, the submitted Final Development Plan shall be deemed to be <u>not</u> in conformity:

(A) The submitted Final Development Plan and Regulating Pattern Book seeks to amend a specific condition that was imposed by the City Council;

(B) The submitted Final Development Plan and Regulating Pattern Book shows an increase in the number or dwelling units (density) or maximum square footage (intensity) in the case of non-residential PUDs;
(C) The submitted Final Development Plan and Regulating Pattern Book modifies the location and/or number of the PUDs primary access points;
(D) The submitted Final Development Plan and Regulating Pattern Book indicates that the overall gross open space or usable open space acreage will be reduced;
(E) The submitted Final Development Plan and Regulating Pattern Book seeks to modify any development regulations or architectural commitments expressly enumerated in the approved Preliminary Development Plan and Regulating Pattern Book.
(F) The submitted Final Development Plan and Regulating Pattern Book seeks to obtain an exception from any Subdivision or Zoning standard that was not indicated on the Preliminary Development Plan.

**12.608 SUBMITTED FINAL DEVELOPMENT PLAN NOT IN CONFORMITY WITH APPROVED PRELIMINARY DEVELOPMENT PLAN:**

If the Final Development Plan and Regulating Pattern Book submitted for Planning Commission review is not in conformity with the approved Preliminary Development Plan, the applicant shall have two (2) options:

(A) Revise the submitted Final Development Plan and Regulating Pattern Book in order to bring it into compliance with the approved Preliminary Development Plan.
(B) Recommence the Review and Approval Process for new Planned Unit Developments outlined at Chapter 5 of this Article.

# CHAPTER 7: PROCEDURE FOR MODIFYING AN EXISTING FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK

## 12.701: AMENDMENT OF APPROVED PLANNED UNIT DEVELOPMENTS AUTHORIZED:

Following final approval of a Final Development Plan and Regulating Pattern Book, it is possible that as the development of the PUD progresses, modifications to the approved Final Development Plan may be necessary for a variety of reasons.

"Minor" modifications shall only require approval from the Planning Commission. However, "Major" modifications, as defined below, will be subject to further review by the Planning Commission and City Council and will be required to undergo the entire process for PUD approval as enumerated at Chapter 5.

## 12.702: STAFF APPROVAL OF PUD AMENDMENTS PROHIBITED:

Under no circumstance shall city staff be empowered to approve any modification to any PUD. City staff shall enforce the adopted PUD exactly as approved, and as shown on the approved Final Development Plan and Regulating Pattern Book. Questions related to interpretation should be referred to the Planning Commission by the City Planner if there is disagreement. Any modifications proposed by the developer shall follow the process outlined in this Chapter.

## 12.703: SUBMITTAL PROCESS FOR PLANNED UNIT DEVELOPMENT AMENDMENTS:

A written request from the developer seeking an amendment to an approved PUD shall be submitted to the Planning Director. The request shall describe the overall effect of the proposed changes, a modified Final Development Plan and Regulating Pattern Book, the reasons for seeking such amendment, and shall provide a written description of how the proposed modifications accomplish the intent of the PUD as originally proposed. Upon receipt of a complete request, the Planning Director will make a written determination on whether the proposed modification is Major or Minor within ten (10) business days.

## 12.704: THRESHOLDS FOR MAJOR PLANNED UNIT DEVELOPMENT AMENDMENTS:

Any modifications that results in any of the following will be classified as "Major":

A. The changes proposed seek to amend a specific condition that was imposed by the City Council;
B. The proposed amendment results in an increase in the number or dwelling units (density) or maximum square footage (intensity) in the case of non-residential PUDs;
C. The amendment modifies the location and/or number of the PUDs primary access points;
D. The amount of gross open space or usable open space is reduced;
E. Modification any other development regulations or architectural commitments enumerated in the Final Development Plan and Regulating Pattern Book.
F. The changes proposed seek to obtain an exception from any Subdivision or Zoning standard that was not indicated on the approved Final Development Plan and Regulating Pattern Book.

Modifications not meeting these thresholds shall be deemed "Minor."

# CHAPTER 8: EXPIRATION OF APPROVED PLANS

## 12.801: EXPIRATION OF APPROVED PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:

If the applicant has not obtained Final Development Plan approval from the Planning Commission within three (3) years of the approval of a Preliminary Development Plan, the Planning Commission, consistent with the Vested Property Rights Act, Tenn. Code Ann. § 13-4-310, shall give notice by certified mail to the owner and applicant who requested the PUD and shall schedule a public hearing to take any of the following actions:

A. Recommend extending, removing, or modifying the schedule for development;
B. Recommend amendments to the Preliminary Development Plan and Regulating Pattern Book;
C. Recommend revocation of the Preliminary Development Plan and Regulating Pattern Book approval; and/or
D. Recommend rezoning of the property to its former zoning classification.

After receiving the Planning Commission's recommendation(s), and providing any notice required by statute and City regulations, the City Council shall hold a public hearing and render a decision.

## 12.802: EXPIRATION OF APPROVED FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:

If the applicant has not entered into a development agreement with the City Council and has not commenced site preparation within five (5) years of the City Council's approval of a Preliminary Development Plan and Regulating Pattern Book, the Planning Commission, consistent with the Vested Property Rights Act, Tenn. Code Ann. § 13-4-310, shall give notice by certified mail to the owner and applicant who requested the PUD and shall schedule a public hearing to take any of the following actions:

A. Recommend extending, removing, or modifying the schedule for development;
B. Recommend amendments to the Final Development Plan and Regulating Pattern Book;
C. Recommend revocation of the Final Development Plan and Regulating Pattern Book; and/or
D. Recommend rezoning of the property to its former zoning classification.

After receiving the Planning Commission's recommendation(s), and providing any notice required by statute and City regulations, the City Council shall hold a public hearing and render a decision.

## CHAPTER 9: OTHER ISSUES

### 12.901: REAPPLICATION IF DENIED:

If an application for a PUD has been denied by the City Council, no application for substantially the same PUD may be filed for a period of one (1) year from that date of denial. Whether the application is for "substantially the same PUD" shall be within the discretion of the Planning Commission.

### 12.902: ADDITIONAL INFORMATION MAY BE REQUIRED:

By their very nature, each PUD is unique. As such, there may arise circumstances in which information may be needed that is not envisioned by these regulations. At any stage of the PUD review and approval process, the planning staff, Planning Commission, or City Council may require additional information to be submitted which may be necessary to make a determination regarding the PUD application.

### 12.903: NOTICE AND OTHER PROCEDURAL REQUIREMENTS:

Standards for public notice and advertisement contained in State law and City Regulations shall be met for all applications. Any additional notice requirements provided by this Article are in addition to any required by the City and by State law.

# APPENDIX A:

# City of Portland Planned Unit Development Application Checklist

Please mark Yes (Y), No (N) or Not Applicable (N/A) for each item in the right hand column.

| | | |
|---|---|---|
| **Project Name:** | | |
| **Project Address & Map and Parcel ID:** | | |
| **Baseline Information** | | |
| 1 | Completed PUD Application and any required fees | |
| 2 | Cover letter summarizing project and addressing how application conforms to Purpose and Objectives for Planned Unit Developments (Article 12, Chapter 1) | |
| 3 | Traffic Impact Study (If required by City staff) | |
| 4 | Utility Availability Letters for Public Water, Sewer, Natural Gas | |
| 5 | Current Deed | |
| 6 | Completed Letter of Agency | |
| 7 | Summary of required neighborhood meeting | |
| 8 | Draft set of Covenants, Conditions and Restrictions for development | |
| 9 | Population Information, to include projected adult and school aged population at build out. | |
| 10 | Preliminary/Final Development Plan, with all required information below | |
| 11 | Regulating Pattern Book, with all required information below | |
| **Preliminary/Final Development Plan: Submit in 24X36 Black and White Format** | | |
| 1 | Sheet 1, Title Sheet, containing: | |
| a | Name of Development | |
| b | Name and Address of Current Property Owner | |
| c | Name and Address of Developer (if different) | |
| d | Name, address, email and phone number of professionals who prepared plan | |
| e | Identifying information for property (Map and Parcel ID, Record Book & Page, Address) | |
| f | Current Zoning | |
| g | Proposed Zoning | |
| 2 | Sheet 2: Plot plan for overall property, depicting existing conditions | |
| 3 | Sheet 3: Overall layout sheet, with: | |

| | | |
|---|---|---|
| a | Proposed street network | |
| b | All proposed lots with conceptual building and driveway footprints clearly indicated in relation to proposed setbacks | |
| c | All proposed open space and areas proposed for public use (fire station, park etc) | |
| 4 | Sheet 4: Preliminary/Final Utilities plan sheet, showing how water, sewer and gas utilities will be run through the site and how they will be connected to existing utilities in the area. | |
| 5 | Sheet 5: Preliminary/Final Landscape plan sheet depicting all open space areas, including buffers | |
| 6 | Sheet 6: Preliminary/Final Roadway improvements Plan Sheet if improvements within existing public right of way are to be required. | |
| 7 | Sheet 7: Preliminary/Final Grading and Drainage Plan indicating how surface drainage will be controlled and managed. | |
| 8 | Sheet 8: Preliminary/Final Amenities Plan Sheet, incorporating the following information at minimum: | |
| a | A description and location of all proposed amenities. | |
| b | A table indicating overall useable and passive open space proposed | |
| c | A specific phasing plan for all amenities and open space improvements. | |
| **Preliminary/Final Regulating Pattern Book: Submit in Color 11X17 Format** | | |
| 1 | Title sheet | |
| 2 | Name and Address of Developer | |
| 3 | Name, address, contact information of applicant and professional architect, planner, or engineer responsible for preparing the Regulating Pattern Book. | |
| 4 | Table of Contents | |
| 5 | Narrative describing the subject property's context, history and existing conditions | |
| 6 | Table of Exceptions from City Zoning and Subdivision Regulations being sought | |
| 7 | Listing of permitted uses within the development | |
| 8 | Proposed density/intensity of project | |
| 9 | A tabulation of the number of lots which would be allowed under the existing zoning. | |
| 10 | Typical lot layout(s) and proposed setbacks | |
| 11 | Colorized graphic rendering showing all natural features such as topography, soils, woodlands, wetlands, floodplain, and existing drainage patterns which affect the property | |
| 12 | Architectural Renderings/Floorplans/Photographs of proposed structures with sufficient clarity to convey the appearance of proposed structures | |
| 13 | Written description of materials to be used | |
| 14 | Amenities renderings, photographs and depictions | |
| 15 | Signage Plan Sheet containing the following: | |
| a | For Residential Developments, Horizontal depiction of entryway monumentation and associated landscaping | |
| b | For Nonresidential Developments, Horizontal depiction of proposed signage, as well as formal PUD sign policy regarding size, illumination, and materials. | |

| | | |
|---|---|---|
| 16 | Overall Phasing Schedule for the development | |
| **Other Information** | | |
| 17 | All sheets must be stamped and sealed by design professionals licensed to do such design work in the State of Tennessee. | |

I do hereby submit the attached application for review and recommendation by the Portland Municipal Planning Commission. The appropriate copies of the plan have been provided. I have reviewed the above checklist and do believe that all the information required has been presented.

Date

Signature of Individual Submitting Plan

*Any items checked Not Applicable by the submitter that are deemed applicable by the City staff will result in the entire submittal being rejected as incomplete. If in doubt about the applicability of a particular item, contact the City Planning Office.

**Please note: No plan will be reviewed until all information required is presented in a full and complete manner.**

# APPENDIX B:

## PUD REVIEW/APPROVAL PROCESS SUMMARY

**Step 1: Preliminary Concept Meeting:** First step of process. May occur any time.

**Step 2: Pre-application Conference:** Must be held within 90 days of Step 1

**Step 3: Neighborhood Meeting:** Must be held within 30 days of Step 2, but before submittal of Preliminary Development Plan.

**Step 4: Optional Conceptual Review by Planning Commission:** Must be conducted after Step 3, but before submittal of Preliminary Development Plan (Step 5).

**Step 5: Preliminary Development Plan and Regulating Pattern Book Application:** Must be submitted within 90 days of Step 2 (pre-application conference).

**Step 6: Planning Commission Review and Recommendation of Preliminary Development Plan and Regulating Pattern Book Application:** Planning Commission recommendation due within 60 days of initial consideration of the application. Applicant may waive this requirement.

**Step 7: City Council Review of Preliminary Development Plan and Regulating Pattern Book Application:** No time limits. Council may make reasonable deferrals to obtain needed information.

**Step 8: Planning Commission Review of Final Development Plan and Regulating Pattern Book Application:** Applicant must obtain Final Development Plan approval within 3 years of Council approval of Preliminary Development Plan.

**Step 9: Site Plan and Subdivision Plat Submittal:** Site Plan and/or Preliminary Plat may be submitted any time following Final Development Plan approval, provided that not more than 5 years has lapsed since the time of Council's approval of the Preliminary Development Plan.

Project Name: Munday College Street RM1 PUD

IDT: 1066863

Current Zoning: R7.5

Total Units: 50

Applicant: Greenlid

Type: Multi Family- Townhomes

Location: College Street

| SITE DATA TABLE | |
|---|---|
| OWNER / DEVELOPER | C & C BUILDING GROUP, INC.<br>915A DOBBINS PIKE<br>GALLATIN, TN 37066 |
| SITE LOCATION | 403 COLLEGE STREET |
| TAX MAP | 033A, GROUP A |
| PARCEL | PARCEL 005.01<br>RB. 2762, PG. 22 |
| ACREAGE | ± 9.08 ACRES |
| CURRENT ZONE | R-7.5 |
| REQUESTED ZONE | R-7.5 PUD |
| EXISTING USE | VACANT |
| PROPOSED USE | DWELLING, TOWNHOME |

| PARKING REQUIREMENTS | | |
|---|---|---|
| TYPE | REQUIRED SPACES | PROPOSED SPACES |
| RESIDENTIAL - SINGLE-FAMILY | (2 SPCS / UNIT) x 50 UNITS = 100 | 119 |
| | OVERFLOW SPACES = 19 | TOTAL SPACES |
| | | 119 |

| 20' WIDE UNIT BUILDING DIMENSIONS | | | |
|---|---|---|---|
| BUILDING TYPE | LENGTH | WIDTH | HEIGHT |
| 5-UNIT BUILDING | 38' | 100' | 25' |
| IND. UNIT | 38' | 20' | 25' |

N

GRAPHIC SCALE
0 50 100 150
1 inch = 50 ft

LEGEND

- CONCRETE MONUMENT (OLD)
- CONCRETE MONUMENT (NEW)
- IRON ROD (OLD)
- IRON ROD (NEW)
- BENCHMARK
- BOUNDARY LINE
- BUFFER
- SETBACK / YARD
- PUDE
- EXTRUDED CURB
- SS — SANITARY SEWER LINE
- W — WATER LINE
- STORM SEWER
- G — GAS LINE
- OHE — OVERHEAD UTILITY LINE
- UGT — UNDERGROUND UTILITY LINE
- FENCE
- TREE LINE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- GUY ANCHOR
- TELEPHONE MANHOLE
- ELECTRIC JUNCTION BOX
- CABLE PEDESTAL
- SANITARY SEWER MANHOLE
- WATER METER
- WATER VALVE
- BLOW OFF VALVE
- AIR RELEASE ASSEMBLY
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- A/C PAD

NOTES:

- DESIGN SPEED = 20 MPH

IF YOU DIG IN TENNESSEE
CALL 811 FIRST!
or (800) 351-1111 or (615) 366-1987
TENNESSEE ONE CALL IT'S THE LAW


GreenLID Design
114 B West Main Street
Gallatin, TN 37066
615-230-7269
andy.leath@greenliddesign.com


JOHN ANTHONY LEATH
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
0011189
STATE OF TENNESSEE
12-11-23

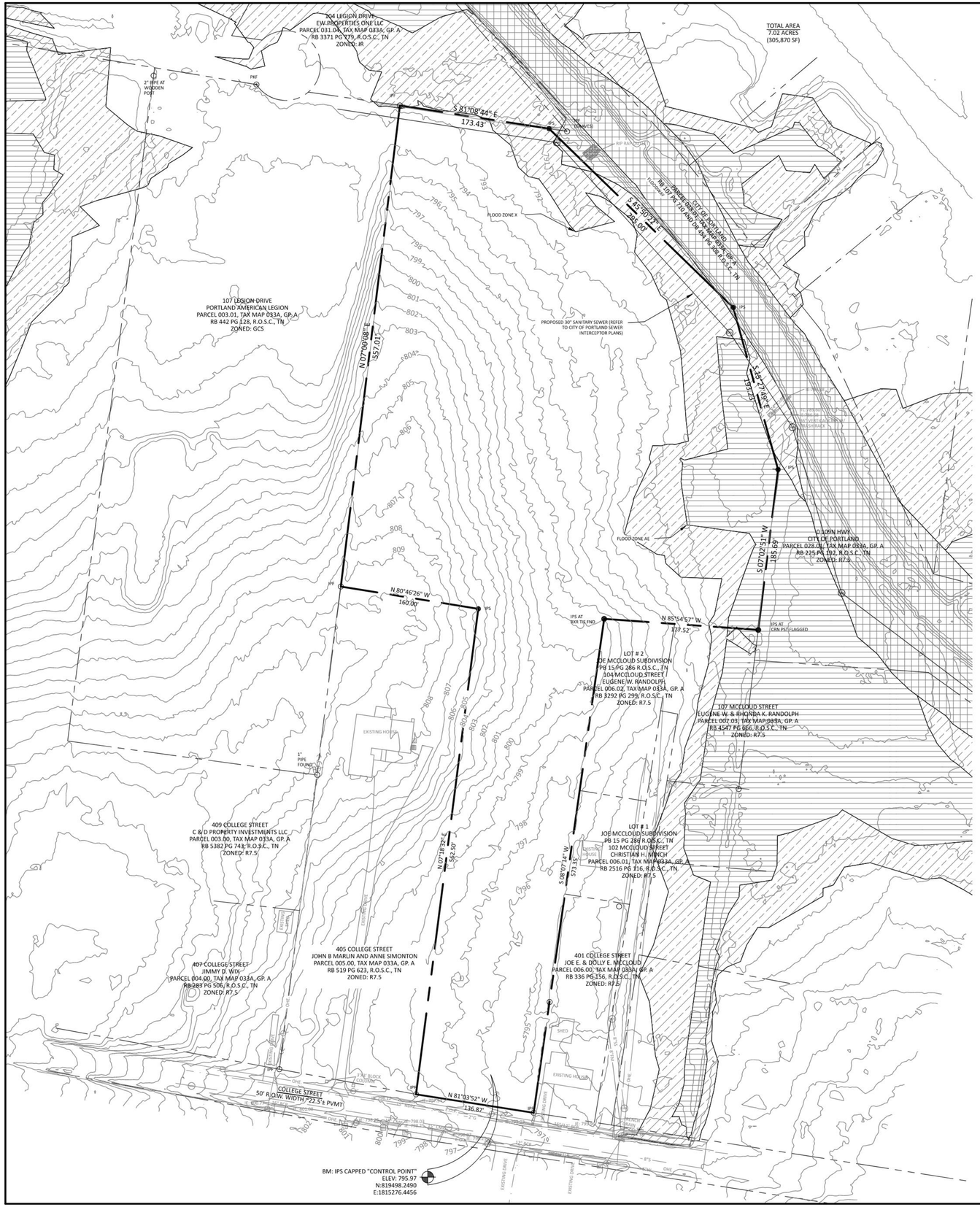
# MUNDAY - COLLEGE STREET
PLANNED UNIT DEVELOPMENT
403 COLLEGE STREET
CITY OF PORTLAND
SUMNER COUNTY, TENNESSEE

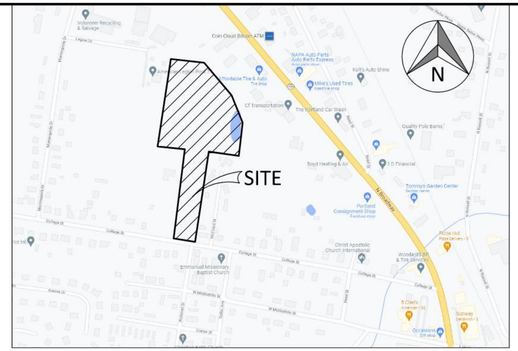
SITE LAYOUT

| NO. | DATE | REVISION |
|---|---|---|
| 1 | 07/17/23 | PER CITY COMMENTS |
| 2 | 08/31/23 | PER CITY COMMENTS |
| 3 | 10/05/23 | PER CITY COMMENTS |
| 4 | 11/01/23 | PER CITY COMMENTS/PLANNING COMMISION |
| 5 | 12/11/23 | PER CITY COMMENTS |

SHEET NO.
C 2.0
SHEET 3 OF 6

PROJ #21.122G 01 APRIL 2022



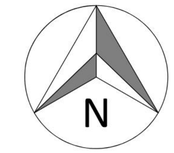




LOCATION MAP
NOT TO SCALE

DEED REFERENCE
BEING PART OF THE SAME PROPERTY CONVEYED TO ANNE C. MARLIN BY DEED OF RECORD IN RECORD BOOK 2762, PAGE 22, REGISTERS OFFICE OF SUMNER COUNTY, TN.

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAT IS TO SHOW THE EXISTING CONDITIONS OF THE PROPERTY REFERENCED
2. SUBJECT PROPERTY SHOWN IDENTIFIED AS PARCEL 005.01 ON TAX MAP 033A GROUP A OF THE SUMNER COUNTY TAX ASSESSORS OFFICE.
3. SUBJECT PROPERTY IS ZONED R-7.5 AS OF THE DATE OF THIS SURVEY. SETBACKS ARE NOT SHOWN ON THIS PLAT.
4. SUBJECT SURVEY WAS PERFORMED 11-05-2021 UTILIZING RTK GPS TECHINQUES AND FIELD RUN MEASUREMENTS UTILIZING ROBOTIC TOTAL STATION.
5. BEARINGS SHOWN ARE REFERENCED TO TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD83 EPOCH 2010.00). THE TDOT GNSS REFERENCE NETWORK WAS USED TO ESTABLISH THESE COORDINATES UTILIZING NETWORK RTK TECHNIQUES.
   TYPE OF GPS EQUIPMENT USED: CARLSON BRX7 BASE AND ROVER
   TYPE OF TRANSIT USED: LEICA GEOSYSTEMS TS16 3" R500 TOTAL STATION
   RELATIVE POSITIONAL ACCURACY OF CONTROL POINTS SET IS LESS THAN:
   HRMS AVG: 0.03
   VRMS AVG: 0.05
   COMBINED GRID FACTOR: 1.00
6. VERTICAL CONTROL BASED ON NAVD1988 (GEOID 2018)
7. THIS SURVEYOR HAS NOT BEEN FURNISHED WITH A TITLE REPORT, THEREFORE SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH. ONLY DOCUMENTS NOTED HEREON WERE SUPPLIED TO THIS SURVEYOR. THERE MAY EXIST OTHER DOCUMENTS THAT WOULD AFFECT THE SUBJECT PROPERTY. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH.
8. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED ALL UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN HEREON WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HERON 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 AS INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES 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. ALWAYS CALL TN811 BEFORE YOU DIG.
9. ALL BUILDINGS, SURFACE IMPROVEMENTS, AND SUBSURFACE IMPROVEMENTS ON AND ADJACENT TO SITE ARE NOT NECESSARILY SHOWN HEREON.
10. SUBSURFACE AND/OR ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY.
11. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, A REVIEW OF FEMA FLOOD INSURANCE RATE MAPS, COMMUNITY PANEL NO. 47165C0134G, EFFECTIVE DATE APRIL 17, 2012, SHOWS A PORTION OF THIS PROPERTY TO BE WITHIN THE SPECIAL FLOOD HAZARD AREA.
    ONLY AN ELEVATION CERTIFICATE CAN DETERMINE THE EXACT DESIGNATION. BASED ON THE INFORMATION ABOVE, THIS PROPERTY IS IN A SPECIAL FLOOD HAZARD AREA.
12. CONTOURS SHOWN WERE GENERATED WITH FIELD RUN MEASUREMENTS IN COMBINATION WITH UTILIZATION OF LIDAR DATA PROVIDED BY THE TENNESSEE BASE MAPPING PROGRAM.




LEGEND

| | |
|---|---|
| CMF | CONCRETE MONUMENT (FOUND) |
| CMS | CONCRETE MONUMENT (SET) |
| IPF | 1/2"IRON REBAR (FOUND) |
| IPS | 1/2" IRON REBAR WITH RED CAP "2776 WILKINSON" (SET) |
| PKF | PK NAIL (FOUND) |
| PKS | PK NAIL (SET) |
| | BENCHMARK |
| | BOUNDARY LINE |
| | BUFFER |
| | SETBACK / YARD |
| | P.U.D.E. |
| SS | SANITARY SEWER LINE |
| W | WATER LINE |
| | STORM SEWER |
| G | GAS LINE |
| OHE | OVERHEAD UTILITY LINE |
| UGT | UNDERGROUND UTILITY LINE |
| | FENCE |
| | TREE LINE |
| | UTILITY POLE |
| | UTILITY POLE W/ LIGHT |
| | GUY ANCHOR |
| | LIGHT POLE |
| ET | ELECTRICAL TRANSFORMER |
| EV | ELECTRICAL VAULT |
| CV | COMMUNICATIONS VAULT |
| | COMMUNICATIONS PEDESTAL |
| | SANITARY SEWER MANHOLE |
| | WATER METER |
| | WATER VALVE |
| | BLOW OFF VALVE |
| FH | FIRE HYDRANT |
| | GAS METER |
| | GAS VALVE |

SURVEYORS CERTIFICATE

I HEREBY CERTIFY THAT THIS IS A CATEGORY I SURVEY AND THE SURVEY WAS PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS OF PRACTICE FOR SURVEYORS IN THE STATE OF TENNESSEE AND THE UNADJUSTED ERROR OF CLOSURE EXCEEDS 1:10,000.

JOHN ZACHARY WILKINSON — REGISTERED LAND SURVEYOR — XII — AGRICULTURE — COMMERCE — TENNESSEE — NO. 2776

TN RLS #2776

DATE : 2-15-2022

GRAPHIC SCALE
0 60' 120' 180'
1 inch = 60 ft

IF YOU DIG IN TENNESSEE
CALL 811 FIRST!
or (800) 351-1111 or (615) 366-1987
TENNESSEE ONE CALL IT'S THE LAW

GreenLID Design
114 B West Main Street
Gallatin, TN 37066
615-230-7269
andy.leath@greenliddesign.com

C&C MUNDAY
BOUNDARY AND TOPOGRAPHICAL SURVEY
407 COLLEGE STREET
PORTLAND
SUMNER COUNTY, TENNESSEE

EXISTING CONDITIONS

| NO. | DATE | REVISION |
|---|---|---|
| | | |

SHEET NO.
1
SHEET 1 OF 1

PROJECT #: 21.122G DATE: 12-2-2021

| LAND USE AREA TABLE | |
|---|---|
| USE | AREA |
| ROW | 1.263 ACRES |
| FLOOD PLAIN | 1.178 ACRES |
| USABLE OPEN SPACE | 4.460 ACRES |
| LOTS | 2.181 ACRES |

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JOHN ANTHONY LEATH
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
12-11-23

# MUNDAY - COLLEGE STREET
PLANNED UNIT DEVELOPMENT
403 COLLEGE STREET
CITY OF PORTLAND
SUMNER COUNTY, TENNESSEE

GRADING PLAN

| NO. | DATE | REVISION |
|---|---|---|
| 1 | 07/17/23 | PER CITY COMMENTS |
| 2 | 08/31/23 | PER CITY COMMENTS |
| 3 | 10/05/23 | PER CITY COMMENTS |
| 4 | 11/01/23 | PER CITY COMMENTS/PLANNING COMMISSION |
| 5 | 12/11/23 | PER CITY COMMENTS |

SHEET NO.
C 3.0
SHEET 4 OF 6

PROJ #21.122G 01 APRIL 2022

## FRONT ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 1213 SQFT .....73%
TRANSPARENCY - 445 SQFT .....27%
TOTAL - 1658 SQFT .....100%

## REAR ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 1005 SQFT .....72%
TRANSPARENCY - 400 SQFT .....28%
TOTAL - 1405 SQFT .....100%

2' 4' 8' 16'
Graphic Scale

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL, STRUCTURAL, ELECTRICAL AND SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME

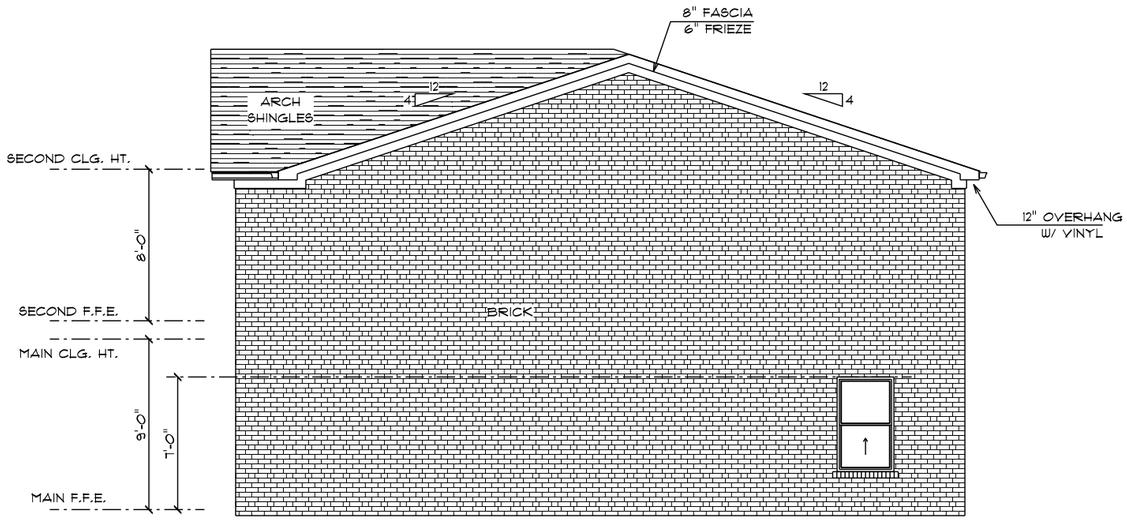
PREMIER
HOME DESIGNS
@ GMAIL.COM
615.720.7598

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

Front and Rear Elevation
Scale 1/4" = 1' ON 24"X36" PAPER
Scale 1/8" = 1' ON 11"X17" PAPER

Date: 6-24-22

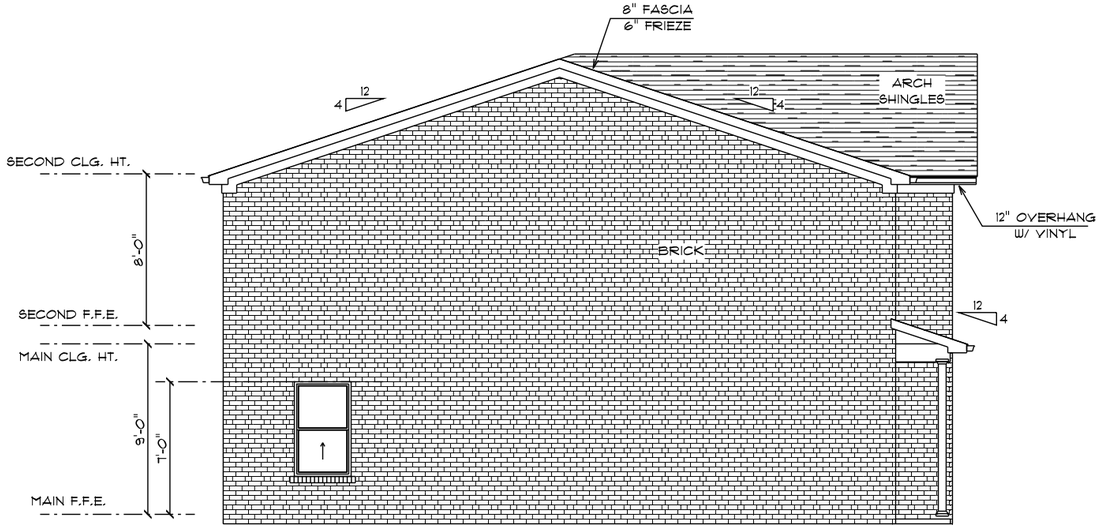
A-4




RIGHT ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 798 SQFT .....98%
TRANSPARENCY - 15 SQFT .....2%
TOTAL - 813 SQFT .....100%




LEFT ELEVATION

MATERIAL AND TRANSPARENCY TABULATION:

BRICK FACADE - 798 SQFT .....98%
TRANSPARENCY - 15 SQFT .....2%
TOTAL - 813 SQFT .....100%

2' 4' 8' 16'
Graphic Scale

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615.730.7598

C & C BUILDING GROUP
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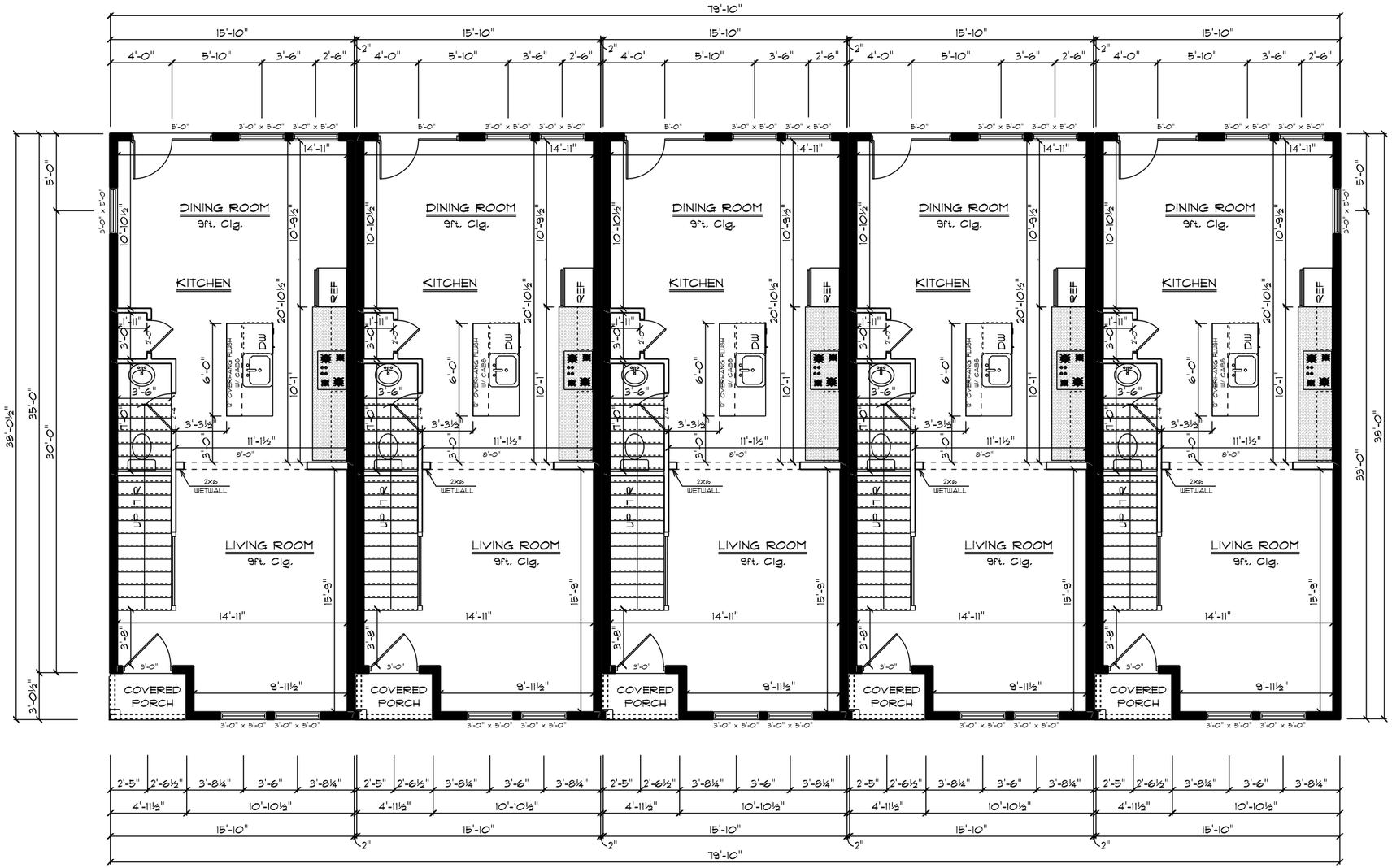
Portland, Tn 37148

Right and Left Elevation
Scale 1/4" = 1' ON 24"x36" PAPER
Scale 1/8" = 1' ON 11"x17" PAPER

Date: 6-24-22

A-5




## MAIN FLOOR PLAN

Graphic Scale 2' 4' 8' 16'

## GENERAL NOTES

1. ALL WORK SHALL BE PREFORMED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES, REGULATIONS AND FHA/VA MPS.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT SITE BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGNER FOR JUSTIFICATION AND/OR CORRECTION BEFORE PROCEEDING WITH WORK. CONTRACTORS SHALL ASSUME ALL RESPONSIBILITY FOR ANY DISCREPANCIES THAT ARE NOT REPORTED.
3. ALL DIMENSIONS SHALL BE READ OR CALCULATED, NEVER SCALED.
4. ALL FOOTINGS TO BE BELOW FROST LINE (SEE LOCAL CODE), AND MUST REST ON UNDISTURBED SOIL CAPABLE OF HANDELING THE BUILDING. CONSULT WITH LOCAL ENGINEER FOR PROPER FOOTING AND REINFORCEMENT SIZES.
5. CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.
6. IF BACKFILL EXCEEDS 4' AGAINST ANY FOUNDATION WALL, REINFORCE AS PER CODE.
7. ALL FOUNDATION AND STRUCTURAL MEMBERS SHOULD BE VERIFIED AND AN ENGINEER IN THE STATE WHERE THE CONSTRUCTION IS OCCURING.
8. ALL WOOD, CONCRETE, AND STEEL STRUCTURAL MEMBERS SHALL BE OF A GOOD GRADE AND QUALITY AND MEET ALL NATIONAL, STATE, AND LOCAL BUILDING CODES WHERE APPLICABLE.
9. ALL COLUMNS OR SOLID FRAMING SHOULD BE DESIGNED TO CARRY LOADS AND SHOULD EXTEND DOWN THROUGH THE LEVELS BELOW AND TERMINATE AT THE BASEMENT FLOOR OR AT OTHER BEARING POINTS DESIGNED TO CARRY THE LOAD.
10. ALL WINDOW HEADERS FIRST FLOOR ARE TO BE AT 7'-0" UNLESS OTHERWISE NOTED.

## OPENING SCHEDULE

| TYPE | SIZE | HINGE | COUNT | R.O. HEIGHT | COMMENT |
|---|---|---|---|---|---|
| DOOR | 3'-0" | L | 5 | 6'-9½" | |
| DOOR | 5'-0" | NR | 5 | 6'-9½" | |
| DOOR | 2'-4" | L | 5 | 6'-9" | |
| DOOR | 2'-0" | R | 5 | 6'-9" | |
| WINDOW | 3'-0" x 5'-0" | U | 10 | 5'-0" | |
| WINDOW | 3'-0" x 5'-0" | U | 12 | 5'-0" | |

AREA PER UNIT:

Ext. Footage Per Unit
Main.....590 SF
Second.....590 SF
Total..... 1180 SF
Front Porch.....35 SF

FRAMING NOTE:
1. ALL DIMENSIONS TO FACE OF FRAMING.
2. EXTERIOR WALLS DIMENSIONED @ 5 1/2".
3. INTERIOR WALLS DIMENSIONED @ 3 1/2".

PLAN NOTES:
IT IS THE RESPONSIBILITY OF THE BUILDER TO VERIFY THE CONSTRUCTION OF THE HOME MEETS ALL LOCAL CODES AND ENERGY TYPES PRIOR TO CONSTRUCTION. BUILDER SHOULD VERIFY SITE CONDITIONS AND ALL DIMENSIONS PRIOR TO CONSTRUCTION.

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL, STRUCTURAL, ELECTRICAL, AND SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME

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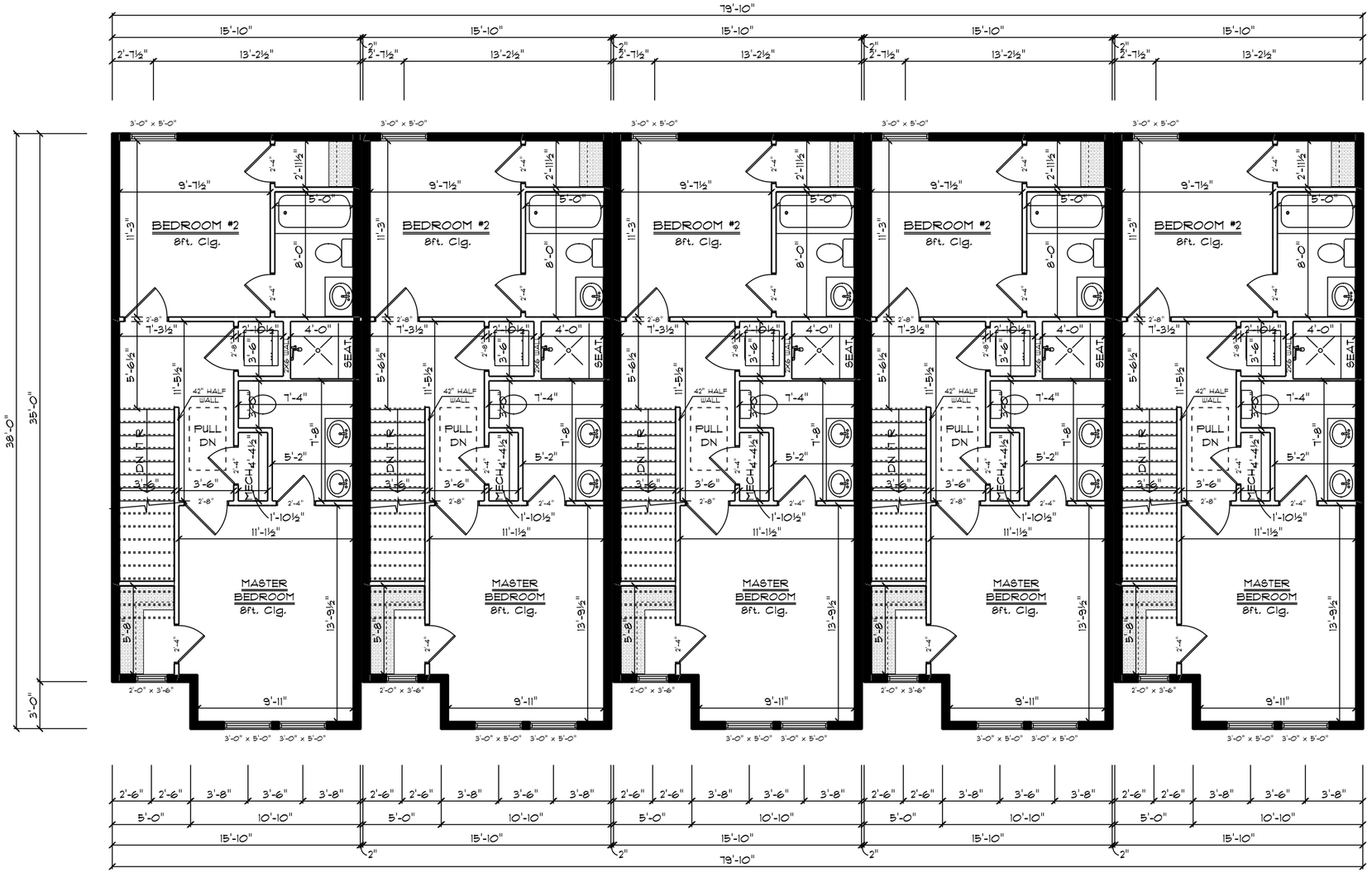
HOME DESIGNS
@GMAIL.COM
615.730.7598

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

Main Floor Plan
Scale 1/4" = 1' ON 24"x36" PAPER
Scale 1/8" = 1' ON 11"x17" PAPER

Date: 6-24-22

A-1




## SECOND FLOOR PLAN

Graphic Scale 2' 4' 8' 16'

## GENERAL NOTES

1. ALL WORK SHALL BE PREFORMED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES, REGULATIONS AND FHA/VA MPS.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT SITE BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGNER FOR JUSTIFICATION AND/OR CORRECTION BEFORE PROCEEDING WITH WORK. CONTRACTORS SHALL ASSUME ALL RESPONSIBILITY FOR ANY DISCREPANCIES THAT ARE NOT REPORTED.
3. ALL DIMENSIONS SHALL BE READ OR CALCULATED, NEVER SCALED.
4. ALL FOOTINGS TO BE BELOW FROST LINE (SEE LOCAL CODE), AND MUST REST ON UNDISTURBED SOIL CAPABLE OF HANDELING THE BUILDING. CONSULT WITH LOCAL ENGINEER FOR PROPER FOOTING AND REINFORCEMENT SIZES.
5. CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.
6. IF BACKFILL EXCEEDS 4' AGAINST ANY FOUNDATION WALL, REINFORCE AS PER CODE.
7. ALL FOUNDATION AND STRUCTURAL MEMBERS SHOULD BE VERIFIED AND AN ENGINEER IN THE STATE WHERE THE CONSTRUCTION IS OCCURING.
8. ALL WOOD, CONCRETE, AND STEEL STRUCTURAL MEMBERS SHALL BE OF A GOOD GRADE AND QUALITY AND MEET ALL NATIONAL, STATE, AND LOCAL BUILDING CODES WHERE APPLICABLE.
9. ALL COLUMNS OR SOLID FRAMING SHOULD BE DESIGNED TO CARRY LOADS AND SHOULD EXTEND DOWN THROUGH THE LEVELS BELOW AND TERMINATE AT THE BASEMENT FLOOR OR AT OTHER BEARING POINTS DESIGNED TO CARRY THE LOAD.
10. ALL WINDOW HEADERS FIRST FLOOR ARE TO BE AT 7'-0" UNLESS OTHERWISE NOTED.

## OPENING SCHEDULE

| TYPE | SIZE | HINGE | COUNT | R.O. HEIGHT | COMMENT |
|---|---|---|---|---|---|
| DOOR | 2'-4" | L | 15 | 6'-9" | |
| DOOR | 2'-4" | R | 10 | 6'-9" | |
| DOOR | 2'-8" | L | 5 | 6'-9" | |
| DOOR | 2'-8" | R | 10 | 6'-9" | |
| WINDOW | 2'-0" x 3'-6" | N | 5 | 3'-6" | |
| WINDOW | 3'-0" x 5'-0" | N | 5 | 5'-0" | |
| WINDOW | 3'-0" x 5'-0" | N | 10 | 5'-0" | |

AREA PER UNIT:

Ext. Footage Per Unit
Main.....590 SF
Second.....590 SF
Total..... 1180 SF
Front Porch.....35 SF

FRAMING NOTE:
1. ALL DIMENSIONS TO FACE OF FRAMING.
2. EXTERIOR WALLS DIMENSIONED @ 5 1/2".
3. INTERIOR WALLS DIMENSIONED @ 3 1/2".

PLAN NOTES:
IT IS THE RESPONSIBILITY OF THE BUILDER TO VERIFY THE CONSTRUCTION OF THE HOME MEETS ALL LOCAL CODES AND ENERGY TYPES PRIOR TO CONSTRUCTION. BUILDER SHOULD VERIFY SITE CONDITIONS AND ALL DIMENSIONS PRIOR TO CONSTRUCTION.

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IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL, STRUCTURAL, ELECTRICAL, AND SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME

PREMIER HOME DESIGNS
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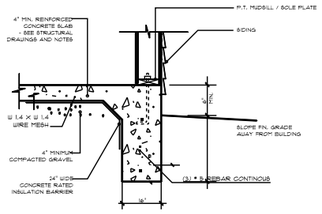
615.730.7598

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

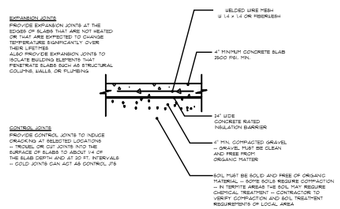
Second Floor Plan
Scale 1/4" = 1' ON 24"x36" PAPER
Scale 1/8" = 1' ON 11"x17" PAPER

Date: 6-24-22

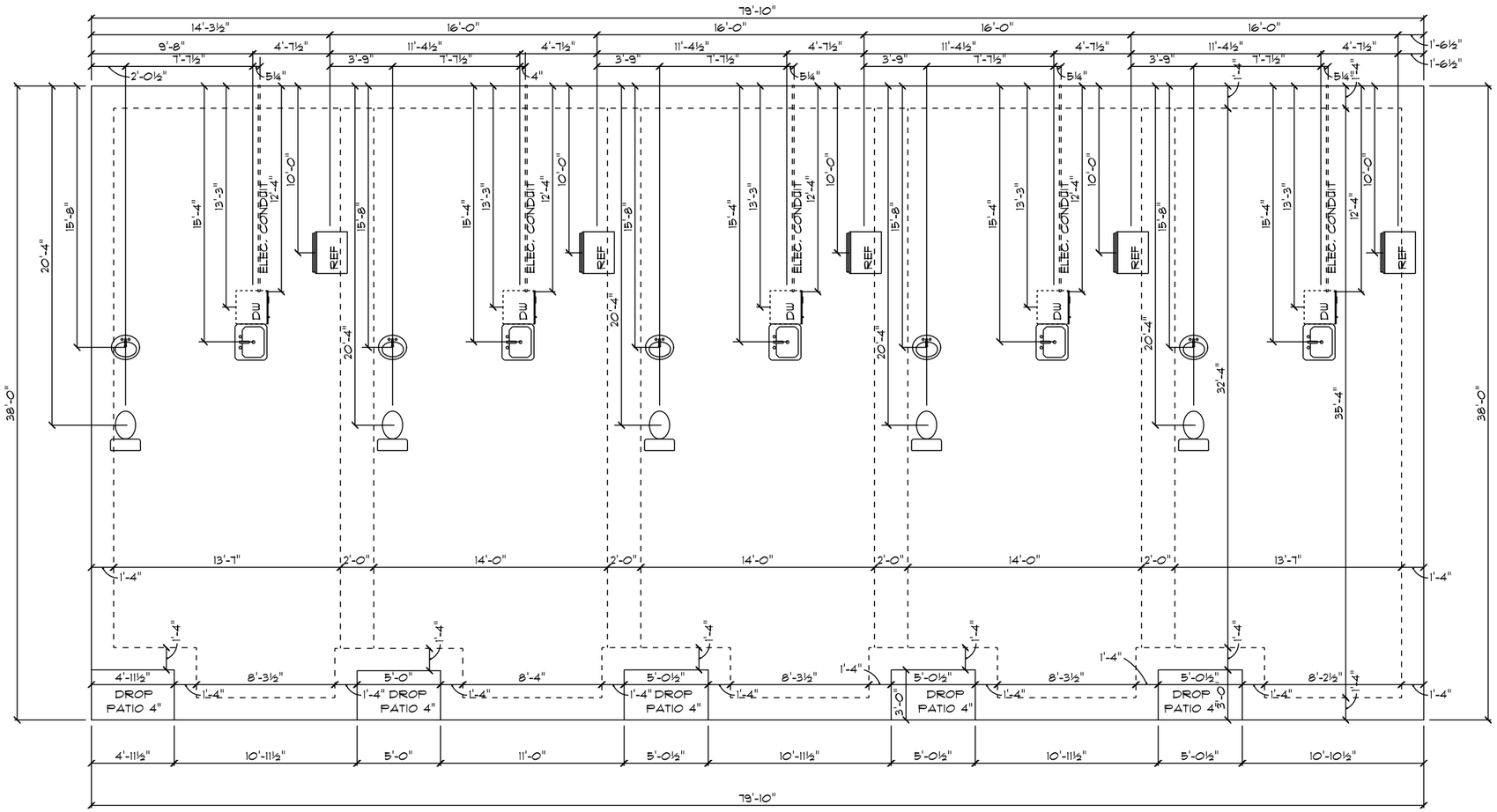
A-2




TURN-DOWN
FOOTING DETAIL




CONCRETE SLAB
DETAILS / NOTES




SLAB PLAN

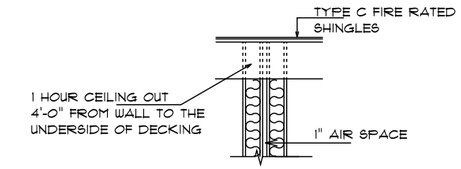
Graphic Scale 2' 4' 8' 16'

# * NOTE: *

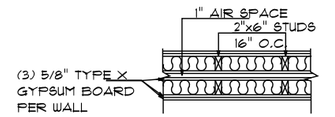
## Deisgn No. U342
## Bearing Wall Rating -- 2 Hr.

