MEMORANDUM
ROBERTSON COUNTY PLANNING AND ZONING
527 SOUTH BROWN STREET, SPRINGFIELD, TN 37172
TEL. (615) 384-3666

TO: Planning Commission Members
FROM: Planning Staff
DATE: April 16, 2026

The Robertson County Planning Commission will hold its monthly meeting on **Thursday April 23, 2026, at 7:00 P. M.** on the 2nd Floor, Judicial Complex, Robertson County Office Building. Assistant Director, Hunter Mantooth, is available to answer questions at (615) 384-3666 or hmantooth@robcotn.org.

AGENDA

1. Roll Call

2. **Comments from Citizens**: Persons wishing to speak for or against any item must sign the log sheet prior to the meeting.

3. **Announcements:** Rezonings from this agenda will be heard at the next County Commission meeting on May 18, 2026.

4. **Approval of Minutes:** Approval of Minutes of March 26, 2026, meeting.

5. Old Business:

   A. **Eric Hall**: Rezone Request for 57.03 surveyed acres of property located on Kinneys School Road, Springfield. Tax Map 068, Parcel 134 from AG-2 to RP-80 (11th Voting District). Represented by Todd Bollinger, Todd Bollinger & Associates.

6. New Business:

   A. **Nick Changas**: Rezone Request for 5.4 surveyed acres of the 8.38 acres of property located at 5369 Hoods Branch Rd., Springfield. Tax Map 089, Part of Parcel 095.00 from AG-2 to RP-80 (11th Voting District). Represented by Clint Head, Head Surveying & Engineering.

B. **Scot Head:** Final Site Plan for a new Self-Supporting Cell Tower located on Logan Rd., Greenbrier. Tax Map 114, Parcel 071.01 (3rd Voting District). Represented by Jef Dominick, GeoNet Services.

7. Reports from Staff:

   A. SSDS
   B. Flag Lots

8. Adjourn

The Robertson County Planning Commission met on March 26, 2026 at 7:00 p.m. in the Judicial Complex, Second Floor, Robertson County Office Building, Springfield, Tennessee.

Roll Call:

MEMBERS PRESENT:	MEMBERS ABSENT:	OTHERS PRESENT:
Eric Thompson	Jeremy Stinson	Hunter Mantooth
Cheryl Elliott		Pam Groves
Charles "Gene" Federman		Amanda Harrington
Robert Buck		
Matt Crabtree		
William B Henry		
Jeremiah Pierce		
Ray Hart - late		

Chairman Cheryl Elliott called the meeting to order at 7:00 pm.

Hunter Mantooth completed roll Call. Seven were present at roll call and one showed up late so eight were present.

Announcements: Chairman Cheryl Elliott announced that the zoning from this agenda will be heard at the County Commission on April 20, 2026. Any citizens wishing to speak for or against any items on the agenda will need to sign in on the sheet provided. No one signed up to speak.

Motion to approve Minutes from the previous meeting of February 26, 2026, made by Eric Thompson with a second by Matt Crabtree.
Motion passed 6 – 0.

1. Old Business: None

2. New Business:

   A. **Robertson County Planning and Zoning:** Recommendation from the Highway Department to set up a $400,000.00 performance bond (plus 10%) for the construction of roads/streets to ensure they are completed per county standards for Northwind Estates located on Highway 41 N, Cedar Hill. Tax Map 055, Parcel 070.00 (7th Voting District).
   Steve Artz was present in case anyone has any questions. Robert Buck asked about the time frame of the bond. Steve explained the performance bond can be up to 2 years; however, they are about 90% done. Once the county accepts the roads, then the performance bond will cease and a maintenance bond for a 1-year time frame will be required.

   Motion to approve made by Gene Federman with a second by William B Henry.
   Motion passed 6 - 0.

B. **Mary Henson:** Rezone Request for 5.94 surveyed acres of property located at 6753 Hwy 76 E., Springfield. Tax Map 093, Parcel 261.00 from AG-2 to RP-80 (3rd Voting District). Represented by Todd Bollinger, Todd Bollinger & Associates.
Todd Bollinger was there to present and answer questions. Todd explained they will be selling the 3 lots. The old house has been torn down.

Motion to recommend approval made by Eric Thompson with a second by Matt Crabtree.
Motion passed 6 - 0.

Reports from Staff: Amanda presented the following items to discuss:

A. SSDS Discussion and Clarification
Cheryl discussed her thoughts on the Adenus confusion from the original resolution, reiterated that a subdivision can be 1 lot. Lots of discussion with the board about what they liked and didn't like. Going to scratch everything else and keep easement language and add to Article IV of the subdivision regulations. Amanda will work on that.
B. Flag Lots – proposed resolution and illustrations
Amanda went over the different pictures and how they relate to the proposed resolution. There was discussion over 50' easements being placed over 50' road frontage. Several liked the 50' easement idea but did not like putting an easement over road frontage. There was lots of good discussion between board, staff and a could of surveyors that were present. Staff are going to discuss with Troy at the highway department and bring back next month.
C. Design Standards
Jeremiah Pierce asked to table until a later date, so we can get some more items worked out.