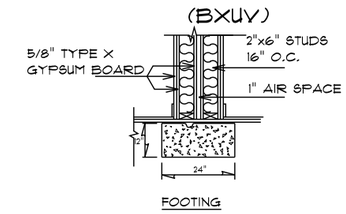
1. Wood Studs - Nom 2 by 4 in. Cross braced at mid-height and effectively firestopped at top and bottom of wall. Spaced max of 16 in. OC depending on tyle of wallboard. See Item 2 below.
2. Gypsum Board* - 5/8 in. thick, 4 ft wide. Applied either horizontally or vertically. Inners layers nailed to studs and bearing plates 6 in. O.C. with 6d cement coated nails, 1 - 7/8 in. long, 0.0915 in. shank diam and 1/4 in. dia. head. Outer layer of double layered side nailed to studs and bearing plates 8 in. O.C. with 8d cement coated nails, 2-3/8 in. long, 0.113 in. shank diam and 9/32 in. diam head. Vertical joints located over studs. As an alternate, No. 6 bugle-head drywall screws, 1-7/8 or 2-3/8 in. long for the inner and outer layers, respectively, may be substituted for the cement coated nails. All joints in outer layer of double layer sides staggered with joints in inner layer. When used in widths other than 48 in., gypsum board to be installed horizontally.
3. Joint and Nailheads - Wallboard joints of outer layer covered with taps and joint compound. Nail heads of outer layer covered with joint compound.
4. Batts and Blankets* - (Optional) - 3-1/2 in. max thickness glass or mineral fiber batt insulation.

## FIRE RESISTANCE RATING - ANSI/UL 263




## HORIZONTAL SECTION TOP VIEW




FOOTING

TYPICAL PARTY FIREWALL DETAIL


PREMIER HOME DESIGNS
@GMAIL.COM
615.720.7598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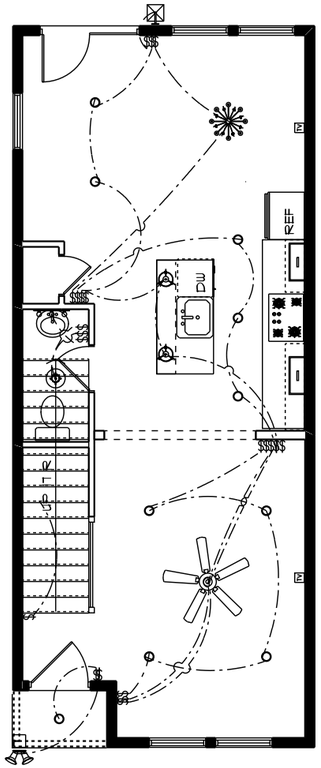
IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL, STRUCTURAL, ELECTRICAL, AND SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

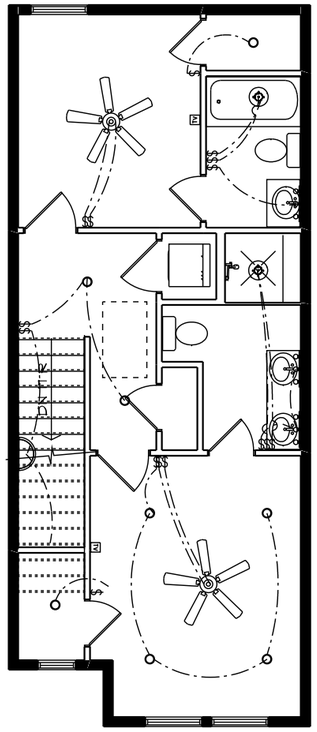
Slab Plan
Scale 1/4" = 1' ON 24"X36" PAPER
Scale 1/8" = 1' ON 11"X17" PAPER

Date: 6-24-22

A-3




MAIN FLOOR PLAN



SECOND FLOOR PLAN

| ELECTRICAL LEGEND PER UNIT | | |
|---|---|---|
| ELECTRICAL | COUNT | SYMBOL |
| ceiling fan | 3 | |
| can light | 18 | o |
| chandelier | 1 | |
| cabinet light | 2 | |
| pendant | 2 | |
| ceiling light / vent | 3 | |
| exterior light | 1 | |
| spotlight motion detector | 1 | |
| cable tv outlet | 4 | TV |
| switch | | $ |
| wall sconce | 1 | |
| vanity bar light | 4 | |

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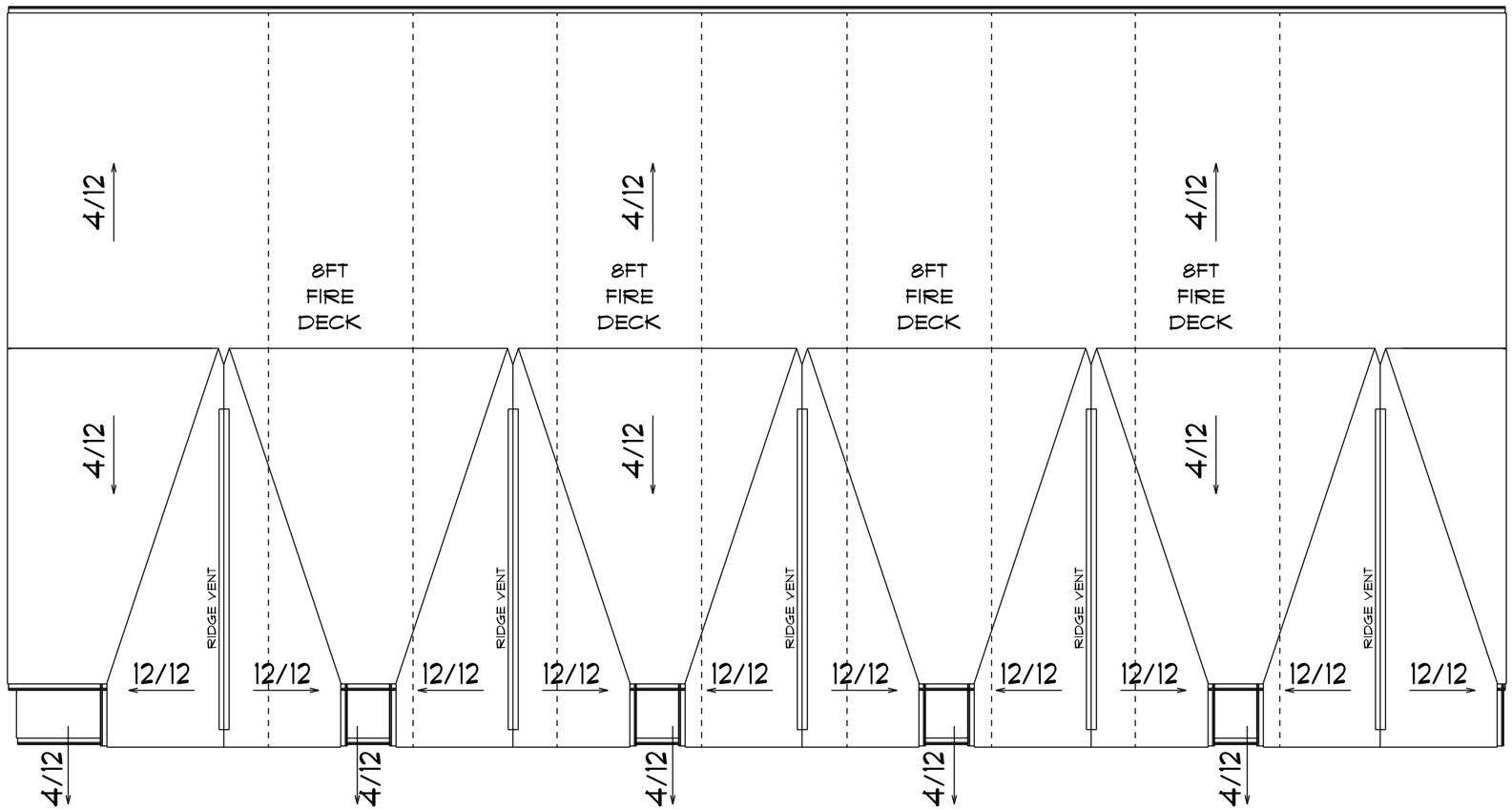
PREMIER HOME DESIGNS

C & C BUILDING GROUP
405 College St.
Portland, Tn 37148

Lighting Plan
Scale 1/4" = 1'
Scale 1/8" = 1'
ON 24"x36" PAPER
ON 11"x17" PAPER

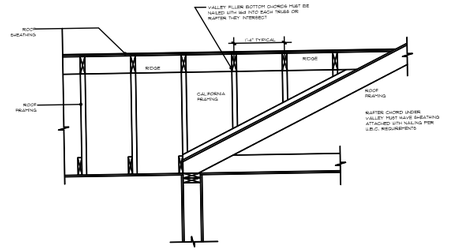
Date: 6-24-22

E-1

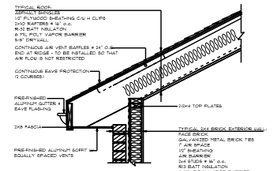



ROOF PLAN

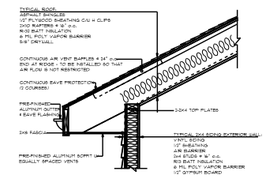
Graphic Scale 2' 4' 8' 16'



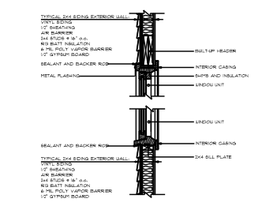

OVERFRAMING ROOF FRAMING



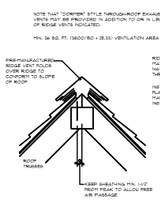

2x4/BRICK CATHEDRAL EAVE



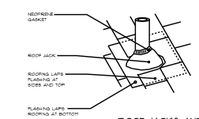

2x4/SIDING CATHEDRAL EAVE




2x4/SIDING HEADER & SILL




RIDGE VENT




ROOF JACKS AND VENTS

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PREMIER
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615.730.7598

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405 College St.
Portland, Tn 37148

Roof Plan
Scale 1/4" = 1' ON 24"X36" PAPER
Scale 1/8" = 1' ON 11"X17" PAPER

Date: 6-24-22

A-6

30 20 10 0 30

Scale: 1" = 30'-0"

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Date: 06-30-2023
Revisions:
10-13-2023

'D' CLASS BUFFERYARD
ALTERNATE 2 CANOPY
175 LF AT 25' WIDE
CANOPY 4 X 1.75 = 7
ACCENT 10 X 1.75 = 18
SHRUBS 17 X 1.75 = 30

8" W

25' REAR YARD

TREE PROTECTING FENCING

'B' CLASS BUFFERYARD
ALTERNATE 2 CANOPY
175 LF AT 15' WIDE
CANOPY 2 X 7.75 = 16
ACCENT 6 X 7.75 = 47
SHRUBS 9 X 7.75 = 70

107 LEGION DRIVE
PORTLAND AMERICAN LEGION
PARCEL 003.01, TAX MAP 033A, GP. A
RB 442 PG 128, R.O.S.C., TN
ZONED: GCS

TREES TO REMAIN

8" W

NO BUFFERYARD REQUIRED

428 NORTH BROADWAY
MALVERN RAHRER
PARCEL 027.00, TAX MAP 033A, GP. A
RB 4087 PG 565, R.O.S.C., TN
ZONED: GCS

CITY OF PORTLAND
PARCEL 028.01, TAX MAP 033A, GP. A
RB 107 PG 210 AND DB 454 PG 308 R.O.S.C. TN

426 NORTH BROADWAY
WAYNE BANDY
PARCEL 026.01, TAX MAP 033A, GP. A
RB 489 PG 220, R.O.S.C., TN
ZONED: GCS

8" W

UNIT "E"
UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"

10' SIDE YARD

8" W

DOG PARK

8" W

OPEN AIR PAVILION

MULTI-USE COURT

UNIT "E"
UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"

TREES TO REMAIN

UNIT "E"
UNIT "D"
UNIT "C"
UNIT "B"
UNIT "A"

MATCHLINE

PAF

NO BUFFERYARD REQUIRED

LOT # 2
JOE MCCLOUD SUBDIVISION
PB 15 PG 286 R.O.S.C., TN
104 MCCLOUD STREET
EUGENE W. RANDOLPH
PARCEL 006.02, TAX MAP 033A, GP. A
RB 3292 PG 299, R.O.S.C., TN
ZONED: R7.5

TREES TO REMAIN

TREE PROTECTING FENCING

0 109N HWY
CITY OF PORTLAND
PARCEL 028.01, TAX MAP 033A, GP. A
RB 225 PG 192, R.O.S.C., TN
ZONED: R7.5

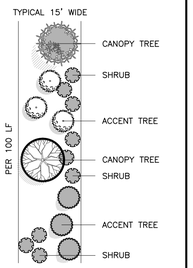
TREES TO REMAIN

NO BUFFERYARD REQUIRED

10' SIDE YARD

## TYPICAL BUFFER

EXISTING TREES AND SHRUBS SHALL SATISFY BUFFERS WHERE LIMITS OF GRADING & PRESERVED VEGETATION SATISFY REQUIREMENTS




CANOPY TREES MAY INCLUDE:
OAK, MAPLE, POPLAR, SWEETGUM, ASH, ETC.
MAGNOLIA, PINE, CYPRESS, FIR, ETC.

ACCENT TREES MAY INCLUDE:
REDBUD, SERVICEBERRY, CHERRY, ETC.
HOLLY, ARBORVITAE, JUNIPER, ETC.

SHRUBS MAY INCLUDE:
VIBURNUM, ELEAGNUS, YEW, ETC.

## REQUIREMENTS

USE: MULTI-FAMILY
ZONING: R7.5

PARKING LOT LANDSCAPING
90 UNITS X 2 STALLS = 180
180 / 15 = 12 TREES

INTERIOR PARKING REQUIREMENTS
50% OF BUILDING FACADE LANDSCAPED

FRONT YARD LANDSCAPING
PROVIDED AT COLLEGE STREET

BUFFERYARDS
15' B AT GCS ZONING
25' D AT IR ZONING
SPECIAL YARD BUFFERS

NOTE: WHERE A TREE SURVEY IS PROVIDED EXISTING CREDIT WILL BE SOUGHT

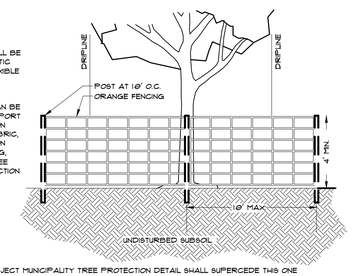
## KEY

CANOPY TREES (RED MAPLE)
ACCENT TREES (CRAPE MYRTLE)
STREET TREES (PRINCETON GINKGO)

NOTE:

FENCING SHALL BE 4' HIGH PLASTIC ORANGE FLEXIBLE BARRIER MATERIAL.

"T" POSTS CAN BE USED TO SUPPORT BOTH EROSION CONTROL FABRIC, CONSTRUCTION LIMITS FENCING, AND / OR TREE PROTECTION FENCING.




SUBJECT MUNICIPALITY TREE PROTECTION DETAIL SHALL SUPERCEDE THIS ONE

TREE PROTECTION FENCING DETAIL


www.landscapearchitect-tn.com 615-333-4636
CLD@landscapearchitect-tn.com 615-512-3018


2023 - Cumberland Landesign Inc. Nashville, TN


# Preliminary PUD Landscape Plan for Portland College Street Portland, Tennessee

CLD

ROBERT BRIAN LAY
REGISTERED
LANDSCAPE ARCHITECT

# 23122
Sheet:
L1.0
1 of 2

KEY

- CANOPY TREES (RED MAPLE)
- ACCENT TREES (CRAPE MYRTLE)
- STREET TREES (PRINCETON GINKGO)

NOTE:

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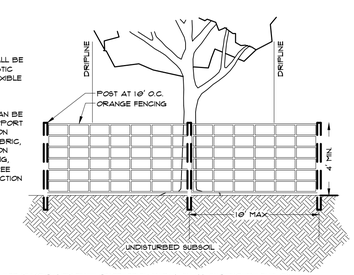
"T" POSTS CAN BE USED TO SUPPORT BOTH EROSION CONTROL FABRIC, CONSTRUCTION LIMITS FENCING, AND / OR TREE PROTECTION FENCING.




SUBJECT MUNICIPALITY TREE PROTECTION DETAIL SHALL SUPERCEDE THIS ONE

TREE PROTECTION FENCING DETAIL

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CLD@landscapearchitect-tn.com 615-512-3018
2023 - Cumberland Landesign Inc.
Nashville, TN

30 20 10 0 30
Scale: 1" = 30'-0"

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SOLAR POWERED PLANS

Date: 06-30-2023
Revisions:
10-13-2023

# Preliminary PUD Landscape Plan for Portland College Street Portland, Tennessee

CLD

RUSSELL BRYAN WILKS
REGISTERED LANDSCAPE ARCHITECT
TENNESSEE
LANDSCAPE ARCHITECTS

# 23122
Sheet:
L2.0
2 of 2

City of Portland
Rezoning
Planning Commission
This property is subject of an annexation request.
For more details call 615-325-6776

# TRAFFIC IMPACT STUDY

## COLLEGE STREET TOWNHOMES
## RESIDENTIAL DEVELOPMENT
## PORTLAND, TENNESSEE

**PREPARED ON BEHALF OF:**

GreenLID Design

**PREPARED BY:**

RG PHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

**AUGUST 2022**

# TRAFFIC IMPACT STUDY

## COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
## PORTLAND, TENNESSEE

**PREPARED BY:**

**RG Phillips Consulting, LLC**

**Richard G. Phillips, P.E.**

**106 Mission Court, Suite 301**

**Franklin, TN 37067**

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

**Traffic Impact Study**

**College Street Townhomes Residential Development**
**Portland, Tennessee**

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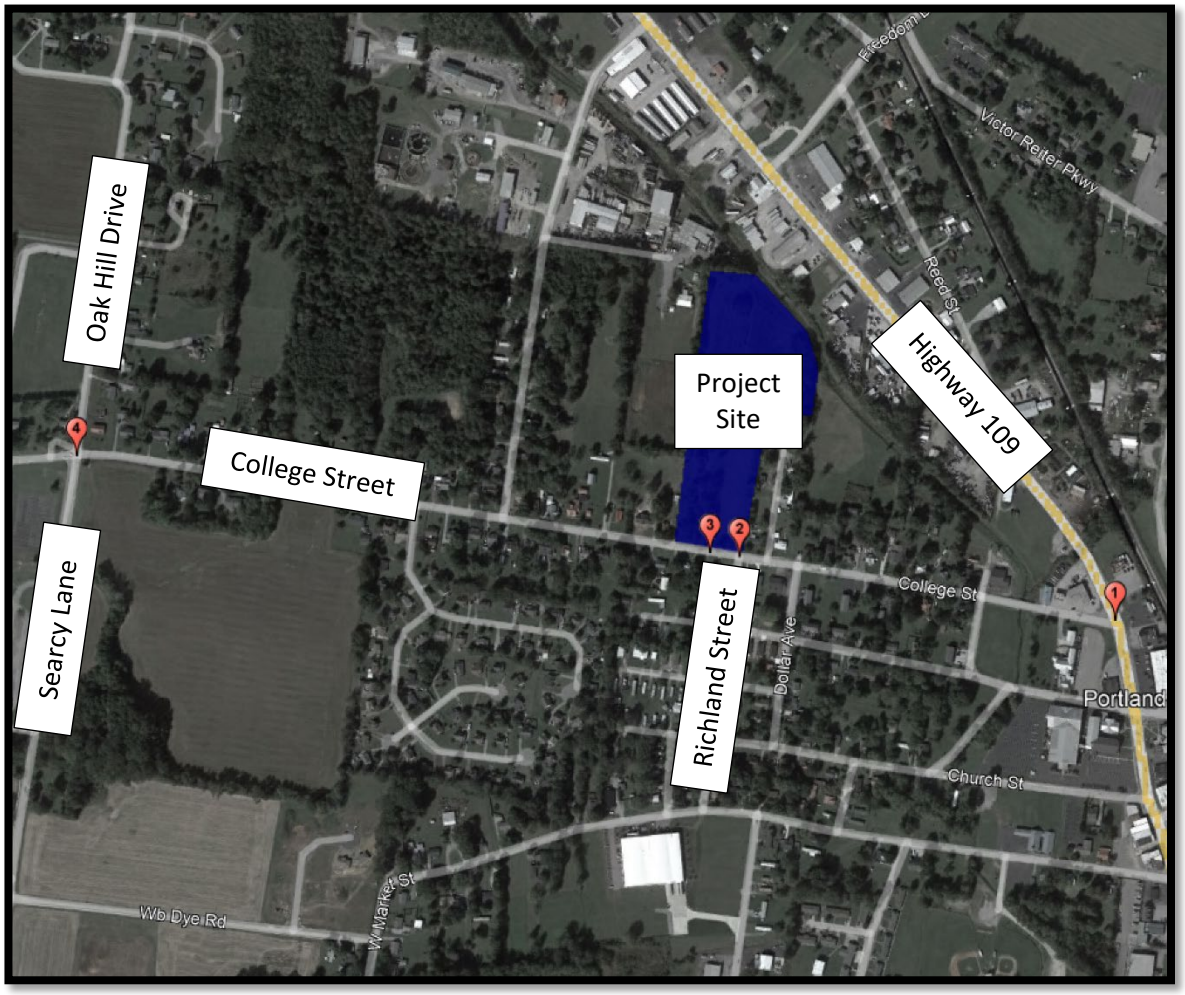
## *1. INTRODUCTION*

The purpose of this study is to evaluate the traffic impacts associated with the proposed College Street Townhomes residential development and to identify if any offsite access or traffic control improvements will be required to address those impacts.

The project site is located in Portland, Tennessee, west of Highway 109, along the north side of College Street. Figure 1 shows the proposed project site, along with the intersections that will be included as part of the study.



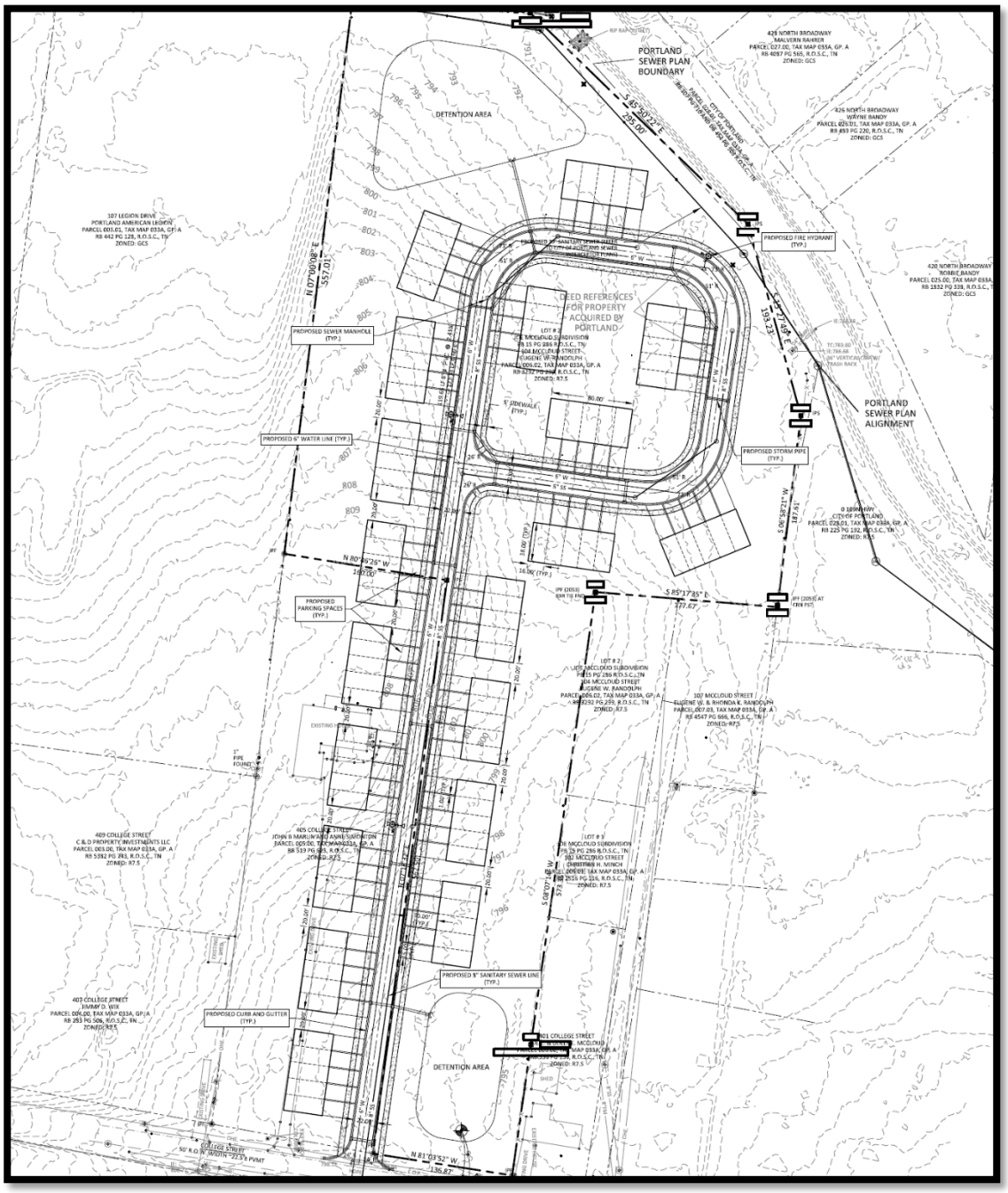

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

**Figure 1.**
**Project Location &**
**Study Intersections**

## ***2. PROJECT DESCRIPTION***

The current site development plan, provided by GreenLID Design, is illustrated in Figure 2. As detailed in Figure 2, the current plan proposes the development of 95 townhomes. The project site has a single proposed access drive on College Street.

For the purposes of this study, a three-year horizon was assumed (2025).




GreenLID Design

**Figure 2.**
**Conceptual Site Development Plan**

## *Project Scope*

This report identifies potential traffic impacts to the surrounding roadway network based on the proposed development. Three scenarios were considered for analysis, as follows:

- Existing Traffic Conditions (2022)
- Background Traffic Conditions (2025)
- Total Future Traffic Conditions at Project Buildout (2025)

The following intersections were included in the scope of the traffic study:

- #1 – Highway 109 & College Street
- #2 – College Street & Richland Street
- #3 – College Street & Project Access
- #4 – College Street & Searcy Lane / Oak Hill Drive

To simplify review of the traffic study, each intersection was assigned a reference number, as shown above. The traffic assignment and capacity analyses worksheets contained in this report refer to each intersection by both name and assigned intersection number.

## *3. 2022 EXISTING TRAFFIC CONDITIONS*

### *Methodology*

The traffic analyses performed in this report were conducted using *Synchro* software, which emulates the methodologies set forth in the *Highway Capacity Manual, 6th Edition,* for evaluation of signalized and unsignalized intersections.

The intersections considered in this study were evaluated in terms of level of service (LOS), which is a rating of traffic conditions for a given roadway or intersection. For comparative purposes, the descriptions for the various levels of service at both signalized and unsignalized intersections are shown in Table 1 and Table 2, respectively.

**Table 1**
**Level of Service Criteria for Signalized Intersections**

| Level of Service | Description | Control Delay (Seconds) |
|---|---|---|
| A | Very low delay with minimal stops. | <10 |
| B | Stable traffic flow, low delay, few traffic stops. | >10 to ≤20 |
| C | Operations with stable flow, moderate delay. | >20 to ≤ 35 |
| D | Noticeable delays, many stopped vehicles. | >35 and ≤ 55 |
| E | Unstable flow, high delays and congestion. | >55 and ≤ 80 |
| F | Unacceptable delay, excessive congestion. | >80 |

**Table 2**
**Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Description | Control Delay (Seconds) |
|---|---|---|
| A | Minimal or no delay | ≤ 10 |
| B | Minor traffic delay | >10 and ≤ 15 |
| C | Average traffic delay | >15 and ≤ 25 |
| D | Long traffic delay | >25 and ≤ 35 |
| E | Very long traffic delay | >35 and ≤ 50 |
| F | Extreme traffic delay | > 50 |

*Existing Roadway Network*

The roadways in the vicinity of the site that will provide access to the College Street Townhomes development are described as follows:

- *Highway 109 (Ronnie McDowell Boulevard / North Broadway)* is functionally classified as a principal arterial roadway. At its signalized intersection with College Street, Highway 109 runs north-south, with two travel lanes in each direction. The speed limit on Highway 109 is posted at 30 mph near its intersection with College Street.

- *College Street* is functionally classified as a collector roadway and has a posted speed limit of 30 mph in the vicinity of the project site. College Street has a paved width of approximately 22'.

- *Richland Street* is a local roadway with a paved width that varies between 18' and 24'. The speed limit on Richland Street is posted at 30 mph.

- *Searcy Lane* is a local roadway with posted speed limit of 30 mph. South of College Street, Searcy Lane generally has a paved width of approximately 24'.

- *Oak Hill Drive* is a local roadway with a paved width that varies between 18' and 20'. The speed limit on Oak Hill Drive is posted at 20 mph.

*Existing Traffic Operations*

To provide data for the analysis, manual turning movement traffic counts were performed at the following locations:

- #1 – Highway 109 & College Street
- #2 – College Street & Richland Street
- #3 – College Street & Project Access
- #4 – College Street & Searcy Lane / Oak Hill Drive

Traffic counts were collected on Thursday, May 19th, 2022, while school was in session. The counts were conducted from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. From the traffic counts collected, it was determined that the AM peak hour was 7:00 AM to 8:00 AM and the PM peak hour was 4:00 PM to 5:00 PM.

The existing 2022 peak hour traffic volumes for the intersections studied are illustrated in Figure 3. The traffic count data utilized for this study are included in summary form in Appendix A.

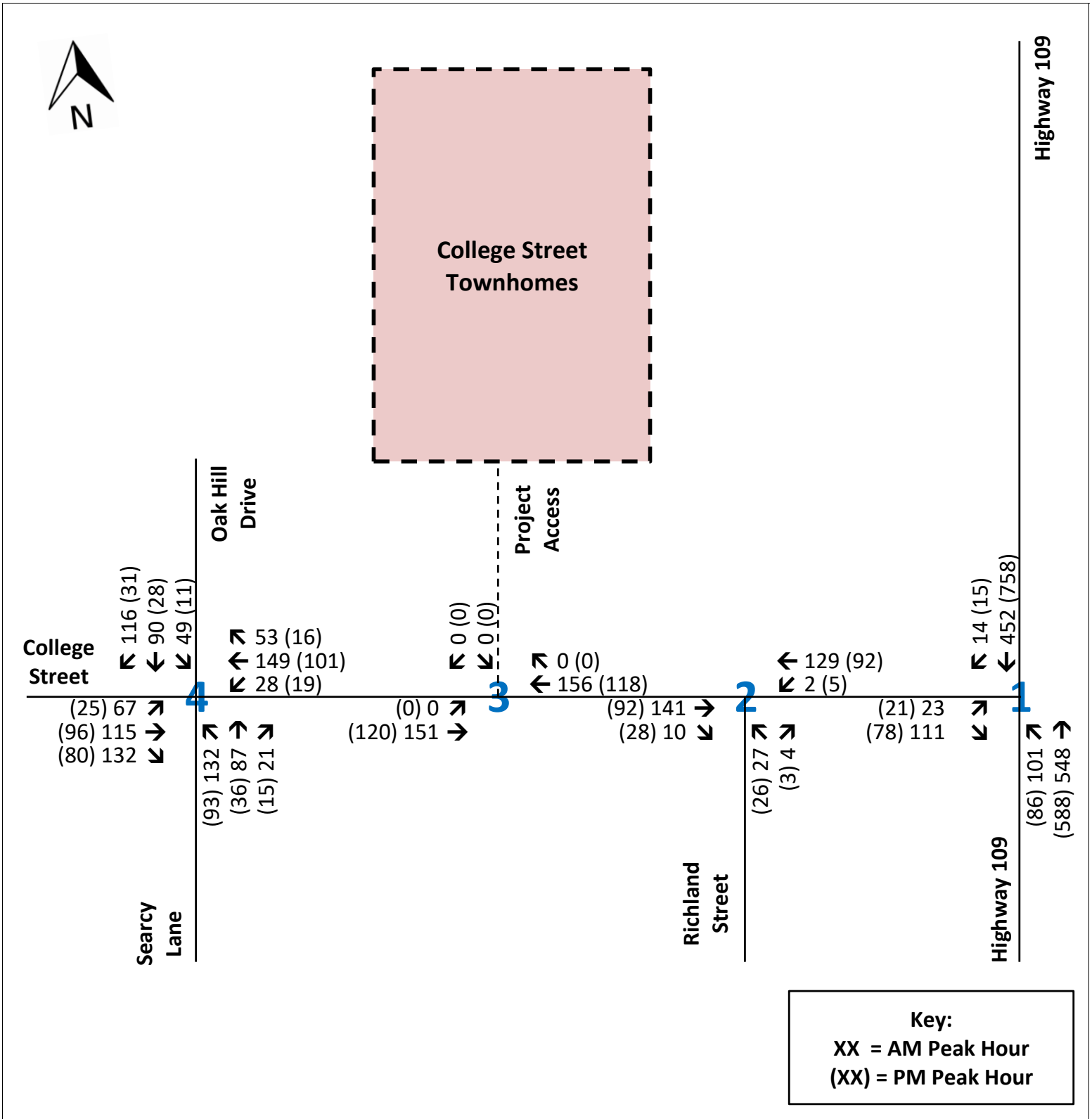



**Figure 3.**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

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TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

*Existing Intersection Capacity Analyses*

To determine the current LOS of the intersections studied, capacity analyses were performed for the AM and PM peak hours of traffic. The capacity calculations were performed in accordance with the methods outlined in the *Highway Capacity Manual*.

As previously described, the capacity analyses result in the determination of a Level of Service (LOS) for an intersection. 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.

As shown in Table 3, the intersections contained in the study area presently operate at relatively good levels of service (LOS C or better) during the AM and PM peak traffic hours.

Appendix B contains the capacity analysis worksheets for the 2022 existing traffic conditions.

**Table 3**
**2022 Existing Traffic Conditions Analyses**
**Peak Hour Levels of Service**

| Intersection | | | Level of Service/ Delay (Seconds) | |
|---|---|---|---|---|
| **#** | **Description** | **Movement [(1)]** | **AM Peak Hour** | **PM Peak Hour** |
| 1 | Highway 109 & College Street | Overall (Signalized) | A (8.3) | A (6.7) |
| 2 | College Street & Richland Street | Northbound | B (10.7) | A (9.9) |
| | | Westbound Left | A (7.6) | A (7.5) |
| 3 | College Street & Project Access | Southbound | --- | --- |
| | | Eastbound Left | --- | --- |
| 4 | College Street & Searcy Lane / Oak Hill Drive | Overall (All-Way Stop) | C (18.5) | A (8.9) |

[(1)] For signalized locations and all-way stop control, the overall LOS and delay are listed for the intersection. For intersections with stop control on the minor approaches only, the LOS and delay are listed for movements that are required to stop or yield the right-of-way.

## *4. 2025 BACKGROUND TRAFFIC CONDITIONS*

The 2025 background conditions analyses are presented to evaluate the traffic levels expected at the project buildout year due to growth. Data from a nearby count station, #12 on College Street, west of the project site, was obtained from TDOT. Based on historical ADT traffic counts at this count station, an average rate of 2.3% traffic growth was indicated in the vicinity of the project site over the last ten-year period. In view of this, the 2022 existing traffic volumes were increased by 3.0% for the three-year development period to obtain the 2025 background traffic volumes.

These 2025 background traffic volumes represent the traffic which could be expected to travel through the study area even if the proposed project is not developed. The historical TDOT data from count station #12 is included in Appendix A. The resulting 2025 background traffic volumes are illustrated in Figure 4.

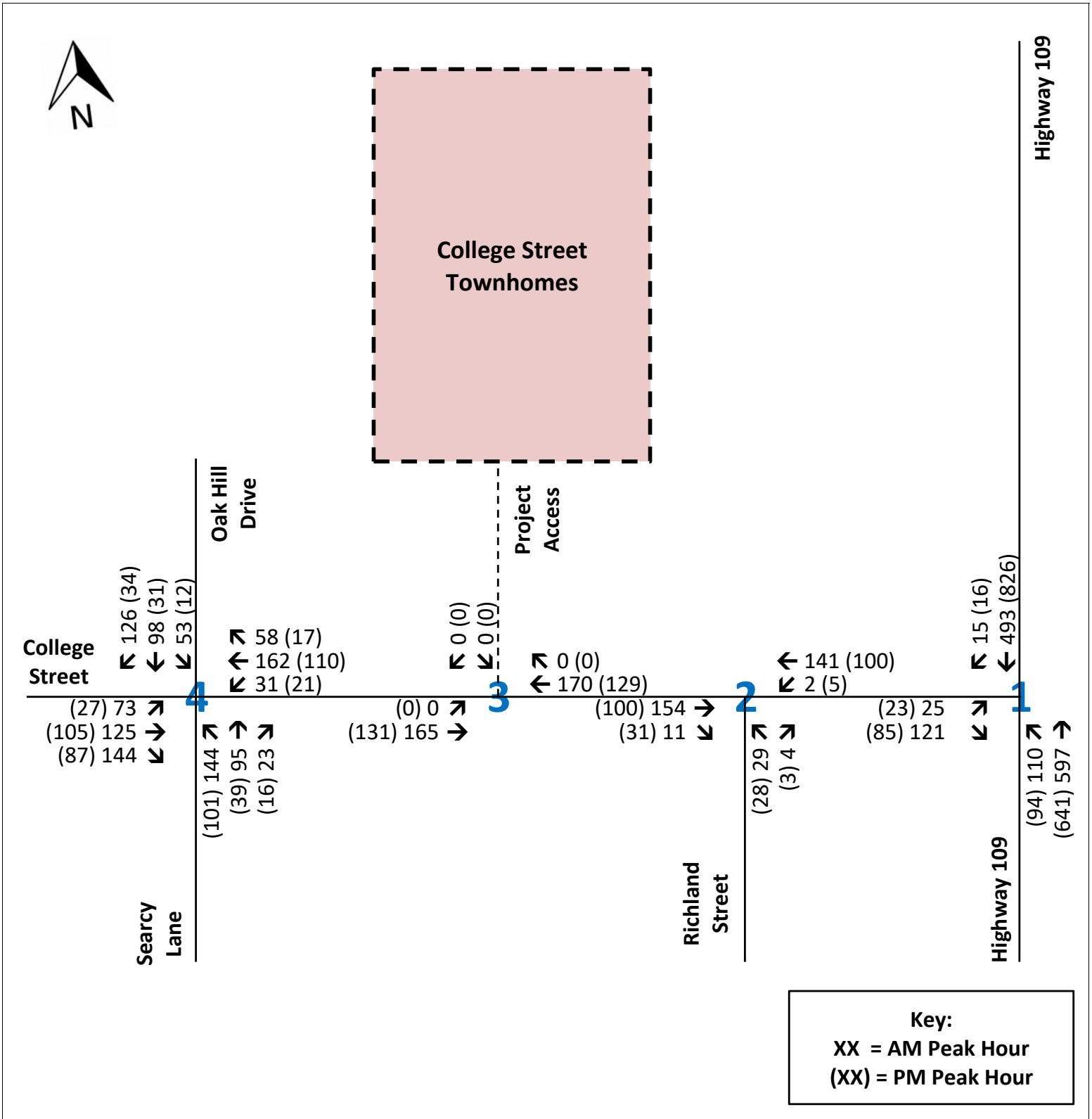


**Figure 4.**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

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*2025 Background Intersection Capacity Analyses*

To determine the LOS of the intersections studied, capacity analyses were performed for the AM and PM peak hours of traffic for the 2025 background traffic conditions. The capacity calculations were performed in accordance with the methods outlined in the *Highway Capacity Manual*. As previously described, the capacity analyses result in the determination of a Level of Service (LOS) for an intersection. 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.

The 2025 background traffic volumes represent the traffic which could be expected to travel through the study area even if the proposed project is not developed. As shown in Table 4, the intersections included in this study are expected to operate at acceptable levels of service (LOS D or better) during the AM and PM peak traffic hours.

Appendix B contains the capacity analysis worksheets for the 2025 background traffic conditions.

**Table 4**
**2025 Background Traffic Conditions Analyses**
**Peak Hour Levels of Service**

| Intersection | | | Level of Service/ Delay (Seconds) | |
|---|---|---|---|---|
| **#** | **Description** | **Movement [(1)]** | **AM Peak Hour** | **PM Peak Hour** |
| 1 | Highway 109 & College Street | Overall (Signalized) | A (8.6) | A (6.9) |
| 2 | College Street & Richland Street | Northbound | B (11.0) | B (10.1) |
| | | Westbound Left | A (7.6) | A (7.5) |
| 3 | College Street & Project Access | Southbound | --- | --- |
| | | Eastbound Left | --- | --- |
| 4 | College Street & Searcy Lane / Oak Hill Drive | Overall (All-Way Stop) | D (25.8) | A (9.2) |

[(1)] For signalized locations and all-way stop control, the overall LOS and delay are listed for the intersection. For intersections with stop control on the minor approaches only, the LOS and delay are listed for movements that are required to stop or yield the right-of-way.

## *5. 2025 PROJECTED TRAFFIC CONDITIONS*

To develop the projected traffic conditions, the trips expected to be generated by the proposed development were determined. These trips were then assigned to the roadway network using a directional traffic distribution.

### *Trip Generation*

As mentioned in the project description, the proposed development will include 95 townhomes. Trips expected to be generated by the proposed development were calculated using data from *Trip Generation* (11th Edition), which is a publication of the Institute of Transportation Engineers (ITE). The results of the trip generation calculations are presented in Table 5.

**Table 5**
**Trip Generation for the Proposed**
**College Street Townhomes Development**

| Description | ITE Land Use Code (LUC) | SIZE | Daily Trips | AM Peak Hour Trips | | PM Peak Hour Trips | |
|---|---|---|---|---|---|---|---|
| | | | | Enter | Exit | Enter | Exit |
| Townhomes | 215 | 95 Units | 674 | 14 | 31 | 31 | 23 |

Additional information regarding the trip generation calculations for the site development included in this study is contained in Appendix C.

*Trip Distribution*

The trips that will be generated by the proposed residential development were assigned to the roadway network using a trip distribution that is detailed in Appendix D. This directional distribution, which is illustrated in Figure 5, was based on the existing directional split of traffic, the access proposed for the site, and the employment centers in the area and is described as follows:

- 50% to / from the east on College Street
- 40% to / from the west on College Street
- 10% to / from the south on Richland Street

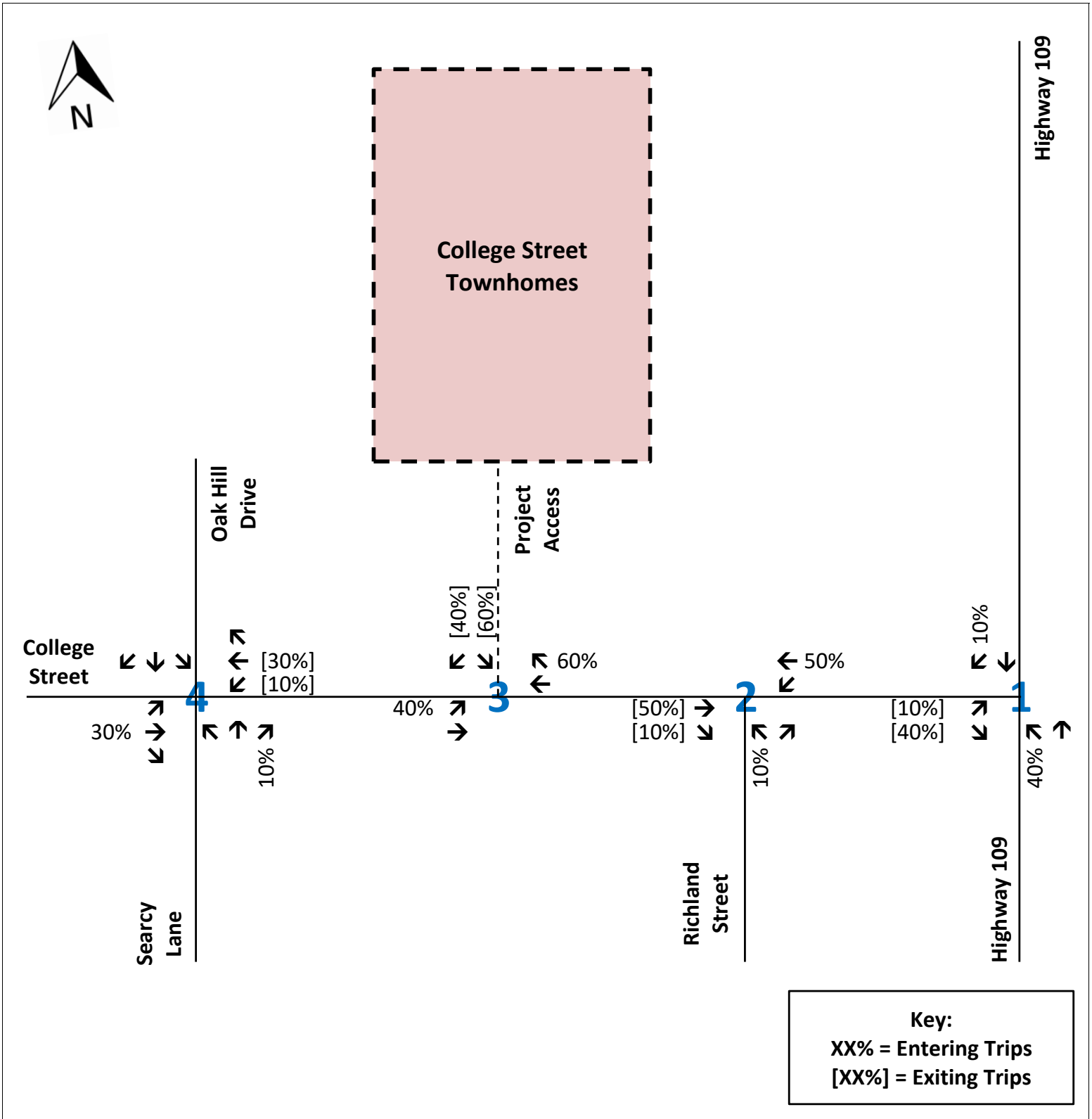


**Figure 5.**
**Trip Distribution - Townhomes (95 Units)**
College Street Townhomes
Portland, Tennessee

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## *Traffic Assignment*

The assignments of the total trips that will be generated by the proposed College Street Townhomes development are presented in Figure 6. These trips represent the new traffic expected to be generated by the site development of the project.

Appendix E contains the traffic assignment figures utilized in developing the projected traffic volumes at buildout conditions. Traffic assignment information included in Appendix E is listed as follows:

- Existing Traffic Volumes (2022)
- Background Traffic Volumes (2025)
    - Historical Growth (3.0% per year for 3 years)
    - Total Background Traffic (2025)
- Total Site Generated Traffic Assignment (95 Townhomes)
- Total Projected Traffic Volumes at Project Buildout (2025)

Figure 7 presents the total projected AM and PM peak hour traffic volumes expected at the completion of the proposed project in 2025.

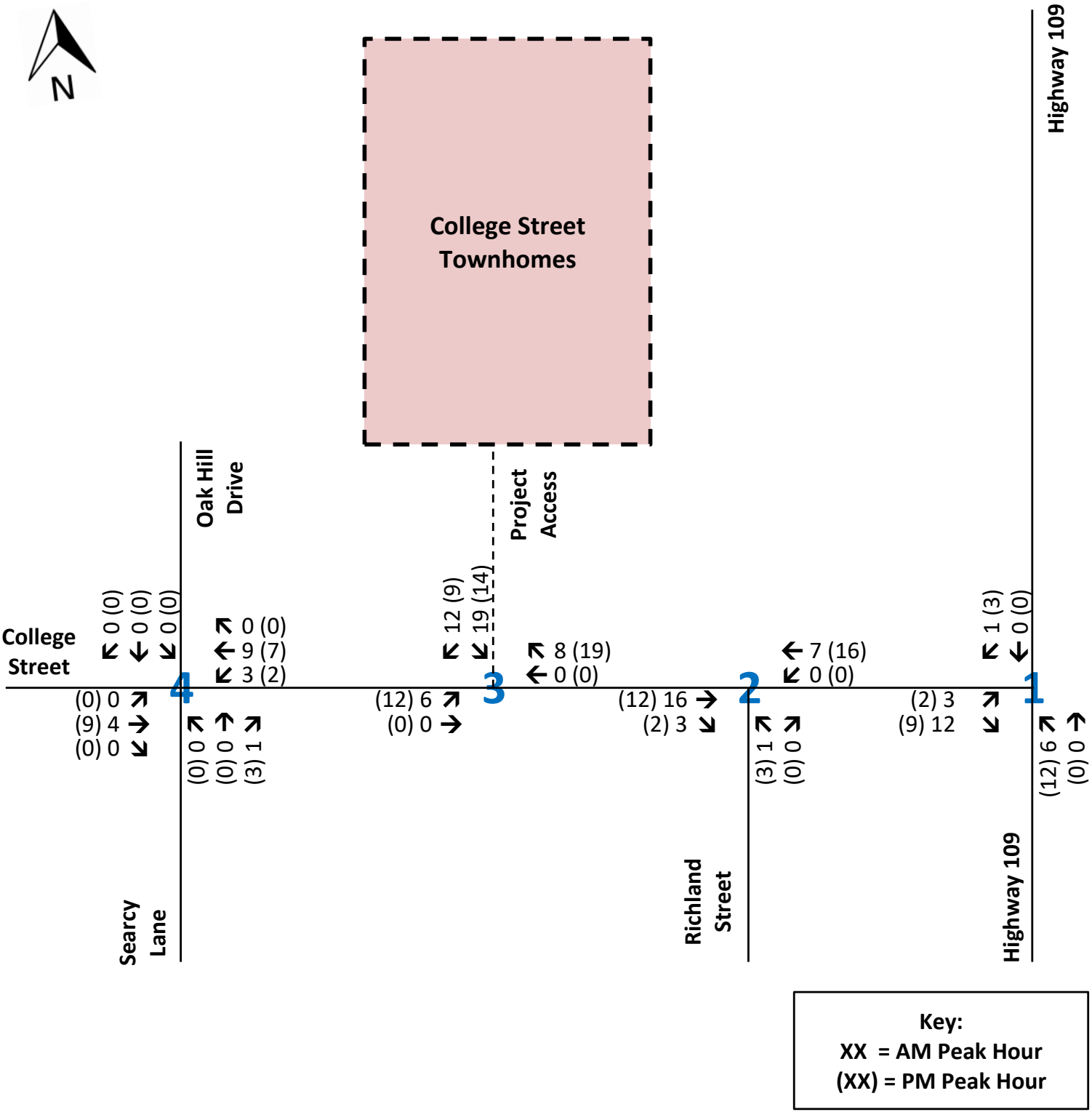


**Figure 6.**
**Total Site Generated Traffic**
College Street Townhomes
Portland, Tennessee

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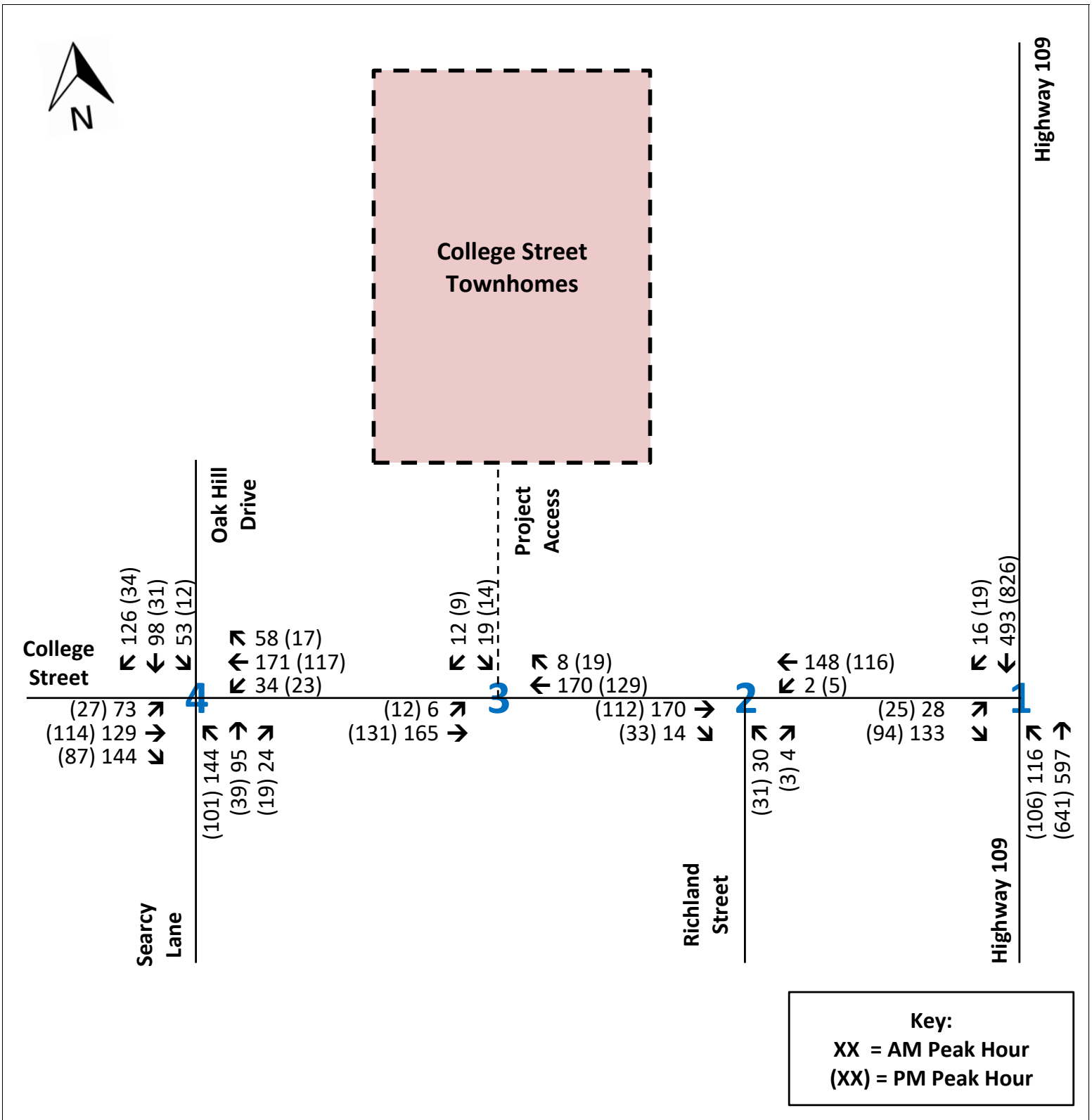


**Figure 7.**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

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*2025 Projected Intersection Capacity Analyses*

Capacity analyses were performed in order to determine the impact of the project on the intersections included in the scope of the study. These capacity analyses were used to evaluate the need for roadway and traffic control improvements at the intersections studied.

The results of the capacity analyses for the 2025 projected traffic conditions at the intersections studied are presented in Table 6. As shown, the intersections included in this study are projected to operate at acceptable levels of service (LOS D or better) during the AM and PM peak traffic hours.

Appendix B contains the capacity analysis worksheets for the 2025 projected traffic conditions.

**Table 6**
**2025 Projected Traffic Conditions at Project Buildout**
**Peak Hour Levels of Service**

| Intersection | | | Level of Service/ Delay (Seconds) | |
|---|---|---|---|---|
| **#** | **Description** | **Movement [(1)]** | **AM Peak Hour** | **PM Peak Hour** |
| 1 | Highway 109 & College Street | Overall (Signalized) | A (9.2) | A (7.4) |
| 2 | College Street & Richland Street | Northbound | B (11.2) | B (10.4) |
| | | Westbound Left | A (7.7) | A (7.6) |
| 3 | College Street & Project Access | Southbound | B (10.9) | B (10.2) |
| | | Eastbound Left | A (7.7) | A (7.6) |
| 4 | College Street & Searcy Lane / Oak Hill Drive | Overall (All-Way Stop) | D (27.5) | A (9.4) |

[(1)] For signalized locations and all-way stop control, the overall LOS and delay are listed for the intersection. For intersections with stop control on the minor approaches only, the LOS and delay are listed for movements that are required to stop or yield the right-of-way.

*Consideration of Offsite Improvements*

Based on the results of the 2025 projected intersection capacity analyses, various offsite improvements were evaluated. Specifically, the need for left and right turn lane improvements was assessed.

*Left Turn Lane Warrants*

The 2025 projected traffic volumes were compared to the standards set forth in M.D. Harmelink's Volume Warrants for Left-Turn Storage Lanes at Unsignalized Intersections. Analyses were conducted to determine the need for left turn lane improvements at the following locations:

- #2 – College Street & Richland Street
- #3 – College Street & Project Access

#2 – College Street & Richland Street

The results of the analyses show that the projected volumes do not meet the thresholds required for the installation of a westbound left turn lane at the intersection of College Street and Richland Street.

#3 – College Street & Project Access

The results of the analyses show that the projected volumes do not meet the thresholds required for the installation of an eastbound left turn lane at the intersection of College Street and the proposed Project Access.

Copies of the left turn warrant analyses sheets for the 2025 projected traffic conditions are included in Appendix F.

*Right Turn Lane Evaluations*

To evaluate the need for right turn lane improvements, the criteria contained in NCHRP 457 were compared to the 2025 projected traffic volumes at the following locations:

- #2 – College Street & Richland Street
- #3 – College Street & Project Access

For each location, the AM and PM peak hour volumes were compared to the data for a two-lane, 40-mph roadway.

#2 – College Street & Richland Street

The results of the analyses show that the projected volumes do not meet the thresholds indicated for the installation of an eastbound right turn lane at the intersection of College Street and Richland Street.

#3 – College Street & Project Access

The results of the analyses show that the projected volumes do not meet the thresholds indicated for the installation of a westbound right turn lane at the intersection of College Street and the proposed Project Access.

Copies of the right turn analyses are included in Appendix F.

## *6. CONCLUSIONS AND RECOMMENDATIONS*

The analyses presented in this study indicate that the traffic generated by the College Street Townhomes residential development can be supported by the existing roadway network without any offsite improvements. The analyses of the 2025 projected traffic conditions at each intersection included in the scope of the study indicate acceptable levels of service (LOS D or better) during both the AM and PM peak hours of traffic. Additionally, the 2025 projected traffic volumes do not meet the thresholds indicated for the installation of left or right turn lanes at the proposed Project Access.

In conclusion, the proposed College Street Townhomes development is not expected to have a significant impact on the traffic operations in the area.

APPENDIX A

TRAFFIC COUNT DATA

INTERSECTION TURNING

MOVEMENT COUNTS

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #1 - Highway 109 & College Street
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highway 109 | | | Highway 109 | | | College Street | | | | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | 11 | 135 | | | 112 | 3 | 3 | | 22 | | | | |
| 7:15 AM - 7:30 AM | 19 | 147 | | | 127 | 5 | 3 | | 33 | | | | |
| 7:30 AM - 7:45 AM | 39 | 128 | | | 105 | 4 | 9 | | 24 | | | | |
| 7:45 AM - 8:00 AM | 32 | 138 | | | 108 | 2 | 8 | | 32 | | | | |
| 8:00 AM - 8:15 AM | 11 | 112 | | | 101 | 2 | 1 | | 18 | | | | |
| 8:15 AM - 8:30 AM | 14 | 132 | | | 101 | 4 | 4 | | 8 | | | | |
| 8:30 AM - 8:45 AM | 4 | 121 | | | 94 | 1 | 2 | | 15 | | | | |
| 8:45 AM - 9:00 AM | 7 | 141 | | | 89 | 5 | 1 | | 13 | | | | |
| 4:00 PM - 4:15 PM | 30 | 153 | | | 181 | 6 | 6 | | 16 | | | | |
| 4:15 PM - 4:30 PM | 25 | 155 | | | 158 | 3 | 7 | | 24 | | | | |
| 4:30 PM - 4:45 PM | 13 | 121 | | | 229 | 4 | 2 | | 19 | | | | |
| 4:45 PM - 5:00 PM | 18 | 159 | | | 190 | 2 | 6 | | 19 | | | | |
| 5:00 PM - 5:15 PM | 21 | 154 | | | 175 | 5 | 5 | | 16 | | | | |
| 5:15 PM - 5:30 PM | 14 | 143 | | | 141 | 4 | 3 | | 29 | | | | |
| 5:30 PM - 5:45 PM | 28 | 140 | | | 158 | 4 | 1 | | 29 | | | | |
| 5:45 PM - 6:00 PM | 19 | 162 | | | 126 | 3 | 2 | | 28 | | | | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 101 | 548 | 0 | 0 | 452 | 14 | 23 | 0 | 111 | 0 | 0 | 0 | 0.93 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 86 | 588 | 0 | 0 | 758 | 15 | 21 | 0 | 78 | 0 | 0 | 0 | 0.98 |

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #2 - College Street & Richland Street
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Richland Street | | | | | | College Street | | | College Street | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | 7 | | 1 | | | | | 26 | 2 | 0 | 20 | | |
| 7:15 AM - 7:30 AM | 6 | | 0 | | | | | 31 | 2 | 2 | 28 | | |
| 7:30 AM - 7:45 AM | 8 | | 2 | | | | | 39 | 1 | 0 | 47 | | |
| 7:45 AM - 8:00 AM | 6 | | 1 | | | | | 45 | 5 | 0 | 34 | | |
| 8:00 AM - 8:15 AM | 1 | | 0 | | | | | 20 | 2 | 0 | 10 | | |
| 8:15 AM - 8:30 AM | 2 | | 1 | | | | | 10 | 4 | 0 | 16 | | |
| 8:30 AM - 8:45 AM | 0 | | 0 | | | | | 15 | 1 | 0 | 11 | | |
| 8:45 AM - 9:00 AM | 1 | | 1 | | | | | 12 | 1 | 1 | 5 | | |
| 4:00 PM - 4:15 PM | 5 | | 1 | | | | | 20 | 9 | 0 | 31 | | |
| 4:15 PM - 4:30 PM | 6 | | 0 | | | | | 28 | 8 | 2 | 27 | | |
| 4:30 PM - 4:45 PM | 7 | | 1 | | | | | 23 | 6 | 2 | 16 | | |
| 4:45 PM - 5:00 PM | 8 | | 1 | | | | | 21 | 5 | 1 | 18 | | |
| 5:00 PM - 5:15 PM | 2 | | 1 | | | | | 22 | 5 | 1 | 32 | | |
| 5:15 PM - 5:30 PM | 4 | | 3 | | | | | 33 | 8 | 0 | 19 | | |
| 5:30 PM - 5:45 PM | 8 | | 1 | | | | | 30 | 3 | 2 | 34 | | |
| 5:45 PM - 6:00 PM | 4 | | 1 | | | | | 28 | 6 | 27 | 1 | | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 27 | 0 | 4 | 0 | 0 | 0 | 0 | 141 | 10 | 2 | 129 | 0 | 0.81 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 26 | 0 | 3 | 0 | 0 | 0 | 0 | 92 | 28 | 5 | 92 | 0 | 0.87 |

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #3 - College Street & Project Access
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Project Access | | | College Street | | | College Street | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | | | | | | | | 28 | | | 27 | | |
| 7:15 AM - 7:30 AM | | | | | | | | 33 | | | 34 | | |
| 7:30 AM - 7:45 AM | | | | | | | | 40 | | | 55 | | |
| 7:45 AM - 8:00 AM | | | | | | | | 50 | | | 40 | | |
| 8:00 AM - 8:15 AM | | | | | | | | 22 | | | 11 | | |
| 8:15 AM - 8:30 AM | | | | | | | | 14 | | | 18 | | |
| 8:30 AM - 8:45 AM | | | | | | | | 16 | | | 11 | | |
| 8:45 AM - 9:00 AM | | | | | | | | 13 | | | 6 | | |
| 4:00 PM - 4:15 PM | | | | | | | | 29 | | | 36 | | |
| 4:15 PM - 4:30 PM | | | | | | | | 36 | | | 33 | | |
| 4:30 PM - 4:45 PM | | | | | | | | 29 | | | 23 | | |
| 4:45 PM - 5:00 PM | | | | | | | | 26 | | | 26 | | |
| 5:00 PM - 5:15 PM | | | | | | | | 27 | | | 34 | | |
| 5:15 PM - 5:30 PM | | | | | | | | 41 | | | 23 | | |
| 5:30 PM - 5:45 PM | | | | | | | | 33 | | | 42 | | |
| 5:45 PM - 6:00 PM | | | | | | | | 34 | | | 5 | | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 151 | 0 | 0 | 156 | 0 | 0.81 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 0 | 118 | 0 | 0.86 |

## INTERSECTION VEHICULAR TURNING MOVEMENT COUNTS

**LOCATION:** #4 - College Street & Searcy Lane / Oak Hill Drive
**PROJECT:** College Street Townhomes TIS
**DATE:** Thursday, May 19, 2022

| LOCATION | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Searcy Lane | | | Oak Hill Drive | | | College Street | | | College Street | | | |
| TIME | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 7:00 AM - 7:15 AM | 23 | 19 | 7 | 7 | 27 | 17 | 13 | 22 | 20 | 11 | 20 | 7 | |
| 7:15 AM - 7:30 AM | 28 | 27 | 6 | 18 | 18 | 28 | 16 | 24 | 36 | 5 | 20 | 14 | |
| 7:30 AM - 7:45 AM | 41 | 25 | 5 | 14 | 23 | 39 | 21 | 26 | 39 | 4 | 43 | 26 | |
| 7:45 AM - 8:00 AM | 40 | 16 | 3 | 10 | 22 | 32 | 17 | 43 | 37 | 8 | 66 | 6 | |
| 8:00 AM - 8:15 AM | 20 | 4 | 3 | 2 | 6 | 5 | 8 | 16 | 31 | 2 | 14 | 1 | |
| 8:15 AM - 8:30 AM | 13 | 2 | 3 | 3 | 2 | 4 | 2 | 5 | 13 | 2 | 13 | 2 | |
| 8:30 AM - 8:45 AM | 6 | 4 | 1 | 1 | 2 | 3 | 0 | 12 | 9 | 1 | 8 | 0 | |
| 8:45 AM - 9:00 AM | 8 | 3 | 1 | 0 | 7 | 2 | 3 | 12 | 14 | 0 | 4 | 1 | |
| 4:00 PM - 4:15 PM | 26 | 6 | 5 | 2 | 8 | 3 | 3 | 19 | 17 | 8 | 34 | 4 | |
| 4:15 PM - 4:30 PM | 20 | 7 | 2 | 5 | 12 | 7 | 7 | 28 | 20 | 4 | 27 | 4 | |
| 4:30 PM - 4:45 PM | 24 | 8 | 6 | 1 | 3 | 13 | 6 | 26 | 22 | 2 | 18 | 5 | |
| 4:45 PM - 5:00 PM | 23 | 15 | 2 | 3 | 5 | 8 | 9 | 23 | 21 | 5 | 22 | 3 | |
| 5:00 PM - 5:15 PM | 21 | 11 | 3 | 6 | 10 | 8 | 4 | 20 | 12 | 4 | 32 | 8 | |
| 5:15 PM - 5:30 PM | 22 | 3 | 1 | 4 | 8 | 7 | 9 | 34 | 10 | 1 | 18 | 4 | |
| 5:30 PM - 5:45 PM | 31 | 7 | 2 | 4 | 5 | 12 | 8 | 32 | 11 | 2 | 41 | 5 | |
| 5:45 PM - 6:00 PM | 30 | 9 | 4 | 4 | 8 | 6 | 6 | 23 | 15 | 2 | 26 | 5 | PHF |
| AM Peak Hour (7:00 AM - 8:00 AM) | 132 | 87 | 21 | 49 | 90 | 116 | 67 | 115 | 132 | 28 | 149 | 53 | 0.85 |
| PM Peak Hour (4:00 PM - 5:00 PM) | 93 | 36 | 15 | 11 | 28 | 31 | 25 | 96 | 80 | 19 | 101 | 16 | 0.96 |

QUALITY COUNTS

TMC REPORTS

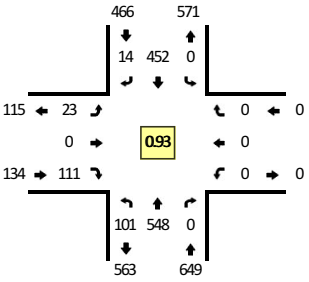
Type of peak hour being reported: Intersection Peak

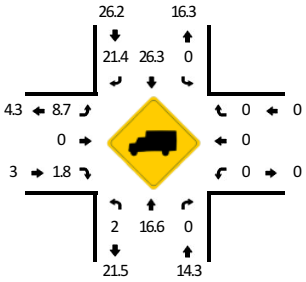
Method for determining peak hour: Total Entering Volume

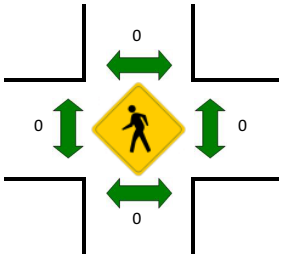
**LOCATION:** N Broadway -- College St
**CITY/STATE:** Portland, TN

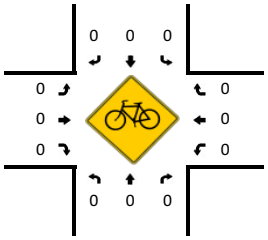
**QC JOB #:** 15831804
**DATE:** Thu, May 19 2022

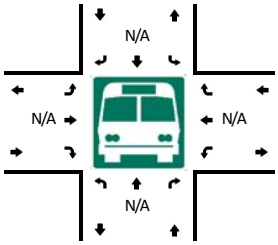
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:15 AM -- 7:30 AM**

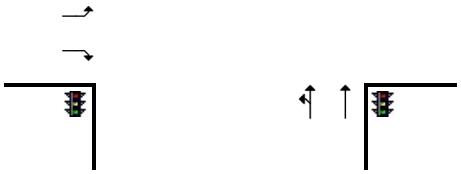


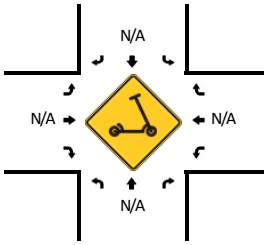







| 15-Min Count Period Beginning At | N Broadway (Northbound) | | | | N Broadway (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 11 | 135 | 0 | 0 | 0 | 112 | 3 | 0 | 3 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 286 | |
| 7:15 AM | 19 | 147 | 0 | 0 | 0 | 127 | 5 | 0 | 3 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 334 | |
| 7:30 AM | 39 | 128 | 0 | 0 | 0 | 105 | 4 | 0 | 9 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 309 | |
| 7:45 AM | 32 | 138 | 0 | 0 | 0 | 108 | 2 | 0 | 8 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 320 | 1249 |
| 8:00 AM | 11 | 112 | 0 | 0 | 0 | 101 | 2 | 0 | 1 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 245 | 1208 |
| 8:15 AM | 14 | 132 | 0 | 0 | 0 | 101 | 4 | 0 | 4 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 263 | 1137 |
| 8:30 AM | 4 | 121 | 0 | 0 | 0 | 94 | 1 | 0 | 2 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 237 | 1065 |
| 8:45 AM | 7 | 141 | 0 | 0 | 0 | 89 | 5 | 0 | 1 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 256 | 1001 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 76 | 588 | 0 | 0 | 0 | 508 | 20 | 0 | 12 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 1336 |
| Heavy Trucks | 4 | 88 | 0 | | 0 | 132 | 4 | | 0 | 0 | 4 | | 0 | 0 | 0 | | 232 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

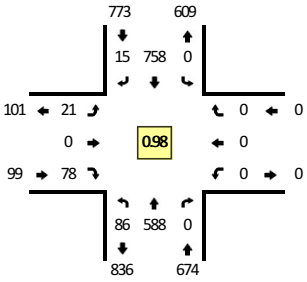
Report generated on 5/31/2022 5:40 AM

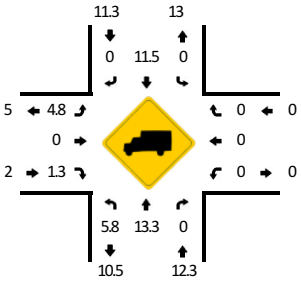
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

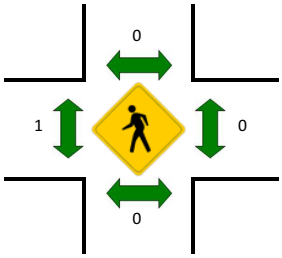
**LOCATION:** N Broadway -- College St | **QC JOB #:** 15831805
**CITY/STATE:** Portland, TN | **DATE:** Thu, May 19 2022

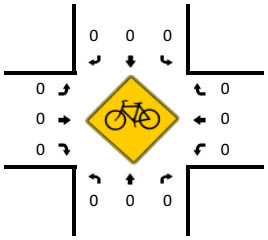
**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:45 PM -- 5:00 PM**

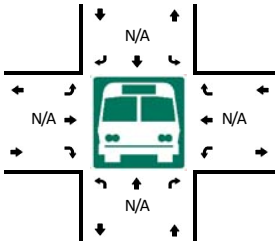


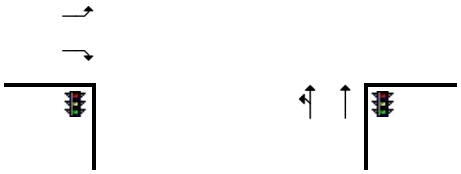



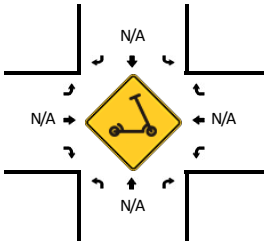

Quality Counts
DATA THAT DRIVES COMMUNITIES








| 15-Min Count Period Beginning At | N Broadway (Northbound) | | | | N Broadway (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 30 | 153 | 0 | 0 | 0 | 181 | 6 | 0 | 6 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 392 | |
| 4:15 PM | 25 | 155 | 0 | 0 | 0 | 158 | 3 | 0 | 7 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 372 | |
| 4:30 PM | 13 | 121 | 0 | 0 | 0 | 229 | 4 | 0 | 2 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 388 | |
| 4:45 PM | 18 | 159 | 0 | 0 | 0 | 190 | 2 | 0 | 6 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 394 | 1546 |
| 5:00 PM | 21 | 154 | 0 | 0 | 0 | 175 | 5 | 0 | 5 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 376 | 1530 |
| 5:15 PM | 14 | 143 | 0 | 0 | 0 | 141 | 4 | 0 | 3 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 334 | 1492 |
| 5:30 PM | 28 | 140 | 0 | 0 | 0 | 158 | 4 | 0 | 1 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 360 | 1464 |
| 5:45 PM | 19 | 162 | 0 | 0 | 0 | 126 | 3 | 0 | 2 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 340 | 1410 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 72 | 636 | 0 | 0 | 0 | 760 | 8 | 0 | 24 | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 1576 |
| Heavy Trucks | 0 | 60 | 0 | | 0 | 120 | 0 | | 4 | 0 | 0 | | 0 | 0 | 0 | | 184 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 5/31/2022 5:40 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

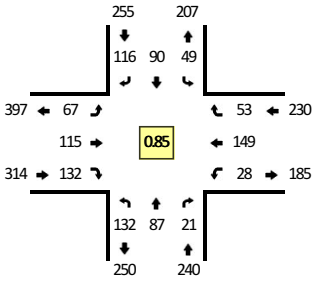
Type of peak hour being reported: Intersection Peak

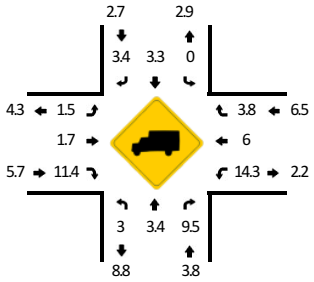
Method for determining peak hour: Total Entering Volume

**LOCATION:** Searcy Ln -- College St
**CITY/STATE:** Portland, TN

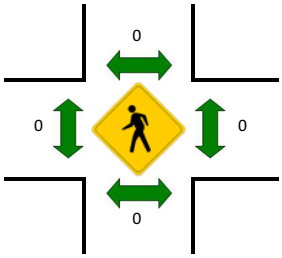
**QC JOB #:** 15831801
**DATE:** Thu, May 19 2022

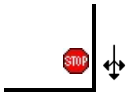
**Peak-Hour: 7:00 AM -- 8:00 AM**
**Peak 15-Min: 7:30 AM -- 7:45 AM**

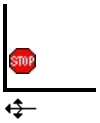


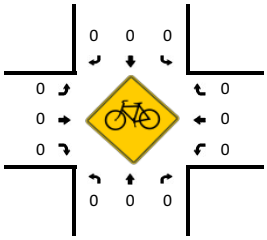



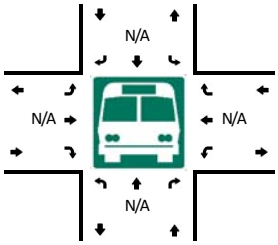

Quality Counts
DATA THAT DRIVES COMMUNITIES

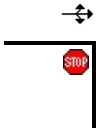


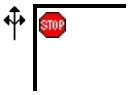



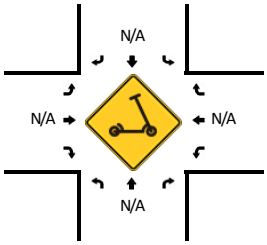




| 15-Min Count Period Beginning At | Searcy Ln (Northbound) | | | | Searcy Ln (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 23 | 19 | 7 | 0 | 7 | 27 | 17 | 0 | 13 | 22 | 20 | 0 | 11 | 20 | 7 | 0 | 193 | |
| 7:15 AM | 28 | 27 | 6 | 0 | 18 | 18 | 28 | 0 | 16 | 24 | 36 | 0 | 5 | 20 | 14 | 0 | 240 | |
| 7:30 AM | 41 | 25 | 5 | 0 | 14 | 23 | 39 | 0 | 21 | 26 | 39 | 0 | 4 | 43 | 26 | 0 | 306 | |
| 7:45 AM | 40 | 16 | 3 | 0 | 10 | 22 | 32 | 0 | 17 | 43 | 37 | 0 | 8 | 66 | 6 | 0 | 300 | 1039 |
| 8:00 AM | 20 | 4 | 3 | 0 | 2 | 6 | 5 | 0 | 8 | 16 | 31 | 0 | 2 | 14 | 1 | 0 | 112 | 958 |
| 8:15 AM | 13 | 2 | 3 | 0 | 3 | 2 | 4 | 0 | 2 | 5 | 13 | 0 | 2 | 13 | 2 | 0 | 64 | 782 |
| 8:30 AM | 6 | 4 | 1 | 0 | 1 | 2 | 3 | 0 | 0 | 12 | 9 | 0 | 1 | 8 | 0 | 0 | 47 | 523 |
| 8:45 AM | 8 | 3 | 1 | 1 | 0 | 7 | 2 | 0 | 3 | 12 | 14 | 0 | 0 | 4 | 1 | 0 | 56 | 279 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 164 | 100 | 20 | 0 | 56 | 92 | 156 | 0 | 84 | 104 | 156 | 0 | 16 | 172 | 104 | 0 | 1224 |
| Heavy Trucks | 0 | 0 | 4 | | 0 | 0 | 0 | | 0 | 4 | 20 | | 0 | 12 | 0 | | 40 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

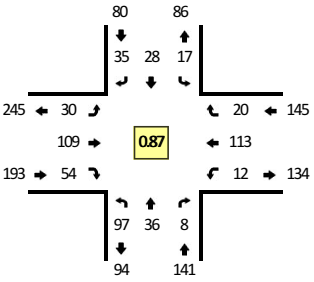
Report generated on 5/31/2022 5:40 AM

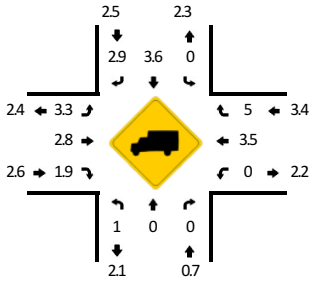
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

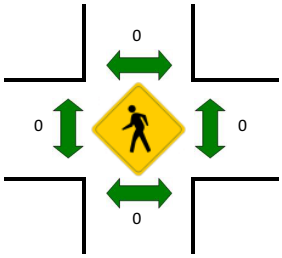
**LOCATION:** Searcy Ln -- College St | **QC JOB #:** 15831802
**CITY/STATE:** Portland, TN | **DATE:** Thu, May 19 2022

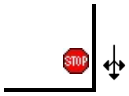
**Peak-Hour: 4:45 PM -- 5:45 PM**
**Peak 15-Min: 5:30 PM -- 5:45 PM**

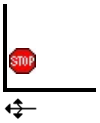


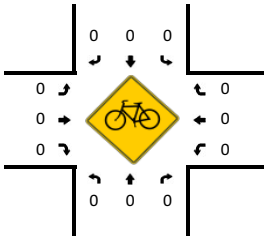



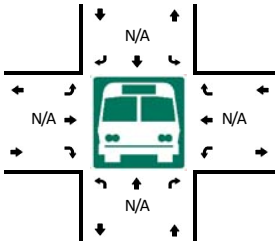

Quality Counts
DATA THAT DRIVES COMMUNITIES

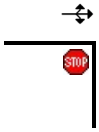


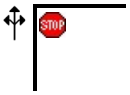



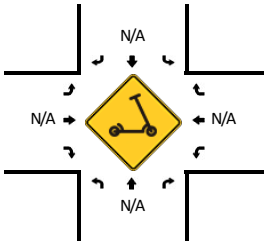




| 15-Min Count Period Beginning At | Searcy Ln (Northbound) | | | | Searcy Ln (Southbound) | | | | College St (Eastbound) | | | | College St (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 26 | 6 | 5 | 0 | 2 | 8 | 3 | 0 | 3 | 19 | 17 | 0 | 8 | 34 | 4 | 0 | 135 | |
| 4:15 PM | 20 | 7 | 2 | 0 | 5 | 12 | 7 | 0 | 7 | 28 | 20 | 0 | 4 | 27 | 4 | 0 | 143 | |
| 4:30 PM | 24 | 8 | 6 | 0 | 1 | 3 | 13 | 0 | 6 | 26 | 22 | 0 | 2 | 18 | 5 | 0 | 134 | |
| 4:45 PM | 23 | 15 | 2 | 0 | 3 | 5 | 8 | 0 | 9 | 23 | 21 | 0 | 5 | 22 | 3 | 0 | 139 | 551 |
| 5:00 PM | 21 | 11 | 3 | 0 | 6 | 10 | 8 | 0 | 4 | 20 | 12 | 0 | 4 | 32 | 8 | 0 | 139 | 555 |
| 5:15 PM | 22 | 3 | 1 | 0 | 4 | 8 | 7 | 0 | 9 | 34 | 10 | 0 | 1 | 18 | 4 | 0 | 121 | 533 |
| 5:30 PM | 31 | 7 | 2 | 0 | 4 | 5 | 12 | 0 | 8 | 32 | 11 | 0 | 2 | 41 | 5 | 0 | 160 | 559 |
| 5:45 PM | 30 | 9 | 4 | 0 | 4 | 8 | 6 | 0 | 6 | 23 | 15 | 0 | 2 | 26 | 5 | 0 | 138 | 558 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 124 | 28 | 8 | 0 | 16 | 20 | 48 | 0 | 32 | 128 | 44 | 0 | 8 | 164 | 20 | 0 | 640 |
| Heavy Trucks | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 4 | 0 | | 4 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 5/31/2022 5:40 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

TDOT TRAFFIC DATA

**TDOT Traffic Count Historical Data**

**Sumner County Station #12 (College Street)**

**Average Annual Growth, 2011-2021: 2.3% Per Year**

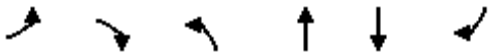
| | ADT | Average Per Year |
|---|---|---|
| 2021 | 3,624 | |
| | | 17.8% |
| 2020 | 3,076 | |
| | | -16.5% |
| 2019 | 3,682 | |
| | | 23.4% |
| 2018 | 2,985 | |
| | | -12.7% |
| 2017 | 3,421 | |
| | | 2.8% |
| 2016 | 3,327 | |
| | | -1.8% |
| 2015 | 3,389 | |
| | | -1.5% |
| 2014 | 3,439 | |
| | | 7.4% |
| 2013 | 3,201 | |
| | | 1.0% |
| 2012 | 3,169 | |
| | | 8.0% |
| 2011 | 2,935 | |

APPENDIX B

TRAFFIC ANALYSES

EXISTING TRAFFIC CONDITIONS (2022)

AM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 23 | 111 | 101 | 548 | 452 | 14 |
| Future Volume (veh/h) | 23 | 111 | 101 | 548 | 452 | 14 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 25 | 119 | 109 | 589 | 486 | 15 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 193 | 171 | 351 | 1820 | 2464 | 76 |
| Arrive On Green | 0.11 | 0.11 | 0.75 | 0.75 | 0.75 | 0.75 |
| Sat Flow, veh/h | 1781 | 1585 | 399 | 2514 | 3384 | 102 |
| Grp Volume(v), veh/h | 25 | 119 | 331 | 367 | 245 | 256 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1319 | 1514 | 1664 | 1734 |
| Q Serve(g_s), s | 1.1 | 6.5 | 1.8 | 7.3 | 3.9 | 3.9 |
| Cycle Q Clear(g_c), s | 1.1 | 6.5 | 5.9 | 7.3 | 3.9 | 3.9 |
| Prop In Lane | 1.00 | 1.00 | 0.33 | | | 0.06 |
| Lane Grp Cap(c), veh/h | 193 | 171 | 1039 | 1132 | 1244 | 1296 |
| V/C Ratio(X) | 0.13 | 0.69 | 0.32 | 0.32 | 0.20 | 0.20 |
| Avail Cap(c_a), veh/h | 455 | 405 | 1039 | 1132 | 1244 | 1296 |
| 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 | 36.3 | 38.7 | 3.6 | 3.8 | 3.4 | 3.4 |
| Incr Delay (d2), s/veh | 0.3 | 5.0 | 0.8 | 0.8 | 0.4 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 2.7 | 1.6 | 1.9 | 1.1 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.6 | 43.7 | 4.4 | 4.5 | 3.7 | 3.7 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 144 | | | 698 | 501 | |
| Approach Delay, s/veh | 42.5 | | | 4.5 | 3.7 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 73.3 | | 16.7 | | 73.3 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 54.0 | | 23.0 | | 54.0 |
| Max Q Clear Time (g_c+I1), s | | 9.3 | | 8.5 | | 5.9 |
| Green Ext Time (p_c), s | | 3.5 | | 0.4 | | 2.1 |

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

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 141 | 10 | 2 | 129 | 27 | 4 |
| Future Vol, veh/h | 141 | 10 | 2 | 129 | 27 | 4 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 174 | 12 | 2 | 159 | 33 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 186 | 0 | 343 | 180 |
| Stage 1 | - | - | - | - | 180 | - |
| Stage 2 | - | - | - | - | 163 | - |
| 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 | - | - | 1388 | - | 653 | 863 |
| Stage 1 | - | - | - | - | 851 | - |
| Stage 2 | - | - | - | - | 866 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1388 | - | 652 | 863 |
| Mov Cap-2 Maneuver | - | - | - | - | 652 | - |
| Stage 1 | - | - | - | - | 851 | - |
| Stage 2 | - | - | - | - | 864 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 10.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 673 | - | - | 1388 | - |
| HCM Lane V/C Ratio | 0.057 | - | - | 0.002 | - |
| HCM Control Delay (s) | 10.7 | - | - | 7.6 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 18.5 |
| Intersection LOS | C |

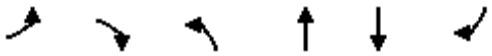
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 67 | 115 | 132 | 28 | 149 | 53 | 132 | 87 | 21 | 49 | 90 | 116 |
| Future Vol, veh/h | 67 | 115 | 132 | 28 | 149 | 53 | 132 | 87 | 21 | 49 | 90 | 116 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 79 | 135 | 155 | 33 | 175 | 62 | 155 | 102 | 25 | 58 | 106 | 136 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 21.1 | 16.6 | 18 | 17.6 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 21% | 12% | 19% |
| Vol Thru, % | 36% | 37% | 65% | 35% |
| Vol Right, % | 9% | 42% | 23% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 240 | 314 | 230 | 255 |
| LT Vol | 132 | 67 | 28 | 49 |
| Through Vol | 87 | 115 | 149 | 90 |
| RT Vol | 21 | 132 | 53 | 116 |
| Lane Flow Rate | 282 | 369 | 271 | 300 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.544 | 0.66 | 0.508 | 0.552 |
| Departure Headway (Hd) | 6.932 | 6.434 | 6.756 | 6.621 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 520 | 562 | 533 | 546 |
| Service Time | 4.97 | 4.473 | 4.814 | 4.657 |
| HCM Lane V/C Ratio | 0.542 | 0.657 | 0.508 | 0.549 |
| HCM Control Delay | 18 | 21.1 | 16.6 | 17.6 |
| HCM Lane LOS | C | C | C | C |
| HCM 95th-tile Q | 3.2 | 4.8 | 2.8 | 3.3 |

EXISTING TRAFFIC CONDITIONS (2022)

PM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 21 | 78 | 86 | 588 | 758 | 15 |
| Future Volume (veh/h) | 21 | 78 | 86 | 588 | 758 | 15 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 21 | 80 | 88 | 600 | 773 | 15 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 155 | 138 | 286 | 1906 | 2655 | 52 |
| Arrive On Green | 0.09 | 0.09 | 0.80 | 0.80 | 0.80 | 0.80 |
| Sat Flow, veh/h | 1781 | 1585 | 307 | 2477 | 3427 | 65 |
| Grp Volume(v), veh/h | 21 | 80 | 312 | 376 | 385 | 403 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1190 | 1514 | 1664 | 1740 |
| Q Serve(g_s), s | 1.2 | 5.3 | 0.6 | 7.4 | 6.8 | 6.8 |
| Cycle Q Clear(g_c), s | 1.2 | 5.3 | 7.4 | 7.4 | 6.8 | 6.8 |
| Prop In Lane | 1.00 | 1.00 | 0.28 | | | 0.04 |
| Lane Grp Cap(c), veh/h | 155 | 138 | 988 | 1204 | 1323 | 1384 |
| V/C Ratio(X) | 0.14 | 0.58 | 0.32 | 0.31 | 0.29 | 0.29 |
| Avail Cap(c_a), veh/h | 453 | 403 | 988 | 1204 | 1323 | 1384 |
| 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 | 46.4 | 48.3 | 2.8 | 3.1 | 3.0 | 3.0 |
| Incr Delay (d2), s/veh | 0.4 | 3.9 | 0.8 | 0.7 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 2.3 | 1.5 | 1.9 | 1.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.8 | 52.2 | 3.7 | 3.7 | 3.6 | 3.5 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 101 | | | 688 | 788 | |
| Approach Delay, s/veh | 51.1 | | | 3.7 | 3.6 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 93.5 | | 16.5 | | 93.5 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | 28.0 | | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 9.4 | | 7.3 | | 8.8 |
| Green Ext Time (p_c), s | | 3.7 | | 0.3 | | 3.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.7 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 92 | 28 | 5 | 92 | 26 | 3 |
| Future Vol, veh/h | 92 | 28 | 5 | 92 | 26 | 3 |
| 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 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 106 | 32 | 6 | 106 | 30 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 138 | 0 | 240 | 122 |
| Stage 1 | - | - | - | - | 122 | - |
| Stage 2 | - | - | - | - | 118 | - |
| 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 | - | - | 1446 | - | 748 | 929 |
| Stage 1 | - | - | - | - | 903 | - |
| Stage 2 | - | - | - | - | 907 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1446 | - | 745 | 929 |
| Mov Cap-2 Maneuver | - | - | - | - | 745 | - |
| Stage 1 | - | - | - | - | 903 | - |
| Stage 2 | - | - | - | - | 903 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 9.9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 761 | - | - | 1446 | - |
| HCM Lane V/C Ratio | 0.044 | - | - | 0.004 | - |
| HCM Control Delay (s) | 9.9 | - | - | 7.5 | 0 |
| HCM Lane LOS | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

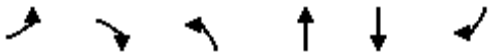
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 25 | 96 | 80 | 19 | 101 | 16 | 93 | 36 | 15 | 11 | 28 | 31 |
| Future Vol, veh/h | 25 | 96 | 80 | 19 | 101 | 16 | 93 | 36 | 15 | 11 | 28 | 31 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 26 | 100 | 83 | 20 | 105 | 17 | 97 | 38 | 16 | 11 | 29 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9 | 8.8 | 9.2 | 8.2 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 65% | 12% | 14% | 16% |
| Vol Thru, % | 25% | 48% | 74% | 40% |
| Vol Right, % | 10% | 40% | 12% | 44% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 144 | 201 | 136 | 70 |
| LT Vol | 93 | 25 | 19 | 11 |
| Through Vol | 36 | 96 | 101 | 28 |
| RT Vol | 15 | 80 | 16 | 31 |
| Lane Flow Rate | 150 | 209 | 142 | 73 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.204 | 0.258 | 0.184 | 0.095 |
| Departure Headway (Hd) | 4.89 | 4.434 | 4.674 | 4.696 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 732 | 808 | 765 | 759 |
| Service Time | 2.937 | 2.472 | 2.717 | 2.75 |
| HCM Lane V/C Ratio | 0.205 | 0.259 | 0.186 | 0.096 |
| HCM Control Delay | 9.2 | 9 | 8.8 | 8.2 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.8 | 1 | 0.7 | 0.3 |

BACKGROUND TRAFFIC CONDITIONS (2025)

AM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 25 | 121 | 110 | 597 | 493 | 15 |
| Future Volume (veh/h) | 25 | 121 | 110 | 597 | 493 | 15 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 27 | 130 | 118 | 642 | 530 | 16 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 194 | 173 | 346 | 1797 | 2463 | 74 |
| Arrive On Green | 0.11 | 0.11 | 0.75 | 0.75 | 0.75 | 0.75 |
| Sat Flow, veh/h | 1781 | 1585 | 391 | 2486 | 3386 | 99 |
| Grp Volume(v), veh/h | 27 | 130 | 355 | 405 | 267 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1284 | 1514 | 1664 | 1734 |
| Q Serve(g_s), s | 1.2 | 7.2 | 2.9 | 8.3 | 4.4 | 4.4 |
| Cycle Q Clear(g_c), s | 1.2 | 7.2 | 7.3 | 8.3 | 4.4 | 4.4 |
| Prop In Lane | 1.00 | 1.00 | 0.33 | | | 0.06 |
| Lane Grp Cap(c), veh/h | 194 | 173 | 1012 | 1131 | 1243 | 1295 |
| V/C Ratio(X) | 0.14 | 0.75 | 0.35 | 0.36 | 0.21 | 0.22 |
| Avail Cap(c_a), veh/h | 455 | 405 | 1012 | 1131 | 1243 | 1295 |
| 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 | 36.3 | 38.9 | 3.7 | 3.9 | 3.4 | 3.4 |
| Incr Delay (d2), s/veh | 0.3 | 6.5 | 1.0 | 0.9 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 3.1 | 1.8 | 2.2 | 1.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.6 | 45.4 | 4.7 | 4.8 | 3.8 | 3.8 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 157 | | | 760 | 546 | |
| Approach Delay, s/veh | 43.9 | | | 4.7 | 3.8 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 73.2 | | 16.8 | | 73.2 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 54.0 | | 23.0 | | 54.0 |
| Max Q Clear Time (g_c+I1), s | | 10.3 | | 9.2 | | 6.4 |
| Green Ext Time (p_c), s | | 4.0 | | 0.5 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.6 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 154 | 11 | 2 | 141 | 29 | 4 |
| Future Vol, veh/h | 154 | 11 | 2 | 141 | 29 | 4 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 190 | 14 | 2 | 174 | 36 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 204 | 0 | 375 | 197 |
| Stage 1 | - | - | - | - | 197 | - |
| Stage 2 | - | - | - | - | 178 | - |
| 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 | - | - | 1368 | - | 626 | 844 |
| Stage 1 | - | - | - | - | 836 | - |
| Stage 2 | - | - | - | - | 853 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1368 | - | 625 | 844 |
| Mov Cap-2 Maneuver | - | - | - | - | 625 | - |
| Stage 1 | - | - | - | - | 836 | - |
| Stage 2 | - | - | - | - | 851 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 11 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 645 | - | - | 1368 | - |
| HCM Lane V/C Ratio | 0.063 | - | - | 0.002 | - |
| HCM Control Delay (s) | 11 | - | - | 7.6 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 25.8 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 125 | 144 | 31 | 162 | 58 | 144 | 95 | 23 | 53 | 98 | 126 |
| Future Vol, veh/h | 73 | 125 | 144 | 31 | 162 | 58 | 144 | 95 | 23 | 53 | 98 | 126 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 147 | 169 | 36 | 191 | 68 | 169 | 112 | 27 | 62 | 115 | 148 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 31.9 | 21.7 | 24 | 23.5 |
| HCM LOS | D | C | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 21% | 12% | 19% |
| Vol Thru, % | 36% | 37% | 65% | 35% |
| Vol Right, % | 9% | 42% | 23% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 262 | 342 | 251 | 277 |
| LT Vol | 144 | 73 | 31 | 53 |
| Through Vol | 95 | 125 | 162 | 98 |
| RT Vol | 23 | 144 | 58 | 126 |
| Lane Flow Rate | 308 | 402 | 295 | 326 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.653 | 0.79 | 0.612 | 0.661 |
| Departure Headway (Hd) | 7.624 | 7.066 | 7.464 | 7.307 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 475 | 511 | 481 | 495 |
| Service Time | 5.669 | 5.11 | 5.532 | 5.352 |
| HCM Lane V/C Ratio | 0.648 | 0.787 | 0.613 | 0.659 |
| HCM Control Delay | 24 | 31.9 | 21.7 | 23.5 |
| HCM Lane LOS | C | D | C | C |
| HCM 95th-tile Q | 4.6 | 7.3 | 4 | 4.8 |

BACKGROUND TRAFFIC CONDITIONS (2025)