A motion to adjourn made by Eric Thompson with a second by Robert Buck.
Motion passed 7 – 0 and the meeting was adjourned at 7:54 pm.

Respectfully submitted,

Gene Federman

Gene Federman, Secretary

Old Business: A

ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666

Application for Rezoning

** PLEASE READ CAREFULLY BEFORE SUBMITTING APPLICATION **

Applicant Information:

Name: Eric Hall
Mailing Address: 2330 Industrial ct Greenbrier TN 37073
Email Address:
Phone Number:

Applicant's Representative Information:

Name: Todd Bollinger
Name of Firm: Todd Bollinger & Assoc.
Mailing Address: 1199 Fisher Dr, Greenbrier TN 37073
Email:
Telephone Number:

Property Information:

Owner (if not applicant provide letter giving applicate permission):
Physical Address: Kinneys School RD
Tax Map and Parcel Number: map 68, Pcl 134
Current Zoning Designation: Agz
Requested Zoning Designation: RP-80

Will this property be subdivided (or combined) in some way within the next year? (Yes) No

Purpose of rezoning request:

To Subdivide

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
2. Provide copy of deed to prove ownership.
3. Provide aerial photograph of the property from TN Property Viewer
4. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number.
5. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required.
6. Provide Traffic Assessment or Traffic Study if required.
7. Pay the review fee.
8. Email a .PDF of the application & supporting materials to
9. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.

E. Hee 12-15-25

Owner of Record Signature & DATE

E. Hee 12-15-25

Applicant's Signature & DATE

Robertson County - Parcel: 068 134.00



Date: December 15, 2025

County: ROBERTSON
Owner: ET PHONE HOME
Address: KINNEYS SCHOOL RD
Parcel ID: 068 134.00
Deeded Acreage: 0
Calculated Acreage: 58.6
Vexcel Imagery Date: 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, Commonwealth of Kentucky, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.

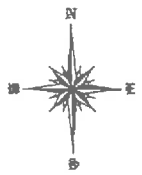
PLAT CONTAINS 57.03 ACRES

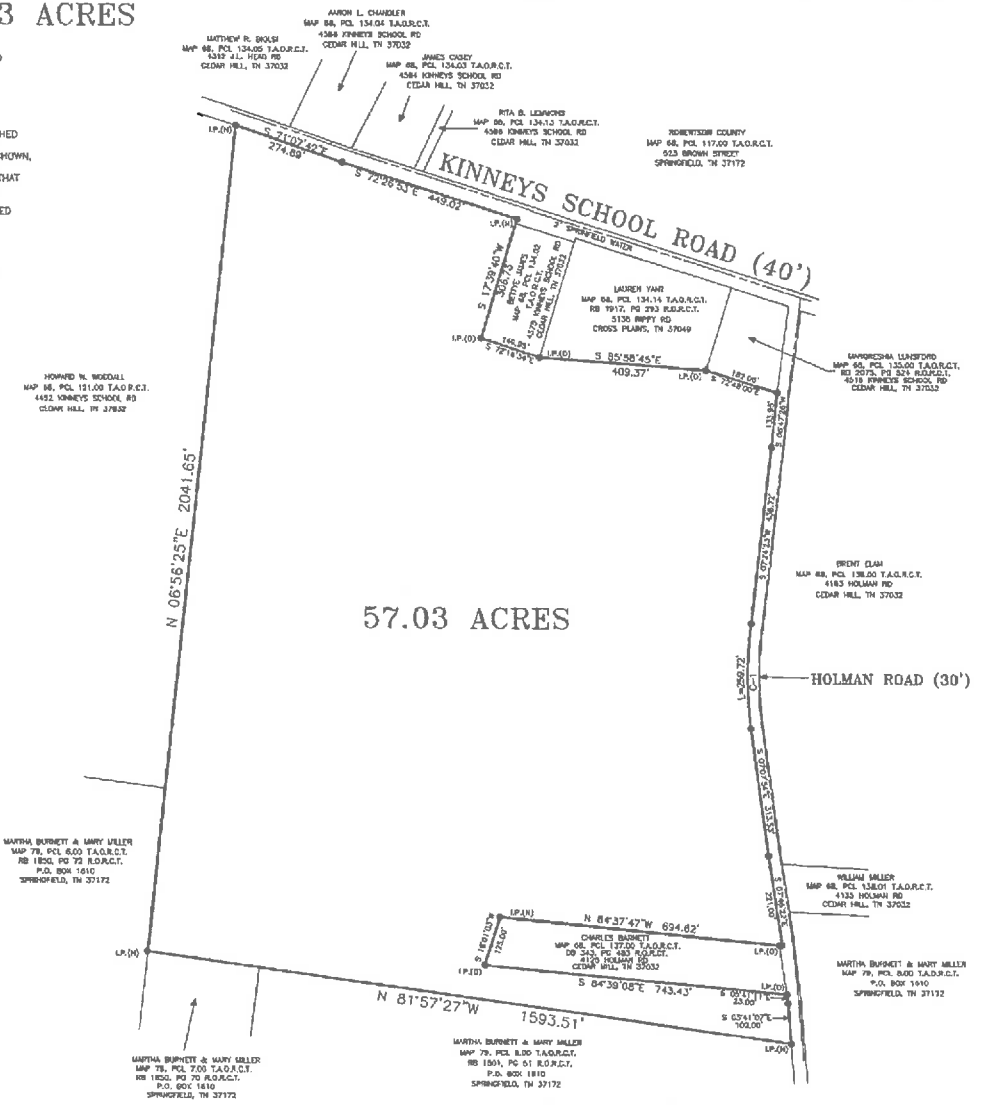
NOTE:
THIS SURVEY WAS PREPARED FROM CURRENT DEEDS OF RECORD AND DOES NOT REPRESENT A TITLE SEARCH OR A GUARANTEE OF TITLE. THIS SURVEY IS SUBJECT TO ANY STATE OF FACTS A CURRENT AND ACCURATE TITLE SEARCH MAY OR WILL REVEAL.