PM PEAK

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 23 | 85 | 94 | 641 | 826 | 16 |
| Future Volume (veh/h) | 23 | 85 | 94 | 641 | 826 | 16 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 23 | 87 | 96 | 654 | 843 | 16 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 156 | 139 | 279 | 1861 | 2653 | 50 |
| Arrive On Green | 0.09 | 0.09 | 0.79 | 0.79 | 0.79 | 0.79 |
| Sat Flow, veh/h | 1781 | 1585 | 298 | 2423 | 3429 | 63 |
| Grp Volume(v), veh/h | 23 | 87 | 331 | 419 | 420 | 439 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1127 | 1514 | 1664 | 1740 |
| Q Serve(g_s), s | 1.3 | 5.8 | 1.8 | 8.7 | 7.6 | 7.6 |
| Cycle Q Clear(g_c), s | 1.3 | 5.8 | 9.5 | 8.7 | 7.6 | 7.6 |
| Prop In Lane | 1.00 | 1.00 | 0.29 | | | 0.04 |
| Lane Grp Cap(c), veh/h | 156 | 139 | 937 | 1203 | 1321 | 1382 |
| V/C Ratio(X) | 0.15 | 0.63 | 0.35 | 0.35 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 453 | 403 | 937 | 1203 | 1321 | 1382 |
| 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 | 46.4 | 48.4 | 3.0 | 3.2 | 3.1 | 3.1 |
| Incr Delay (d2), s/veh | 0.4 | 4.5 | 1.0 | 0.8 | 0.6 | 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 | 0.6 | 2.5 | 1.7 | 2.2 | 2.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.8 | 53.0 | 4.0 | 4.0 | 3.8 | 3.7 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 110 | | | 750 | 859 | |
| Approach Delay, s/veh | 51.7 | | | 4.0 | 3.7 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 93.3 | | 16.7 | | 93.3 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | 28.0 | | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 11.5 | | 7.8 | | 9.6 |
| Green Ext Time (p_c), s | | 4.2 | | 0.4 | | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.9 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 100 | 31 | 5 | 100 | 28 | 3 |
| Future Vol, veh/h | 100 | 31 | 5 | 100 | 28 | 3 |
| 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 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 115 | 36 | 6 | 115 | 32 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 151 | 0 | 260 | 133 |
| Stage 1 | - | - | - | - | 133 | - |
| Stage 2 | - | - | - | - | 127 | - |
| 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 | - | - | 1430 | - | 729 | 916 |
| Stage 1 | - | - | - | - | 893 | - |
| Stage 2 | - | - | - | - | 899 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1430 | - | 726 | 916 |
| Mov Cap-2 Maneuver | - | - | - | - | 726 | - |
| Stage 1 | - | - | - | - | 893 | - |
| Stage 2 | - | - | - | - | 895 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 10.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 741 | - | - | 1430 | - |
| HCM Lane V/C Ratio | 0.048 | - | - | 0.004 | - |
| HCM Control Delay (s) | 10.1 | - | - | 7.5 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.2 |
| Intersection LOS | A |

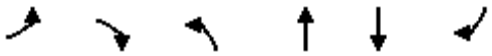
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 27 | 105 | 87 | 21 | 110 | 17 | 101 | 39 | 16 | 12 | 31 | 34 |
| Future Vol, veh/h | 27 | 105 | 87 | 21 | 110 | 17 | 101 | 39 | 16 | 12 | 31 | 34 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 109 | 91 | 22 | 115 | 18 | 105 | 41 | 17 | 13 | 32 | 35 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.4 | 9 | 9.5 | 8.4 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 65% | 12% | 14% | 16% |
| Vol Thru, % | 25% | 48% | 74% | 40% |
| Vol Right, % | 10% | 40% | 11% | 44% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 156 | 219 | 148 | 77 |
| LT Vol | 101 | 27 | 21 | 12 |
| Through Vol | 39 | 105 | 110 | 31 |
| RT Vol | 16 | 87 | 17 | 34 |
| Lane Flow Rate | 162 | 228 | 154 | 80 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.225 | 0.286 | 0.204 | 0.107 |
| Departure Headway (Hd) | 4.983 | 4.509 | 4.759 | 4.801 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 717 | 794 | 751 | 741 |
| Service Time | 3.041 | 2.557 | 2.814 | 2.866 |
| HCM Lane V/C Ratio | 0.226 | 0.287 | 0.205 | 0.108 |
| HCM Control Delay | 9.5 | 9.4 | 9 | 8.4 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.9 | 1.2 | 0.8 | 0.4 |

PROJECTED TRAFFIC CONDITIONS (2025)

AM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 28 | 133 | 116 | 597 | 493 | 16 |
| Future Volume (veh/h) | 28 | 133 | 116 | 597 | 493 | 16 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 30 | 143 | 125 | 642 | 530 | 17 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 204 | 181 | 355 | 1750 | 2440 | 78 |
| Arrive On Green | 0.11 | 0.11 | 0.74 | 0.74 | 0.74 | 0.74 |
| Sat Flow, veh/h | 1781 | 1585 | 407 | 2441 | 3379 | 105 |
| Grp Volume(v), veh/h | 30 | 143 | 356 | 411 | 268 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1253 | 1514 | 1664 | 1733 |
| Q Serve(g_s), s | 1.4 | 7.9 | 3.9 | 8.7 | 4.5 | 4.5 |
| Cycle Q Clear(g_c), s | 1.4 | 7.9 | 8.3 | 8.7 | 4.5 | 4.5 |
| Prop In Lane | 1.00 | 1.00 | 0.35 | | | 0.06 |
| Lane Grp Cap(c), veh/h | 204 | 181 | 983 | 1122 | 1234 | 1284 |
| V/C Ratio(X) | 0.15 | 0.79 | 0.36 | 0.37 | 0.22 | 0.22 |
| Avail Cap(c_a), veh/h | 455 | 405 | 983 | 1122 | 1234 | 1284 |
| 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 | 35.9 | 38.8 | 4.0 | 4.1 | 3.6 | 3.6 |
| Incr Delay (d2), s/veh | 0.3 | 7.4 | 1.0 | 0.9 | 0.4 | 0.4 |
| 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 | 3.4 | 1.9 | 2.3 | 1.3 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.2 | 46.2 | 5.0 | 5.1 | 4.0 | 4.0 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 173 | | | 767 | 547 | |
| Approach Delay, s/veh | 44.5 | | | 5.0 | 4.0 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 72.7 | | 17.3 | | 72.7 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 54.0 | | 23.0 | | 54.0 |
| Max Q Clear Time (g_c+I1), s | | 10.7 | | 9.9 | | 6.5 |
| Green Ext Time (p_c), s | | 4.0 | | 0.5 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.2 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 170 | 14 | 2 | 148 | 30 | 4 |
| Future Vol, veh/h | 170 | 14 | 2 | 148 | 30 | 4 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 210 | 17 | 2 | 183 | 37 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 227 | 0 | 406 | 219 |
| Stage 1 | - | - | - | - | 219 | - |
| Stage 2 | - | - | - | - | 187 | - |
| 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 | - | - | 1341 | - | 601 | 821 |
| Stage 1 | - | - | - | - | 817 | - |
| Stage 2 | - | - | - | - | 845 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1341 | - | 600 | 821 |
| Mov Cap-2 Maneuver | - | - | - | - | 600 | - |
| Stage 1 | - | - | - | - | 817 | - |
| Stage 2 | - | - | - | - | 843 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 11.2 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 620 | - | - | 1341 | - |
| HCM Lane V/C Ratio | 0.068 | - | - | 0.002 | - |
| HCM Control Delay (s) | 11.2 | - | - | 7.7 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 6 | 165 | 170 | 8 | 19 | 12 |
| Future Vol, veh/h | 6 | 165 | 170 | 8 | 19 | 12 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 204 | 210 | 10 | 23 | 15 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 220 | 0 | - | 0 | 433 | 215 |
| Stage 1 | - | - | - | - | 215 | - |
| Stage 2 | - | - | - | - | 218 | - |
| 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 | 1349 | - | - | - | 580 | 825 |
| Stage 1 | - | - | - | - | 821 | - |
| Stage 2 | - | - | - | - | 818 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1349 | - | - | - | 577 | 825 |
| Mov Cap-2 Maneuver | - | - | - | - | 577 | - |
| Stage 1 | - | - | - | - | 816 | - |
| Stage 2 | - | - | - | - | 818 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.3 | 0 | 10.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1349 | - | - | - | 653 |
| HCM Lane V/C Ratio | 0.005 | - | - | - | 0.059 |
| HCM Control Delay (s) | 7.7 | 0 | - | - | 10.9 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.2 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 27.5 |
| Intersection LOS | D |

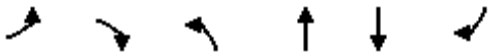
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 129 | 144 | 34 | 171 | 58 | 144 | 95 | 24 | 53 | 98 | 126 |
| Future Vol, veh/h | 73 | 129 | 144 | 34 | 171 | 58 | 144 | 95 | 24 | 53 | 98 | 126 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 152 | 169 | 40 | 201 | 68 | 169 | 112 | 28 | 62 | 115 | 148 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 34.5 | 23.8 | 25.1 | 24.7 |
| HCM LOS | D | C | D | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 55% | 21% | 13% | 19% |
| Vol Thru, % | 36% | 37% | 65% | 35% |
| Vol Right, % | 9% | 42% | 22% | 45% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 263 | 346 | 263 | 277 |
| LT Vol | 144 | 73 | 34 | 53 |
| Through Vol | 95 | 129 | 171 | 98 |
| RT Vol | 24 | 144 | 58 | 126 |
| Lane Flow Rate | 309 | 407 | 309 | 326 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.667 | 0.812 | 0.651 | 0.674 |
| Departure Headway (Hd) | 7.758 | 7.18 | 7.575 | 7.446 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 464 | 505 | 476 | 486 |
| Service Time | 5.827 | 5.242 | 5.644 | 5.514 |
| HCM Lane V/C Ratio | 0.666 | 0.806 | 0.649 | 0.671 |
| HCM Control Delay | 25.1 | 34.5 | 23.8 | 24.7 |
| HCM Lane LOS | D | D | C | C |
| HCM 95th-tile Q | 4.8 | 7.8 | 4.6 | 4.9 |

PROJECTED TRAFFIC CONDITIONS (2025)

PM PEAK



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 25 | 94 | 106 | 641 | 826 | 19 |
| Future Volume (veh/h) | 25 | 94 | 106 | 641 | 826 | 19 |
| 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 | 1752 | 1752 | 1870 |
| Adj Flow Rate, veh/h | 26 | 96 | 108 | 654 | 843 | 19 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 10 | 10 | 2 |
| Cap, veh/h | 158 | 141 | 300 | 1785 | 2639 | 59 |
| Arrive On Green | 0.09 | 0.09 | 0.79 | 0.79 | 0.79 | 0.79 |
| Sat Flow, veh/h | 1781 | 1585 | 323 | 2331 | 3415 | 75 |
| Grp Volume(v), veh/h | 26 | 96 | 327 | 435 | 422 | 440 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1060 | 1514 | 1664 | 1738 |
| Q Serve(g_s), s | 1.5 | 6.5 | 3.8 | 9.2 | 7.7 | 7.7 |
| Cycle Q Clear(g_c), s | 1.5 | 6.5 | 11.6 | 9.2 | 7.7 | 7.7 |
| Prop In Lane | 1.00 | 1.00 | 0.33 | | | 0.04 |
| Lane Grp Cap(c), veh/h | 158 | 141 | 884 | 1201 | 1320 | 1379 |
| V/C Ratio(X) | 0.16 | 0.68 | 0.37 | 0.36 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 453 | 403 | 884 | 1201 | 1320 | 1379 |
| 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 | 46.3 | 48.6 | 3.3 | 3.3 | 3.2 | 3.2 |
| Incr Delay (d2), s/veh | 0.5 | 5.7 | 1.2 | 0.8 | 0.6 | 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 | 0.7 | 2.8 | 1.7 | 2.4 | 2.2 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.8 | 54.3 | 4.4 | 4.2 | 3.8 | 3.8 |
| LnGrp LOS | D | D | A | A | A | A |
| Approach Vol, veh/h | 122 | | | 762 | 862 | |
| Approach Delay, s/veh | 52.7 | | | 4.3 | 3.8 | |
| Approach LOS | D | | | A | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
| Phs Duration (G+Y+Rc), s | | 93.2 | | 16.8 | | 93.2 |
| Change Period (Y+Rc), s | | 6.0 | | 7.0 | | 6.0 |
| Max Green Setting (Gmax), s | | 69.0 | | 28.0 | | 69.0 |
| Max Q Clear Time (g_c+I1), s | | 13.6 | | 8.5 | | 9.7 |
| Green Ext Time (p_c), s | | 4.4 | | 0.4 | | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.4 |
| HCM 6th LOS | A |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 112 | 33 | 5 | 116 | 31 | 3 |
| Future Vol, veh/h | 112 | 33 | 5 | 116 | 31 | 3 |
| 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 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 129 | 38 | 6 | 133 | 36 | 3 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 167 | 0 | 293 | 148 |
| Stage 1 | - | - | - | - | 148 | - |
| Stage 2 | - | - | - | - | 145 | - |
| 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 | - | - | 1411 | - | 698 | 899 |
| Stage 1 | - | - | - | - | 880 | - |
| Stage 2 | - | - | - | - | 882 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1411 | - | 695 | 899 |
| Mov Cap-2 Maneuver | - | - | - | - | 695 | - |
| Stage 1 | - | - | - | - | 880 | - |
| Stage 2 | - | - | - | - | 878 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 10.4 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 709 | - | - | 1411 | - |
| HCM Lane V/C Ratio | 0.055 | - | - | 0.004 | - |
| HCM Control Delay (s) | 10.4 | - | - | 7.6 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

| Intersection | | | | | | |
|---|---|---|---|---|---|---|
| Int Delay, s/veh | 1 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 12 | 131 | 129 | 19 | 14 | 9 |
| Future Vol, veh/h | 12 | 131 | 129 | 19 | 14 | 9 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 152 | 150 | 22 | 16 | 10 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 172 | 0 | - | 0 | 341 | 161 |
| Stage 1 | - | - | - | - | 161 | - |
| Stage 2 | - | - | - | - | 180 | - |
| 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 | 1405 | - | - | - | 655 | 884 |
| Stage 1 | - | - | - | - | 868 | - |
| Stage 2 | - | - | - | - | 851 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1405 | - | - | - | 648 | 884 |
| Mov Cap-2 Maneuver | - | - | - | - | 648 | - |
| Stage 1 | - | - | - | - | 858 | - |
| Stage 2 | - | - | - | - | 851 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 0.6 | 0 | 10.2 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1405 | - | - | - | 724 |
| HCM Lane V/C Ratio | 0.01 | - | - | - | 0.037 |
| HCM Control Delay (s) | 7.6 | 0 | - | - | 10.2 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.1 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 27 | 114 | 87 | 23 | 117 | 17 | 101 | 39 | 19 | 12 | 31 | 34 |
| Future Vol, veh/h | 27 | 114 | 87 | 23 | 117 | 17 | 101 | 39 | 19 | 12 | 31 | 34 |
| 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 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 119 | 91 | 24 | 122 | 18 | 105 | 41 | 20 | 13 | 32 | 35 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 9.6 | 9.2 | 9.6 | 8.5 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 64% | 12% | 15% | 16% |
| Vol Thru, % | 25% | 50% | 75% | 40% |
| Vol Right, % | 12% | 38% | 11% | 44% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 159 | 228 | 157 | 77 |
| LT Vol | 101 | 27 | 23 | 12 |
| Through Vol | 39 | 114 | 117 | 31 |
| RT Vol | 19 | 87 | 17 | 34 |
| Lane Flow Rate | 166 | 238 | 164 | 80 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.231 | 0.3 | 0.218 | 0.108 |
| Departure Headway (Hd) | 5.018 | 4.541 | 4.789 | 4.855 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 711 | 786 | 746 | 732 |
| Service Time | 3.081 | 2.594 | 2.847 | 2.927 |
| HCM Lane V/C Ratio | 0.233 | 0.303 | 0.22 | 0.109 |
| HCM Control Delay | 9.6 | 9.6 | 9.2 | 8.5 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.9 | 1.3 | 0.8 | 0.4 |

APPENDIX C

TRIP GENERATION

# Land Use: 215
# Single-Family Attached Housing

## Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

## Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

## Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

# COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
# TRIP GENERATION
# AM PEAK HOUR

| VEHICLE TRIPS BEFORE REDUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Use & Data Source** | **Location** | **Independent Variable** | **Size** | **Time Period** | **Method** | **Entry** | **Exit** | **Total** |
| | | | | | **Rate/Equation** | **Split%** | **Split%** | |
| 215 - Single-Family Attached Housing | General Urban/Suburban | Dwelling Units | 95 | AM Peak Hour | Average | 14 | 31 | 45 |
| | | | | | 0.48 | 31% | 69% | |

| NEW VEHICLE TRIPS | | | |
|---|---|---|---|
| Land Use | New Vehicle Trips | | |
| | Entry | Exit | Total |
| 215 - Single-Family Attached Housing | 14 | 31 | 45 |

| RESULTS | | | |
|---|---|---|---|
| Site Totals | Entry | Exit | Total |
| New Vehicle Trips | 14 | 31 | 45 |

Data Source: Trip Generation Manual, 11th Ed

# COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
# TRIP GENERATION
# PM PEAK HOUR

| VEHICLE TRIPS BEFORE REDUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Use & Data Source** | **Location** | **Independent Variable** | **Size** | **Time Period** | **Method** | **Entry** | **Exit** | **Total** |
| | | | | | **Rate/Equation** | **Split%** | **Split%** | |
| 215 - Single-Family Attached Housing | General Urban/Suburban | Dwelling Units | 95 | PM Peak Hour | Average | 31 | 23 | 54 |
| | | | | | 0.57 | 57% | 43% | |

| NEW VEHICLE TRIPS | | | |
|---|---|---|---|
| Land Use | New Vehicle Trips | | |
| | Entry | Exit | Total |
| 215 - Single-Family Attached Housing | 31 | 23 | 54 |

| RESULTS | | | |
|---|---|---|---|
| Site Totals | Entry | Exit | Total |
| New Vehicle Trips | 31 | 23 | 54 |

Data Source: Trip Generation Manual, 11th Ed

# COLLEGE STREET TOWNHOMES RESIDENTIAL DEVELOPMENT
# TRIP GENERATION
# WEEKDAY

| VEHICLE TRIPS BEFORE REDUCTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land Use & Data Source** | **Location** | **Independent Variable** | **Size** | **Time Period** | **Method** | **Entry** | **Exit** | **Total** |
| | | | | | **Rate/Equation** | **Split%** | **Split%** | |
| 215 - Single-Family Attached Housing | General Urban/Suburban | Dwelling Units | 95 | Weekday | Best Fit (LIN) | 337 | 337 | 674 |
| | | | | | T = 7.62(X) - 50.48 | 50% | 50% | |

| NEW VEHICLE TRIPS | | | |
|---|---|---|---|
| Land Use | New Vehicle Trips | | |
| | Entry | Exit | Total |
| 215 - Single-Family Attached Housing | 337 | 337 | 674 |

| RESULTS | | | |
|---|---|---|---|
| Site Totals | Entry | Exit | Total |
| New Vehicle Trips | 337 | 337 | 674 |

Data Source: Trip Generation Manual, 11th Ed

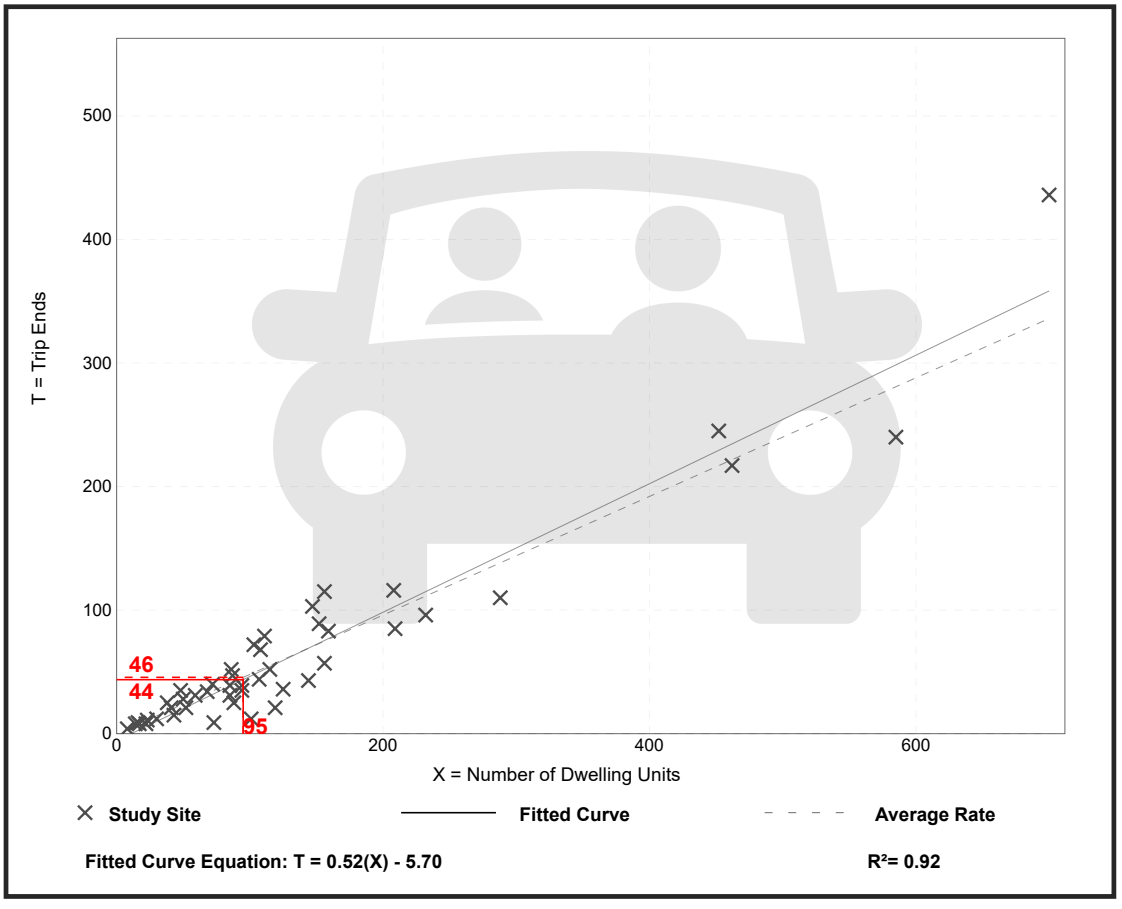
# Single-Family Attached Housing
(215)

**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: 46
Avg. Num. of Dwelling Units: 135
Directional Distribution: 31% entering, 69% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.48 | 0.12 - 0.74 | 0.14 |

## Data Plot and Equation

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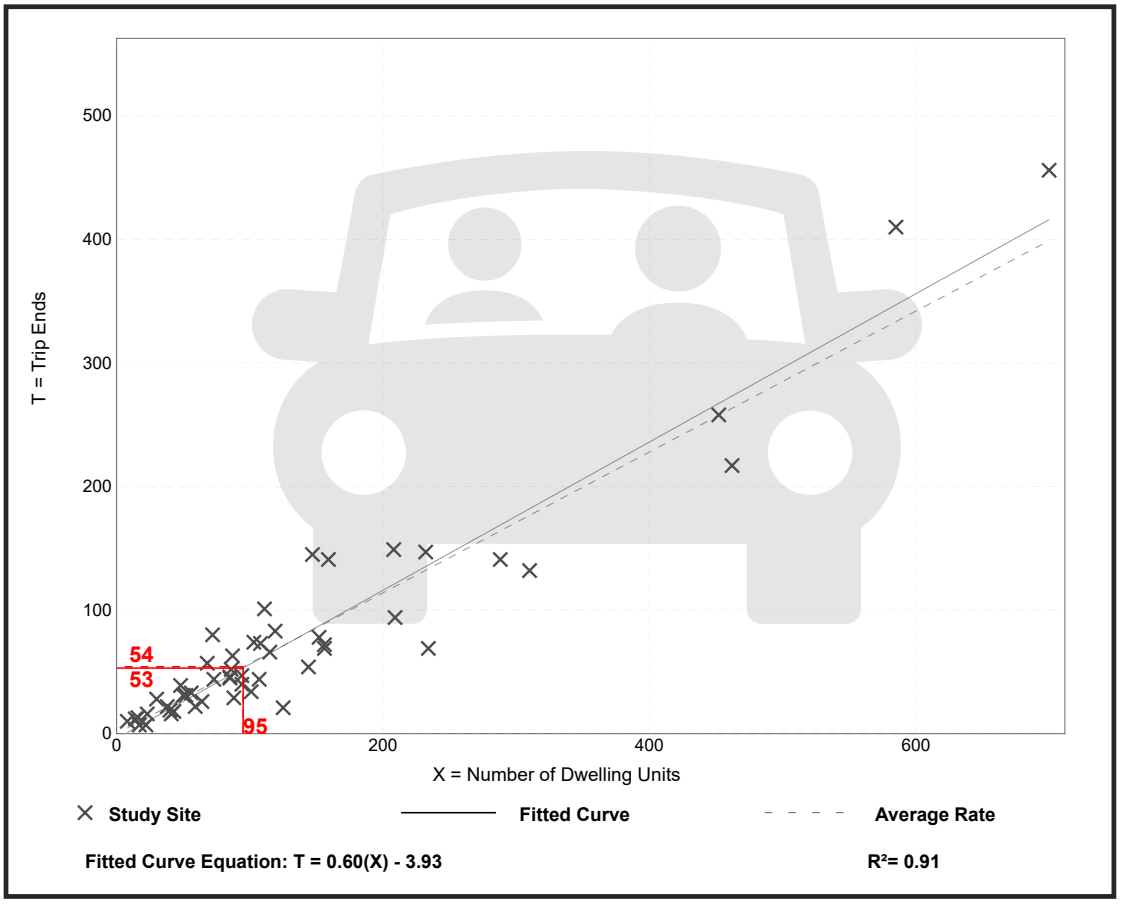
# Single-Family Attached Housing
(215)

**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: 51
Avg. Num. of Dwelling Units: 136
Directional Distribution: 57% entering, 43% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.57 | 0.17 - 1.25 | 0.18 |

## Data Plot and Equation

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# Single-Family Attached Housing
(215)

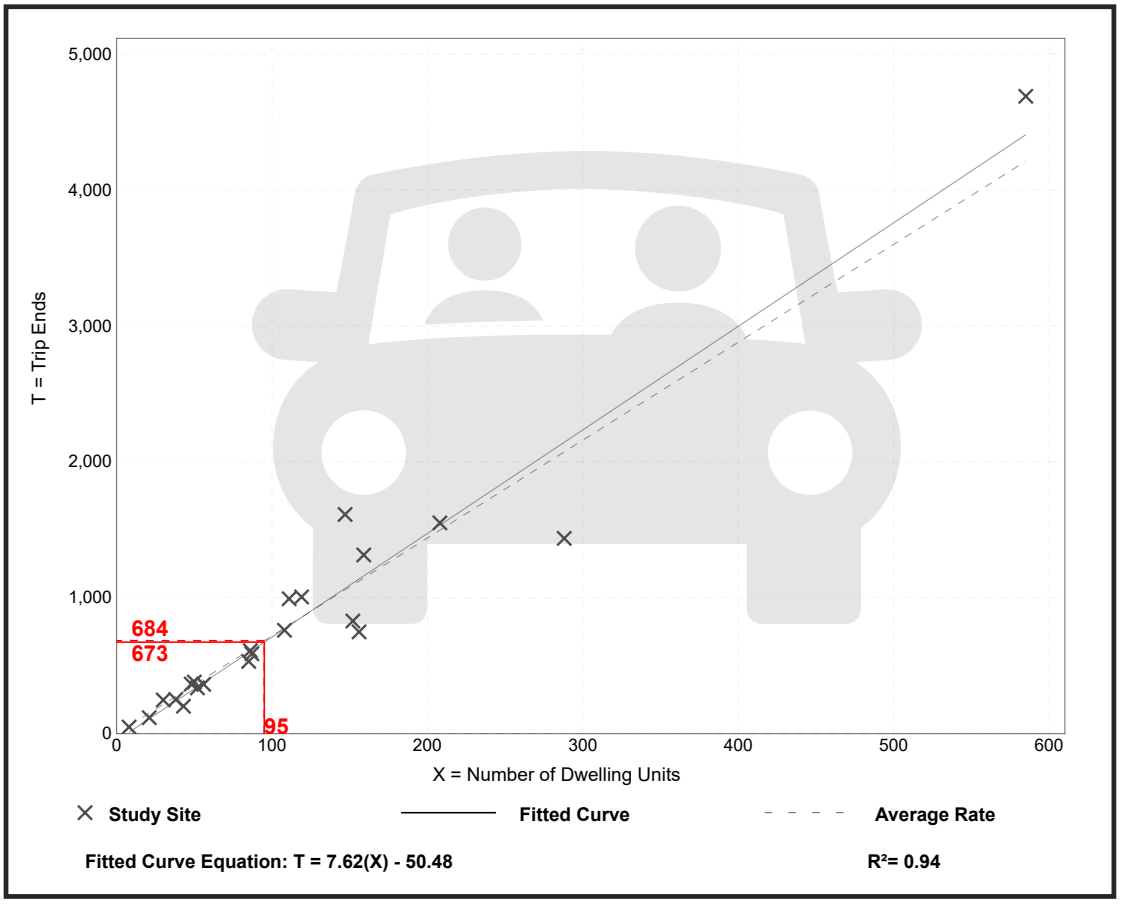
**Vehicle Trip Ends vs:** **Dwelling Units**
**On a:** **Weekday**

**Setting/Location:** **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 120
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 7.20 | 4.70 - 10.97 | 1.61 |

## Data Plot and Equation

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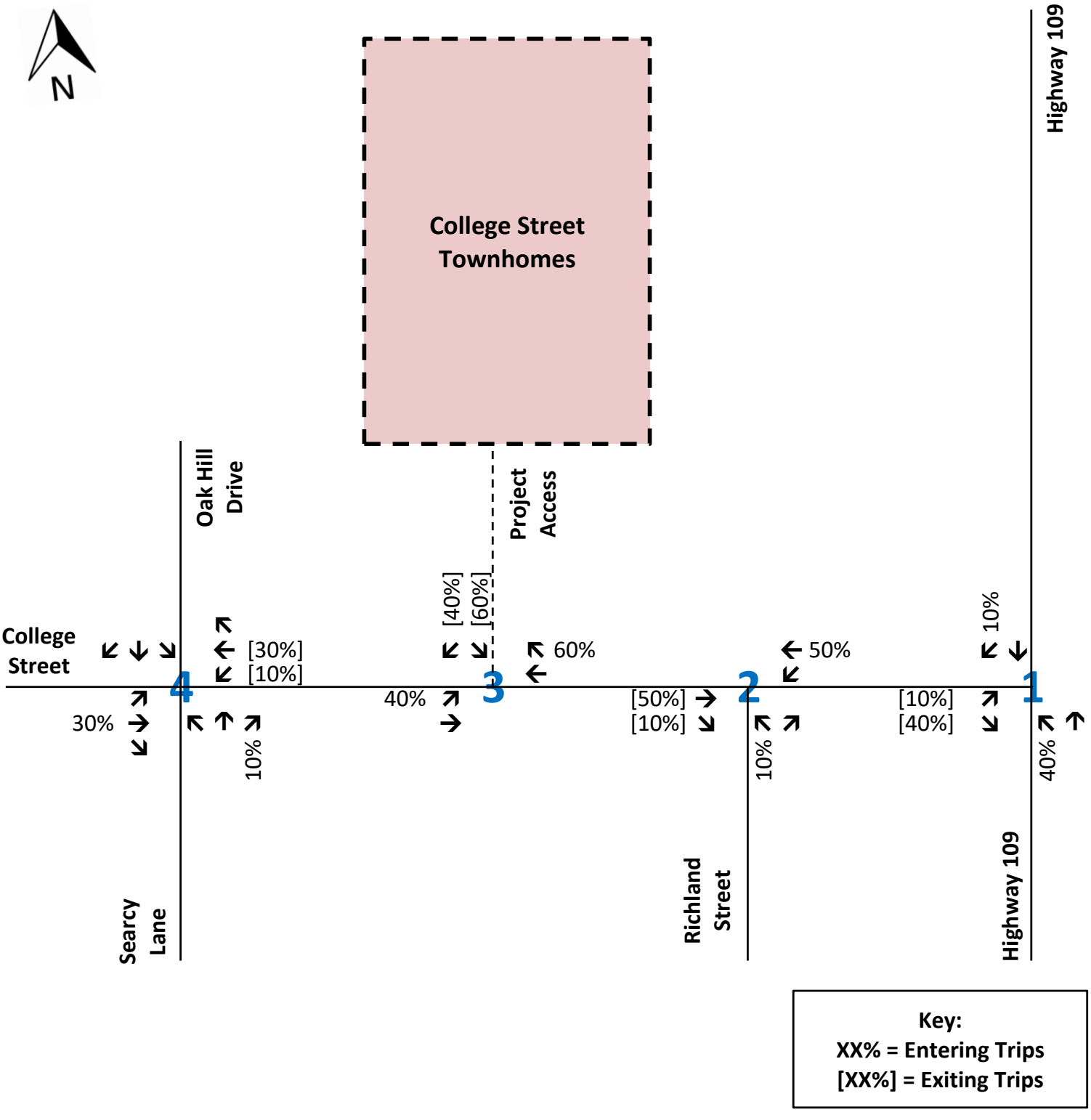
APPENDIX D

TRIP DISTRIBUTION




**Trip Distribution Worksheet**

**Trip Distribution - Townhomes (95 Units)**

College Street Townhomes

Portland, Tennessee

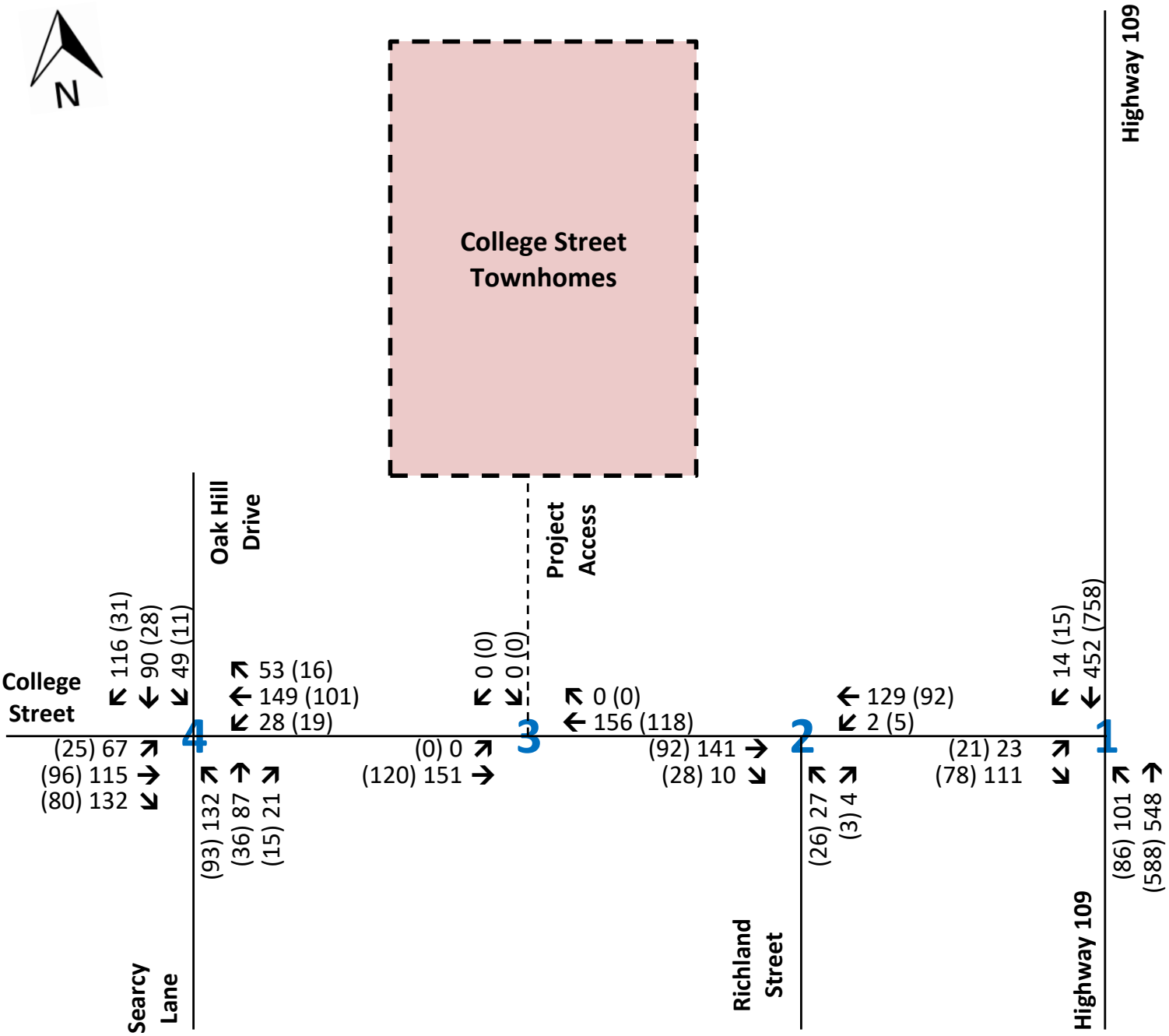
RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

# APPENDIX E

# TRAFFIC ASSIGNMENT

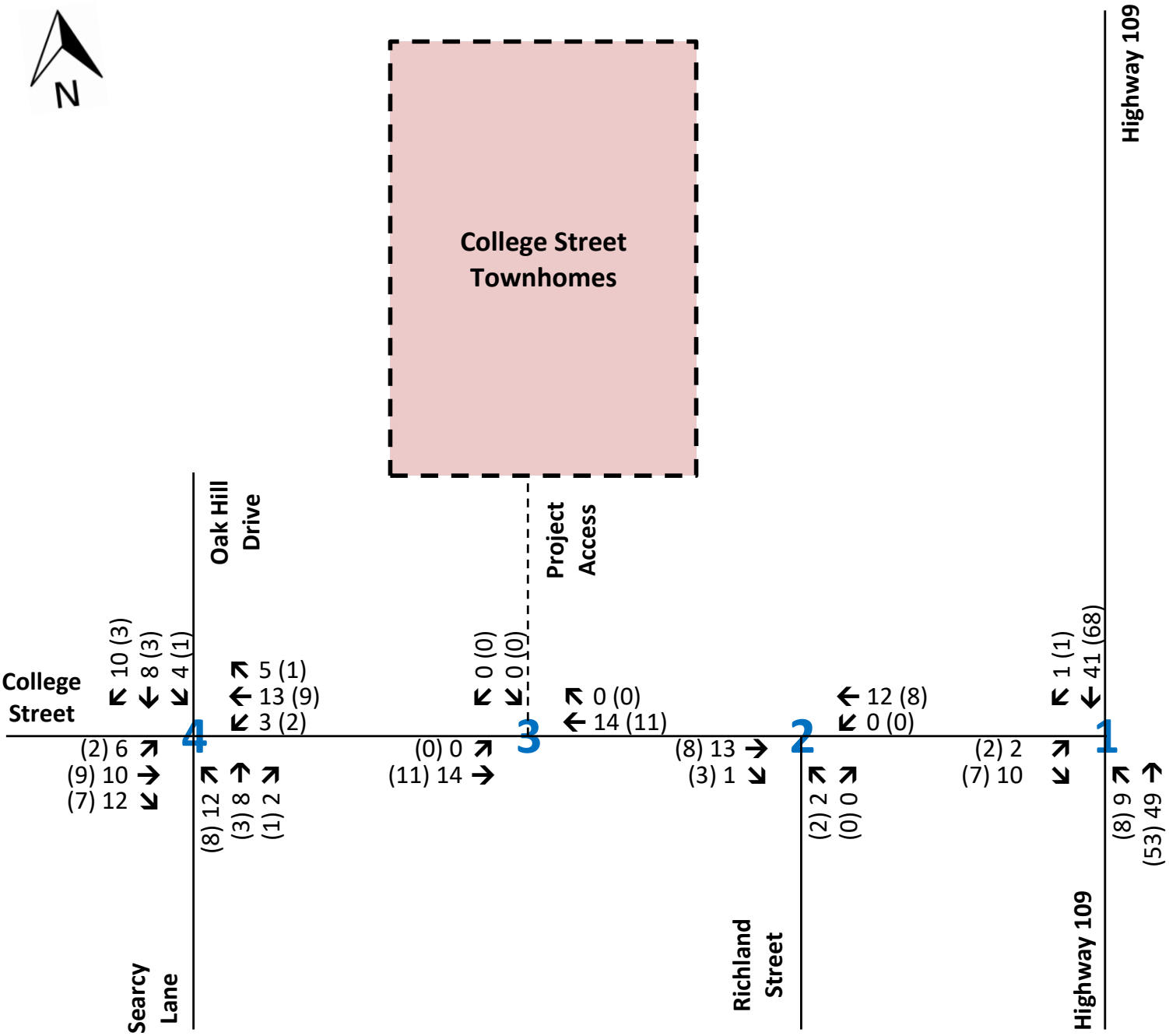
TRAFFIC ASSIGNMENT WORKSHEETS

AM & PM PEAK HOURS




**Traffic Assignment Worksheet**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background - Historical Growth Only (2025)**
College Street Townhomes
Portland, Tennessee

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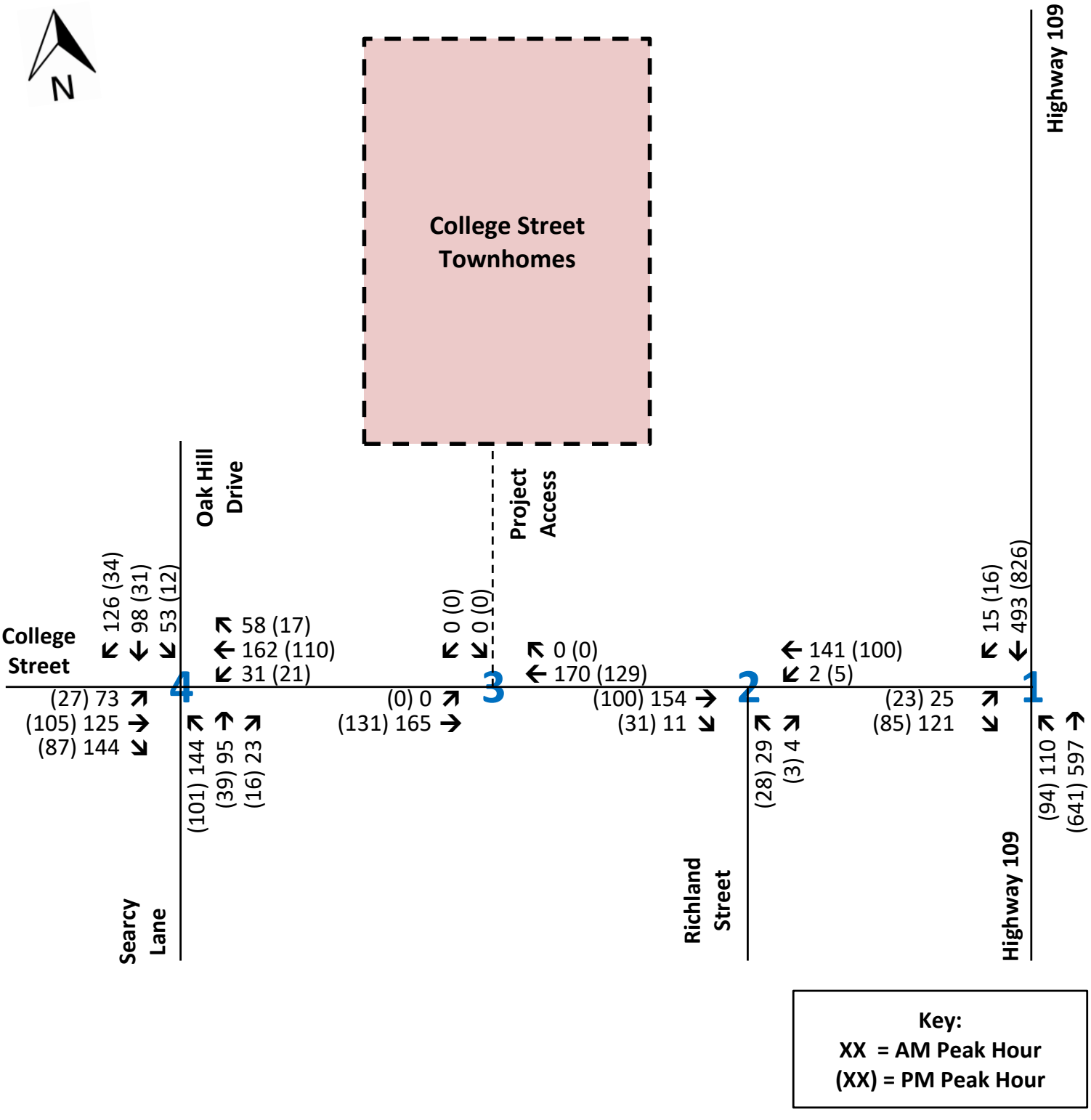
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

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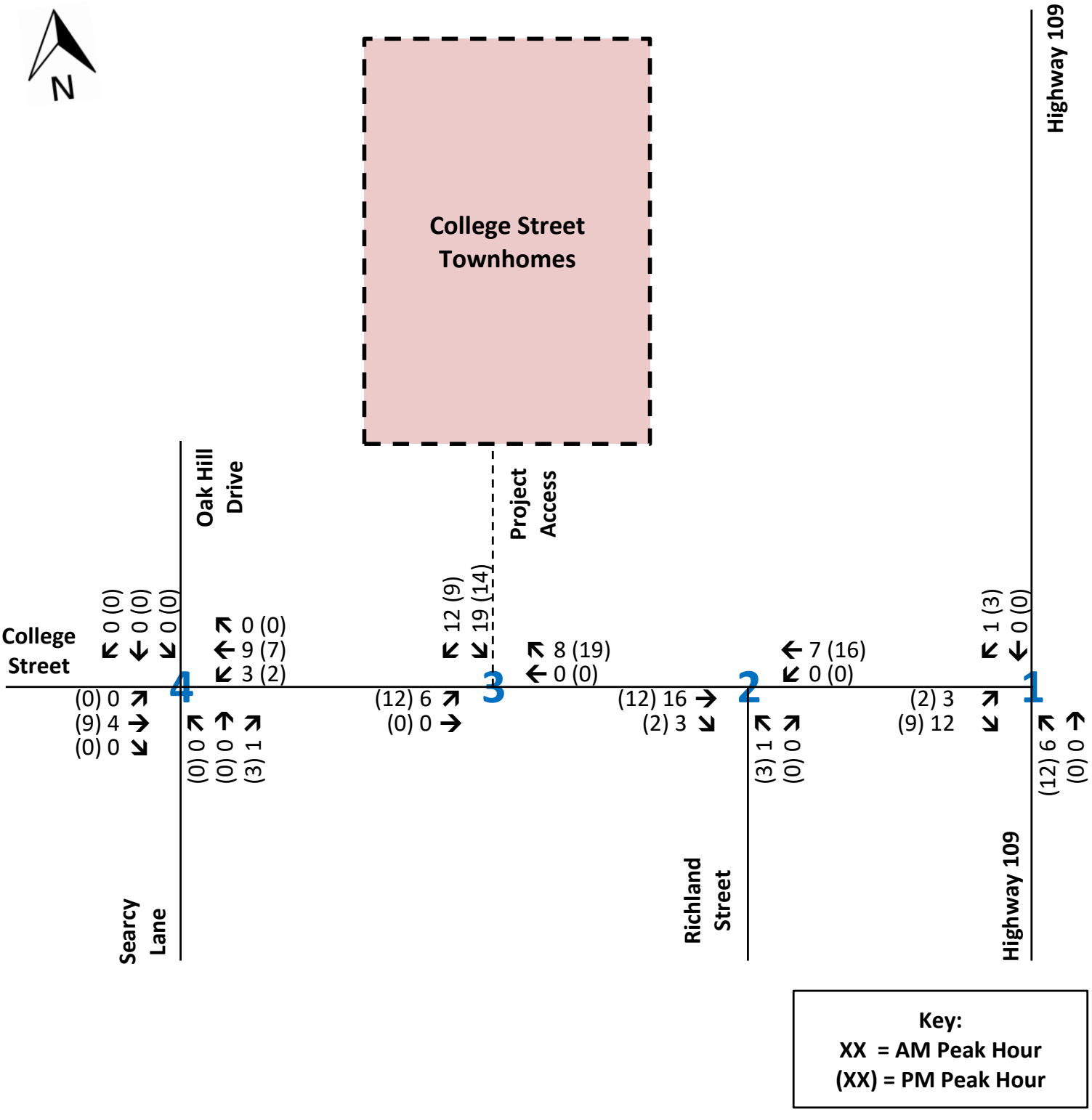
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Traffic Assignment - Townhomes (95 Units)**
College Street Townhomes
Portland, Tennessee

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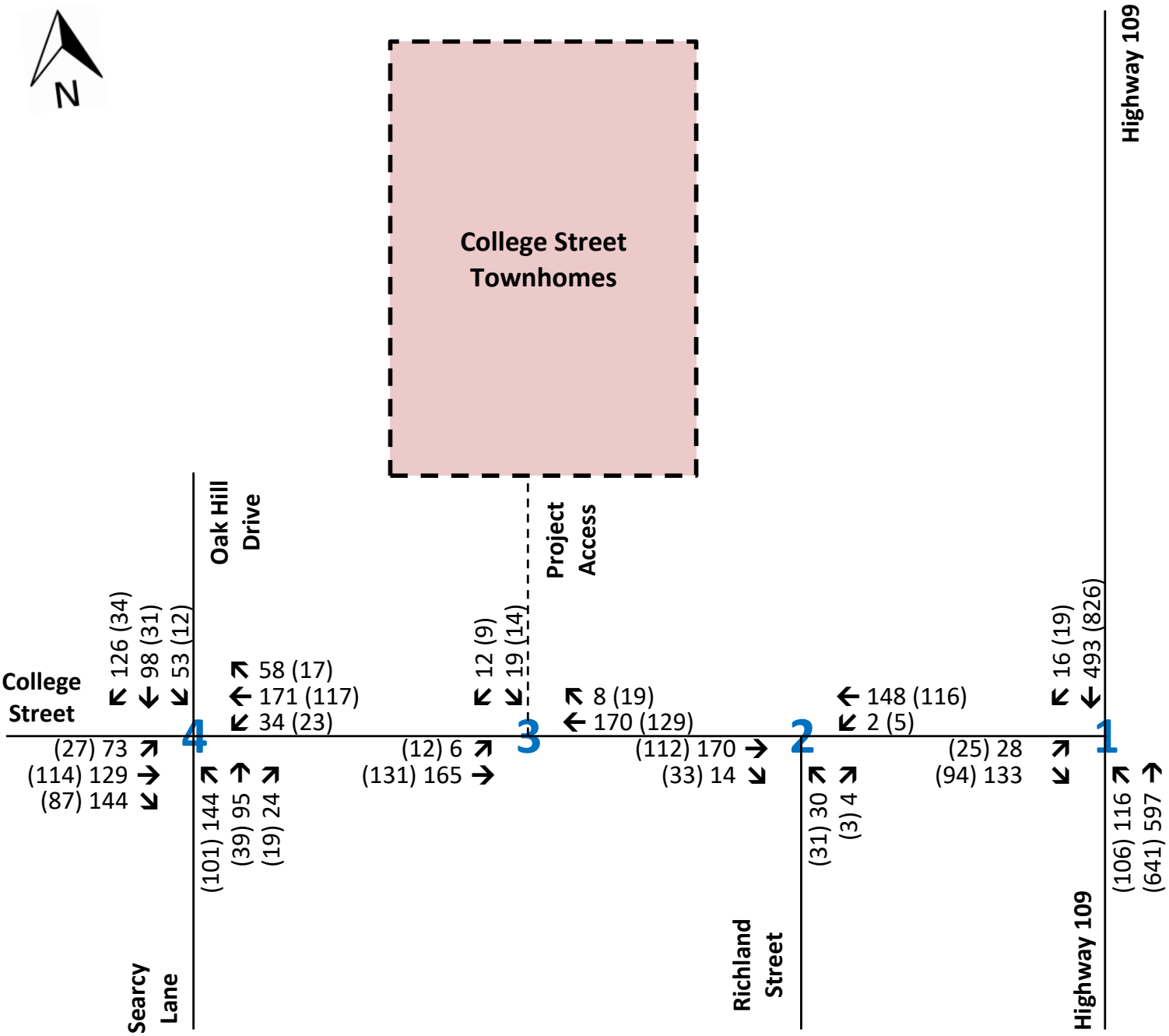
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

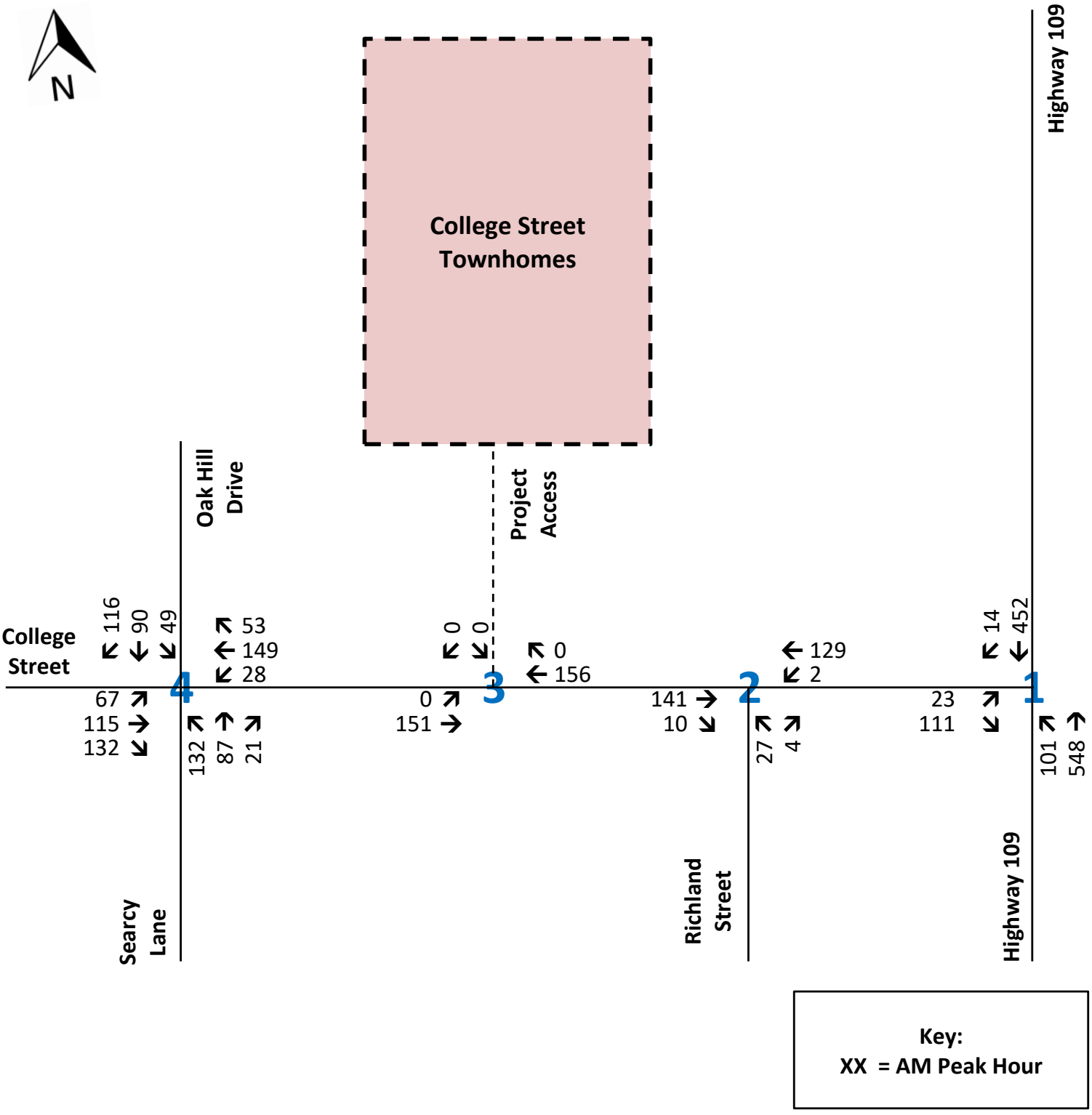



**Traffic Assignment Worksheet**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

TRAFFIC ASSIGNMENT WORKSHEETS

AM PEAK HOUR




**Traffic Assignment Worksheet**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

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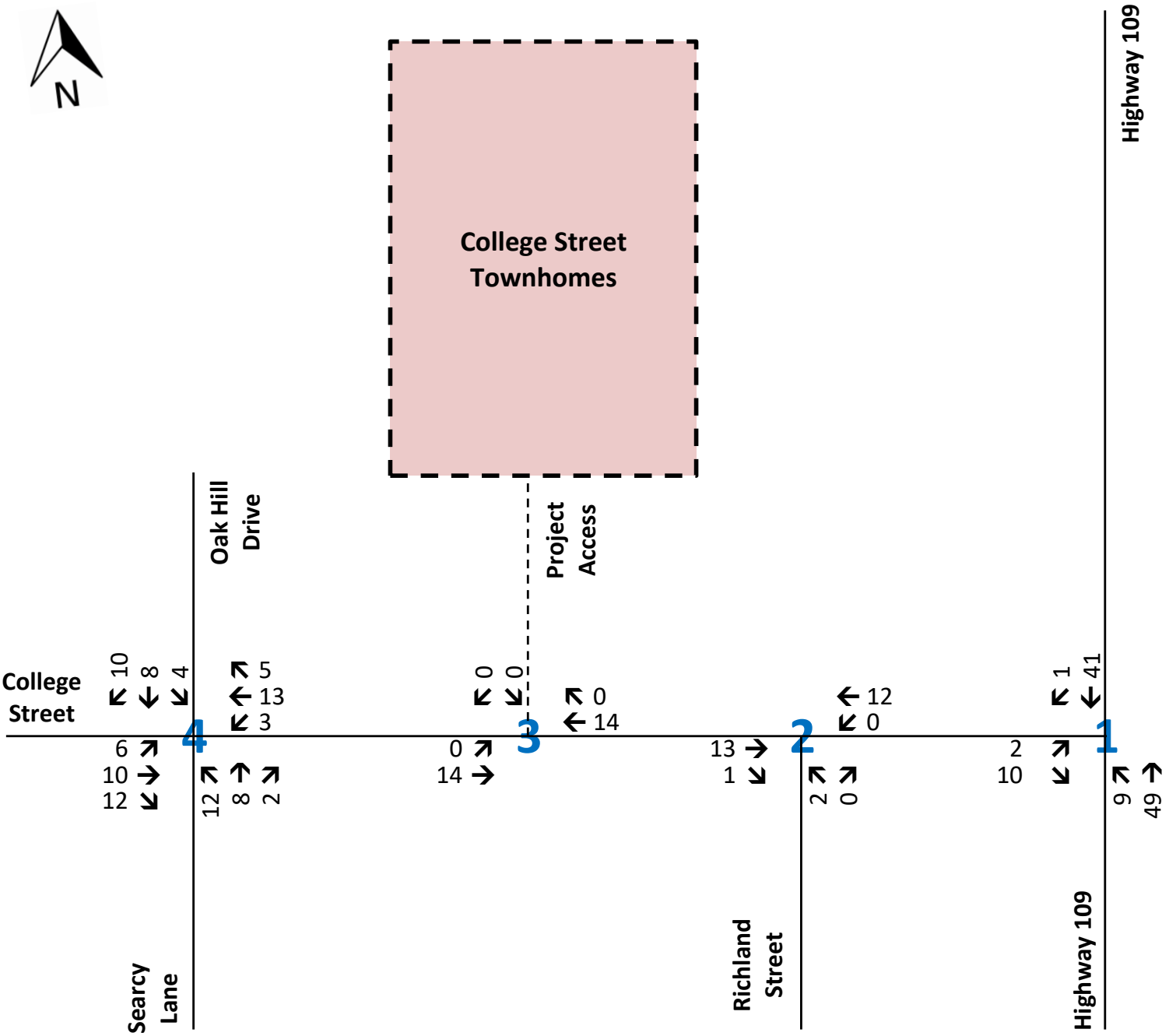
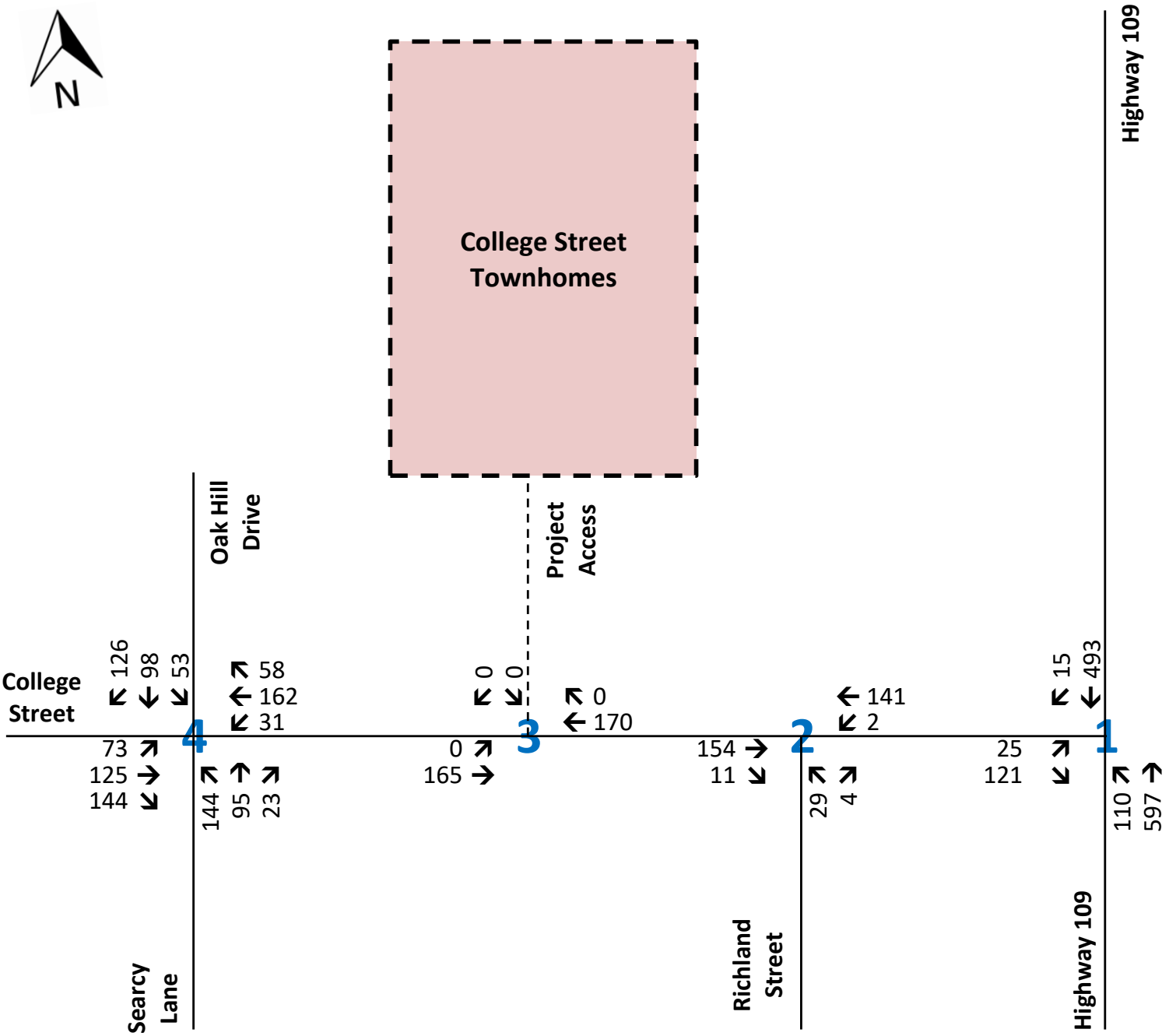
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



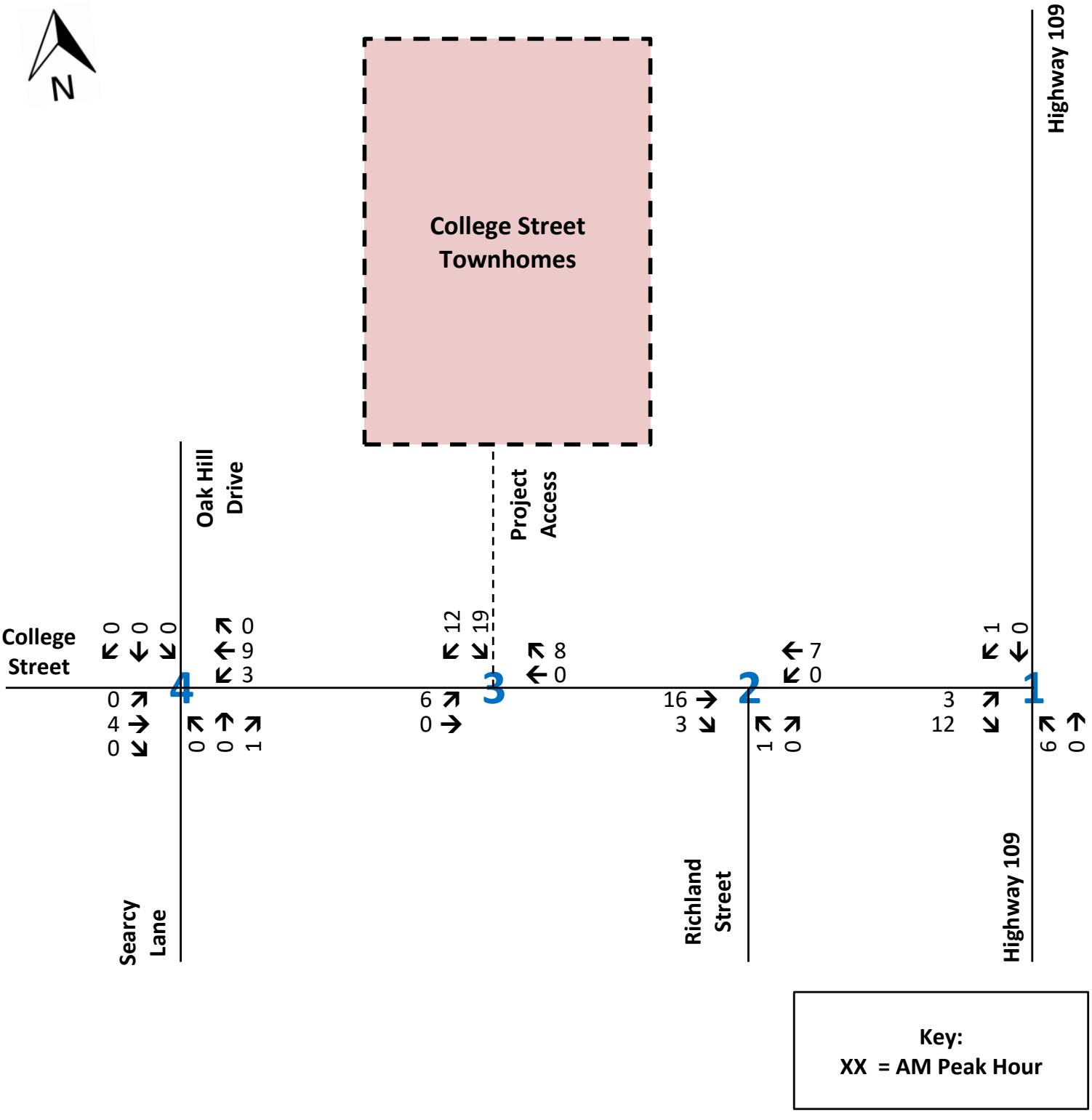

**Traffic Assignment Worksheet**
**Background - Historical Growth Only (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**

**Traffic Assignment - Townhomes (95 Units)**

College Street Townhomes

Portland, Tennessee

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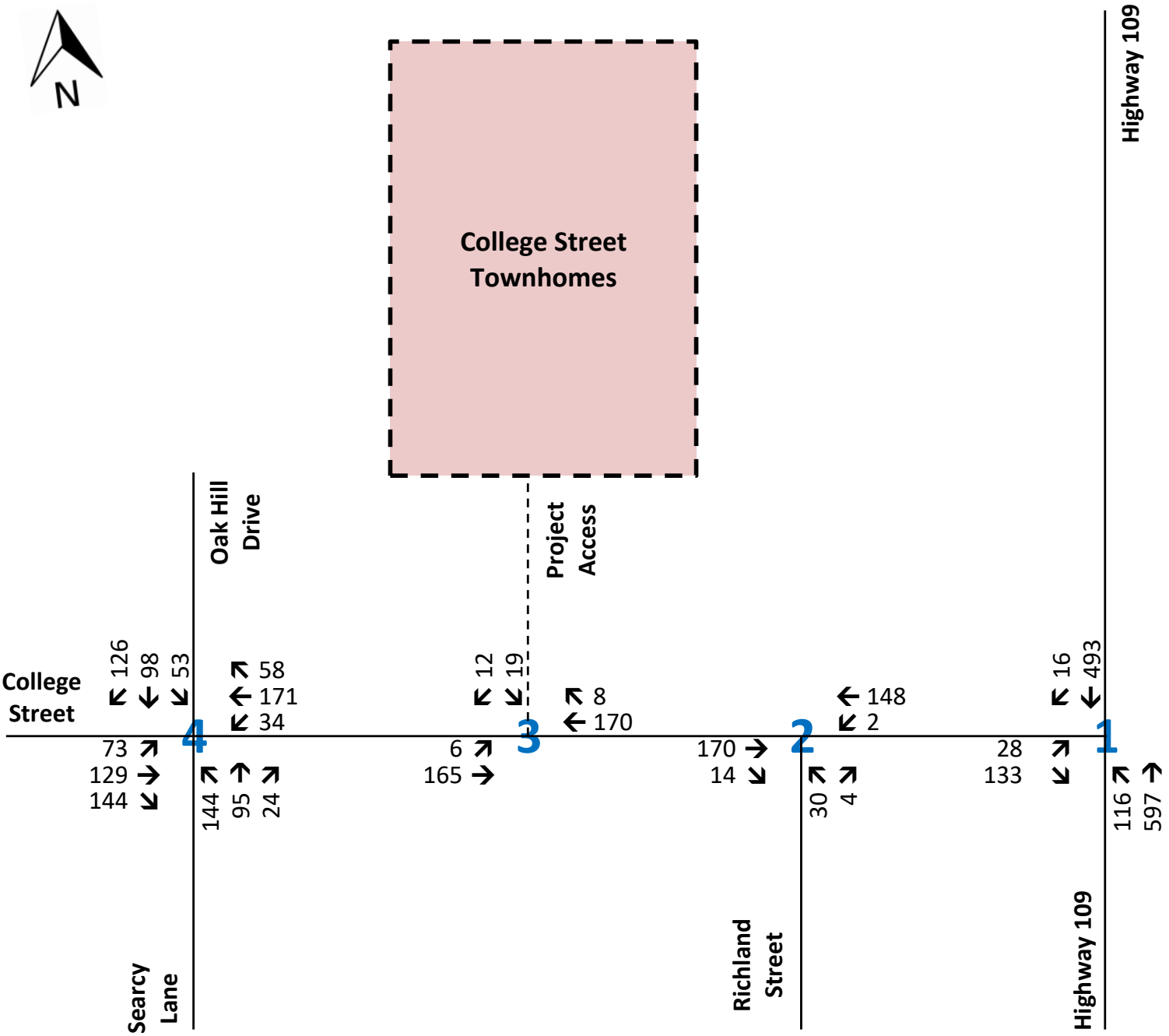
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

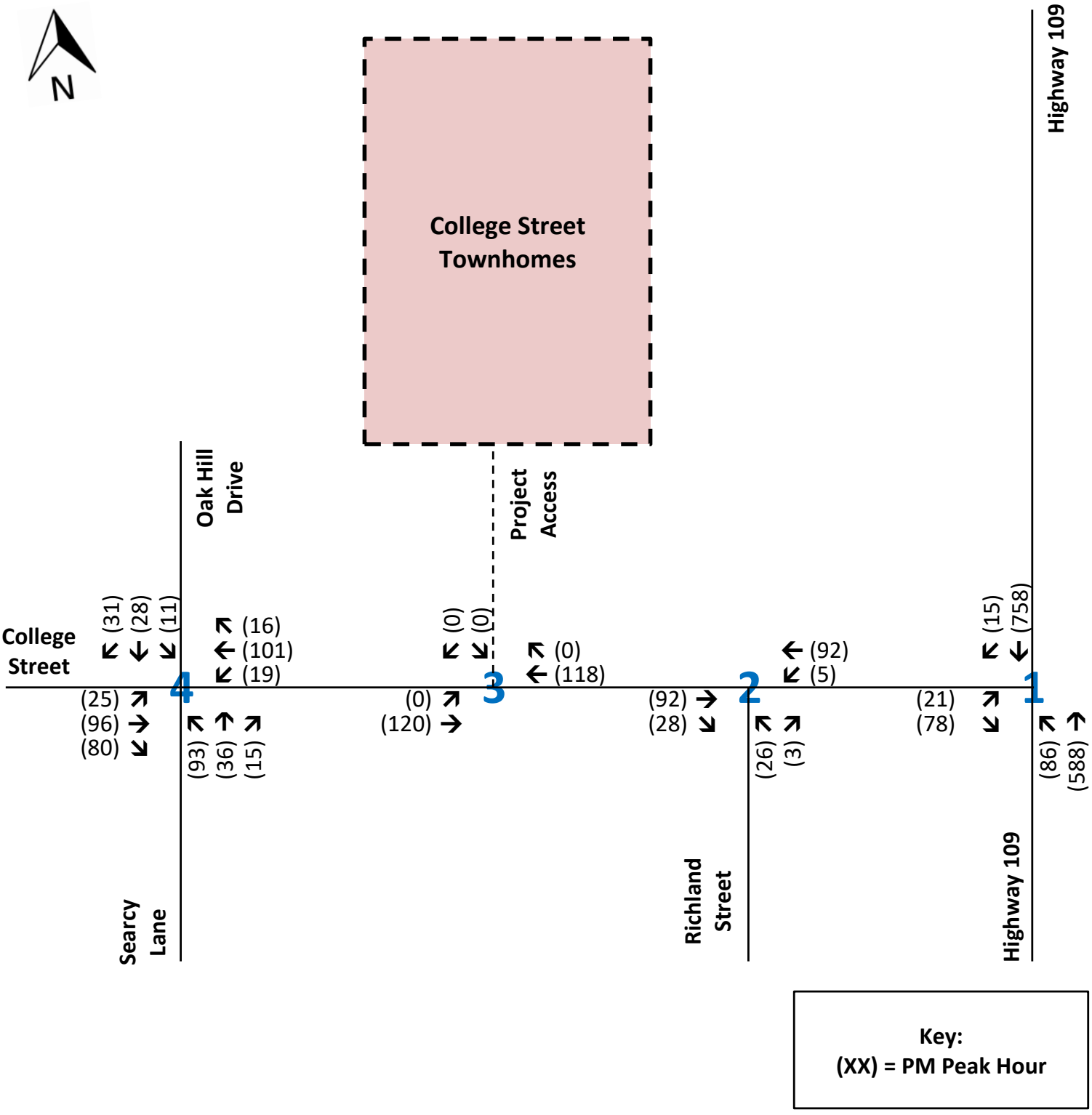



**Traffic Assignment Worksheet**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

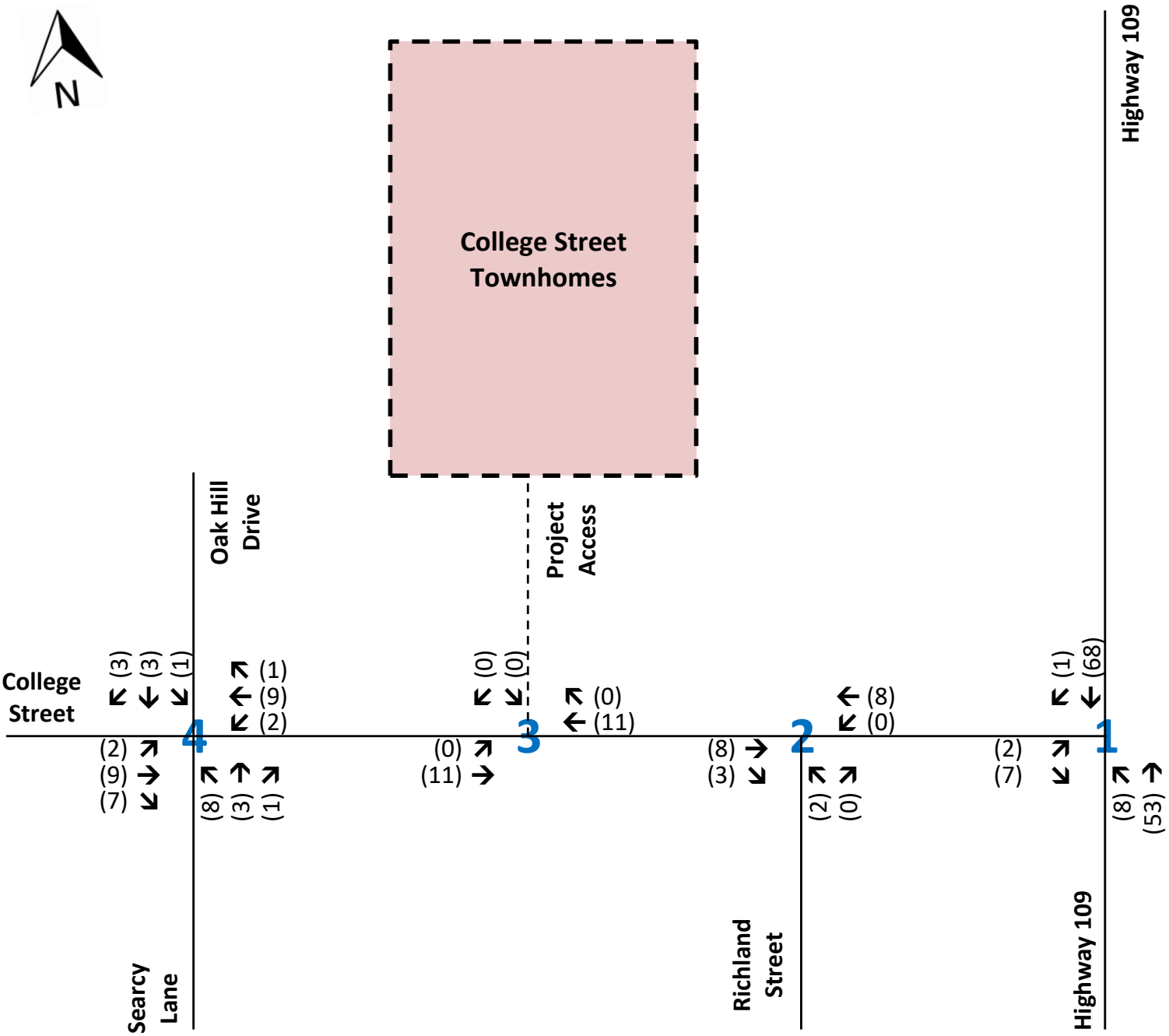
TRAFFIC ASSIGNMENT WORKSHEETS

PM PEAK HOUR



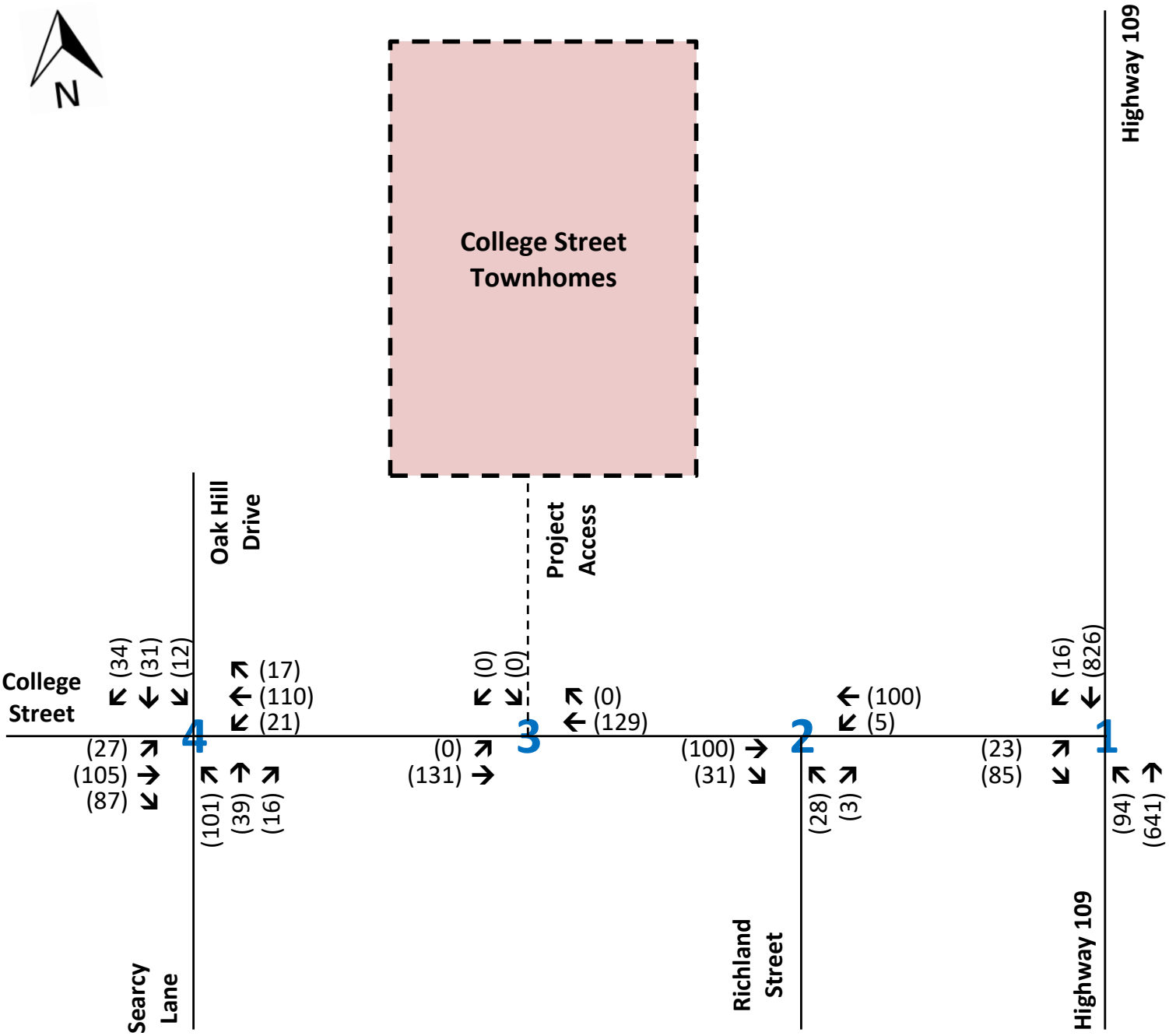

**Traffic Assignment Worksheet**
**Existing Traffic Volumes (2022)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



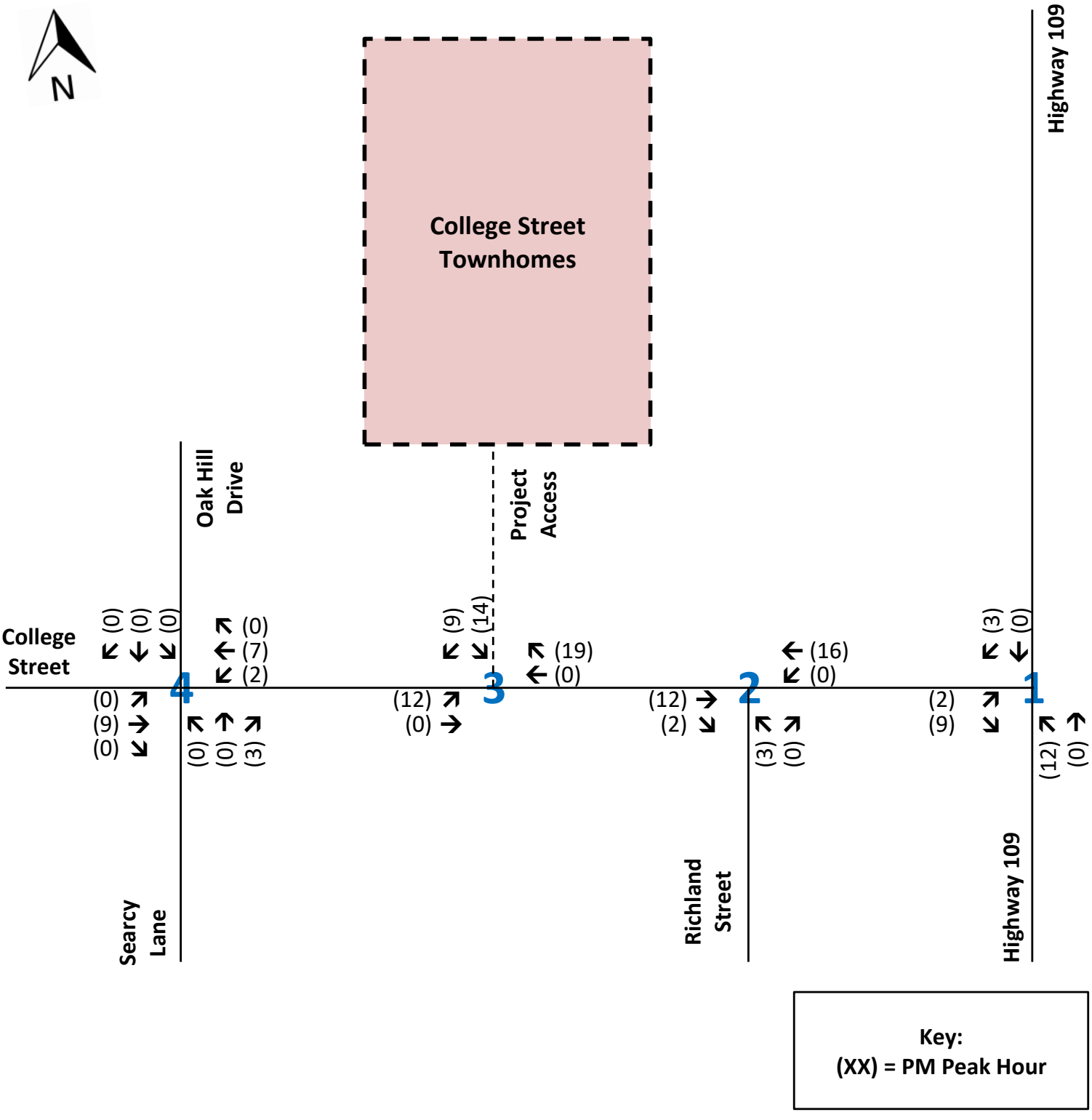

**Traffic Assignment Worksheet**
**Background - Historical Growth Only (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING



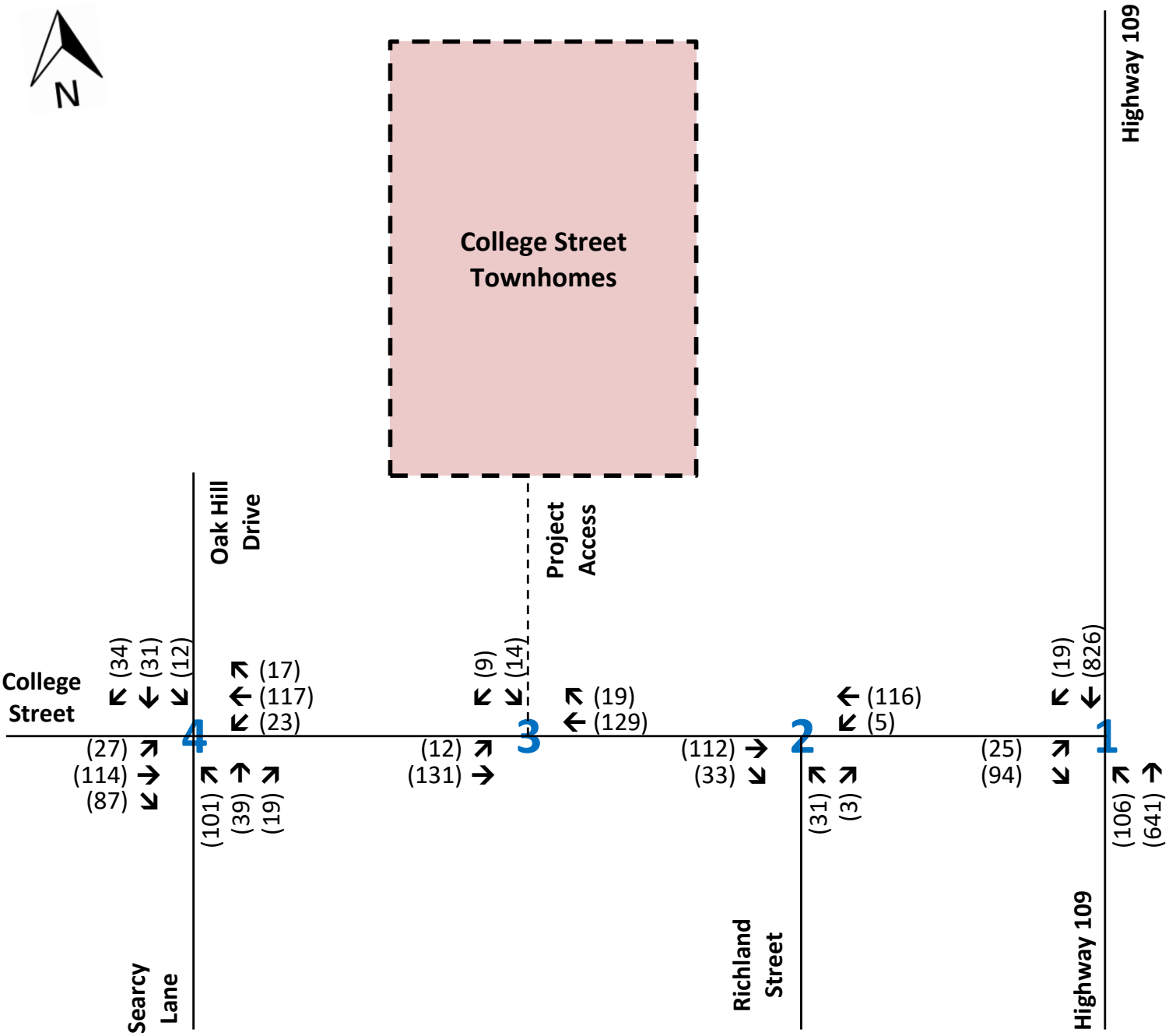

**Traffic Assignment Worksheet**
**Background Traffic Volumes (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Traffic Assignment - Townhomes (95 Units)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING




**Traffic Assignment Worksheet**
**Total Projected Traffic (2025)**
College Street Townhomes
Portland, Tennessee

RGPHILLIPS CONSULTING
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

APPENDIX F

TURN LANE

EVALUATIONS

LEFT TURN LANE

WARRANTS

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #2 - COLLEGE STREET & RICHLAND STREET

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

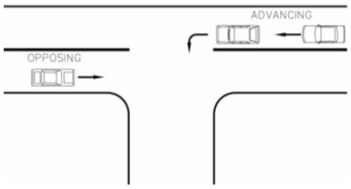
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **AM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 2 | 148 | | **150** |

| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 170 | 14 | **184** |

| WB LT | LT % |
|---|---|
| 2 | 1.3% |
| **Use Chart For:** | **5%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

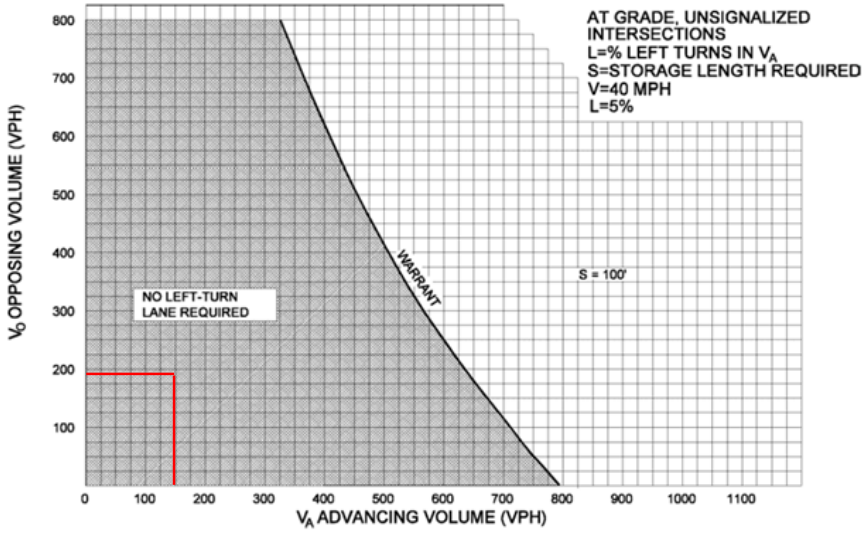



**Figure 2-14a**
**Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40mph and L = 5%)**

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #2 - COLLEGE STREET & RICHLAND STREET

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

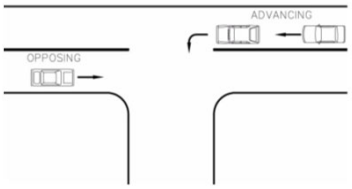
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **PM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 5 | 116 | | **121** |

| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 112 | 33 | **145** |

| WB LT | LT % |
|---|---|
| 5 | 4.1% |
| **Use Chart For:** | **5%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

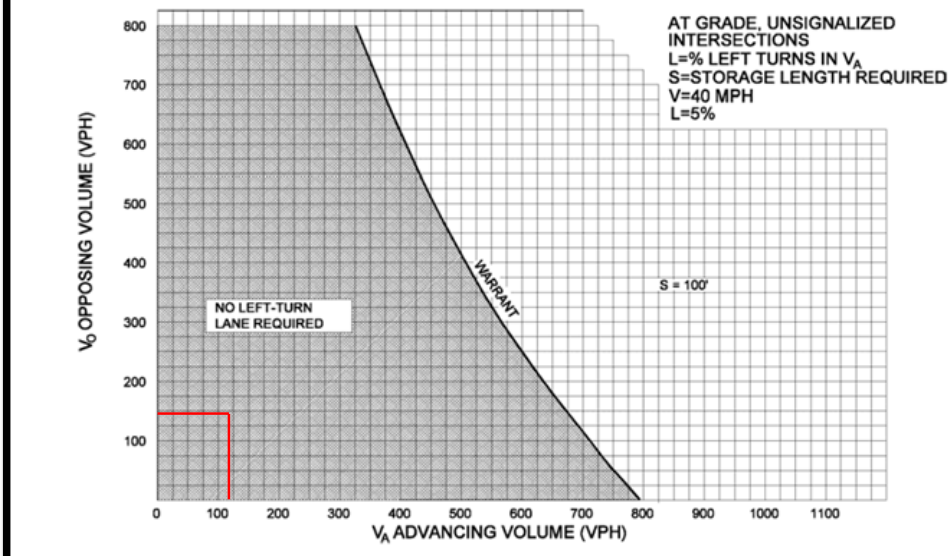



**Figure 2-14a**
**Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40mph and L = 5%)**

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #3 - COLLEGE STREET & PROJECT ACCESS

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

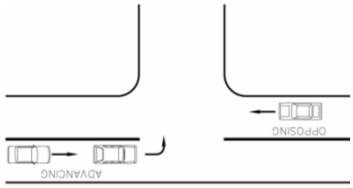
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **AM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 6 | 165 | | **171** |

| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 170 | 8 | **178** |

| EB LT | LT % |
|---|---|
| 6 | 3.5% |
| **Use Chart For:** | **5%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

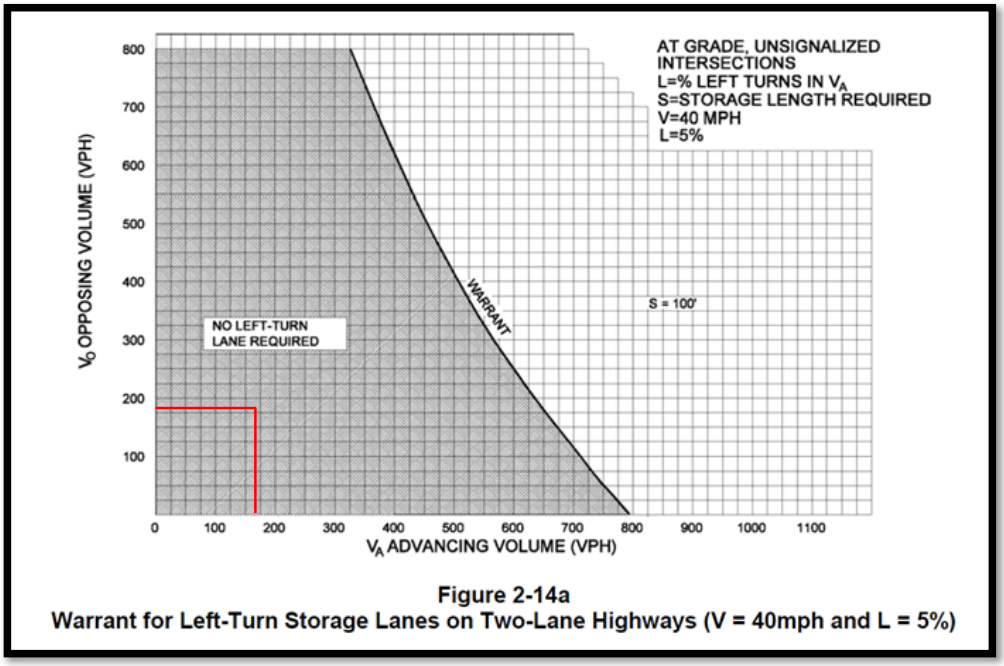



**Figure 2-14a**
**Warrant for Left-Turn Storage Lanes on Two-Lane Highways (V = 40mph and L = 5%)**

**LEFT TURN LANE WARRANT ANALYSIS**
(BASED ON HARMELINK)

LOCATION: #3 - COLLEGE STREET & PROJECT ACCESS

PROJECT: COLLEGE STREET TOWNHOMES DEVELOPMENT TIS

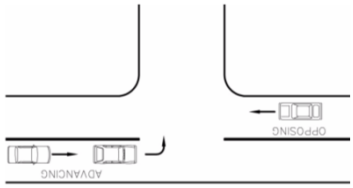
SPEED LIMIT: 30 MPH

USE CHART: **40 MPH**

SCENARIO: **2025 - PROJECTED TRAFFIC VOLUMES**

ANALYSIS TIME PERIOD: **PM PEAK HOUR**

DEFINITION OF MOVEMENTS




| | EASTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **ADVANCING VOLUMES** | 12 | 131 | | **143** |

| | WESTBOUND | | | |
|---|---|---|---|---|
| | LT | THRU | RT | TOTAL |
| **OPPOSING VOLUMES** | | 129 | 19 | **148** |

| EB LT | LT % |
|---|---|
| 12 | 8.4% |
| **Use Chart For:** | **10%** |

| | |
|---|---|
| Warrant Met: | **No** |
| Storage Length: | --- |

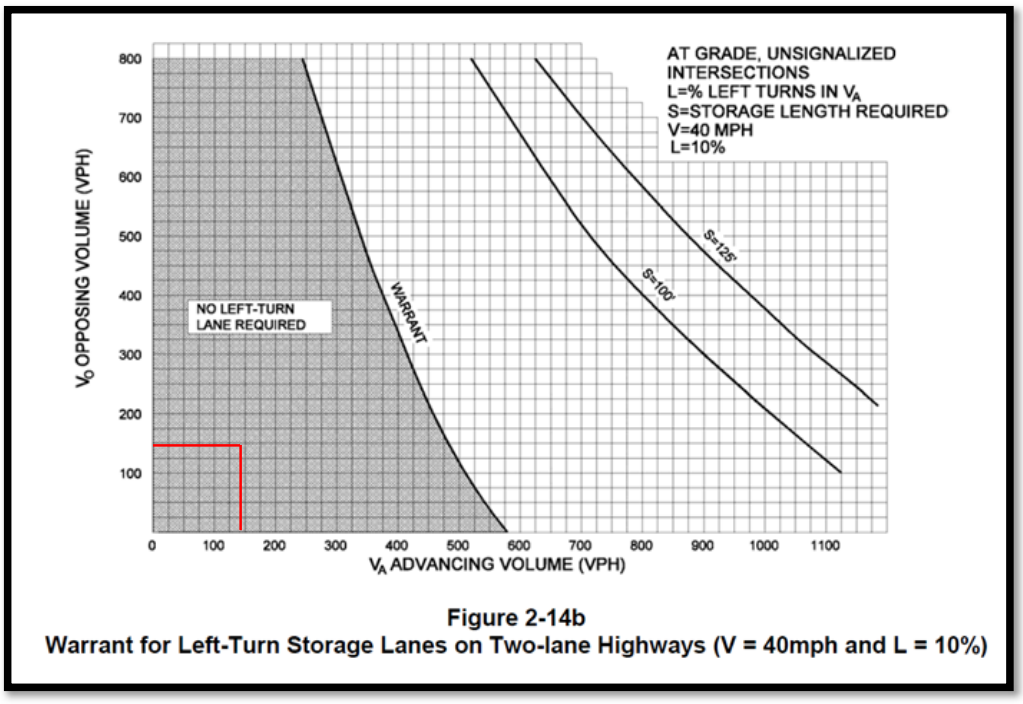



**Figure 2-14b**
**Warrant for Left-Turn Storage Lanes on Two-lane Highways (V = 40mph and L = 10%)**

RIGHT TURN LANE

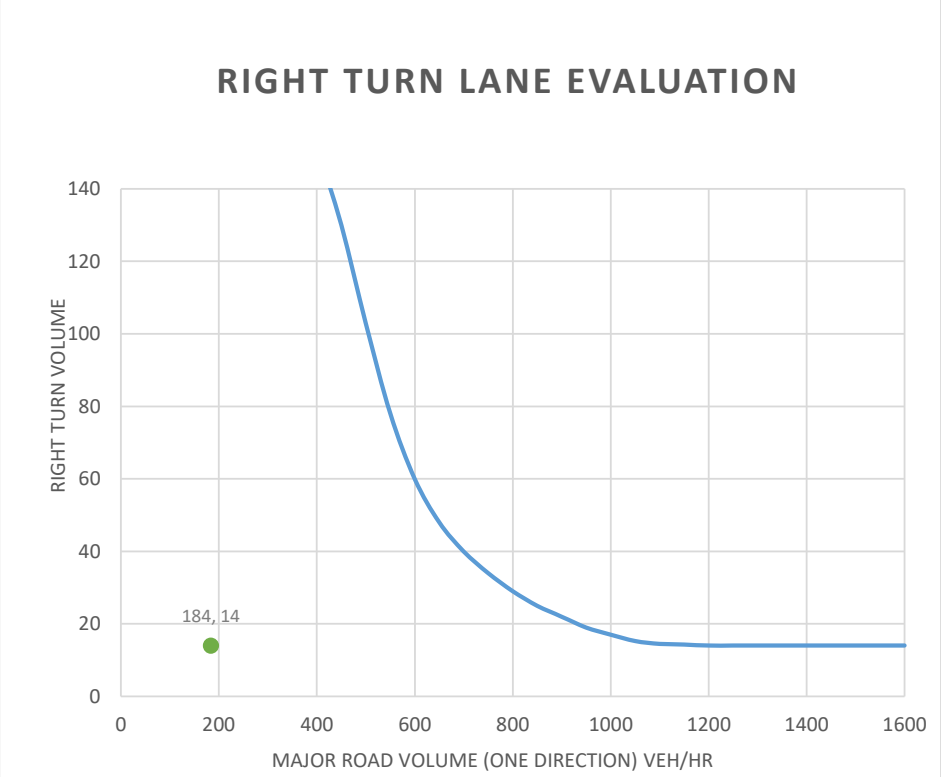
EVALUATIONS

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #2 - COLLEGE STREET & RICHLAND STREET |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | EASTBOUND |
| TIME PERIOD | AM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 14 |
| ADVANCING VOLUME (VPH) | 184 |