NOTE:
THIS SURVEYOR HAS NOT PHYSICALLY LOCATED ANY UTILITIES. UTILITIES, IF SHOWN HEREON, ARE AS PER INFORMATION FURNISHED BY THE ASSOCIATED UTILITY AUTHORITY AND ARE APPROXIMATE. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES, IF SHOWN, COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES, IF SHOWN, HEREON ARE IN THE EXACT LOCATION INDICATED. THEREFORE, THE SIZE, TYPE, AVAILABILITY AND ACTUAL LOCATION OF ANY AND ALL UTILITIES SHOULD BE VERIFIED PRIOR TO MAKING ANY DECISION RELATIVE TO THIS PROPERTY.

IN TENNESSEE IT IS A REQUIREMENT OF THE "UNDERGROUND UTILITY DAMAGE PREVENT ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION OF ANY TYPE MUST NOTIFY ALL KNOWN UTILITY OWNER(S), NO LESS THAN (3) NOR MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY HAZARD OR CONFLICT. TENNESSEE ONE CALL "811".

NOTE:
THE PROPERTY SHOWN HEREON IS NOT IN A CURRENT F.I.R.M. OR F.E.M.A. FLOOD HAZARD AREA, ACCORDING TO INFORMATION AVAILABLE TO ME AT THIS DATE. SEE PANEL NO. 47147C 0215C DATED 04/16/08 FOR DETAILED INFORMATION.





ZONED AG2
REQUESTING RP-80

PROPERTY REFERENCE
ET PHONE HOME
MAP 68, PCL 134.00 T.A.O.R.C.T.
RB 2411, PG 459 R.O.R.C.T.

CURVE DATA TABLE

CURVE	RADIUS	TANGENT	LENGTH	DELTA	CHORD	CH.BEARING
C-1	956.79'	130.88'	259.72'	15°33'10"	258.92'	S 00°54'21"W

1"= 200'

0 200 400 600

ANTHONY T. BOLLINGER, R.L.S.
119 FISHER DRIVE
GREENBRIER, TENNESSEE 37073
615/218-0169

REZONING PLAT FOR
MAP 68, PCL 134.00 T.A.O.R.C.T.
KINNEYS SCHOOL ROAD

SCALE	DRAWN BY	APPROVED	DATE
1" = 100'	A.T.B.	A.T.B.	12/14/25

9TH CIVIL DISTRICT
ROBERTSON COUNTY
TENNESSEE
DRAWING NO. EHOKSRD

Property Description

Kinneys School Road

57.03 Acres

Being a tract of land in the 9th Civil District of Robertson County Tennessee, and a portion of that property conveyed to ET PHONE HOME RB 2411, PG 459 R.O.R.C.T., and more accurately described according to a survey by Anthony T. Bollinger R.L.S. TN LIC. No. 2095 dated 12/14/25 as follows:

Beginning at an Iron Pin Set in the Southerly Margin of Kinneys School Road being a common corner to Howard W. Woodall RB 1921 PG 498 R.O.R.C.T. ,and the Northwest Corner of herein described tract; Thence leaving Woodall with the Southerly Margin of Kinneys Road for the next two calls: Thence S 71°07'42"E 274.89' to a point; Thence S 72°26'53"E 449.02' to a set Iron Pin; Thence leaving Margin passing through Betty James RB 1899 PG 150 R.O.R.C.T. Northwest Corner S17°39'40"W 306.73' to an Existing Iron Pin; Thence continuing with James S72°16'34"E 149.95' to an Existing Iron Pin being a common corner to Lauren Yant RB 1917 PG 293 R.O.R.C.T.; Thence Leaving James with said Yant S85°58'45"E 409.37' to an Existing Iron Pin being a common corner to Marqreshia Lunsford RB 2075 PG 524 R.O.R.C.T.; Thence leaving Yant with Lunsford S72°48'00"E 182.06' to an Iron Pin set in the Westerly Margin of Holman Road being 15' from the center; Thence with margin for the next 5 calls: Thence S06°47'26"W 133.95' to a point; Thence S07°24'23"W 438.72' to a point; Thence with a curve to the left having a radius of 956.79' and a Chord Bearing and Chord of S00°54'21"W 258.92' to a point; Thence S07°07'54"E 313.53' to a point; Thence S07°46'22"E 221.00' to an Iron Pin Set; Thence Leaving Holman Road passing through Charles Barnett DB 343 PG 483 R.O.R.C.T. Northeast corner N84°37'47"W 694.62' to Barnetts Northwest corner being an Iron Pin Set; Thence continuing with Barnett for the next two calls: Thence S18°01'03"W 125.00' to an Existing Iron Pin; Thence

S84°39'08"E 743.43' to an Iron Pin set in the Margin of Holman Road passing through Barnetts Southeast corner; Thence with Margin of Holman Road for the next two calls: S05°41'11"E 23.00' to a point; Thence S03°41'07"E 102.00' to an Iron Pin Set being a common corner to Martha Burnett and Mary Miller RB 1501 PG 51 R.O.R.C.T. ; Thence leaving Margin with Burnett and Miller N81°57'27"W 1593.51' to an Iron Pin Set Being a common corner to Martha Burnett and Mary Miller RB 1850 PG 72 R.O.R.C.T; Thence with Burnett and Miller and also continuing with previously said Woodall N06°56'25"E 2041.65' to the point of beginning containing 57.03 acres.

CITY OF SPRINGFIELD
Water/Wastewater Department

924 Central Avenue • Springfield, Tennessee 37172 • (615) 382-1600 • FAX (615) 384-6951
www.springfieldtn.gov

January 5, 2026

TO WHO IT MAY CONCERN:

There has been a letter of water availability requested by Mr. Eric Hall for twenty-nine (29) water services on property located at Kinney's School Rd. in Robertson County. The property is located on Tax Map 068 Parcel 134. This letter will serve as notice that there is an existing 2" water main adjacent to this property. However, there must be an off-site infrastructure improvement made to provide services for these proposed lots. The line will need to be upgraded to an 8" water main line. Once this work has been performed and accepted by the City of Springfield's Water and Wastewater Department, Service can be provided for both domestic and fire protection. This letter of availability will be valid till May 1, 2026. If there has been no activity until May 1,2026, the property will need to be re-evaluated for service.

If you need further information or have questions, please contact me at 615-382-1600.

Thank you,

David L. Brewer

David L. Brewer, P.E.
City Engineer
Springfield Water and Wastewater Department

RECEIVED
JAN 07 2026
BY: .....

Traffic Impact Study

Kinneys School Road Subdivision
Robertson County, TN

Prepared For:
Eric Hall

Prepared by:
Houston Smith, PE
TTL, Inc
2971 International Blvd., Suite
Clarksville, TN 37040



TTL

March 2026

RECEIVED
MAR 18 2026
BY: .....

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EXECUTIVE SUMMARY

The analyses included in this report indicate that the new Kinneys School Road development will create no significant traffic impacts to the existing and potential intersections. In conclusion, the analyses contained in this study indicate that peak hour levels of service can be maintained at the intersections studied.

The purpose of this Traffic Impact Study is to assess the traffic impacts associated with the proposed Kinneys School Road property, in Robertson County, Tennessee and to identify if any off-site access or traffic control improvements will be required to address those impacts. The site is located along the Kinneys School Road corridor. There are existing rural developments along the corridor from Matthews Road to West Ridge Drive. This property was assumed to be a 28-unit residential development due to the traffic study guidelines set forth in the **Robertson County Commission Resolution 102025083**. Based on these guidelines, the traffic study is conducted based on these established rules as a worst-case scenario. That assumption is much higher than the owner intended use of the property. The future roadway connection of the development was assumed to tie to Kinneys School Road as assumed in Section 3.4 of this report.

This report includes analysis of the future roadway and intersection of Kinneys School Road/Road A. To provide data for the traffic analysis, manual traffic counts were provided to us by the client at the intersections of Kinneys Road / Holman Road and Kinneys School Road / Holman Road, on Thursday, March 12, 2026, during the AM peak, noon, and PM peak hour timeframes.

To determine the current operation of the study roadway, capacity analyses were performed for the existing traffic volumes for the AM and PM peak hours. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual*. The capacity analyses result in the determination of a Level of Service (LOS) for a roadway. The LOS is a concept used to describe how well an intersection or roadway operates. LOS A is the best, while LOS F is the worst. LOS D is typically considered as the minimum acceptable LOS for a roadway or intersection in an urbanized area.

The results of the lane capacity analyses for the existing conditions at Kinneys School Road each operate with acceptable levels of service in all directions.