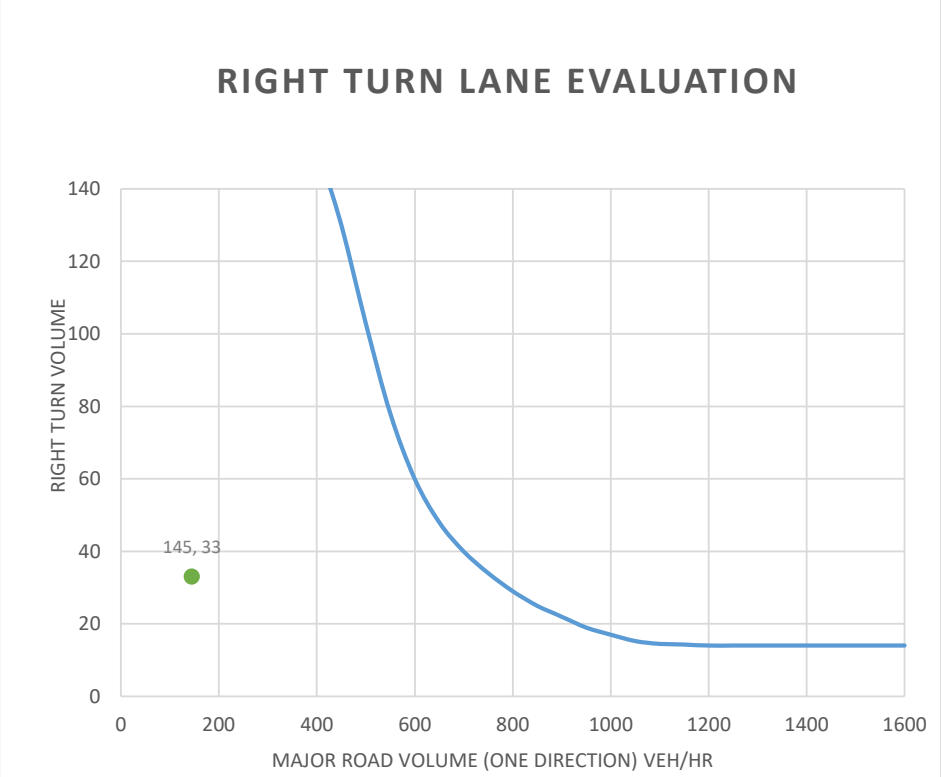

Right Turn Lane NOT RECOMMENDED

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #2 - COLLEGE STREET & RICHLAND STREET |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | EASTBOUND |
| TIME PERIOD | PM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 33 |
| ADVANCING VOLUME (VPH) | 145 |



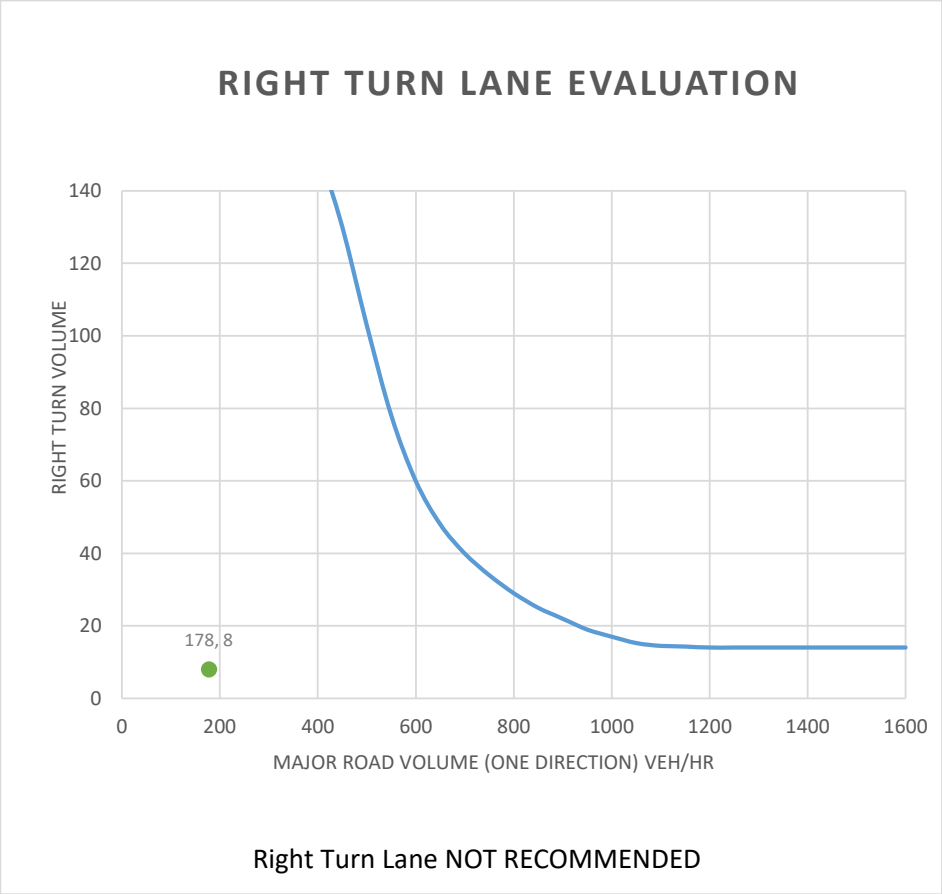

Right Turn Lane NOT RECOMMENDED

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #3 - COLLEGE STREET & PROJECT ACCESS |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | WESTBOUND |
| TIME PERIOD | AM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 8 |
| ADVANCING VOLUME (VPH) | 178 |



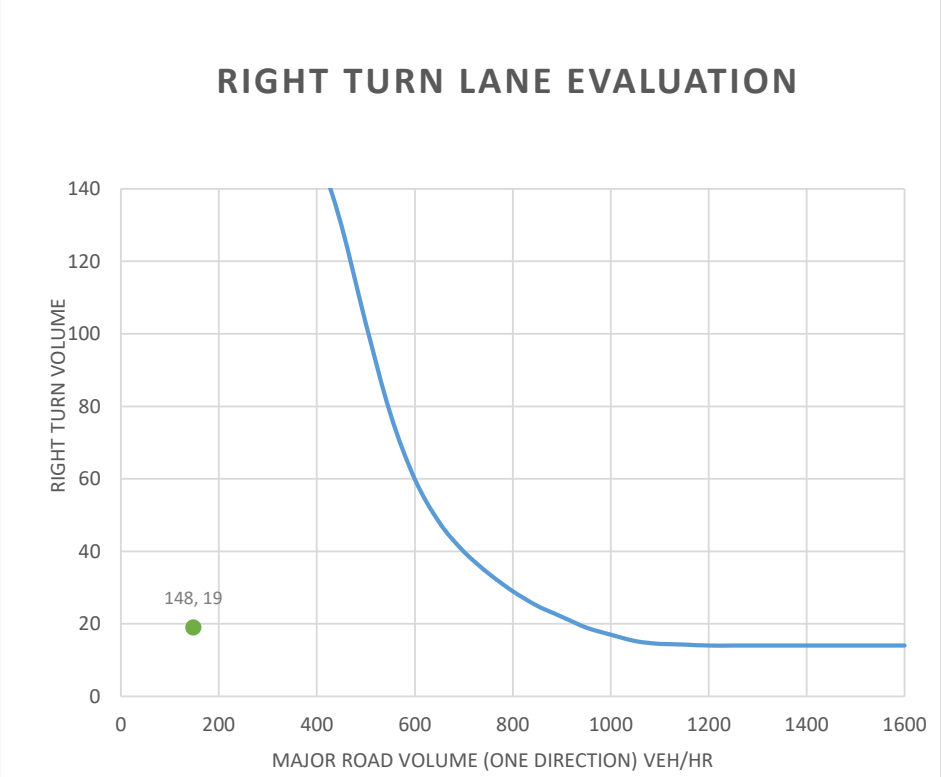

Right Turn Lane NOT RECOMMENDED

**RIGHT TURN LANE EVALUATION**

*Based on NCHRP 457 for evaluation of right turn deceleration lanes.*

| | |
|---|---|
| PROJECT | COLLEGE STREET TOWNHOMES DEVELOPMENT TIS |
| INTERSECTION | #3 - COLLEGE STREET & PROJECT ACCESS |
| SCENARIO | 2025 PROJECTED TRAFFIC CONDITIONS |
| DIRECTION | WESTBOUND |
| TIME PERIOD | PM PEAK HOUR |

| | |
|---|---|
| NUMBER OF LANES (2/4) | **2** |
| SPEED LIMIT (MPH) | **30**<br>**USE 40** |
| RIGHT TURN VOLUME (VPH) | 19 |
| ADVANCING VOLUME (VPH) | 148 |




Right Turn Lane NOT RECOMMENDED

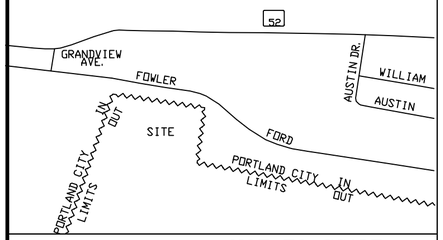
Cummings St
N Russell St
Davis St
Delrose Dr
Victor Reiter Pkwy
N Broadway
Freedie St
Stevison Ham Rd
CL Powell St
Teton
Gibson St
Freedom Dr
HCD
IG
GCS
RS-20
RM-1
CBD
IR
R-15
R-10
109

IG
HCD
GCS
RS-20
RM-1
CBD
R-15
R-10
IR
Victor Reiter Pkwy
N Broadway
Seaboard System Railroad
Davis St
N Russell St
Cummings St
Delrose Dr
Stevison Ham Rd
Freddie St
CL Powell St
Freedom Dr
Teton
Gibson St
109

# Final Plat of Sherburne Estates 16th Civil District Sumner County, Tennessee

*(Inside Portland City Limits)*

**LOCATION MAP** — **NORTH**




**NOT TO SCALE**

MS4 Storm Water Notes:

1: PRIOR TO ANY FUTURE CONSTRUCTION, THE OWNER SHALL APPLY FOR A LAND DISTURBANCE PERMIT FROM THE CITY OF PORTLAND.

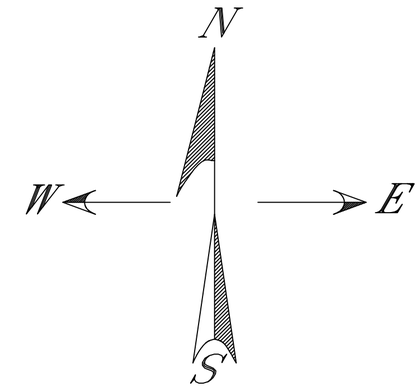
2. ANY LOT THAT IS TO HAVE A DISTURBED AREA OF 1 ACRE OR GREATER IS TO HAVE AN INDIVIDUAL NOTICE OF COVERAGE FROM TDEC.

3. THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH PERMANENT VEGETATION.

4. THE PROPERTY OWNER IS REQUIRED TO MAINTAIN ALL DRAINAGE DITCHES AND KEEP THEM FREE OF OBSTRUCTION.

5. STREAM BUFFER, IF ANY, ARE TO BE KEPT IN A NATURAL VEGETATIVE STATE, NO BUILDINGS OR STRUCTURES ARE ALLOWED WITHIN THE BUFFER. DRIVEWAYS OR UTILITY CROSSINGS ARE PERMITTED WITH WRITTEN CONSENT OF THE CITY OF PORTLAND MS4 MANAGER.

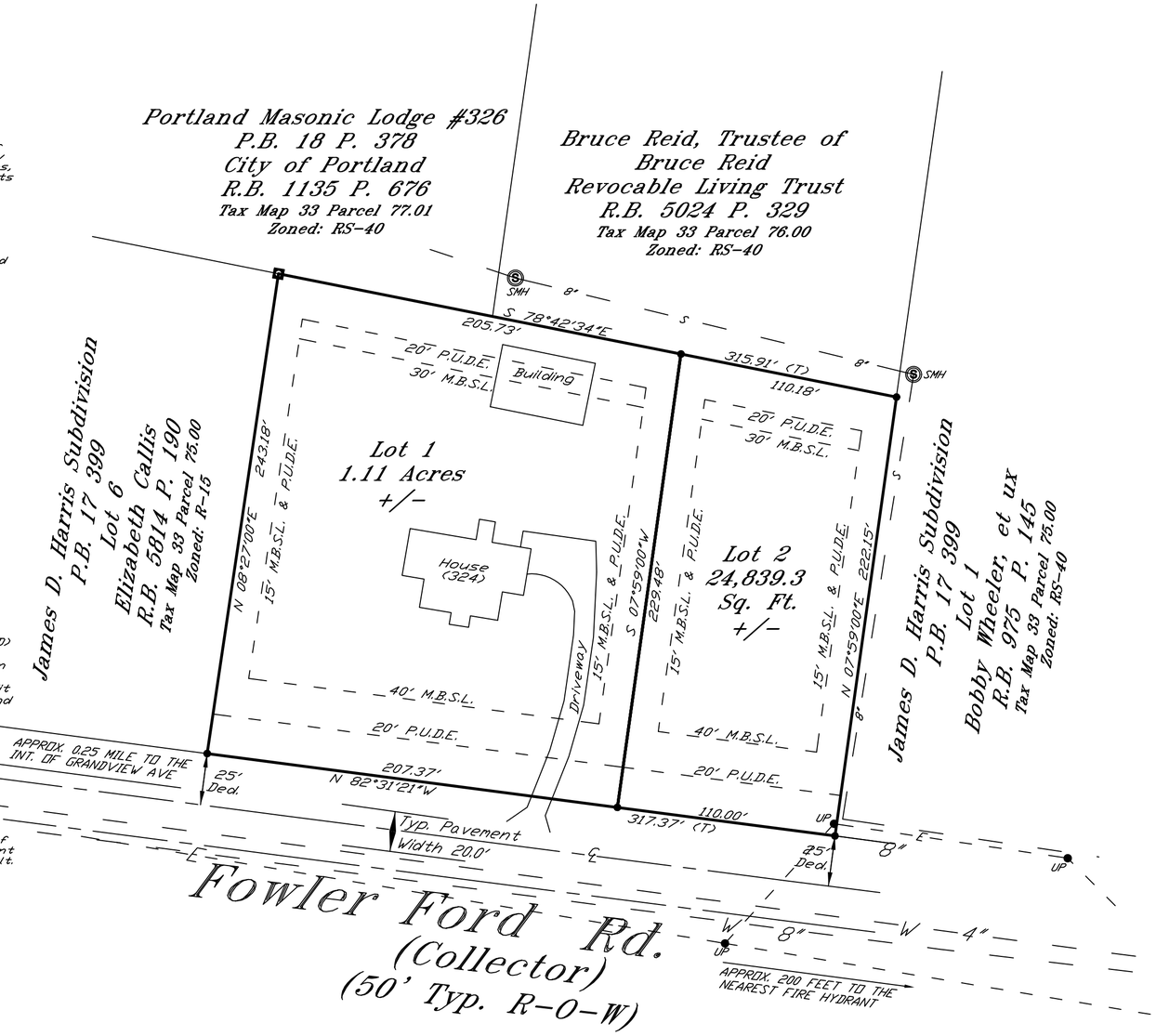
6. POSITIVE DRAINAGE SHALL BE REQUIRED FOR A MINIMUM OF 10 FEET FROM THE DWELLING, INCLUDING GARAGE DOORS, AS REQUIRED BY THE PORTLAND BUILDING CODES OFFICE.




TN STATE PLANE GRID NORTH NAD 83, 1996 Conus

50 25 0 50 100 150

GRAPHIC SCALE – FEET SCALE: 1"= 50'




DEED REFERENCE: R.B. 3886 P. 82

TAX MAP REFERENCE: MAP 33 PARCEL 78.01

THIS SURVEY WAS PERFORMED USING A CARLSON BRX7+ DUAL FREQUENCY, REAL TIME KINEMATIC (RTK) GLOBAL POSITIONING SYSTEM ROVER AND LOCAL BASE STATION: H/W D21487040011S ROVER: H/W D22207040031O1 FOR REDUNDANT AND REPETITIVE MEASUREMENTS WERE TAKEN TO INSURE CORRECT POSITIONS OF ALL DATA POINTS. THE RELATIVE POSITIONAL ACCURACY EXCEEDS THE ACCURACY STANDARDS FOR A CATEGORY 1 SURVEY WITH A RATIO OF PRECISION OF THE UNADJUSTED SURVEY BEING AT LEAST 1:10,000 OR BETTER.

ALL COORDINATES AND BEARING DATA IS BASED UPON THE TENNESSEE STATE PLANE COORDINATE SYSTEM, SINGLE ZONE, NAD 83 NAVD 88, GEDID 03. MULTIPLE REDUNDANT MEASUREMENTS WERE TAKEN ON EACH PROPERTY CORNER, EACH MEASUREMENT EXCEEDING A TOLERANCE OF 0.07' PLUS 50 PARTS PER MILLION FOR POSITIONAL ACCURACY.

SURVEYOR'S NOTE: ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 47165C0 175G, EFFECTIVE DATE APRIL 17 2012, THIS PROPERTY IS NOT IN A SPECIAL FLOOD HAZARD ZONE.

DATE: August 25, 2022

_____RICHARD D. GRAVES_____ Tenn. R.L.S. No. 1628

ZONED: R-15

TOTAL AREA BEING SURVEYED: 1.68 Acres + -

OWNERS:
Christina Sherburne
1252 Harsh Lane
Castalian Springs, TN 37031

SURVEYORS NOTES:

1: THE PURPOSE OF THIS PLAT IS TO DIVIDE THE SUBJECT INTO TWO LOTS FOR RESIDENTIAL USE.

2: ALL UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATION SHOWN SHOULD NOT BE RELIED UPON WITHOUT VERIFICATION FROM THE PROPER UTILITY AUTHORITY HAVING JURISDICTION. NOT ALL UTILITIES ARE SHOWN.

3: THIS SURVEYOR WAS NOT FURNISHED WITH A TITLE SEARCH OR TITLE POLICY, THEREFORE THIS SURVEY IS SUBJECT TO THE FINDINGS OF AN ACCURATE TITLE SEARCH. ONLY THE DOCUMENTS NOTED HEREON WERE SUPPLIED TO THIS SURVEYOR. THERE MAY EXIST OTHER DOCUMENTS THAT WOULD AFFECT THE SUBJECT PROPERTY. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH. THE SURVEYOR RESERVES THE RIGHT TO REVISE ANY EASEMENT(S) NOT PROVIDED FOR OR KNOWN OF PER THE DATE OF THIS SURVEY.

4: ONLY PAPER COPIES OF THIS SURVEY WITH THE SURVEYOR'S ORIGINAL STAMP AND SIGNATURE WILL CONSTITUTE AN ORIGINAL COPY OF THIS SURVEY.

5: SUBJECT TO ANY DRAINAGE THAT MAY CROSS THE PROPERTY DUE TO NATURAL CAUSES.

6: SUBJECT TO ANY LEASES, RIGHT-OF-WAYS, RESTRICTIONS, ENCROACHMENTS, EASEMENTS, LIENS, ETC. THAT MAY EXIST AND/OR APPLY TO THE SUBJECT PROPERTY.

7: 15" MINIMUM DRIVEWAY CULVERT.

8: ALL DRIVEWAYS TO CONFORM TO AND MEET MINIMUM REQUIREMENTS OF DIAGRAM PW STD. DW-01 FOR THE CITY OF PORTLAND.

RICHARD D. GRAVES REGISTERED LAND SURVEYOR XVI AGRICULTURE COMMERCE TENNESSEE NO. 1628

CERTIFICATE OF OWNERSHIP AND DEDICATION

I (we) hereby certify that I am (we are) the owners of the property shown and described hereon and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and dedicate all streets, alleys, walks, parks and other open spaces to public and private use as noted, along with all necessary easements for the construction of cut and fill slopes, cut and fill ramps, inlet and outlet ditches or channel changes beyond the right-of-way limits of the road.

_____ _____
Date Christina Sherburne

CERTIFICATE OF ACCURACY

I hereby certify that the plan shown and described hereon is a true and correct survey to the accuracy required by the Portland Municipal-Regional Planning Commission and that the monuments have been placed as shown hereon to the specifications of the State Board of Examiners for Land Surveyors.

Date: _____ _____
Registered Surveyor No.1628

CERTIFICATE OF PROPERTY NUMBERS AND STREET NAMES

I hereby certify that the property numbers assigned herein conform to Sumner County Emergency Communications District (E-911) polices and the street name(s) conform to the inter-local agreement for non-duplication.

_____ _____
Date Sumner County Emergency Communications E-911 District

CERTIFICATE OF THE APPROVAL OF WATER SYSTEM (PORTLAND UTILITY DEPARTMENT)

I hereby certify: (1) that the water system outlined or indicated hereon has been installed in accordance with current State and/or local government requirements or, (2) that a Letter of Credit in the amount of $_____ has been posted with the City of Portland Utilities Department to assure completion of all required water improvements in case of default.

Date: _____ _____
Authorized Signature

CERTIFICATE OF THE APPROVAL OF PUBLIC STREETS (CITY OF PORTLAND)

I hereby certify: (1) that the public streets have been installed in an acceptable manner and according to City specification in the subdivision entitled: Sherburne Estates, (2) that a Letter of Credit in the amount of $_____ has been posted with the City of Portland Department of Public Works to assure completion of all required improvements in case of default.

_____ _____
Date Name & Title

CERTIFICATE OF SEWER SYSTEM

I hereby certify: (1) that the sewer system outlined or indicated hereon has been installed in accordance with current State and/or local government requirements or, (2) that a Letter of Credit in the amount of $_____ has been posted with the City of Portland Utilities Department to assure completion of all required sewer improvements in case of default.

_____ _____
Date Name & Title

CERTIFICATE OF STORMWATER SYSTEM (CITY OF PORTLAND)

I hereby certify that general drainage plans have been submitted and approved for this subdivision and that all required temporary and permanent erosion control, stabilization, and other water quality and water related requirements have been designed in a manner which meets the City of Portland Drainage Requirements. I hereby certify: (1) that the stormwater system outlined or indicated hereon has been installed in accordance with current State and/or local government requirements or, (2) that a Letter of Credit in the amount of _____ has been posted with the City of Portland Public Works Department to assure completion of all required stormwater improvements in case of default.

Date: _____ _____
Name & Title


Prepared by:
Richard D. Graves
Land Surveying
1768 New Highway 52
Westmoreland, Tn. 37186
Phone: (615) 644-2077
Fax: (615) 644-3200


CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the Subdivision Regulations for Portland, Tennessee, except for Special Exceptions, 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 Registrar.

_____ _____
Date Secretary of the Planning Commission

Void if not recorded by: _____

TENNESSEE ONE-CALL SYSTEM

BEFORE YOU DIG CALL 811

UTILITIES SHOWN ARE APPROXIMATE. ALL UTILITIES ARE NOT SHOWN.

Job #23193TML

Project Name: Procaps Laboratories- Industrial Site Plan

IDT: 1198563

Current Zoning: IG (Industrial General)

Applicant: Klober Engineering

Type: Industrial Site Plan

Location: Eubanks Rd

## APPLICANT:

MATTHEW RYBA
TWC CONSTRUCTION INC.
431 EASTGATE ROAD
HENDERSON, NV 89011
MRYBA@TWCCONSTRUCTION.COM

## PROPERTY OWNER

ANDREW LESSMAN
323B VICTOR REITER PARKWAY
HENDERSON, NV 89011

## DEED REFERENCE:

MAP 012, PARCEL 61.03 TAORCT
RB 1255, PG 542 RORCT

## PROPERTY INFORMATION:

ZONING: I-G, GENERAL INDUSTRIAL DISTRICT
AREA: 454,512 S.F. = 10.43 ACRES

## SITE USE

EXISTING USE: VACANT
PROPOSED USE: WAREHOUSE DISTRIBUTION CENTER

## PARKING INFORMATION:

REQUIRED PARKING:
1/2000 S.F. (STORAGE) = 91,191/2,000 = 46 SPACES

PROVIDED: 136 SPACES INCLUDING 4 ACCESSIBLE SPACE

## LOT COVERAGE

EXISTING BUILDING AREA = 0 S.F.
NEW BUILDING AREA = 91,191 S.F.
BUILDING COVERAGE = 20.06%
MAX BUILDING HEIGHT: 40'-0"
MAX ALLOWED BUILDING HEIGHT: 75'-0"
PROPOSED CONCRETE SURFACE: ±24,431 S.F.
PROPOSED ASPHALT SURFACE: ±92,669 S.F.
IMPERVIOUS AREA: ±208,291 S.F. = 45.83%

## LEGEND

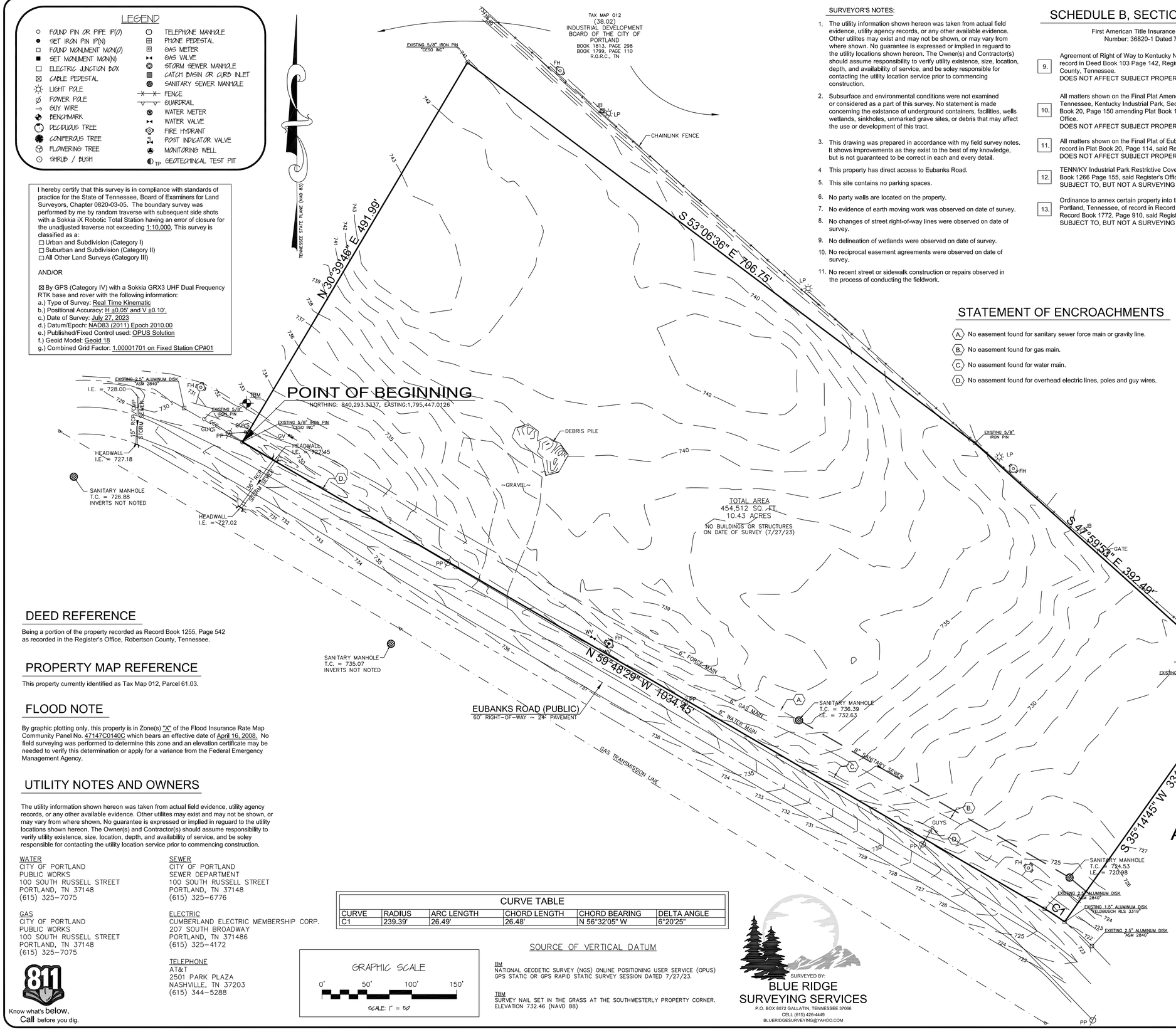
- FOUND PIN OR PIPE IP(Ø)
- SET IRON PIN IP(N)
- FOUND MONUMENT MON(Ø)
- SET MONUMENT MON(N)
- ELECTRIC JUNCTION BOX
- CABLE PEDESTAL
- LIGHT POLE
- POWER POLE
- GUY WIRE
- BENCHMARK
- DECIDUOUS TREE
- CONIFEROUS TREE
- FLOWERING TREE
- SHRUB / BUSH
- TELEPHONE MANHOLE
- PHONE PEDESTAL
- GAS METER
- GAS VALVE
- STORM SEWER MANHOLE
- CATCH BASIN OR CURB INLET
- SANITARY SEWER MANHOLE
- FENCE
- GUARDRAIL
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- POST INDICATOR VALVE
- MONITORING WELL
- GEOTECHNICAL TEST PIT (TP)

I hereby certify that this survey is in compliance with standards of practice for the State of Tennessee, Board of Examiners for Land Surveyors, Chapter 0820-03-05. The boundary survey was performed by me by random traverse with subsequent side shots with a Sokkia iX Robotic Total Station having an error of closure for the unadjusted traverse not exceeding 1:10,000. This survey is classified as a:

☐ Urban and Subdivision (Category I)
☐ Suburban and Subdivision (Category II)
☐ All Other Land Surveys (Category III)

AND/OR

☒ By GPS (Category IV) with a Sokkia GRX3 UHF Dual Frequency RTK base and rover with the following information:
a.) Type of Survey: Real Time Kinematic
b.) Positional Accuracy: H ±0.05' and V ±0.10'.
c.) Date of Survey: July 27, 2023
d.) Datum/Epoch: NAD83 (2011) Epoch 2010.00
e.) Published/Fixed Control used: OPUS Solution
f.) Geoid Model: Geoid 18
g.) Combined Grid Factor: 1.00001701 on Fixed Station CP#01




## SURVEYOR'S NOTES:

1. The utility information shown hereon was taken from actual field evidence, utility agency records, or any other available evidence. Other utilites may exist and may not be shown, or may vary from where shown. No guarantee is expressed or implied in reguard to the utility locations shown hereon. The Owner(s) and Contractor(s) should assume responsibility to verify utility existence, size, location, depth, and availability of service, and be soley responsible for contacting the utility location service prior to commencing construction.
2. Subsurface and environmental conditions were not examined or considered as a part of this survey. No statement is made concerning the existance of underground containers, facilities, wells wetlands, sinkholes, unmarked grave sites, or debris that may affect the use or development of this tract.
3. This drawing was prepared in accordance with my field survey notes. It shows improvements as they exist to the best of my knowledge, but is not guaranteed to be correct in each and every detail.
4. This property has direct access to Eubanks Road.
5. This site contains no parking spaces.
6. No party walls are located on the property.
7. No evidence of earth moving work was observed on date of survey.
8. No changes of street right-of-way lines were observed on date of survey.
9. No delineation of wetlands were observed on date of survey.
10. No reciprocal easement agreements were observed on date of survey.
11. No recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.

## SCHEDULE B, SECTION II ITEMS

First American Title Insurance Company
Number: 36820-1 Dated 7/7/23

9. Agreement of Right of Way to Kentucky Natural Gas Corporation, of record in Deed Book 103 Page 142, Register's Office for Robertson County, Tennessee.
DOES NOT AFFECT SUBJECT PROPERTY.

10. All matters shown on the Final Plat Amendment to Tract 6, of Tennessee, Kentucky Industrial Park, Section Three, of record in Plat Book 20, Page 150 amending Plat Book 18, Page 148, said Register's Office.
DOES NOT AFFECT SUBJECT PROPERTY.

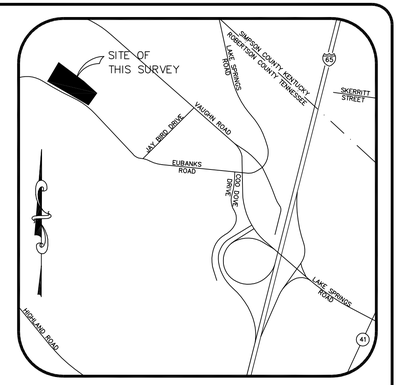
11. All matters shown on the Final Plat of Eubanks Road Relocation, of record in Plat Book 20, Page 114, said Register's Office.
DOES NOT AFFECT SUBJECT PROPERTY.

12. TENN/KY Industrial Park Restrictive Covenants, of record in Record Book 1266 Page 155, said Register's Office.
SUBJECT TO, BUT NOT A SURVEYING RELATED MATTER.

13. Ordinance to annex certain property into the City of Portland, Tennessee, of record in Record Book 1598, Page 445 and Record Book 1772, Page 910, said Register's Office.
SUBJECT TO, BUT NOT A SURVEYING RELATED MATTER.

## STATEMENT OF ENCROACHMENTS

- (A.) No easement found for sanitary sewer force main or gravity line.
- (B.) No easement found for gas main.
- (C.) No easement found for water main.
- (D.) No easement found for overhead electric lines, poles and guy wires.




VICINITY MAP
(N.T.S.)

## LEGAL DESCRIPTION

BEING located in the 1st Civil District of Robertson County, Tennessee, being located northwesterly of the Jay Bird Drive and Eubanks Road intersection and being part of the L & W Properties, LLC Property as recorded in Record Book 1255, Page 542 in the Register's Office of Robertson County, Tennessee, and being more particularly described as follows:

BEGINNING at an existing 5/8" iron pin monument capped "CESO Inc." in the northerly right-of-way of Eubanks Road said monument also being the southeasterly corner common to the Industrial Development Board of the City of Portland Property as recorded in Record Book 1813, Page 298 and Record Book 1799, Page 110 in the Register's Office of Robertson County, Tennessee;

Thence leaving said northerly right-of-way of Eubanks Road and continuing along with the Industrial Development Board of the City of Portland Property the following three calls: N 30°39'46" E a distance of 491.99' to an existing 5/8" iron pin monument capped "CESO Inc.";

Thence S 53°06'36" E a distance of 706.75' to an existing 5/8" iron pin monument;

Thence S 47°59'53" E a distance of 392.49' to an existing 2 ½" aluminum disk stamped "ASM 2840" said monument being the westerly line of the William and Lyndsey Tidwell Property as recorded in Record Book 1690, Page 770 in the Register's Office of Robertson County, Tennessee;

Thence leaving said Industrial Development Board of the City of Portland Property and continuing along with the westerly line of the William and Lyndsey Tidwell Property, S 35°14'45" W a distance of 331.98' to an existing 1 ½" aluminum disk stamped "Feldbusch RLS 3319" said monument being the northerly right-of-way of Eubanks Road;

Thence leaving said William and Lyndsey Tidwell Property and continuing along with the northerly right-of-way of Eubanks Road with the following two calls: with a curve turning to the left with an arc length of 26.49', with a radius of 239.39', with a chord bearing of N 56°32'05" W, with a chord length of 26.48', to a 2 ½" aluminum disk stamped "ASM 2840";

Thence N 59°48'29" W a distance of 1034.45' to an existing 5/8" iron pin monument capped "CESO Inc." which is the point of beginning, having an area of 454.512 square feet, 10.43 acres more or less.

All bearings based on Tennessee State Plane (NAD 83)

This description was prepared by Blue Ridge Surveying, Inc., certified by Brian M. Reifschneider RLS #2487, and dated August 18, 2023.

## DEED REFERENCE

Being a portion of the property recorded as Record Book 1255, Page 542 as recorded in the Register's Office, Robertson County, Tennessee.

## PROPERTY MAP REFERENCE

This property currently identified as Tax Map 012, Parcel 61.03.

## FLOOD NOTE

By graphic plotting only, this property is in Zone(s) "X" of the Flood Insurance Rate Map Community Panel No. 47147C0140C which bears an effective date of April 16, 2008. No field surveying was performed to determine this zone and an elevation certificate may be needed to verify this determination or apply for a variance from the Federal Emergency Management Agency.

## UTILITY NOTES AND OWNERS

The utility information shown hereon was taken from actual field evidence, utility agency records, or any other available evidence. Other utilites may exist and may not be shown, or may vary from where shown. No guarantee is expressed or implied in reguard to the utility locations shown hereon. The Owner(s) and Contractor(s) should assume responsibility to verify utility existence, size, location, depth, and availability of service, and be soley responsible for contacting the utility location service prior to commencing construction.

WATER
CITY OF PORTLAND
PUBLIC WORKS
100 SOUTH RUSSELL STREET
PORTLAND, TN 37148
(615) 325-7075

GAS
CITY OF PORTLAND
PUBLIC WORKS
100 SOUTH RUSSELL STREET
PORTLAND, TN 37148
(615) 325-7075

SEWER
CITY OF PORTLAND
SEWER DEPARTMENT
100 SOUTH RUSSELL STREET
PORTLAND, TN 37148
(615) 325-6776

ELECTRIC
CUMBERLAND ELECTRIC MEMBERSHIP CORP.
207 SOUTH BROADWAY
PORTLAND, TN 371486
(615) 325-4172

TELEPHONE
AT&T
2501 PARK PLAZA
NASHVILLE, TN 37203
(615) 344-5288

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| CURVE TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE | RADIUS | ARC LENGTH | CHORD LENGTH | CHORD BEARING | DELTA ANGLE |
| C1 | 239.39' | 26.49' | 26.48' | N 56°32'05" W | 6°20'25" |

GRAPHIC SCALE
0' 50' 100' 150'
SCALE: 1" = 50'

SOURCE OF VERTICAL DATUM

BM
NATIONAL GEODETIC SURVEY (NGS) ONLINE POSITIONING USER SERVICE (OPUS) GPS STATIC OR GPS RAPID STATIC SURVEY SESSION DATED 7/27/23.

TBM
SURVEY NAIL SET IN THE GRASS AT THE SOUTHWESTERLY PROPERTY CORNER. ELEVATION 732.46 (NAVD 88)


SURVEYED BY:
BLUE RIDGE SURVEYING SERVICES
P.O. BOX 8072 GALLATIN, TENNESSEE 37066
CELL (615) 426-4449
BLUERIDGESURVEYING@YAHOO.COM


## SURVEYOR'S CERTIFICATION

To: First American Title Insurance Company
L&W Properties, GP
Andrew Lessman
Attorneys Title Co, Inc.

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, 5, 6(a) 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 11, 13, 14, 16, 17 and 19 of Table A thereof. The field work was completed on July 27, 2023. Date of Plat or Map August 18, 2023.

BRIAN M. REIFSCHNEIDER — REGISTERED LAND SURVEYOR — STATE OF TENNESSEE — DEPARTMENT OF AGRICULTURE — TENNESSEE NO. 2487 — 8/18/2023

# ALTA/NSPS LAND TITLE SURVEY

OF THE

## PROCAPS LABORATORIES DISTRIBUTION #4 PROPERTY

0 EUBANKS ROAD, 1ST CIVIL DISTRICT
PORTLAND, ROBERTSON COUNTY, TENNESSEE

PROPERTY OWNER

## L&W PROPERTIES, GP

323B VICTOR REITER PARKWAY
PORTLAND, TENNESSEE 37148

PREPARED FOR

## KLOBER ENGINEERING SERVICES

3556 TOM AUSTIN HIGHWAY, SUITE 1
SPRINGFIELD, TENNESSEE 37172

DATE OF SURVEY: JULY 27, 2023
DATE OF DRAWING: AUGUST 18, 2023

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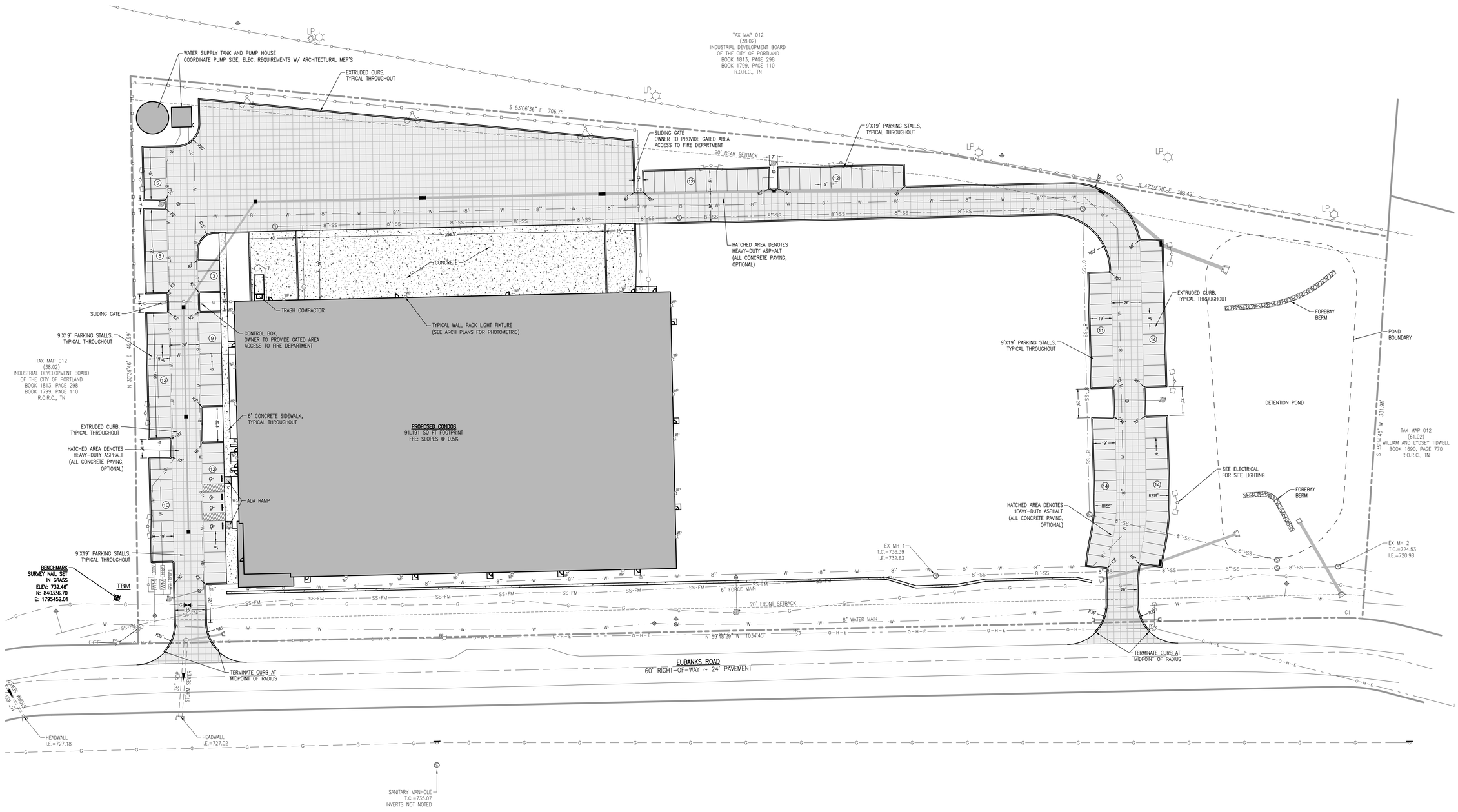
N E S W

40 0 40 80
SCALE IN FEET

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www.klobereng.com

| NO. | BY | DATE | DESCRIPTION |
|---|---|---|---|
| REVISIONS | | | |

JOSHUA M. LYON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 112331
STATE OF TENNESSEE
12/13/23

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

PROCAPS LABORATORIES
0 EUBANKS ROAD
PORTLAND, TN
ROBERTSON COUNTY

| | |
|---|---|
| DRAWN BY: | CJN |
| CHECKED BY: | JML |
| PROJECT NO.: | C04523 |

SITE LAYOUT

SHEET NUMBER
C1.02

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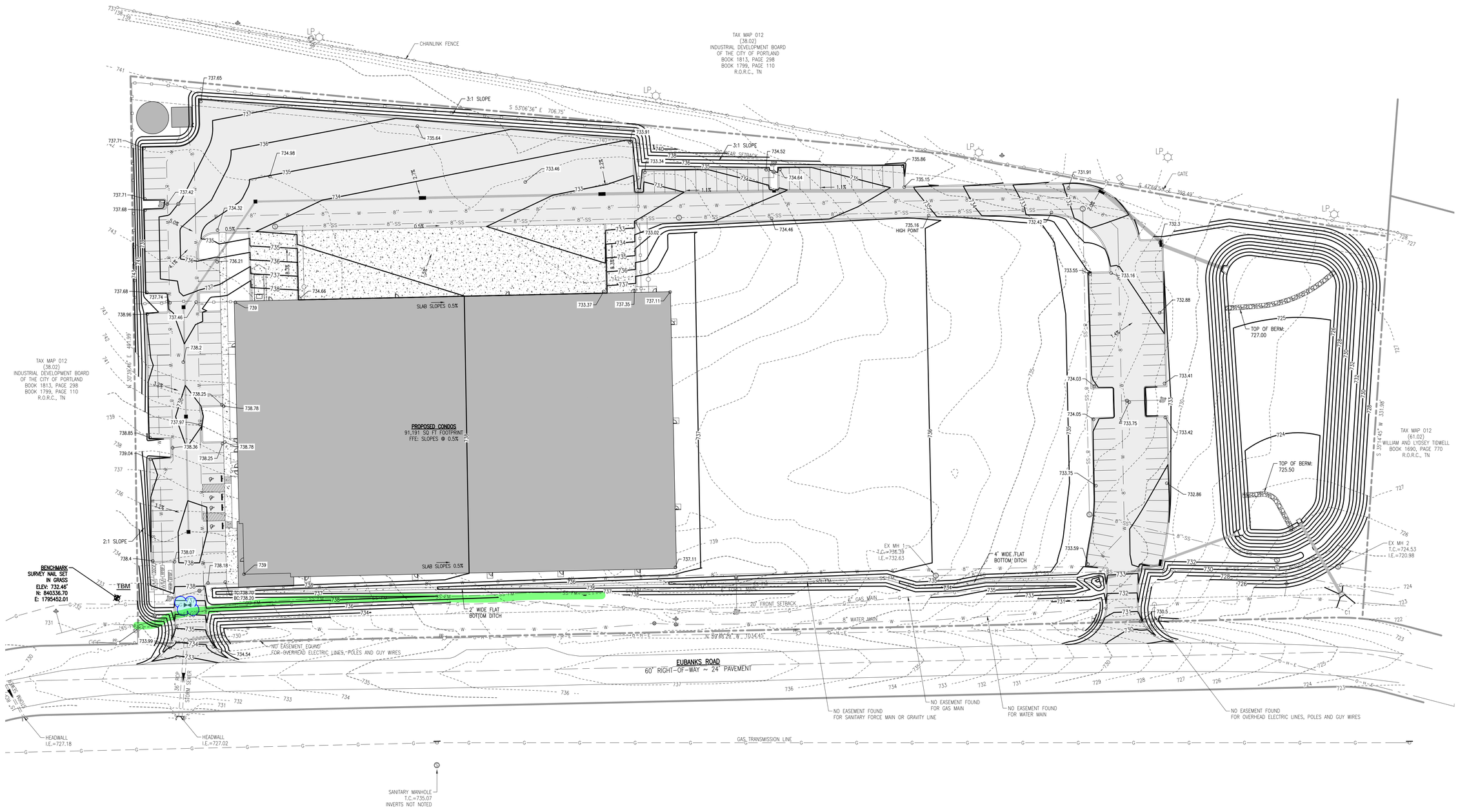
N E S W

40 0 40 80
SCALE IN FEET




TAX MAP 012
(38.02)
INDUSTRIAL DEVELOPMENT BOARD
OF THE CITY OF PORTLAND
BOOK 1813, PAGE 298
BOOK 1799, PAGE 110
R.O.R.C., TN

S 30°39'46" E 491.98'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JOSHUA M. LYON
REGISTERED ENGINEER
AGRICULTURAL & BIOSYSTEMS
No. 112331
STATE OF TENNESSEE
1/23/23

JOSHUA M. LYON, P.E. TN#112331

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PORTLAND, TN
ROBERTSON COUNTY

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| CHECKED BY: | JML |
| PROJECT NO.: | C04523 |

GRADING PLAN

SHEET NUMBER
C1.03


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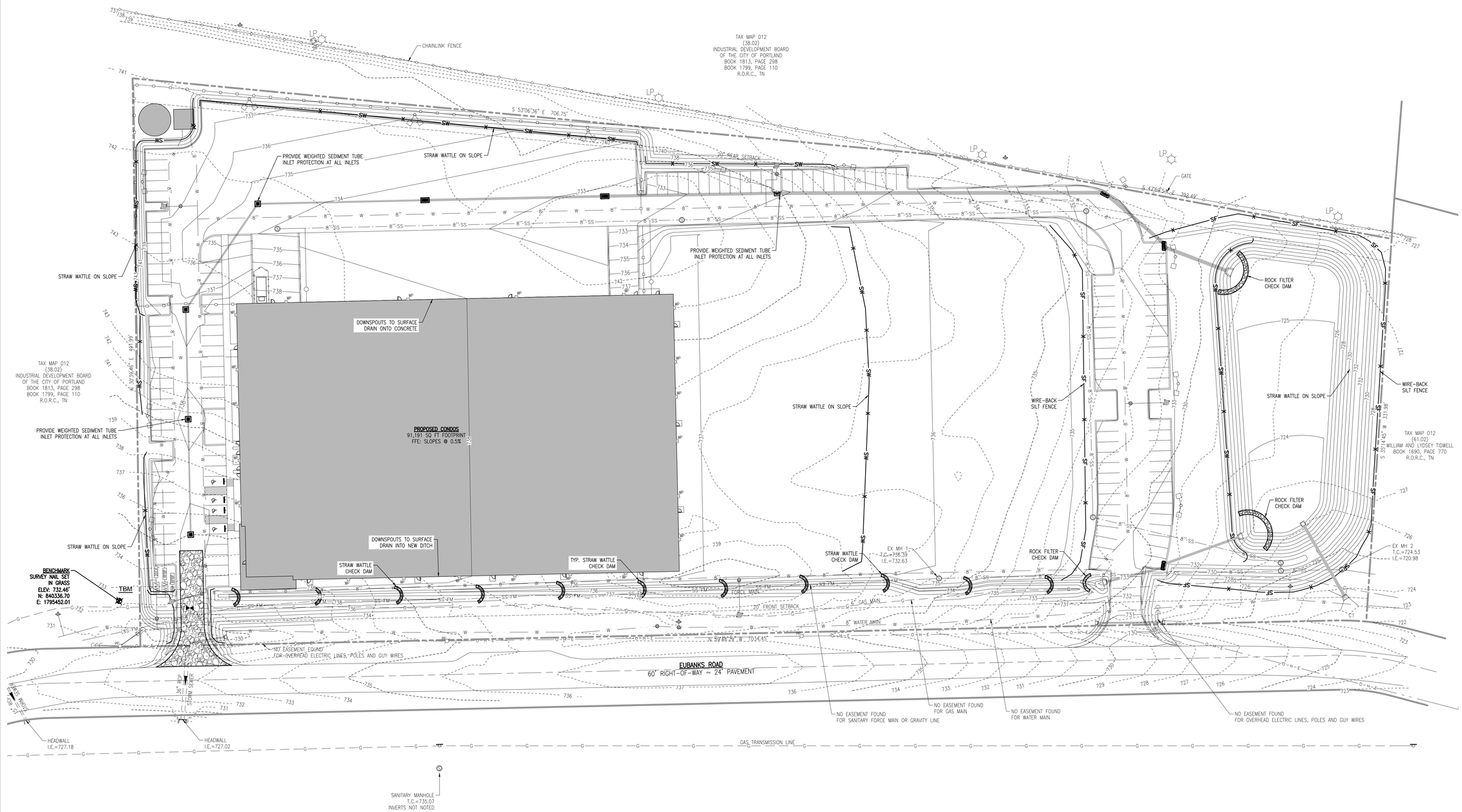
N E S W

40 0 40 80
SCALE IN FEET

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JOSHUA M. LYON
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
No. 112331
STATE OF TENNESSEE
JML 3/1/23

JOSHUA M. LYON, P.E. TN#112331

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ROBERTSON COUNTY

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INTERMEDIATE EPSC

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AS-BUILT NOTE:
IN ACCORDANCE WITH THE CITY OF PORTLAND REQUIREMENTS, THE CITY OF PORTLAND ENGINEERING DEPARTMENT MUST APPROVE THE FOLLOWING AS-BUILTS PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY:
- UNDERGROUND DETENTION AND WATER QUALITY INFRASTRUCTURE
- ABOVE GROUND DETENTION AND WATER QUALITY INFRASTRUCTURE
- PUBLIC STORM SEWER INFRASTRUCTURE
- CUT & FILL IN THE FLOODPLAIN
- SINK HOLE ALTERATIONS

THE ENGINEER SHALL CONTACT STORMWATER DEVELOPMENT REVIEW STAFF FOR SUBMITTAL REQUIREMENTS.