A trip generation process was used to estimate the amount of traffic expected to be generated by the proposed development. Factors for the trip generation were taken from ITE's *Trip Generation*, 12th Edition.

The total development can be expected to generate approximately 254 new trips per day. The AM and PM peak hour trip generations will equal approximately 20 and 26 new trips, respectively. The totals for the development are shown in Table 9 in this report. These trips represent the new traffic that will be generated by the proposed development according to the study.

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this Traffic Impact Study is to assess the traffic impacts associated with the proposed Kinneys School Road development project in Robertson County, Tennessee and to identify if any off-site access or traffic control improvements will be required to address those impacts. Additionally, the proposed road network is to be analyzed to determine acceptable road and intersection geometry prior to engineering design.

1.2 PROJECT DESCRIPTION

The site is a 56-acre tract located south of Kinneys School Road, west of Holman Road, and north of Kinneys Road in Robertson County, Tennessee. Around the property, there are agricultural fields and single-family homesteads in the vicinity of the property. The proposed development was assumed to include single family homes with 2 acres per lot. A likely access point is located on Kinneys School Road. A more detailed subdivision plan will be provided at a later time. A site exhibit is shown in Figure 1 and Appendix A.

In this study, the current operating characteristics of the study intersections are evaluated. The expected trips generated by the proposed development are determined and distributed to the roadway network. The study intersections are then re-evaluated to determine the anticipated traffic impacts of the project. Finally, recommendations are presented, including any needed roadway improvements and/or traffic control improvements to accommodate the expected traffic. For the purposes of this study, it was assumed that this development will be completed within five years (2031).



Figure 1: Project Location Map

2.0 EXISTING CONDITIONS

To establish a baseline for analysis, existing conditions within the vicinity of the Kinneys School Road property were inventoried. An existing roadway has been identified and described as follows.

2.1 ROADWAY NETWORK

Kinneys Road extends generally east to west with major intersections at TN SR 49 and Old Washington Road. The section that spans our site is mostly a mixture of residential and rural development. The road near the project site is a 2-lane, undivided asphalt road with 10-foot lanes. The posted speed limit is 55 mph in the vicinity of the site.

Kinneys School Road extends generally east to west with major intersections at West Ridge Road and Airport Road. The section that spans our site is mostly a mixture of residential and rural development. The road near the project site is a 2-lane, undivided asphalt road with 9-foot lanes. The posted speed limit is 40 mph in the vicinity of the site.

Holman Road extends generally north to south connecting Kinneys School Road and Kinneys Road. No trucks are allowed on this road as per signage at the two ends of the corridor. The road is a 2-lane, undivided tar & chip road. This road has very little traffic and is used for an access to four existing homes. The posted speed limit was assumed to be 30 mph within the vicinity of the project site.

The **intersection of Kinneys Road and Holman Road** is a 3-way intersection that is controlled by a stop sign on Holman Road. The intersection is relatively flat in all directions. An aerial image of the intersection lane configuration can be seen in Figure 2 below:



Figure 2. Kinneys Road/ Holman Road Intersection Aerial

The **intersection of Kinneys School Road and Holman Road** is a 3-way intersection that is controlled by a stop sign on Holman Road. The intersection is relatively flat in all directions. An aerial image of the intersection lane configuration can be seen in Figure 3 below:



Figure 3. Kinneys School Road/ Holman Road Intersection Aerial

2.2 EXISTING TRAFFIC VOLUMES

To provide data for the traffic analysis, manual traffic counts were provided to us from the client at the intersections of Kinneys Road / Holman Road and Kinneys School Road / Holman Road, on Thursday, March 12, 2026, during the AM peak, noon, and PM peak hour timeframes.

2.3 EXISTING TRAFFIC ANALYSIS

To determine the current operation of the study intersections, capacity analyses were performed for the adjusted existing traffic volumes for the AM and PM peak hours. The capacity calculations were performed according to the methods outlined in the *Highway Capacity Manual 7th Edition*. 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. LOS D is typically considered as the minimum acceptable LOS for an intersection in an urbanized area. Table 1 presents the descriptions of LOS for unsignalized intersections.

Table 1. Unsignalized Intersection LOS Description

LOS	Description	Control Delay (sec/veh)
A	This occurs when there is minimal or no delay.	< 10
B	This occurs when there is minor traffic delay.	>10 - 15
C	This occurs during average traffic delay.	>15 - 25
D	Long traffic delays begin to occur.	>25 - 35
E	This occurs when very long traffic delays occur.	>35 - 50
F	Extreme traffic delays are experienced.	>50.0

Source: *Highway Capacity Manual*

The results of the capacity analyses for the current conditions at the study roadway are presented in Tables 2-3. As shown, capacity analyses indicate that the studied roadway operates with acceptable levels of service in all directions.

Intersection	Critical Movement	EXISTING DATA								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys Road / Holman Road (Unsignalized)	Eastbound Left Turn	0	0	0	0.0	0.0	0.0	A	A	A
	Eastbound Thru	175	66	98	0.0	0.0	0.0			
	Westbound Thru	73	75	209	0.0	0.0	0.0			
	Westbound Right Turn	0	0	1	0.0	0.0	0.0			
	Southbound Left Turn	0	0	0	0.0	8.7	9.4			
	Southbound Right Turn	0	4	1	0.0	8.7	9.4			

Table 2. Existing AM Noon PM Peak Hour Results for the Kinneys Road / Holman Road Intersection (2026)

Intersection	Critical Movement	EXISTING DATA								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Holman Road (Unsignalized)	Eastbound Thru	10	7	11	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	0	0	1	0.0	0.0	7.2			
	Westbound Thru	4	11	21	0.0	0.0	0.0			
	Northbound Left Turn	0	0	0	8.4	0.0	8.4			
	Northbound Right Turn	1	0	1	8.4	0.0	8.4			

Table 3. Existing AM Noon PM Peak Hour Results for the Kinneys School Road / Holman Road Intersection (2026)

2.4 FUTURE TRAFFIC CONDITIONS WITHOUT DEVELOPMENT ANALYSIS

A future traffic analysis of 2031 was conducted to account for the projected future traffic increase from the existing year 2026. This analysis will include the future traffic conditions without taking the proposed development into account. By using the existing volume traffic count provided by TDOT through the TCDS portal, a 10-year projected traffic growth percentage was calculated. The volumes on Kinneys Road near our project site (Location ID 7400034) from 2015 to 2025 can be seen below in Figure 4.

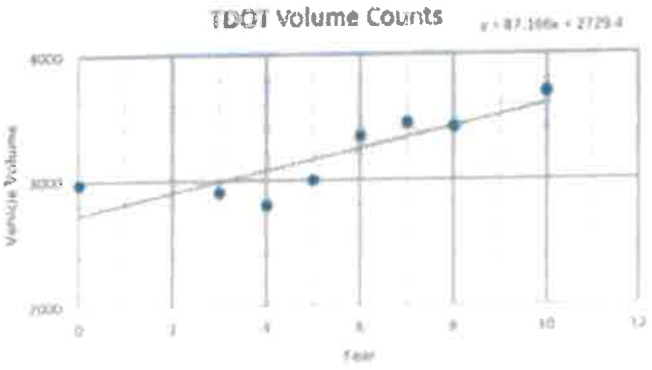


Figure 4. TDOT Volume Counts Chart

In the chart above, year '0' represents the year 2015, and year '10' represents the year 2025. By using the best fit linear regression line from the data above, the average growth rate from 2015-2025 was found to be 3.19%. By using this growth rate and the existing traffic counts, the future volume counts for 2029 and 2031 were estimated. The results of the capacity analyses for the projected 3- and 5-year conditions without development at the study intersection are presented in Tables 4-7.

Intersection	Critical Movement	EXISTING DATA 3-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys Road / Holman Road (Unsignalized)	Eastbound Left Turn	0	0	0	0.0	0.0	0.0	A	A	A
	Eastbound Thru	192	72	107	0.0	0.0	0.0			
	Westbound Thru	80	82	229	0.0	0.0	0.0			
	Westbound Right Turn	0	0	1	0.0	0.0	0.0			
	Southbound Left Turn	0	0	0	0.0	8.7	9.6			
	Southbound Right Turn	0	4	1	0.0	8.7	9.6			

Table 4. Existing AM Noon PM Peak Hour Results 3-Year Projection Data for the Kinneys Road / Holman Road Intersection (2029)

Intersection	Critical Movement	EXISTING DATA 3-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Holman Road (Unsignalized)	Eastbound Thru	11	8	12	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	0	0	1	0.0	0.0	7.2			
	Westbound Thru	4	12	23	0.0	0.0	0.0			
	Northbound Left Turn	0	0	0	8.4	0.0	8.4			
	Northbound Right Turn	1	0	1	8.4	0.0	8.4			

Table 5. Existing AM Noon PM Peak Hour Results 3-Year Projection Data for the Kinneys School Road / Holman Road Intersection (2029)

Intersection	Critical Movement	EXISTING DATA 5-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys Road / Holman Road (Unsignalized)	Eastbound Left Turn	0	0	0	0.0	0.0	0.0	A	A	A
	Eastbound Thru	203	77	114	0.0	0.0	0.0			
	Westbound Thru	85	87	242	0.0	0.0	0.0			
	Westbound Right Turn	0	0	1	0.0	0.0	0.0			
	Southbound Left Turn	0	0	0	0.0	8.8	9.7			
	Southbound Right Turn	0	5	1	0.0	8.8	9.7			

Table 6. Existing AM Noon PM Peak Hour Results 5-Year Projection Data for the Kinneys Road / Holman Road Intersection (2031)

Intersection	Critical Movement	EXISTING DATA 5-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Holman Road (Unsignalized)	Eastbound Thru	12	8	13	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	0	0	1	0.0	0.0	7.2			
	Westbound Thru	5	13	24	0.0	0.0	0.0			
	Northbound Left Turn	0	0	0	8.4	0.0	8.4			
	Northbound Right Turn	1	0	1	8.4	0.0	8.4			

Table 7. Existing AM Noon PM Peak Hour Results 5-Year Projection Data for the Kinneys School Road / Holman Road Intersection (2031)

3.0 IMPACTS

3.1 TRIP GENERATION

A trip generation process was used to estimate the amount of traffic expected to be generated by the proposed Kinneys School Road development. Anticipated trips from the proposed development were projected using the ITE's *Trip Generation*, 12th Edition. The ITE trip-generated calculations for the site are provided in Appendix B of this report. For planning purposes, the development is assumed to have 28 single-family detached housing units.