40 0 40 80
SCALE IN FEET

**DRAIN PIPE DATA**
**DESIGN INFORMATION**

| FROM STRUCTURE | INVERT | TO STRUCTURE | INVERT | PIPE LENGTH (FEET) | PIPE DIAMETER (INCHES) | PIPE MATERIAL | SLOPE (%) | $Q_C$ (CFS) | 25 YR $Q_D$ (CFS) |
|---|---|---|---|---|---|---|---|---|---|
| 13 | 728.50 | 12 | 728.00 | 50 | 24 | HDPE | 1.00% | 25.02 | 18.02 |
| 12 | 728.00 | 11 | 727.00 | 68 | 24 | HDPE | 1.47% | 30.34 | 1.72 |
| | | | | | | | | | |
| 10 | 734.70 | 9 | 733.70 | 98 | 15 | HDPE | 1.02% | 7.82 | 1.24 |
| 9 | 733.70 | 8 | 732.25 | 94 | 15 | HDPE | 1.54% | 9.61 | 2.38 |
| 8 | 732.00 | 7 | 730.75 | 110 | 18 | HDPE | 1.14% | 13.42 | 3.01 |
| 7 | 730.75 | 6 | 729.00 | 140 | 18 | HDPE | 1.25% | 14.07 | 5.24 |
| 6 | 729.00 | 5 | 728.25 | 150 | 24 | RCP | 0.50% | 17.69 | 12.77 |
| 5 | 728.25 | 4 | 727.53 | 145 | 30 | RCP | 0.50% | 31.97 | 26.71 |
| 4 | 727.53 | 3 | 726.13 | 281 | 36 | RCP | 0.50% | 52.07 | 30.43 |
| 3 | 726.13 | 2 | 725.80 | 65 | 36 | RCP | 0.51% | 52.56 | 35.40 |
| 2 | 725.80 | 1 | 725.50 | 56 | 36 | RCP | 0.54% | 53.99 | 37.01 |

**DRAINAGE STRUCTURE DATA**
**DESIGN INFORMATION**

| STRUCTURE NUMBER | STRUCTURE TYPE (SIZE) | GRATE | RIM ELEV. | INVERT | PIPE COVERAGE (IN.) |
|---|---|---|---|---|---|
| 13 | 6' HEADWALL | - | - | 728.50 | - |
| 12 | DCI (36" X 76") | 3103 | 731.75 | 728.00 | 18.00 |
| 11 | 6' HEADWALL W/ ED | - | - | 727.00 | - |
| | | | | | |
| 10 | SCB (36" X 36") | 4310 | 737.70 | 734.70 | 18.75 |
| 9 | SCB (36" X 36") | 4310 | 737.70 | 733.70 | 30.75 |
| 8 | SCB (36" X 36") | 4310 | 737.50 | 732.00 | 45.50 |
| 7 | SCB (36" X 36") | 4310 | 734.00 | 730.75 | 18.50 |
| 6 | DCB (36" X 76") | 3103 | 733.00 | 729.00 | 21.00 |
| 5 | SCI (36" X 76") | 3103 | 732.80 | 728.25 | 21.10 |
| 4 | DCI (36" X 76") | 3103-V | 733.90 | 727.53 | 35.69 |
| 3 | DCI (36" X 76") | 3103 | 731.20 | 726.13 | 20.09 |
| 2 | DCI (36" X 76") | 3103 | 732.30 | 725.80 | 37.25 |
| 1 | 8' HEADWALL W/ ED | - | - | 725.50 | - |

SCI = SINGLE CURB INLET
DCI = DOUBLE CURB INLET
SCB = SINGLE CATCH BASIN
DCB = DOUBLE CATCH BASIN
ED = ENERGY DISSIPATORS

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JOSHUA M. LYON, P.E. TN#112331
12/13/23

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PROCAPS LABORATORIES
0 EUBANKS ROAD
PORTLAND, TN
ROBERTSON COUNTY

| | |
|---|---|
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| CHECKED BY: | JML |
| PROJECT NO.: | C04523 |

DRAINAGE PLAN

SHEET NUMBER
C1.05


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N E S W

40 0 40 80
SCALE IN FEET

TAX MAP 012
(38.02)
INDUSTRIAL DEVELOPMENT BOARD
OF THE CITY OF PORTLAND
BOOK 1813, PAGE 298
BOOK 1799, PAGE 110
R.O.R.C., TN

CHAINLINK FENCE

S 53°06'36" E 706.75'

MATTING

HEAVY DUTY ASPHALT

SOD

CONCRETE PAVEMENT

PROPOSED CONDOS
91,191 SQ FT FOOTPRINT
FFE: SLOPES @ 0.5%

SEED & STRAW

GATE

S 47°54'54" E 392.49'

CLASS A RIP-RAP

TAX MAP 012
(61.02)
WILLIAM AND LYDSEY TIDWELL
BOOK 1690, PAGE 770
R.O.R.C., TN

S 35°14'45" W 331.98'

BENCHMARK
SURVEY NAIL SET
IN GRASS
ELEV: 732.46'
N: 840336.70
E: 1795452.01

TBM

EX MH 2
T.C.=724.53
I.E.=720.98

EX MH 1
T.C.=737.39
I.E.=727.64

20' FRONT SETBACK

8" GAS MAIN

8" WATER MAIN

RIP-RAP

N 59°18'29" W 1014.45'

NO EASEMENT FOUND
FOR OVERHEAD ELECTRIC LINES, POLES AND GUY WIRES

FUBANKS ROAD
60' RIGHT-OF-WAY ~ 24' PAVEMENT

NO EASEMENT FOUND
FOR SANITARY FORCE MAIN OR GRAVITY LINE

NO EASEMENT FOUND
FOR GAS MAIN

NO EASEMENT FOUND
FOR WATER MAIN

NO EASEMENT FOUND
FOR OVERHEAD ELECTRIC LINES, POLES AND GUY WIRES

36" RCP STORM SEWER

HEADWALL
I.E.=727.18

HEADWALL
I.E.=727.02

GAS TRANSMISSION LINE

SANITARY MANHOLE
T.C.=735.07
INVERTS NOT NOTED

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|---|---|---|
| NO. | BY | DATE | DESCRIPTION |
| | | | |

JOSHUA M. LYON
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
No. 112331
STATE OF TENNESSEE
4/3/23

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

# PROCAPS LABORATORIES

0 FUBANKS ROAD
PORTLAND, TN
ROBERTSON COUNTY

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| DRAWN BY: | CJN |
| CHECKED BY: | JML |
| PROJECT NO.: | C04523 |

FINAL STABILIZATION

SHEET NUMBER
C1.06

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811 CALL 811 NATIONWIDE

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IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES FOR FIELD LOCATIONS OF UTILITIES. LOCATIONS OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE. THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.

N E S W

40 0 40 80
SCALE IN FEET

**WATER SERVICES**

FIRE LINE:
(1) 8" METER
(1) 8" DOUBLE DETECTOR CHECK VALVE IN ALUMINUM HOT BOX OR EQUIVALENT. PROVIDE POWER FOR FREEZE PROTECTION. CONNECT TAMPER SWITCHES TO BUILDING FIRE ALARM
(1) POST INDICATOR VALVE

BUILDING:
(1) 2" DOMESTIC METER
(1) RPBP IN HOT BOX, PROVIDE POWER FOR FREEZE PROTECTION

IRRIGATION:
(1) 2" METER
(1) RPBP

SEE ARCHITECTURAL MEP'S FOR PUMP & PIPING DETAILS
WATER SUPPLY TANK SEE FIRE PROTECTION PLANS
FIRE PUMP HOUSE
CHAINLINK FENCE
TAX MAP 012 (38.02) INDUSTRIAL DEVELOPMENT BOARD OF THE CITY OF PORTLAND BOOK 1813, PAGE 298 BOOK 1799, PAGE 110 R.O.R.C., TN
S 53°06'36" E 706.75'
20' REAR SETBACK
FIRE HYDRANT ASSEMBLY
#8" 45° BEND(S) W/ CONCRETE KICKER(S)
GATE
S 47°59'54" E 392.49'
#8"X 8"X 6" TEE W/ CONC. KICKER (1) #6" GATE VALVE
FIRE HYDRANT ASSEMBLY W/ CONCRETE KICKER
#8" C900 PVC FIRE LOOP
150.0' 8" PVC @ 0.50%
MH A.1 TC: 733.88 INV OUT: 729.19 DEPTH: 4.69
MH A.2 TC: 733.58 INV IN: 727.44 INV OUT: 727.24 DEPTH: 6.34
MH A.3 TC: 731.74 INV IN: 725.49 INV OUT: 725.28 DEPTH: 6.45
PRIVATE 8" SEWER
6" SEWER SERVICE
CO
VERIFY SEWER SERVICE CONNECTIONS W/ MEP & ARCHITECTURAL PLANS
COORDINATE LOCATION OF DOMESTIC SERVICE WITH ARCHITECTURAL PLUMBING PLANS
TAX MAP 012 (38.02) INDUSTRIAL DEVELOPMENT BOARD OF THE CITY OF PORTLAND BOOK 1813, PAGE 298 BOOK 1799, PAGE 110 R.O.R.C., TN
N 30°39'45" E 491.98'
VERIFY 8" FIRE SERVICE LINE INFORMATION W/ BUILDING SPRINKLER PLANS
**PROPOSED CONDOS**
91,191 SQ FT FOOTPRINT
FFE: SLOPES @ 0.5%
#8"X 8"X 6" TEE W/ CONC. KICKER (1) #6" GATE VALVE
#8" PVC FIRE LOOP
FIRE HYDRANT ASSEMBLY W/ CONCRETE KICKER
MH A.4 TC: 734.26 INV IN: 723.96 INV OUT: 723.76 DEPTH: 10.50
#8" 45° BEND(S) W/ CONCRETE KICKER(S)
MH A.5 TC: 732.06 INV IN: 722.72 INV OUT: 722.72 DEPTH: 9.28
MH A.6 TC: 730.70 INV IN: 722.33(MH A.5) INV IN: 722.33(EX MH 1) INV OUT: 722.33 DEPTH: 8.37
EX MH 1 T.C.=736.39 I.E.=732.63
EX MH 2 T.C.=724.53 I.E.=720.98
TAX MAP 012 (61.02) WILLIAM AND LYDSEY TIDWELL BOOK 1690, PAGE 770 R.O.R.C., TN
S 33°14'45" W 331.98'
#8"X 8"X 6" TEE W/ CONC. KICKER (1) #6" GATE VALVE
FIRE LINE SERVICE
BUILDING SERVICE
IRRIGATION SERVICE
FIRE HYDRANT ASSEMBLY W/ CONCRETE KICKER
6" FORCE MAIN
20' FRONT SETBACK
6" GAS MAIN
8" WATER MAIN
N 59°48'29" W 1034.45'
NO EASEMENT FOUND FOR OVERHEAD ELECTRIC LINES, POLES AND GUY WIRES
EUBANKS ROAD
60' RIGHT-OF-WAY ~ 24' PAVEMENT
NO EASEMENT FOUND FOR SANITARY FORCE MAIN OR GRAVITY LINE
NO EASEMENT FOUND FOR GAS MAIN
NO EASEMENT FOUND FOR WATER MAIN
NO EASEMENT FOUND FOR OVERHEAD ELECTRIC LINES, POLES AND GUY WIRES
36" CMP STORM SEWER
HEADWALL I.E.=727.18
HEADWALL I.E.=727.02
GAS TRANSMISSION LINE
SANITARY MANHOLE T.C.=735.07 INVERTS NOT NOTED


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JOSHUA M. LYON, P.E. TN#112331
3/23

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PORTLAND, TN
ROBERTSON COUNTY

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UTILITY PLAN

SHEET NUMBER
C2.01


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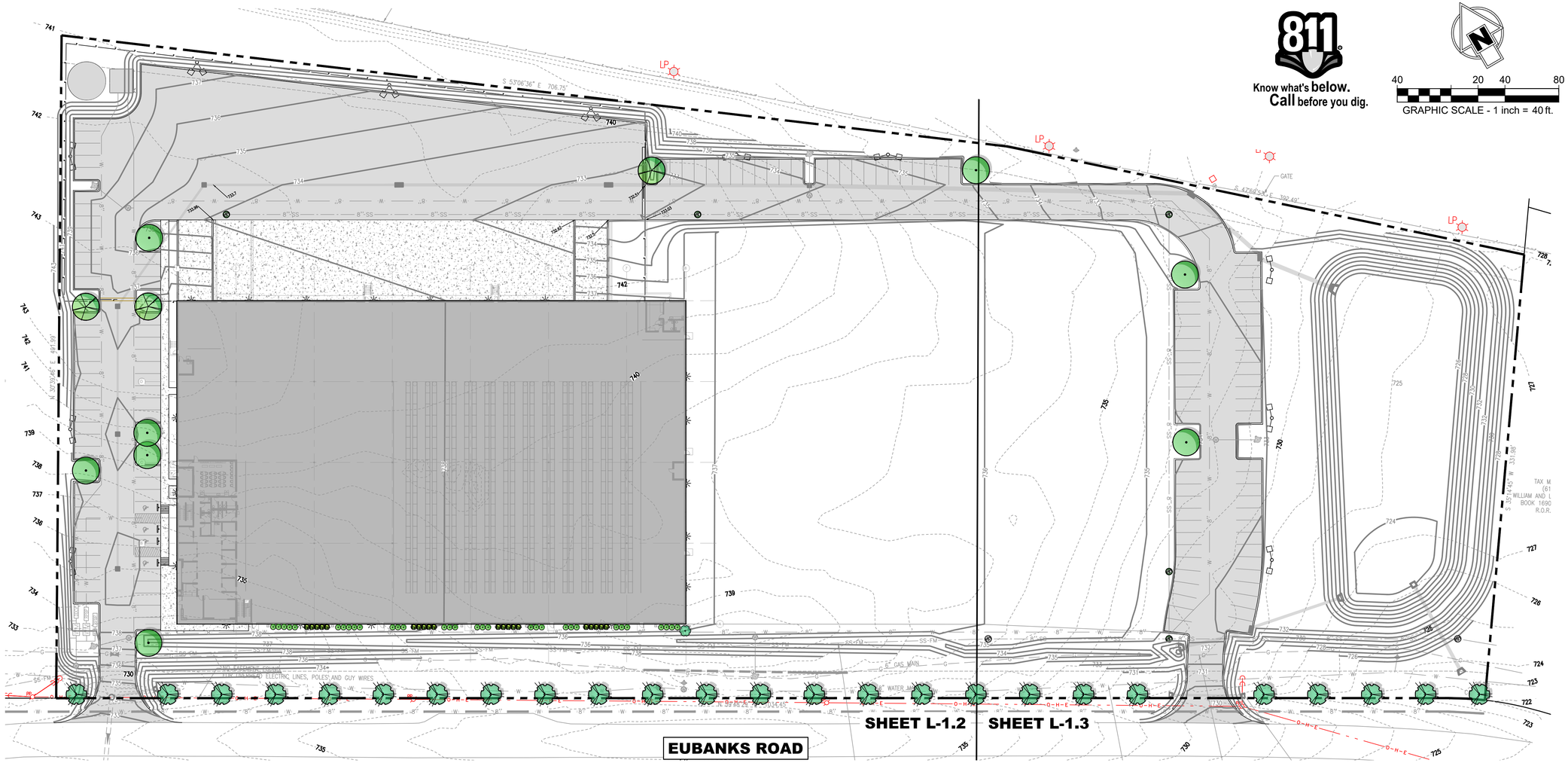


| LANDSCAPE CALCULATIONS | | |
|---|---|---|
| SITE AREA: | 454,513 SF | (10.43 AC) |
| EXISTING ZONING: | | IG |
| | REQUIRED | PROVIDED |
| PARKING SPACES: | - | 136 |
| 1 TREE / 15 SPACES: | 9.1 | 11 |
| BUILDING FRONTAGE: | | 378' |
| 10 SHRUBS/100' | 38 | 53 |
| 50% FRONTAGE PLANTED WITH LDSC. | YES | YES |
| TOTAL ASPHALT AREA: | | 90,736 SF |
| LANDSCAPE AREA: (MIN. 10%) | 10% | 16.4% |
| LANDSCAPE AREA: | 9,074 SF | 14,879 SF |

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Beauty | Economy | Sustainability

Kevin Reff, PLA

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Kevin J. Reff
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE
TENNESSEE
LANDSCAPE ARCHITECT
12-12-23

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0 EUBANKS ROAD
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| PROJECT NO.: | C04523 |

OVERALL LANDSCAPE PLAN

SHEET NUMBER
L-1.1

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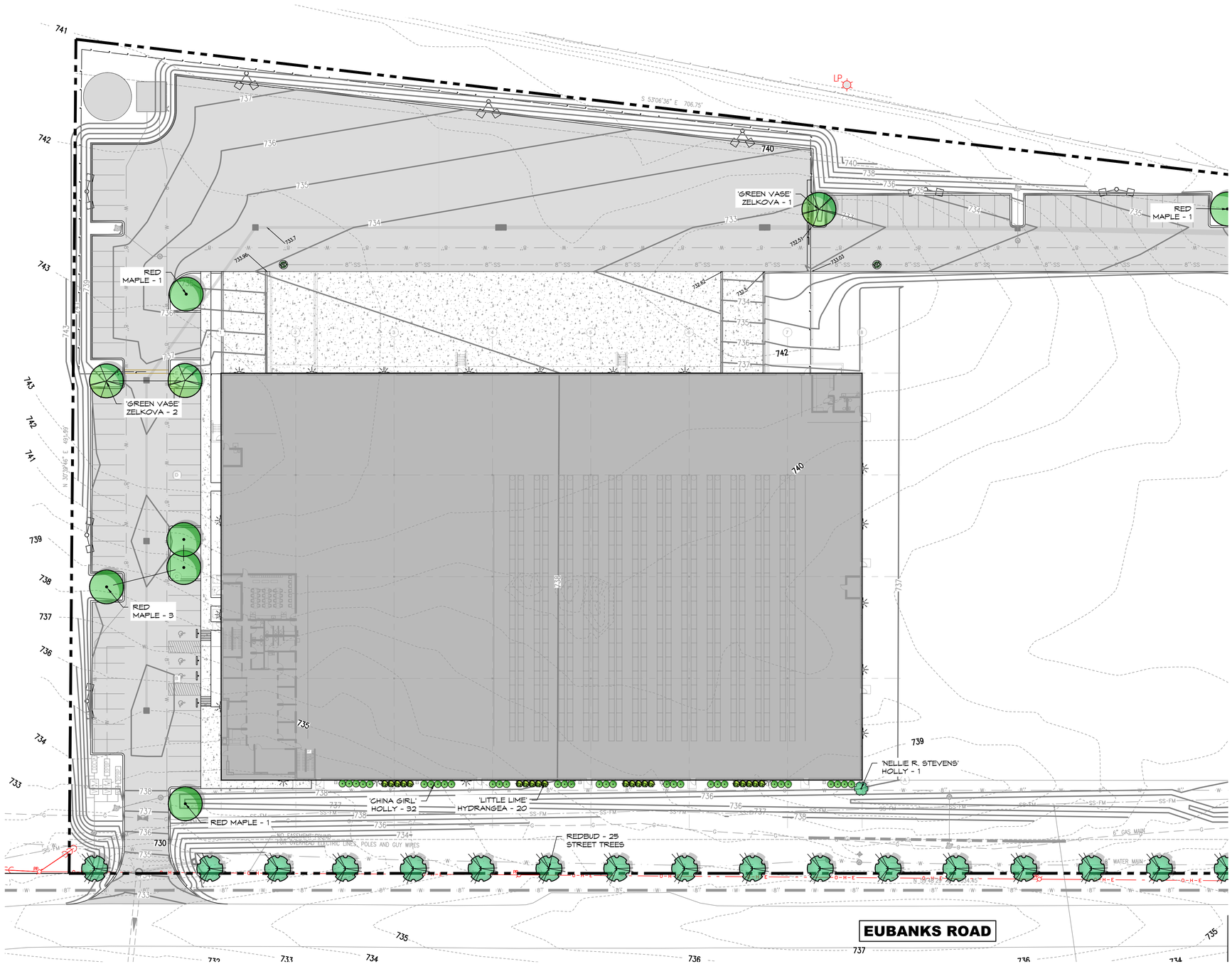


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GRAPHIC SCALE - 1 inch = 30 ft.


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TENNESSEE REGISTERED AGRICULTURE
LANDSCAPE ARCHITECT
12-12-23

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OVERALL LANDSCAPE PLAN

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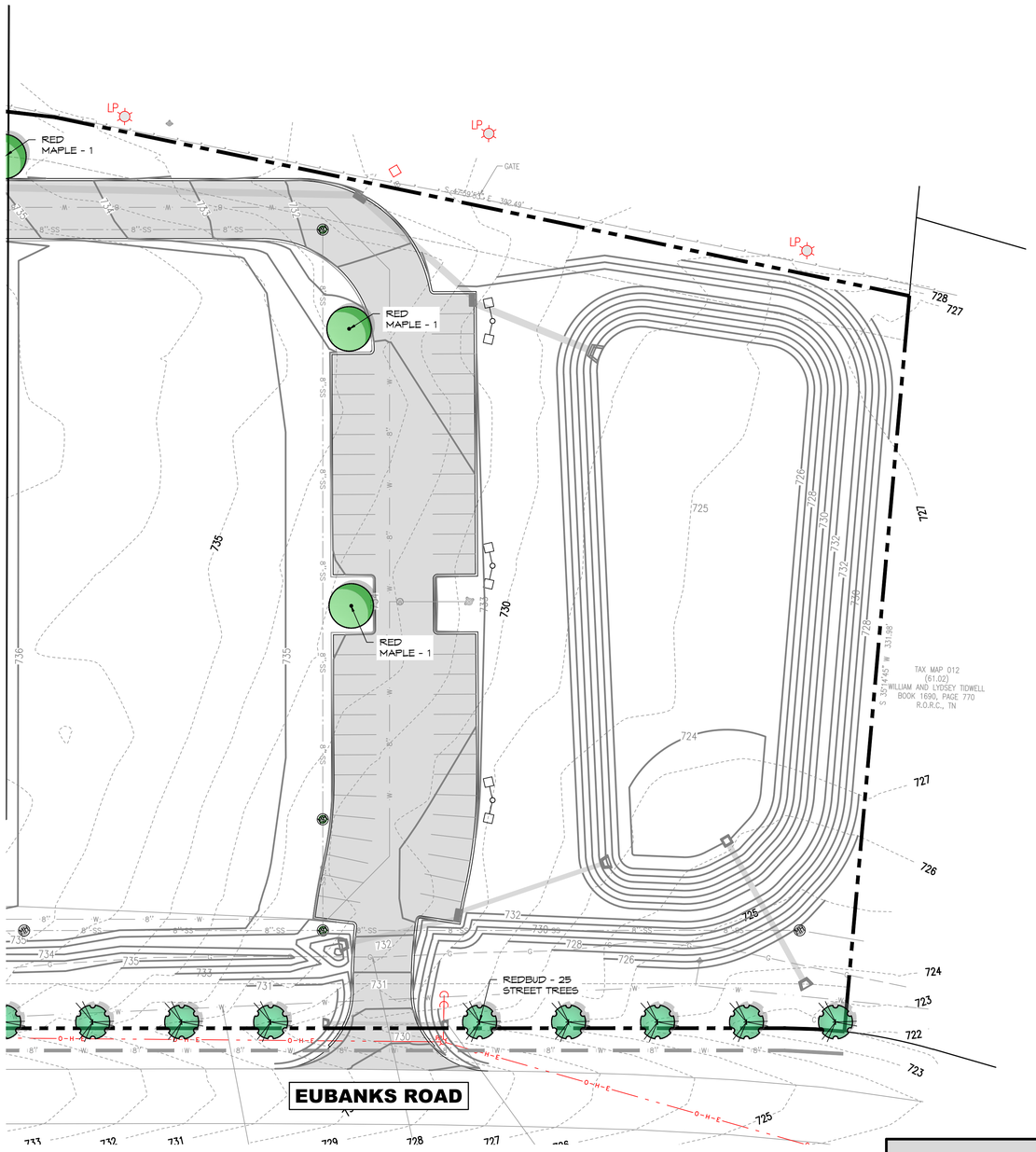



## LANDSCAPE NOTES:

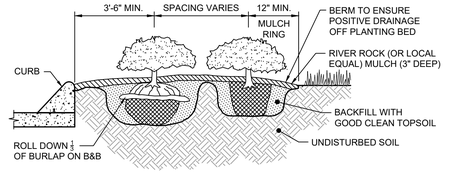
1. WHEN APPLICABLE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING TREES TO REMAIN. NO HEAVY EQUIPMENT SHOULD BE PERMITTED TO OPERATE OR BE STORED, NOR ANY MATERIALS TO BE HANDLED OR STORED, WITHIN THE DRIPLINES OF TREES OUTSIDE THE LIMIT OF GRADING.
2. THE QUANTITIES INDICATED ON THE PLANT LIST AND PLAN ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY CALCULATIONS AND THE LIABILITY WHICH PERTAINS TO THOSE QUANTITIES AND TO ANY RELATED CONTRACT DOCUMENTS AND/OR PRICE QUOTATIONS. QUESTIONS SHOULD BE DIRECTED TO THE LANDSCAPE ARCHITECT.
3. ALL PLANT MATERIALS SHALL BE NURSERY GROWN, GRADE "A" QUALITY, UNLESS OTHERWISE NOTED AND SHALL COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK: ANSI Z-60.1; LATEST EDITION, FOR SIZE AND QUALITY.
4. NO SUBSTITUTIONS AS TO TYPE, SIZE, OR SPACING OF PLANT MATERIALS SPECIFIED ON THIS PLAN MAY BE MADE WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT. KITA LANDSCAPE DESIGN (615) 469-1222.
5. THE CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES AND TO PROTECT UTILITIES THAT ARE TO REMAIN. THE CONTRACTOR SHALL REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
6. SEE CIVIL SHEETS FOR LOCATIONS OF SEEDING, SOD, MULCHING AND EROSION MATTING.
7. SOIL USED FOR PLANTING SHALL CONSIST OF (5) PARTS TOPSOIL, (1) PART SAND AND (2) PARTS ORGANIC MATTER, MIXED WITH I POUND OF FERTILIZER PER CUBIC YARD.
   A. SAND SHALL BE CLEAN MASONRY SAND.
   B. ORGANIC MATTER SHALL BE PEAT MOSS, OR WELL COMPOSTED PINE BARK, OR APPROVED EQUAL AND SHALL BE FINELY GROUND AND FREE OF WEEDS.
   C. ALL FERTILIZER SHALL BE 10-10-10 WITH MINOR ELEMENTS. FERTILIZER SHALL HAVE 40-50% OF ITS TOTAL NITROGEN IN A WATER INSOLUBLE FORM.
8. PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL PLANT BEDS AND SOD AREAS PRIOR TO INSTALLATION. TREFLAN OR AN APPROVED EQUAL SHALL BE USED.
9. ALL PLANT BEDS SHALL HAVE A MINIMUM OF 3" DEEP MULCH. MULCH SHALL BE SHREDDED HARDWOOD.
10. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO CONFIRM MATERIAL QUANTITIES. IN THE EVENT OF A DISCREPANCY, THE QUANTITIES SHOWN ON THE PLAN SHALL TAKE PRECEDENCE OVER QUANTITIES SHOWN ON THE PLANT LIST.
11. PRIOR TO FINAL PAYMENT, THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE OWNER WITH COMPLETE WRITTEN INSTRUCTIONS ON PROPER CARE OF ALL SPECIFIED PLANT MATERIALS.
12. THE LANDSCAPE INSTALLATION SHALL BE COORDINATED WITH THE IRRIGATION INSTALLATION WHEN APPLICABLE.
13. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES AND TAKE SPECIAL CARE TO INSURE THAT BED PREPARATION DOES NOT INHIBIT DRAINAGE.
14. ALL LAWN AREAS SHALL BE CULTIVATED TO A DEPTH OF 4" PRIOR TO SODDING AND SEEDING. PREPARED TURF BEDS SHALL BE FREE FROM STONES OVER 2" DIAMETER, WEEDS AND OTHER DELETERIOUS MATERIAL.
15. THE LANDSCAPE CONTRACTOR SHALL RAKE SMOOTH ALL SEED OR SOD AREAS PRIOR TO INSTALLATION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFILLING BEHIND THE CURB SO GRADE IS LEVEL WITH TOP OF CURB.
17. SODDED AREAS SHALL HAVE NO BARE AREAS. SEEDED AREAS SHALL BE CONSIDERED ACCEPTABLE WHEN FULL COVERAGE OF THE PERMANENT TURF GRASS SPECIES IS ESTABLISHED. SEE CIVIL SHEETS FOR SEEDING, MATTING OR SODDING AREAS.
18. CUT AWAY ROPES OR WIRES FROM B&B PLANTS. PULL BACK BURLAP FROM TOP OF ROOT BALL. DO NOT ALLOW BURLAP TO BE EXPOSED AT SURFACE. TOTALLY REMOVE BURLAP IF IT IS SYNTHETIC.
19. IF CONTAINER GROWN PLANTS SHOW SIGNS OF BEING ROOT BOUND, SCORE ROOTS VERTICALLY.
20. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
21. ALL REPLACEMENTS SHALL BE OF THE SAME TYPE, SIZE, AND QUALITY AS SPECIFIED ON THE PLANT LIST, UNLESS APPROVED OTHERWISE IN WRITING BY THE LANDSCAPE ARCHITECT.
22. ANY MATERIAL THAT IS DEEMED TO BE 25% DEAD OR MORE SHALL BE CONSIDERED DEAD, AND MUST BE REPLACED AT NO CHARGE. A TREE IS CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK, OR MORE THAN 25% OF THE CROWN IS DEAD.
23. REPLACEMENTS SHALL BE MADE DURING THE NEXT PLANTING SEASON UNLESS THE LANDSCAPE CONTRACTOR AGREES TO AN EARLIER DATE.
    PLANTING DATES
    SPRING: MARCH 15 - APRIL 15
    FALL: OCTOBER 1 - NOVEMBER 30
24. THE LANDSCAPE CONTRACTOR WILL NOT BE RESPONSIBLE FOR PLANT MATERIAL THAT HAS BEEN DAMAGED BY VANDALISM, FIRE, RELOCATION, WILDLIFE, THEFT, OR OTHER ACTIVITIES BEYOND THE LANDSCAPE CONTRACTOR'S CONTROL.
25. HOSE BIBS ON THE EXISTING AND PROPOSED BUILDINGS WILL PROVIDE WATER FOR NEW LANDSCAPE AREAS.

811 Know what's below. Call before you dig.

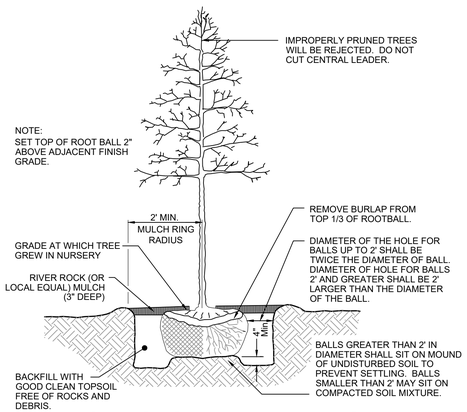
GRAPHIC SCALE - 1 inch = 30 ft.
30 15 30 60

## PLANT SCHEDULE

| QTY. | COMMON NAME | BOTANICAL NAME | HEIGHT | TRUNK | COMMENTS |
|---|---|---|---|---|---|
| CANOPY TREES | | | | | |
| 3 | 'Green Vase' Japanese Zelkova | Zelkova serrata 'Green Vase' | 10' - 12' | 2" Cal. | B&B |
| 8 | Red Maple | Acer rubrum | 10' - 12' | 2" Cal. | B&B |
| 11 | TOTAL - CANOPY TREES | | | | |
| UNDERSTORY/COLUMNAR TREES | | | | | |
| 1 | 'Nellie R. Stevens' Holly | Ilex x 'Nellie R. Stevens' | 6' - 7' | 2" Cal. | B&B |
| 25 | Redbud | Cercis canadensis | 8' - 10' | 2" Cal. | B&B |
| 26 | TOTAL - UNDERSTORY TREES | | | | |
| 37 | TOTAL - ALL TREES | | | | |
| SHRUBS | | | | | |
| 32 | 'China Girl' Holly | Ilex x meserveae 'Mesog' | 24" Min. | 5 Gal. | Container |
| 20 | 'Little Lime' Hydrangea | Hydrangea paniculata 'Jane' | 18" Min. | 3 Gal. | Container |
| 52 | TOTAL - SHRUBS | | | | |
| GRASSES, PERENNIALS AND GROUND COVER | | | | | |
| 0 | | | | | |
| TURF | | | | | |
| - | Hybrid Fescue Seed/Sod | Drought tolerant fescue blend | | | |




SHRUB / GROUND COVER PLANTING
NOT TO SCALE




DECIDUOUS TREE PLANTING
NOT TO SCALE

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TENNESSEE No. 357
LANDSCAPE ARCHITECT
12-12-23

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ROBERTSON COUNTY

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OVERALL LANDSCAPE PLAN

SHEET NUMBER
L-1.3

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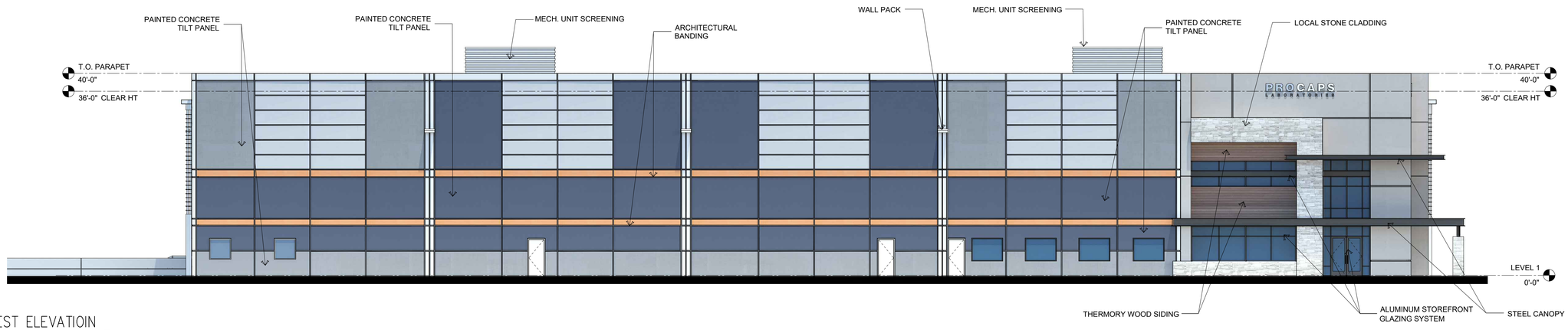
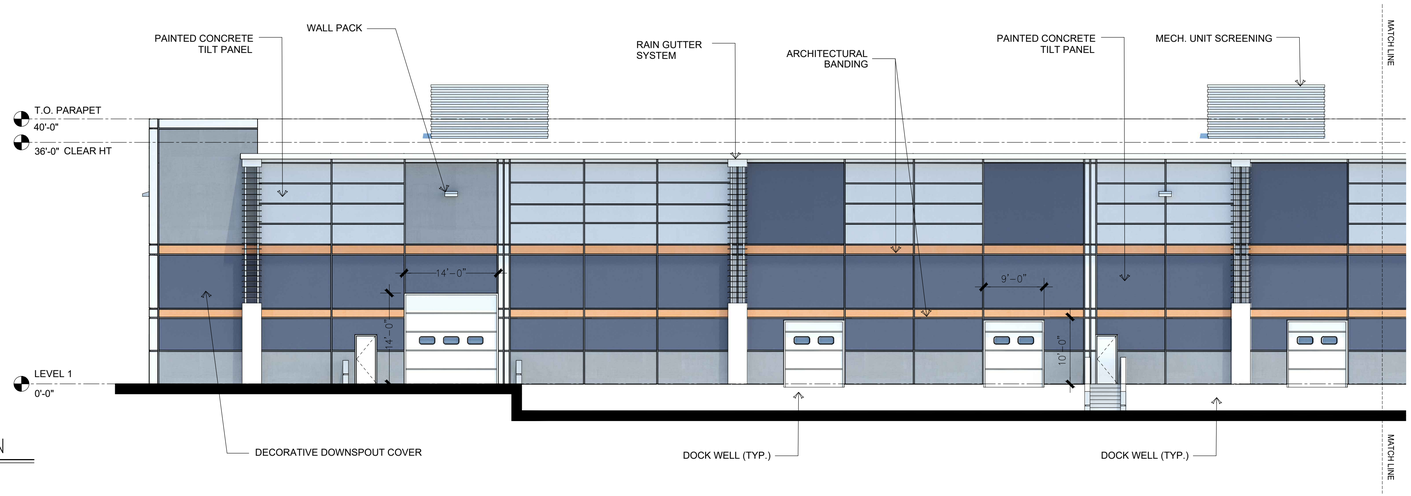


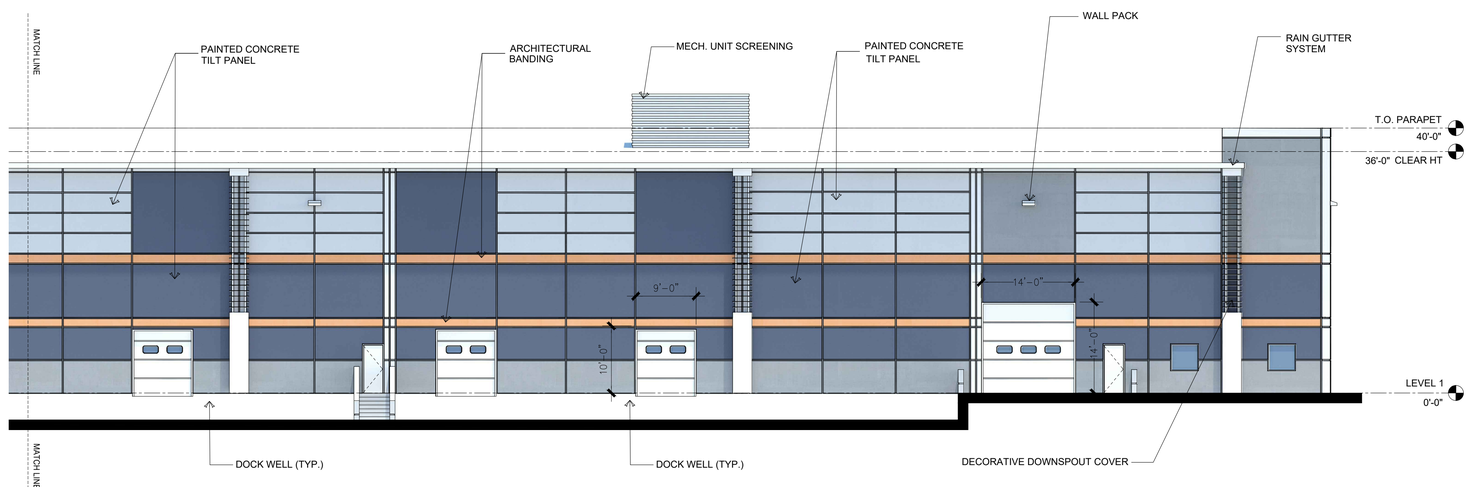

3 WEST ELEVATIOIN

SCALE: 3/32" = 1'-0"




2 PARTIAL NORTH ELEVATION

SCALE: 3/32" = 1'-0"




1 PARTIAL NORTH ELEVATION

SCALE: 3/32" = 1'-0"

CREATIVE FIT
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HENDERSON, NEVADA 89012
PH: 702-498-4498

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PROCAPS
LABORATORIES
BUILDING 5
@ TN/KY
BUSINESS PARK

Address:

- EUBANKS ROAD
  PORTLAND, TN 37148

APN #:

- 061.03
- 10.434 ACRES

Date:

- 11-26-23

Job No.:

- 23-1275

Revisions:

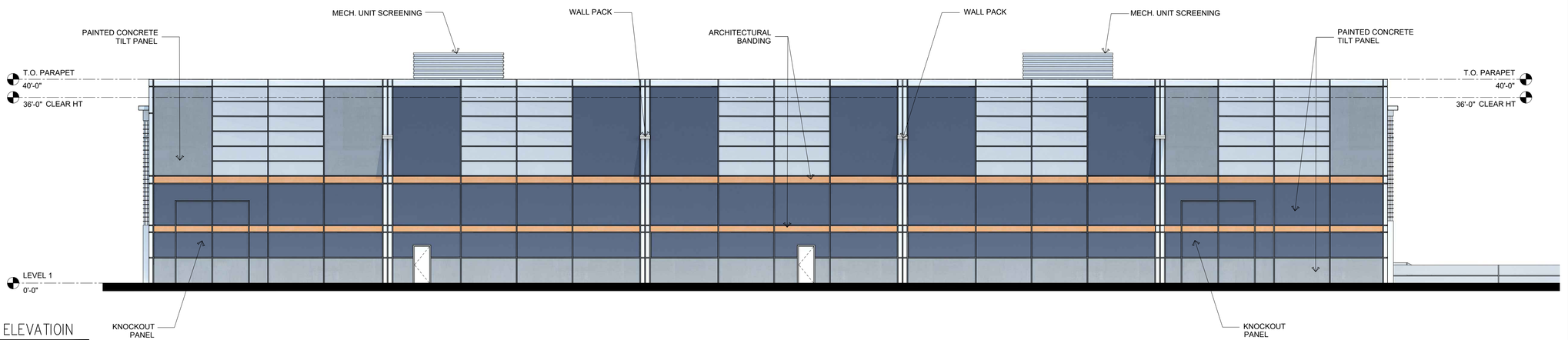
Sheet Contents

- BUILDING ELEVATIONS

Sheet Number

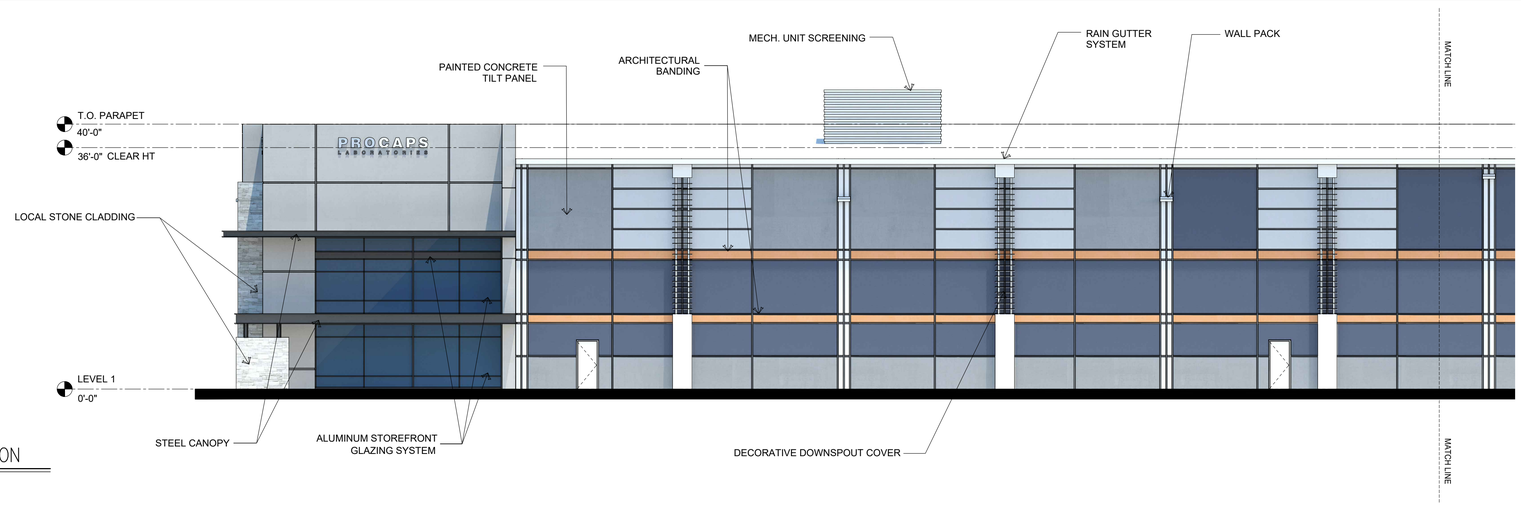
A-5

Of Sheets



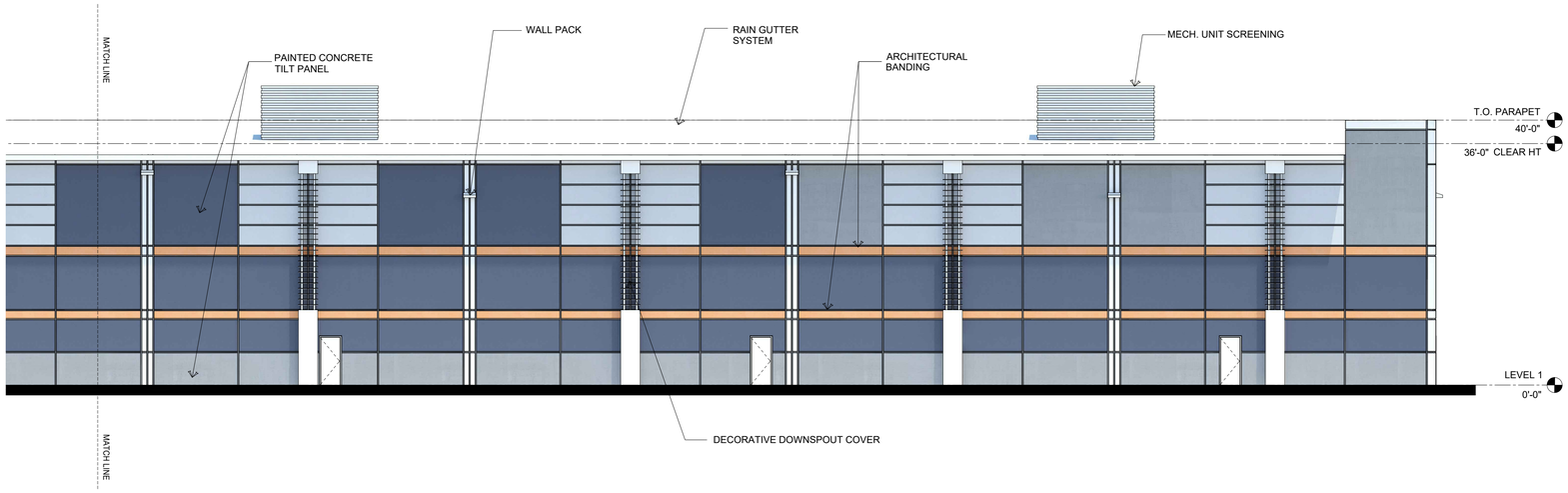

3 EAST ELEVATIOIN

SCALE: 3/32" = 1'-0"




2 PARTIAL SOUTH ELEVATION

SCALE: 3/32" = 1'-0"




1 PARTIAL SOUTH ELEVATION

SCALE: 3/32" = 1'-0"

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APN #:

- 061.03
- 10.434 ACRES

Date:

- 11-26-23

Job No.:

- 23-1275

Revisions:

Sheet Contents

- BUILDING ELEVATIONS

Sheet Number

A-5.1

Of Sheets

**ORDINANCE**

**CITY OF PORTLAND, TENNESSEE**

**NO.**

**FIRST READING**

**AN ORDINANCE AMENDING ZONING ORDINANCE NUMBER 387, COMBINED ZONING ORDINANCE OF THE CITY OF PORTLAND, TENNESSEE, BY REPEALING AND REPLACING ARTICLE XII: PLANNED UNIT DEVELOPMENTS OF LANGUAGE AND DEFINITIONS**

**WHEREAS** the City Council of the City of Portland wishes to amend and replace Article XII: Planned Unit Development of the Municipal Zoning Ordinance 387.