Trip distribution for each land use can be seen in section 3.1.1 the appropriate Land Use Code from the ITE's *Trip Generation*, 12th Edition.

3.1.1 Single-Family Detached Housing

The anticipated trips from the Single-Family Detached Housing were calculated using the Land Use: 210 (*Single-Family Detached Housing*). The description of this land use per ITE is as follows: "A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision." Anticipated trips for daily, AM, and PM peak hour can be seen in the table below:

Single Family Detached Housing (ITE Land Use Code 210)								
Prop Units:		28						
On a Weekday			A.M. Peak Hour of Adjacent Street			P.M. Peak Hour of Adjacent Street		
Average Rate Per Unit		9.09	Average Rate Per Unit		0.70	Average Rate Per Unit		0.93
Trip Ends	50% Enter	50% Exit	Trip Ends	27% Enter	73% Exit	Trip Ends	62% Enter	38% Exit
254	127	127	20	5	15	26	16	10

Table 8. ITE Trip Generation for Single-Family Detached Housing

3.1.2 Total Trips Generated

Table 9 presents the daily, AM, and PM peak hour trip generation for the ITE-generated land uses as shown below:

Daily	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
254	5	15	16	10

Table 9. 2026 Generated Traffic Count Totals for Total Development

3.2 TRIP DISTRIBUTION & ASSIGNMENT

Determining the directional distribution of the proposed traffic can be anticipated by nearly matching the distribution from the existing traffic at the studied intersections. The directional distributions accounted for the directions trips will likely use as a result of vehicular demand to the site from different locations in the county and surrounding areas. This approach will reasonably estimate the destinations of the existing traffic with the proposed traffic as the uses in the vicinity are similar to the proposed uses. Based on field-determined traffic counts, the traffic designer distributed traffic from the site at the study intersections that will serve the proposed development, specifically 90% of traffic from Kinneys Road and 10% from Kinneys School Road. This was done to calculate the traffic reasonably based on projected vehicular demands of the various site uses on the property when the site is fully built. This was also performed to capture a reasonable vehicular distribution at the AM peak, noon, and PM peak hour timeframes, which this study reflects. The directional distribution of the existing and proposed approaching and departing traffic numbers can be seen in the nine-peak hour 'Traffic Exhibit' sheets in Appendix F.

The Kinneys School Road use distributions had daily traffic count values represented in Table 9. Table 9 values were later calculated for the proposed daily traffic counts with

similar percentages of the directional distribution as the existing conditions while also accounting for the proposed impacts to the proposed Kinneys School Road development. For the proposed traffic numbers, the anticipated trips from Table 9 were distributed based on projected vehicular demands at the study intersections and calculated accordingly. That assumption was reflected in the traffic calculations and capacity analyses worksheets of this report in Appendices B-D. Those values were reflected in the ITE-generated and proposed traffic exhibit sheets in Appendix F below.

3.3 PROPOSED TRAFFIC ANALYSIS

The new site-generated traffic volumes were added to the adjusted existing peak hour traffic volumes to develop the total proposed traffic volumes for the study intersection. Exhibits showing the total proposed AM and PM peak hour traffic volumes assumed at the completion of the proposed Kinneys School Road development can be seen in the "Proposed Traffic" exhibits in Appendix F.

Capacity analyses were performed in order to determine the impact of the project on the study intersections. These capacity analyses were also used to assess the need for roadway modifications and traffic control improvements. The results of the capacity analyses for the projected conditions at the study area intersections are presented in Tables 10-12. As shown, capacity analyses indicate that the proposed intersection will operate at acceptable levels of service. Those improvements can be visually seen in Figures 6-8 using snapshots from Synchro 12. Capacity analyses worksheets are included in Appendices B-D.