**WHEREAS,** the Planning Commission is responsible for the orderly development of land; and

**WHEREAS,** the City of Portland believes that such amendment will promote, protect, and facilitate the public health, safety, and welfare of the community through coordinated and practical land use and land development for the betterment of Portland's population; and

**WHEREAS** the Portland Municipal Planning Commission recommended approval of this Zoning Code Amendment to the Mayor and City Council by a vote of --- at their January 9th, 2024 meeting.

**NOW, THEREFORE, BE IT ORDAINED by the City of Portland, Tennessee, as follows:**

**Section 1.** The City Council of the City of Portland does hereby approve, authorize, and direct the revision of the City's Official Zoning Ordinance to show the changes in the text as described in Exhibit A: Article XII: Planned Unit Development:

**Section 2.** That all Ordinances in conflict herewith are repealed to the extent of said conflict, and that this Ordinance shall take effect from and after its passage on final reading, the public welfare requiring it.

Notice of the Public Hearing was published in the Portland Sun on _____.

The Public Hearing was held at 6:30 PM in the City Council Chambers _____.

| | |
|---|---|
| Mayor | City Recorder |

Passed First Reading:

Passed Second Reading:

# City of Portland, Tennessee Proposed Planned Unit Development Regulations

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# ARTICLE XII: PLANNED UNIT DEVELOPMENTS

## CHAPTER 1: PURPOSE AND OBJECTIVES

### 12.101 PURPOSE:

The purpose of this Article is to provide design freedom to the developer in order to create a better living environment for current and future residents of the City. Quality private development requires a flexible approach to be available both to the City and to the developer. Deviations from the uniformity characteristic of traditional zoning regulations and the use of new and innovative techniques are henceforth to be encouraged as a matter of policy. However, this section is not intended to make increased densities more acceptable without corresponding benefits to the City, nor is it to be utilized as a means of circumventing the City's development regulations.

### 12.102 OBJECTIVES:

In return for greater flexibility in site design requirements, Planned Unit Developments are expected to deliver exceptional quality community designs that accomplish the following objectives:

Objective #1: Accountability:
Developments shall strictly adhere to the guidelines provided herein. No waiver of any City requirement may be granted unless specifically authorized by this Article.

Objective #2: Demonstration of Public Benefit:
Developments shall demonstrate substantial public benefit, to potentially include developer assistance in implementing City recreation, transportation, utility, and public safety goals.

Objective #3: Innovative and Flexible Project Design:
Developments shall incorporate a creative approach to the use of land that avoids monotony and that results in a higher quality design than might otherwise be accomplished.

Objective #4: Neighborhood Compatibility:
Developments shall be designed in order to ensure compatibility and a harmonious relationship with surrounding land uses.

Objective #5: Quality Architectural Design:
Developments shall be designed to incorporate quality architectural design via the submittal and approval of detailed renderings and elevations as part of the entitlement process.

Objective #6: Preservation of High Quality Open Space:
Developments shall be designed in order to encourage the conservation of high quality open space, as well as the preservation of natural features and environmentally sensitive areas.

Objective #7: Provision of Amenities
Developments shall provide unique amenities, such as interconnected pedestrian pathways and on-site recreational facilities such as clubhouses, swimming pools, fishing ponds, etc.

Objective #8: Efficiency:
Developments shall make efficient use of land, resulting in networks of utilities, streets, and other infrastructure features that maximize allocation of fiscal and natural resources.

## CHAPTER 2: RELATIONSHIP BETWEEN PLANNED UNIT DEVELOPMENTS AND OTHER REGULATIONS

### 12.201: ZONING STATUS OF PLANNED UNIT DEVELOPMENTS:

Planned Unit Development (PUD) districts shall be structured so as to reference their base zoning district or districts, and to make clear that they are subject to an adopted PUD. Such zoning designation shall be reflected upon the official City Zoning Map.

*For example, R-15 PUD, GCS-PUD, RM1-PUD, etc.*

### 12.202: DISTRICTS IN WHICH PLANNED UNIT DEVELOPMENTS ARE PERMITTED:

Planned Unit Developments shall be permitted in all zoning districts, except for the Central Business District (CBD) zoning district.

### 12.203: EXCEPTIONS FROM ZONING AND SUBDIVISION STANDARDS, GENERAL AUTHORIZATION:

Within PUDs, the Planning Commission may recommend, and the City Council may grant, specific exceptions to the underlying district's lot, density, use and bulk standards, as well as other applicable Zoning and Subdivision Regulations standards where it is determined that such modifications shall not negatively affect the value and enjoyment of surrounding property, the provision of municipal services, or the flow of traffic.

### 12.204: EXCEPTIONS FROM REQUIREMENTS OF THIS ARTICLE PROHIBITED:

While exceptions to other Zoning requirements are permissible, no exceptions may be granted to any requirement of this Article unless specifically authorized by this Article. All requirements of this Article shall apply to all PUDs unless otherwise stated.

### 12.205: EXCEPTIONS FROM OTHER ZONING AND SUBDIVISION STANDARDS, APPROVAL REQUIRED:

The underlying zoning district's requirements as well as all other applicable Zoning and Subdivision Regulation standards shall by default apply, unless an exception is specifically granted as part of the approved PUD. To be considered for approval by the City Council, any exception must have been reviewed by the Planning Commission and must be specifically noted within the Preliminary Development Plan and Regulating Pattern Book within a table created and labeled for that purpose.

*To clarify: Unless the exception is specifically granted as part of the PUD approval, and unless such exception is specifically reflected on the governing documents for the development, the underlying district requirements shall apply. No exceptions shall be implied unless explicitly stated or shown on the PUD's governing documents.*

### 12.206: CRITERIA FOR GRANTING EXCEPTIONS:

To be granted such exceptions, the applicant must demonstrate compliance with the Purpose and Objectives provided at Chapter 1 of this Article, above. *In no case shall an exception to district regulations within a PUD be granted unless the applicant demonstrates a substantial benefit to the City.*

Design characteristics and amenities to be considered in this determination shall include, but are not limited to the following:

(A) Landscaping, buffering, or screening within or around the perimeter of the PUD that is in addition to the minimum required by this Ordinance.
(B) The provision of additional landscaping and screening of parking lots and structures in addition to the minimum required by this Ordinance.
(C) Reduced use of impervious surface materials, including use of semi-pervious material such as grass-crete.
(D) Design characteristics including, but not limited to, mixed use development circulation systems that utilize alleys or traffic-calming techniques, and pedestrian-oriented environment.
(E) Community amenities including plazas, malls, formal gardens, places to congregate, outdoor seating, public art, and pedestrian facilities.
(F) Preservation of environmental features such as wetlands, conservation areas, hillsides, streams, or other unique features.
(G) Preservation of historic or other culturally significant features.
(H) Recreational amenities such as:
    (1) Swimming Pools
    (2) Outdoor rooms, arbors, gazebos, seating areas, and other hardscape
    (3) Clubhouse with meeting and fitness facilities
    (4) Jogging trails and fitness courses
    (5) Playgrounds and dog parks
    (6) Lakes and natural water features
(I) Retention ponds and detention areas which are accessible to occupants or the public via nature trails, boardwalks, and/or perimeter walkways, but only if they are designed as natural water features and are landscaped with native vegetation.
(J) Additional public infrastructure improvements in addition to the minimum required by this Ordinance, such as ornamental streetlights, street name signs, stop signs, and mailboxes.
(K) Dedication of lands for public uses.
(L) Offsite Traffic, Recreational, or Public Safety Improvements, or payments in lieu of such improvements.
(M) Provision of sign standards which exceed the minimum required by this Ordinance.
(N) Provision of a Design Guide with design standards which exceed the minimum required by City's Design Guidelines. For residential PUDs, this includes provision of draft elevations and floorplans of the homes which are to be built, as well as renderings depicting entryway monumentation, landscaping, fencing etc.
(O) Restrictive covenants which prohibit, limit, or provide standards for utility buildings, fences, and similar structures.
(P) Provision of requirements within the governing documents of the Owner's Association which stipulate that maintenance for all Open Space areas shall be performed by a 3rd party vendor at the Owner's Association's expense.

## CHAPTER 3: MINIMUM STANDARDS FOR ALL PLANNED UNIT DEVELOPMENTS

### 12.301: GENERAL STANDARDS:

All applications for PUD approval will be evaluated using the following standards of review:

(A) The site of the PUD shall be under common ownership and/or unified control. If there are two (2) or more owners, the application for the PUD shall be jointly filed by all owners.

(B) There shall be a minimum size of two (2) acres for any new PUD, with the exception that all rezoning requests containing a multi-family component shall be submitted in accordance with this Article regardless of acreage.

(1) "Multi-family" as used within this Article shall mean a building containing three (3) or more dwelling units, including apartments, condominiums and the like. It shall not include townhome developments, in which each dwelling unit is on an individual lot with each dwelling unit being separated from the other units by a party wall.

(2) This requirement shall in no way limit or abrogate any existing zoning entitlement.

(C) The proposed PUD must be in agreement with the adopted Land Use Plan and any adopted Area Plan for the City. Planning Staff shall clarify upon the record whether this is the case. It shall be incumbent upon the applicant to seek amendment to any applicable City Plans simultaneously with submitting the proposed PUD. The Planning Commission shall not recommend for approval any proposed PUD not in compliance with such adopted plans.

(D) All rezoning requests that wholly, or in part, contain multi-family uses as defined by this Zoning Ordinance shall be required to be submitted in accordance with this Article.

(E) Approval of a PUD shall be based upon a finding by the Planning Commission that studies provided by the applicant do confirm that streets, utilities, and drainage features have adequate capacity to serve the proposed development. If deficiencies do exist, the applicant shall offer to upgrade or otherwise provide adequate facilities to support their development.

(F) Any PUD shall be responsive to the character of surrounding properties and the existing neighborhood area. When located in an area where land use types and/or intensities or densities vary, the development shall be designed in such a manner as to provide for gradual changes in intensity and/or density.

(G) Street System connectivity to adjoining properties shall be provided wherever possible in the judgment of the Planning Commission and City Council.

(H) Walkways and trails are encouraged to be provided within the PUD in a manner which promotes pedestrian safety and circulation. Where appropriate, the plan shall provide pedestrian/bicycle access to, between or through open space areas and to appropriate off-site amenities.

(I) No sidewalk waivers shall be allowed for any PUD containing a residential component. Sidewalk waivers may be allowed for nonresidential PUDs at the discretion of the Planning Commission and City Council.

(J) No action of the Board of Zoning Appeals shall be required in the approval of a PUD.

(K) PUD districts shall be designed to preserve the natural features of the land and historic resources, such as existing trees, natural topography, and archaeological and historic sites, as much as possible.

(L) The PUD shall include additional screening, buffering, transitional uses or other design features as necessary to adequately protect existing or proposed uses of surrounding property;

(M) Homeowner associations or some other responsible party shall be required to maintain any and all common and open space and/or common elements, unless accepted to be conveyed to the City.

(N) All utilities shall be underground within PUD districts.

(O) No PUD application shall be considered unless such proposed plan includes a certification that the services of one or more design professionals in one or more of the following disciplines were utilized in the preparation of the Development Plan and Regulating Pattern Book in addition to a licensed civil engineer.

(1) An urban planner who possesses the education and experience to qualify for membership in a recognized professional planning association;

(2) A practicing landscape architect licensed by the State of Tennessee

(3) A practicing architect licensed by the State of Tennessee.

(P) A Development Agreement shall be required at the Platting/Site Plan stage for all developments that will involve the installation of any infrastructure to be owned and/or maintained by the City.

(Q) In order to provide feedback to the applicant, an optional and nonbinding conceptual review of any proposed PUD is authorized to be undertaken by the Planning Commission.

(R) City standards for public notice and advertisement shall be met for all applications. Any additional notice requirements provided by this Article are in addition to any required by the City and by State law.

(S) All PUDs shall be designed to facilitate safe and efficient ingress and egress for municipal and/or private solid waste vehicles. All developments shall be designed to ensure such access without otherwise blocking or obstructing the flow of traffic along bordering streets.

(T) All PUDs shall be designed to facilitate safe and efficient ingress and egress for school buses. All developments, and non-single family residential developments in particular, may be required to provide bus turnouts, pull out stops, covered rider shelters, or other design elements in order to ensure safety.

**12.302: SPECIFIC STANDARDS:**

In addition to the General Standards noted above, the following Specific Standards shall apply to all PUDs:

(A) Minimum Lot Sizes:

Lot Sizes may not be less than 50% of that allowed by the base zoning. However, except as indicated in these standards, no proposed building lot within a PUD may be reduced to less than 5,000 square feet.

*Note: Townhome lots under individual units shall not be less than 2,000 square feet. Townhome development lots as a whole (meaning groups or blocks of Townhomes) shall not be less than 6,000 square feet (2000 sq/ft per unit X minimum of 3 units=6,000 sq/ft)*

*Note: Multi-family developments shall provide a minimum of 5,000 square feet of lot area per residential unit.*

*Note: Horizontal Property Regimes (HPR) shall also comply with these standards in that each HPR dwelling unit or group of dwelling units within such Regime shall be provided with sufficient open space around each unit or group of units to meet these minimum area requirements.*

(B) Minimum Setbacks:

In no event shall setbacks be reduced to less than:

Front: 20 feet

Side: 5 feet

Rear: 15 feet

*Note: A side yard of at least these dimensions is required on each end of a group or block of attached townhomes and multi-family dwellings. Zero (0) feet is required on the interior sides of each townhome and multi-family dwelling (shared wall).*

*Note: Horizontal Property Regimes (HPR) shall also comply with all of these standards. Each HPR dwelling unit within such Regime shall be provided with sufficient open space around each unit or group of units to meet this minimum yard requirement.*

*Note: Certain zoning districts contained in this Ordinance may allow "build to" lines that reduce setbacks to less than these PUD standards. These PUD standards shall govern in the event of a conflict.*

(C) Allowable Uses:

All uses allowed and allowed upon appeal as per the base zoning shall be allowed. However, the Planning Commission may recommend, and the City Council may require, the elimination of certain uses that may be deemed objectionable or not in keeping with the area as part of a PUD approval. In addition, the applicant may voluntarily limit uses that would otherwise be allowable in the base zoning district.

The applicant may request the addition of uses or mix of uses that may not be allowed as per the base zoning, and such uses may be approved by the City Council upon recommendation by the Planning Commission. Such uses must be noted as a requested exception as required at Chapter 2 of this Article.

*For example: In a district that might otherwise only allow standard detached single family dwellings, the applicant may request the addition of a convenience commercial use for the development. Any such items must be noted as an exception upon the governing documents for the development, and must be clearly indicated upon the Preliminary/Final Development Plan and Regulating Pattern Book.*

(D) Buffers:

(1) A 15 foot Type B buffer yard shall be provided around the perimeter of all PUDs consisting solely of a single family residential uses.
(2) A 20 foot Type C buffer yard shall be provided around the perimeter of all PUDs containing a commercial component, or a residential component containing townhomes, two family dwellings of any kind, or semi-detached dwellings.
(3) A 25 foot Type D buffer yard shall be provided around the perimeter of all PUDs containing an industrial component or a residential component containing multi-family residential.
(4) Specific planting requirements for various buffer yards are found at Table 4-502 of this ordinance.

(5) As used within this article, "perimeter" is intended to mean the sides and rear, as well as the front of a subject property.

(a) In other words, at any point in which a proposed development fronts existing right of way, a buffer meeting these requirements shall be provided in addition to buffering along the sides and rear of the property.

(b) Within the front buffer, the applicant may substitute decorative fencing, entryway monumentation, and other similar amenities for required canopy tree plantings, provided that required accent trees and shrubs are planted as required by this ordinance.

(c) Sidewalks shall be required to be installed along or within all front buffers. No exceptions or in lieu of payments are allowed within PUDs containing a residential component.

(6) All required buffers shall be located in Open Space under ownership of the homeowner or property owners' association. No required buffer of any kind shall be contained on any single family residential building lot. Landscape easements etc, are prohibited on single family residential building lots.

(E) Transitions

Proposed lot sizes around the perimeter of the development which directly border other property currently used for single family residential uses shall not be less than the minimum required by the requested base zoning if such homes are within 250 feet of the property proposed for rezoning. This requirement shall be applied to each boundary of the project independently, to include the front of the property, and shall be in addition to any required buffers.

*Example #1: if the applicant is requesting an R-15 PUD zoning, the minimum lot size for lots around the perimeter of the development shall be 15,000 square feet if those lots will border property in which existing homes are within 250 feet of the proposed PUD.*

*Example #2: If a new PUD is to be surrounded by property in which there are no homes within 250 feet of the development's boundaries, this requirement shall not apply.*

*Example #3: If homes are located within 250 feet of one side of a development, and the other sides contain no homes within 250 feet of the proposed development, this requirement shall be applied only to the side containing homes within 250 feet of the proposed development.*

(F) Market Analysis:

The Planning Commission or City Council may require the developer to provide a market analysis for any PUD containing a nonresidential component. The analysis will be utilized, among other things, to determine the economic feasibility of the proposed project, and to determine the impact of the proposed development on the long-term development of commercial/industrial land use in the area.

(G) All PUDs containing a residential component shall submit population projection data, to include projected adult and school aged population at build out.

# CHAPTER 4: OPEN SPACE, AMENITIES, AND PERPETUAL MAINTENANCE STANDARDS

## 12.401: QUALITY AND CHARACTER OF OPEN SPACE:

The following requirements shall apply for all common elements and associated improvements located within any PUD:

(A) At least 20% of the gross site acreage of the PUD shall be comprised of open space.
(B) All Open Space shall be classified as either:
    (1) Usable Open Space
    (2) Passive Open Space
(C) Not less than 10% of the gross site acreage shall be Useable Open Space, which is defined as follows:
    (1) Useable Open Space: An area or areas within the boundaries of a development that are designed, set aside and maintained for either active or passive recreation, or both, and are available and accessible for use and enjoyment by all residents of the development.
        (a) Useable Open Space must be suitably improved for its intended use. Active recreation facilities are encouraged. Permitted uses for usable open space may include, but are not limited to pedestrian, bike and multi-purpose trails, pocket parks, playgrounds, etc.
        (b) Areas of Useable Open Space must be clearly delineated on the Amenities Plan Sheet, along with table of calculations showing that these requirements have been met.
(D) All Open Space not classified as Usable shall be classified as Passive Open Space, which may include, but not be limited to, required landscape buffers, important natural features, cemeteries, agricultural uses, and Stormwater detention facilities.
(E) Public right of way, as well as any right of way that may be set aside for private streets, may not be counted toward any Open Space calculations.
(F) Existing Public Utility Easements, including TVA transmission easements, pipeline easements and other similar easements owned by utilities not controlled by the City may not be counted toward any Usable Open Space calculations.
(G) Lands Located within the Floodplain or Floodway or that are located within a designated wetland may not be counted toward Usable Open Space requirements, unless the developer proposes to install recreational amenities within them, such as boardwalks, pedestrian footpaths/bridge crossings etc. Any applicable federal/state/local permitting requirements shall apply, and shall be the developer's responsibility.
(H) Lands to be dedicated to the City may be counted toward Usable Open Space requirements if actually accepted by the City.

## 12.402: AMENITIES PLAN REQUIRED:

All PUDs shall provide an Amenities plan within the Preliminary Development Plan and Regulating Pattern Book, which at minimum shall provide:

(A) A description and location of all proposed amenities
(B) A table indicating overall useable and passive open space proposed,
(C) A specific phasing plan for all amenities and open space improvements.

**12.403: SURETY FOR PROPOSED AMENITIES REQUIRED:**

The City shall require that surety guaranteeing all private amenities for the entire development be posted prior to initiation of construction for the first phase of the development. Such surety shall be held by the city until the final phase of the project is completed.

**12.404: TIMING FOR AMENITY INSTALLATION:**

Amenities should be installed and completed in the phase in which they are to be located. However, all amenities must be installed by the developer and approved by the City prior to commencement of grading activities for the final phase of the development.

**12.405: MAINTENANCE OF OPEN SPACE:**

All open space and usable open space shall be deeded to a homeowners or property owners' association, and the developer shall submit a draft declaration of covenants and restrictions that will govern the association concurrently with the application for Preliminary Development Plan and Regulating Pattern Book approval. The City Attorney shall review the documentation as to conformity with this Article. The provisions shall include, but not be limited to the following:

(A) The association must be set up before the recording of the first Final Plat for the development;
(B) Membership must be mandatory for each buyer and any successive buyer;
(C) The open space and usable open space restrictions must be permanent and not just for a period of years;
(D) The association must be responsible for liability insurance, local taxes and the maintenance of recreational and other facilities;
(E) Property owners must pay their prorated share of the cost to the assessment levied by the association to meet changed needs.
(F) The association must assume perpetual responsibility for all Stormwater infrastructure located within an Open Space area, and must enter into a Long Term Stormwater Maintenance Agreement with the City as per state and local requirements.

**12.406: DEDICATION OF OPEN SPACE BY DEVELOPER:**

(A) All land shown on the approved Final Development Plan and Regulating Pattern Book as Open Space may be either:
    (1) Conveyed to a public body, if the public body agrees to accept conveyance and to maintain the common open space and any buildings, structures or improvements which have been placed on it; or
    (2) Conveyed to an homeowner or property owner's organization for ownership and maintenance
(B) No common open space of a PUD shall be conveyed or dedicated by the developer or any other person to any public body, homeowner's association or other responsible party unless the Planning Commission has determined that all required improvements, to include Stormwater improvements, have been completely and satisfactorily installed.

**12.407: OWNER'S ASSOCIATION DEFAULT:**

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 PUD fail to maintain the open

space in accordance with the adopted Final Development Plan and Regulating Pattern Book, the City may serve written notice upon such organization and/or the owners or residents of the PUD and hold a public hearing.

If, 30 days following the public hearing, the deficiencies of maintenance remain uncorrected, the City Attorney shall call upon all the owners of property within the PUD to maintain the common open space, and, in default thereof, the City may maintain same.

The cost of such maintenance by the City shall be assessed severally and proportionally against the properties within the PUD that have a right of enjoyment of the common open space and shall become a lien on the properties.

## CHAPTER 5: REVIEW AND APPROVAL PROCESS

### 12.501 GENERAL:

Review and approval of a proposed PUD shall entail the following steps. With the exception of an optional and nonvoting conceptual review by the Planning Commission, there shall be no portion of this process which may be waived by city staff or the Planning Commission.

### 12.502: STEP 1: PRELIMINARY CONCEPT MEETING:

The applicant shall meet with the Planning Department to discuss the initial concepts of the PUD. The applicant shall supply preliminary information including, but not limited to, proposed uses, site constraints, road access, utility availability, and proposed density. Staff shall make the applicant aware of any applicable plans and ordinances. All staff comments are purely advisory in nature.

### 12.503: STEP 2: PRE-APPLICATION CONFERENCE:

Within 90 days of the preliminary concept meeting, and not less than 10 days prior to any required Neighborhood Meeting, the applicant shall meet with the Planning Department and other departments, as appropriate, for a pre-application conference.

(A) The applicant shall supply preliminary information to the Planning Department in a form established by the Planning Department. Such information shall be submitted at least three business days prior to the pre-application conference meeting.
(B) The purpose of the pre-application conference shall be to review refined plans and concepts for the PUD, the submittal requirements for the formal application, and the neighborhood meeting.
(C) All staff comments provided at the preapplication meeting are purely advisory in nature.

### 12.504: STEP 3: NEIGHBORHOOD MEETING:

Within 30 days of the pre-application conference, the applicant is required to hold at least one formal neighborhood meeting. This neighborhood meeting shall be held prior to formal submittal of the application for Preliminary Development Plan and Regulating Pattern Book approval. The applicant shall meet the following standards when conducting a neighborhood meeting:

(A) At least five (5) business days prior to the neighborhood meeting, provide written notice to the Planning Department, including the project name, time, date, and location of the meeting.
(B) Conduct the neighborhood meeting within proximity of the location of the proposed development. If it is not possible to hold the meeting in proximity to the location of the proposed development, due to lack of public facilities, the meeting shall be held in a nearby convenient location.
(C) An effort shall be made to provide adequate notice of the neighborhood meeting to the community. At a minimum, informational letters shall be distributed by the applicant to property owners within a 500-foot radius of the proposed PUD.
(D) Provide the Planning Department with a written summary of the meeting as part of the Preliminary Development Plan and Regulating Pattern Book application. The summary shall include a brief description of the method used to provide notice of the neighborhood meeting to the community and highlight the primary concerns of the neighboring property owners raised at the neighborhood meeting.

(E) The Planning Director may waive the neighborhood meeting requirement for reapplications under the following circumstances:

(1) For reapplications: If a formal neighborhood meeting has been conducted for the PUD application in the last 12 months and no changes to the original application are being proposed.

**12.505: STEP 4: OPTIONAL CONCEPTUAL REVIEW BY PLANNING COMMISSION:**

Prior to submittal of a formal application for a PUD, the applicant may make a conceptual presentation to the Planning Commission at a regularly scheduled meeting. The purpose of this submission is to obtain information and guidance prior to entering into binding commitments or incurring substantial expense. There shall be no formal vote on the conceptual presentation. The applicant may furnish whatever information that may assist the Planning Commission with understanding the proposal, but at minimum, such a conceptual presentation shall consist of the following:

(A) A map or maps in general form containing the proposed land uses, the natural features of the development site, the character and general location of all roadways and access drives proposed within the potential development, the location of adjacent public streets, thoroughfares and public utilities, and approximate schematic drawings showing the size, character, and location of buildings on the site.

(B) A written cover letter containing a general explanation of the potential development, including a statement of the present ownership of all the land within the development.

**12.506: STEP 5: PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:**

Within 90 days of the pre-application conference, the applicant shall submit an application in accordance with the application requirements contained herein. If the applicant fails to submit an application within 90 days of the pre-application conference, the applicant shall be required to begin the review procedure again from the pre-application conference (Step 2).

**12.507: STEP 6: PLANNING COMMISSION REVIEW AND RECOMMENDATION OF PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:**

The Planning Commission shall review the application, hold a public hearing, and make a recommendation to the City Council. The Planning Commission shall recommend approval, denial, or approval with conditions within 60 days after the initial consideration of the application. The applicant may waive the 60 day time requirement and consent to an extension or extensions.

**12.508: STEP 7: CITY COUNCIL REVIEW OF PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:**

The City Council shall review the application, hold a public hearing, and make a final decision in accordance with the city's ordinance review process generally. In making such a decision, the City Council shall consider but not be bound by, the recommendation of the Planning Commission. The City Council shall approve, deny, or approve with conditions. The City Council may defer the application for a reasonable amount of time if more information is needed to make an informed decision. Within 30 days after approval of a Preliminary Development Plan and Regulating Pattern Book, the zoning map will be amended to show the PUD as a zoning district.

**12.509: <u>STEP 8: PLANNING COMMISSION REVIEW OF FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK APPLICATION:</u>**

The Planning Commission shall review the Final Development Plan and Regulating Pattern Book and hold a public hearing. If the Final Development Plan is in substantial compliance with the approved Preliminary Development Plan and Regulating Pattern Book to include any applicable conditions or modifications made by the City Council, the Planning Commission shall vote to approve it.

*Note: If the Final Development Plan and Regulating Pattern Book is not in substantial compliance with the approved Preliminary Development Plan, it <u>shall not</u> be approved by the Planning Commission. In such cases, the applicant shall either revise the Final Development Plan and Regulating Pattern Book in order to bring it into conformity with the approved Preliminary Development Plan, or else recommence the Review and Approval Process for new Planned Unit Developments outlined at Chapter 5 of this Article.*

*Note: The grounds for determining if the Final Development Plan is in substantial compliance with the approved Preliminary Development Plan are provided at 12.607, below.*

**12.510: <u>STEP 9: SITE DEVELOPMENT PLAN AND/OR SUBDIVISION PLAT SUBMITTAL AND DESIGN REVIEW:</u>**

If approved, the Final Development Plan and Regulating Pattern Book, as described in this Article, will become the controlling document for all future development in that established PUD zone. Parcels approved for a PUD will continue to be regulated by the Final Development Plan and Regulating Pattern Book regardless of future subdivision and sale of the property.

(A) The procedure for Site Development Plan review will be required as established by Article 14-202.2 of the Portland Zoning Ordinance.
   a. *Note: Site Development Plan approval shall be required for any Planned Unit Development utilizing a Horizontal Property Regime (HPR). Subdivision review is not required for such Regimes as they are exempted from municipal subdivision requirements (See Tennessee Attorney General's Opinion, 01-147).*

(B) The procedure for Preliminary Subdivision Plat and Final Subdivision Plat review will be required as established in the Portland Subdivision Regulations.

(C) The procedure for design review shall be required as established by the City of Portland's Zoning Ordinance and Design Guidelines.

## CHAPTER 6: SUBMITTAL REQUIREMENTS

### 12.601: COMPLETE APPLICATION REQUIRED:

A totally complete application shall be required for all PUD submittals. Under no circumstance is the Planning Commission empowered to consider an application unless all submittal requirements herein have been fulfilled. In no circumstance shall the Planning Commission recommend approval of an application "contingent upon" required information being provided.

### 12.602: COMPLETED PUD CHECKLIST REQUIRED:

It shall be the responsibility of the City Planner to provide the City's official PUD checklist to the applicant during the Preapplication conference. It shall be the responsibility of the applicant to return the signed and completed checklist to the City Planner as part of the PUD application submittal.

### 12.603: PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK: OVERALL INTENT:

The overall intent of requiring a Preliminary Development Plan and Regulating Pattern Book is to ensure that the applicant furnishes adequate information so that the Planning Commission and City Council fully understand the scope and impact of the project, its compliance with the Goals and Objectives of this Article, and the proposed project's benefit to the public. The approval of such a plan by the City Council constitutes a vested property right per state law.

It is incumbent on the applicant to furnish sufficient information at the Preliminary Development Plan stage, so that so that elected and appointed officials can have confidence that they fully understand what is proposed prior to any approvals which would convey a vested property right.

### 12.604: APPLICATION REQUIREMENTS: PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:

The following items shall be the minimum required for all applications to be submitted to the Planning Commission for Preliminary Development Plan and Regulating Pattern Book review:

(A) Completed Application and any required review fees
(B) Completed PUD Application Checklist
(C) Completed Letter of Agency
(D) Current Deed
(E) Cover sheet addressed from the developer's representative to the City Planner describing how the project conforms to the Purpose and to each of the Objectives found at Chapter 1 of this Article.
(F) Preliminary Development Plan, which shall be submitted in black and white 24 X 36 format, and which shall contain the following
    (1) Sheet 1: Title Sheet, containing the following information:
        (a) Name of Development
        (b) Name and address of Current property owner
        (c) Name and Address of Developer (if different)
        (d) Name and contact information for professionals who prepared plan.
        (e) Current Zoning
        (f) Proposed Zoning
        (g) Property identification information (address, map/parcel, deed information)

(2) Sheet 2: Plot plan prepared and stamped by a licensed surveyor for overall property depicting existing conditions, boundaries and topography
(3) Sheet 3: Overall layout sheet, with:
    (a) Proposed street network
    (b) All proposed lots with conceptual building and driveway footprints clearly indicated in relation to proposed setbacks
    (c) All open space and areas proposed for public use (fire station, park etc)
(4) Sheet 4: Preliminary Utilities plan sheet, showing how water, sewer and gas utilities will be run through the site and how they will be connected to existing utilities in the area
(5) Sheet 5: Preliminary Landscape plan sheet depicting all open space areas, including buffers
(6) Sheet 6: Preliminary Roadway improvements Plan Sheet if improvements within existing public right of way are to be required.
(7) Sheet 7: Preliminary Drainage Plan indicating how surface drainage will be controlled and managed
(8) Sheet 8: Preliminary Amenities Plan Sheet, containing the following:
    (a) A description and location of all proposed amenities
    (b) A table indicating overall useable and passive open space proposed,
    (c) A specific phasing plan for all amenities and open space improvements.

(G) Regulating Pattern Book, which shall be submitted in color 11 X 17 format, and which shall contain the following:
(1) Title sheet
(2) Name, address, contact information of applicant and professional architect, planner, or engineer responsible for preparing the Regulating Pattern Book
(3) Table of Contents
(4) Narrative describing the subject property's context, history and existing conditions
(5) Narrative describing the proposed development
(6) Table of Exceptions from City Zoning and Subdivision Regulations being sought
(7) Listing of permitted uses within the development
(8) Proposed density/intensity of project
(9) A tabulation of the number of lots which would be allowed under the existing and proposed zoning.
(10) Typical lot layout(s) and proposed setbacks
(11) Colorized graphic rendering showing all natural features, such as topography, soils, woodlands, wetlands, floodplain, and existing drainage patterns which affect the property
(12) Architectural Renderings/Floorplans/Photographs of proposed structures with sufficient clarity to convey the appearance of proposed structures
(13) Written description of materials to be used as well as any to be prohibited
(14) Amenities renderings, photographs and depictions
(15) Signage Plan Sheet
    (a) For Residential Developments: Horizontal depiction of entryway monumentation and associated landscaping

(b) For Nonresidential Developments: Horizontal depiction of proposed signage, as well as formal PUD sign policy regarding size, illumination, and materials.

(16) For projects that include nonresidential or multifamily uses, a photometric lighting plan of the project location and environs complete with light cut sheets and lighting fixtures examples

(17) Overall Phasing Schedule for the development

(H) Utility Availability Letter(s), for public water, sewer and natural gas

(I) Traffic Impact Study (if required by City staff)

(J) Documentation summary of neighborhood meeting

(K) Draft Covenants, Conditions, Restrictions

**12.605: <u>FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK: OVERALL INTENT:</u>**

The intent of the Final Development Plan and Regulating Pattern Book is to incorporate any terms, conditions, or other modifications to the Preliminary Development Plan and Regulating Pattern Book that may have been made by the City Council during their review and approval. In addition, the developer shall ensure that sufficient engineering work shall have occurred to ensure with reasonable certainty that the actual locations of future roads, utilities and other amenities are depicted in what will be their actual locations.

**12.606: <u>MINIMUM APPLICATION REQUIREMENTS: FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:</u>**

Following approval of the Preliminary Development Plan and Regulating Pattern Book by the City Council, the developer may make an application to the Planning Commission for Final Development Plan approval. The following items shall be the minimum required for all such applications to be submitted to the Planning Commission for Preliminary Development Plan and Regulating Pattern Book review:

(A) In final form, all of the information required for the Preliminary Development Plan and Regulating Pattern Book.

**12.607: <u>CONFORMITY OF FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK WITH APPROVED PRELIMINARY DEVELOPMENT PLANS:</u>**

The Final Development Plan and Regulating Pattern Book submitted for Planning Commission review and approval shall be in substantial compliance with the approved Preliminary Development Plan. The following criteria shall be utilized in determining whether a submitted Final Development Plan is in conformity with the approved Preliminary Development Plan.

If any of the following occur, the submitted Final Development Plan shall be deemed to be <u>not</u> in conformity:

(A) The submitted Final Development Plan and Regulating Pattern Book seeks to amend a specific condition that was imposed by the City Council;

(B) The submitted Final Development Plan and Regulating Pattern Book shows an increase in the number or dwelling units (density) or maximum square footage (intensity) in the case of non-residential PUDs;
(C) The submitted Final Development Plan and Regulating Pattern Book modifies the location and/or number of the PUDs primary access points;
(D) The submitted Final Development Plan and Regulating Pattern Book indicates that the overall gross open space or usable open space acreage will be reduced;
(E) The submitted Final Development Plan and Regulating Pattern Book seeks to modify any development regulations or architectural commitments expressly enumerated in the approved Preliminary Development Plan and Regulating Pattern Book.
(F) The submitted Final Development Plan and Regulating Pattern Book seeks to obtain an exception from any Subdivision or Zoning standard that was not indicated on the Preliminary Development Plan.

**12.608 SUBMITTED FINAL DEVELOPMENT PLAN NOT IN CONFORMITY WITH APPROVED PRELIMINARY DEVELOPMENT PLAN:**

If the Final Development Plan and Regulating Pattern Book submitted for Planning Commission review is not in conformity with the approved Preliminary Development Plan, the applicant shall have two (2) options:

(A) Revise the submitted Final Development Plan and Regulating Pattern Book in order to bring it into compliance with the approved Preliminary Development Plan.
(B) Recommence the Review and Approval Process for new Planned Unit Developments outlined at Chapter 5 of this Article.

# CHAPTER 7: PROCEDURE FOR MODIFYING AN EXISTING FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK

## 12.701: AMENDMENT OF APPROVED PLANNED UNIT DEVELOPMENTS AUTHORIZED:

Following final approval of a Final Development Plan and Regulating Pattern Book, it is possible that as the development of the PUD progresses, modifications to the approved Final Development Plan may be necessary for a variety of reasons.

"Minor" modifications shall only require approval from the Planning Commission. However, "Major" modifications, as defined below, will be subject to further review by the Planning Commission and City Council and will be required to undergo the entire process for PUD approval as enumerated at Chapter 5.

## 12.702: STAFF APPROVAL OF PUD AMENDMENTS PROHIBITED:

Under no circumstance shall city staff be empowered to approve any modification to any PUD. City staff shall enforce the adopted PUD exactly as approved, and as shown on the approved Final Development Plan and Regulating Pattern Book. Questions related to interpretation should be referred to the Planning Commission by the City Planner if there is disagreement. Any modifications proposed by the developer shall follow the process outlined in this Chapter.

## 12.703: SUBMITTAL PROCESS FOR PLANNED UNIT DEVELOPMENT AMENDMENTS:

A written request from the developer seeking an amendment to an approved PUD shall be submitted to the Planning Director. The request shall describe the overall effect of the proposed changes, a modified Final Development Plan and Regulating Pattern Book, the reasons for seeking such amendment, and shall provide a written description of how the proposed modifications accomplish the intent of the PUD as originally proposed. Upon receipt of a complete request, the Planning Director will make a written determination on whether the proposed modification is Major or Minor within ten (10) business days.

## 12.704: THRESHOLDS FOR MAJOR PLANNED UNIT DEVELOPMENT AMENDMENTS:

Any modifications that results in any of the following will be classified as "Major":

A. The changes proposed seek to amend a specific condition that was imposed by the City Council;
B. The proposed amendment results in an increase in the number or dwelling units (density) or maximum square footage (intensity) in the case of non-residential PUDs;
C. The amendment modifies the location and/or number of the PUDs primary access points;
D. The amount of gross open space or usable open space is reduced;
E. Modification any other development regulations or architectural commitments enumerated in the Final Development Plan and Regulating Pattern Book.
F. The changes proposed seek to obtain an exception from any Subdivision or Zoning standard that was not indicated on the approved Final Development Plan and Regulating Pattern Book.

Modifications not meeting these thresholds shall be deemed "Minor."

# CHAPTER 8: EXPIRATION OF APPROVED PLANS

## 12.801: EXPIRATION OF APPROVED PRELIMINARY DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:

If the applicant has not obtained Final Development Plan approval from the Planning Commission within three (3) years of the approval of a Preliminary Development Plan, the Planning Commission, consistent with the Vested Property Rights Act, Tenn. Code Ann. § 13-4-310, shall give notice by certified mail to the owner and applicant who requested the PUD and shall schedule a public hearing to take any of the following actions:

A. Recommend extending, removing, or modifying the schedule for development;
B. Recommend amendments to the Preliminary Development Plan and Regulating Pattern Book;
C. Recommend revocation of the Preliminary Development Plan and Regulating Pattern Book approval; and/or
D. Recommend rezoning of the property to its former zoning classification.

After receiving the Planning Commission's recommendation(s), and providing any notice required by statute and City regulations, the City Council shall hold a public hearing and render a decision.

## 12.802: EXPIRATION OF APPROVED FINAL DEVELOPMENT PLAN AND REGULATING PATTERN BOOK:

If the applicant has not entered into a development agreement with the City Council and has not commenced site preparation within five (5) years of the City Council's approval of a Preliminary Development Plan and Regulating Pattern Book, the Planning Commission, consistent with the Vested Property Rights Act, Tenn. Code Ann. § 13-4-310, shall give notice by certified mail to the owner and applicant who requested the PUD and shall schedule a public hearing to take any of the following actions:

A. Recommend extending, removing, or modifying the schedule for development;
B. Recommend amendments to the Final Development Plan and Regulating Pattern Book;
C. Recommend revocation of the Final Development Plan and Regulating Pattern Book; and/or
D. Recommend rezoning of the property to its former zoning classification.

After receiving the Planning Commission's recommendation(s), and providing any notice required by statute and City regulations, the City Council shall hold a public hearing and render a decision.

## CHAPTER 9: OTHER ISSUES

### 12.901: REAPPLICATION IF DENIED:

If an application for a PUD has been denied by the City Council, no application for substantially the same PUD may be filed for a period of one (1) year from that date of denial. Whether the application is for "substantially the same PUD" shall be within the discretion of the Planning Commission.

### 12.902: ADDITIONAL INFORMATION MAY BE REQUIRED:

By their very nature, each PUD is unique. As such, there may arise circumstances in which information may be needed that is not envisioned by these regulations. At any stage of the PUD review and approval process, the planning staff, Planning Commission, or City Council may require additional information to be submitted which may be necessary to make a determination regarding the PUD application.

### 12.903: NOTICE AND OTHER PROCEDURAL REQUIREMENTS:

Standards for public notice and advertisement contained in State law and City Regulations shall be met for all applications. Any additional notice requirements provided by this Article are in addition to any required by the City and by State law.

### 12.904: PROJECT REPRESENTATION REQUIRED:

It shall be the developer's responsibility to ensure that persons versed in the proposed PUD's specifics and authorized to speak and make commitments on behalf of the developer are present at every meeting and hearing required by this article. Failure of the developer or developer's assigned agent to attend any hearing or meeting required by this article shall constitute grounds for, at minimum, a deferral of the application, or, at maximum, a negative recommendation or denial of the application.

# APPENDIX A:

# City of Portland Planned Unit Development Application Checklist

Please mark Yes (Y), No (N) or Not Applicable (N/A) for each item in the right hand column.

| | | |
|---|---|---|
| **Project Name:** | | |
| **Project Address & Map and Parcel ID:** | | |
| **Baseline Information** | | |
| 1 | Completed PUD Application and any required fees | |
| 2 | Cover letter summarizing project and addressing how application conforms to Purpose and Objectives for Planned Unit Developments (Article 12, Chapter 1) | |
| 3 | Traffic Impact Study (If required by City staff) | |
| 4 | Utility Availability Letters for Public Water, Sewer, Natural Gas | |
| 5 | Current Deed | |
| 6 | Completed Letter of Agency | |
| 7 | Summary of required neighborhood meeting | |
| 8 | Draft set of Covenants, Conditions and Restrictions for development | |
| 9 | Population Information, to include projected adult and school aged population at build out. | |
| 10 | Preliminary/Final Development Plan, with all required information below | |
| 11 | Regulating Pattern Book, with all required information below | |
| **Preliminary/Final Development Plan: Submit in 24X36 Black and White Format** | | |
| 1 | Sheet 1, Title Sheet, containing: | |
| a | Name of Development | |
| b | Name and Address of Current Property Owner | |
| c | Name and Address of Developer (if different) | |
| d | Name, address, email and phone number of professionals who prepared plan | |
| e | Identifying information for property (Map and Parcel ID, Record Book & Page, Address) | |
| f | Current Zoning | |
| g | Proposed Zoning | |
| 2 | Sheet 2: Plot plan for overall property, depicting existing conditions | |
| 3 | Sheet 3: Overall layout sheet, with: | |

| | | |
|---|---|---|
| a | Proposed street network | |
| b | All proposed lots with conceptual building and driveway footprints clearly indicated in relation to proposed setbacks | |
| c | All proposed open space and areas proposed for public use (fire station, park etc) | |
| 4 | Sheet 4: Preliminary/Final Utilities plan sheet, showing how water, sewer and gas utilities will be run through the site and how they will be connected to existing utilities in the area. | |
| 5 | Sheet 5: Preliminary/Final Landscape plan sheet depicting all open space areas, including buffers | |
| 6 | Sheet 6: Preliminary/Final Roadway improvements Plan Sheet if improvements within existing public right of way are to be required. | |
| 7 | Sheet 7: Preliminary/Final Grading and Drainage Plan indicating how surface drainage will be controlled and managed. | |
| 8 | Sheet 8: Preliminary/Final Amenities Plan Sheet, incorporating the following information at minimum: | |
| a | A description and location of all proposed amenities. | |
| b | A table indicating overall useable and passive open space proposed | |
| c | A specific phasing plan for all amenities and open space improvements. | |
| **Preliminary/Final Regulating Pattern Book: Submit in Color 11X17 Format** | | |
| 1 | Title sheet | |
| 2 | Name and Address of Developer | |
| 3 | Name, address, contact information of applicant and professional architect, planner, or engineer responsible for preparing the Regulating Pattern Book. | |
| 4 | Table of Contents | |
| 5 | Narrative describing the subject property's context, history and existing conditions | |
| 6 | Table of Exceptions from City Zoning and Subdivision Regulations being sought | |
| 7 | Listing of permitted uses within the development | |
| 8 | Proposed density/intensity of project | |
| 9 | A tabulation of the number of lots which would be allowed under the existing zoning. | |
| 10 | Typical lot layout(s) and proposed setbacks | |
| 11 | Colorized graphic rendering showing all natural features such as topography, soils, woodlands, wetlands, floodplain, and existing drainage patterns which affect the property | |
| 12 | Architectural Renderings/Floorplans/Photographs of proposed structures with sufficient clarity to convey the appearance of proposed structures | |
| 13 | Written description of materials to be used | |
| 14 | Amenities renderings, photographs and depictions | |
| 15 | Signage Plan Sheet containing the following: | |
| a | For Residential Developments, Horizontal depiction of entryway monumentation and associated landscaping | |
| b | For Nonresidential Developments, Horizontal depiction of proposed signage, as well as formal PUD sign policy regarding size, illumination, and materials. | |

| | | |
|---|---|---|
| 16 | Photometric lighting plan of the project location and environs complete with light cut sheets and lighting fixtures examples (Note: for projects that include nonresidential or multifamily uses only) | |
| 17 | Overall Phasing Schedule for the development | |
| **Other Information** | | |
| 18 | All sheets must be stamped and sealed by design professionals licensed to do such design work in the State of Tennessee. | |

I do hereby submit the attached application for review and recommendation by the Portland Municipal Planning Commission. The appropriate copies of the plan have been provided. I have reviewed the above checklist and do believe that all the information required has been presented.

_____ _____

Date Signature of Individual Submitting Plan

*Any items checked Not Applicable by the submitter that are deemed applicable by the City staff will result in the entire submittal being rejected as incomplete. If in doubt about the applicability of a particular item, contact the City Planning Office.

**Please note: No plan will be reviewed until all information required is presented in a full and complete manner.**

# APPENDIX B:

## PUD REVIEW/APPROVAL PROCESS SUMMARY

**Step 1: Preliminary Concept Meeting:** First step of process. May occur any time.

**Step 2: Pre-application Conference:** Must be held within 90 days of Step 1

**Step 3: Neighborhood Meeting:** Must be held within 30 days of Step 2, but before submittal of Preliminary Development Plan.

**Step 4: Optional Conceptual Review by Planning Commission:** Must be conducted after Step 3, but before submittal of Preliminary Development Plan (Step 5).

**Step 5: Preliminary Development Plan and Regulating Pattern Book Application:** Must be submitted within 90 days of Step 2 (pre-application conference).

**Step 6: Planning Commission Review and Recommendation of Preliminary Development Plan and Regulating Pattern Book Application:** Planning Commission recommendation due within 60 days of initial consideration of the application. Applicant may waive this requirement.

**Step 7: City Council Review of Preliminary Development Plan and Regulating Pattern Book Application:** No time limits. Council may make reasonable deferrals to obtain needed information.

**Step 8: Planning Commission Review of Final Development Plan and Regulating Pattern Book Application:** Applicant must obtain Final Development Plan approval within 3 years of Council approval of Preliminary Development Plan.

**Step 9: Site Plan and Subdivision Plat Submittal:** Site Plan and/or Preliminary Plat may be submitted any time following Final Development Plan approval, provided that not more than 5 years has lapsed since the time of Council's approval of the Preliminary Development Plan.

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CITY OF PORTLAND'S

# COMMUNITY TOWN HALL!

**SAVE THE DATE!**

## JAN 25, 2024
## 5:30-7:30 PM

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