Intersection	Critical Movement	PROPOSED DATA								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys Road / Holman Road (Unsignalized)	Eastbound Left Turn	3	6	9	7.4	7.4	7.7	A	A	A
	Eastbound Thru	175	66	98	0.0	0.0	0.0			
	Westbound Thru	73	75	209	0.0	0.0	0.0			
	Westbound Right Turn	2	4	7	0.0	0.0	0.0			
	Southbound Left Turn	0	0	0	0.0	8.7	9.5			
	Southbound Right Turn	0	4	1	0.0	8.7	9.5			

Table 10. Proposed AM Noon PM Peak Hour Results
for the Kinneys Road / Holman Road Intersection (2026)

Intersection	Critical Movement	PROPOSED DATA								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Holman Road (Unsignalized)	Eastbound Thru	25	19	21	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	0	0	1	0.0	0.0	7.3			
	Westbound Thru	4	12	23	0.0	0.0	0.0			
	Northbound Left Turn	5	10	15	8.7	8.7	8.8			
	Northbound Right Turn	1	0	1	8.7	8.7	8.8			

Table 11. Proposed AM Noon PM Peak Hour Results
for the Kinneys School Road / Holman Road Intersection (2026)

Intersection	Critical Movement	PROPOSED DATA								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Road A (Unsignalized)	Eastbound Thru	10	7	11	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	5	11	16	7.2	7.2	7.3			
	Westbound Thru	4	11	21	0.0	0.0	0.0			
	Northbound Left Turn	0	0	0	8.4	8.4	8.4			
	Northbound Right Turn	15	12	10	8.4	8.4	8.4			

Table 12. Proposed AM Noon PM Peak Hour Results
for the Kinneys School Road / Road A Intersection (2026)

3.4 DRIVEWAY SIGHT DISTANCE ANALYSIS

As requested by Robertson County, a driveway sight distance analysis was performed to determine the access locations on site. For the purposes of this study, it was assumed that the access location lies on Kinneys School Road. Using that information, an access location was assumed to be located on Kinneys School Road directly opposite of the private access driveway that serves the 4586 Kinneys School Road property to reduce potential access point conflicts. This was only an assumption, and the subdivision plan provided at a later time may show different access locations than what this study assumes. Once the potential location was determined, values from AASHTO Table 3-2 were used to find the lengths of stopping sight distances on 3% grades at a design speed of 40 mph. The relevant AASHTO table is inserted in Appendix E of this report. Next, the criteria for measuring sight distance relative to the potential access location were derived from the AASHTO manual. According to AASHTO Section 3.2.6.1 page 3-15, "the height of the driver's eye is considered to be 3.50 ft [1.08 m] above the road surface." Plus, the decision point for the access location needed to be found relative to the edge of pavement or traveled way. According to AASHTO Section 9.5.3.2.1 page 9-43, "the vertex (decision point) of the departure sight triangle on the minor road should be 14.5 ft [4.4 m] from the edge of the major-road traveled way." Based on the given information, the decision point was determined by placing an offset 14.5 ft relative to the edge of pavement on our site. Next, the centerline of the potential access road was drawn perpendicular to the approximate location of the current 3-way intersection of 4586 Kinneys School Road / Kinneys School Road while maintaining perpendicularity with the 14.5 offset line. Next, the AASHTO provided values of 315 ft for a 3% downgrade and 289 ft for a 3% upgrade were drawn at the respective locations. Next, a sight distance analysis was performed by creating a profile view of the sight distance parameters relative to the existing grade. Next, 3.5' driver height eyes were determined at the endpoints of the sight distance parameters and the centerline of the potential access location. These driver eye heights were represented as closely dashed lines in the profile view as provided in Appendix E. From the analysis, it was determined that there are no access conflicts with grades at the potential location described. All relevant information and documentation can be found in Appendix E of this report.

3.5 FUTURE TRAFFIC CONDITIONS WITH DEVELOPMENT ANALYSIS

A future traffic analysis of 2036 was conducted to account for the projected future traffic increase from the existing year 2026. This analysis will include the future traffic conditions while taking the proposed development into account. By using the existing volume traffic

count provided by TDOT through the TCDS portal, a 10-year projected traffic growth percentage was calculated. The volumes on Kinneys Road near our project site (Location ID 7400034) from 2015 to 2025 can be seen in Figure 5.

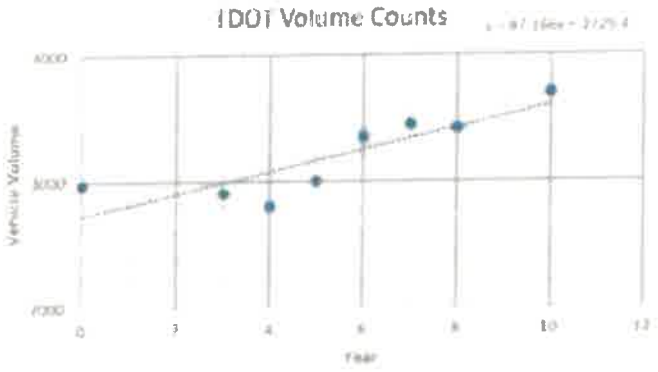


Figure 5. TDOT Volume Counts Chart

In the chart above, year '0' represents the year 2015, and year '10' represents the year 2025. By using the best fit linear regression line from the data above, the average growth rate from 2015-2025 was found to be 3.19%. By using this growth rate and the existing traffic counts, the future volume counts for 2029 and 2031 were estimated. The results of the capacity analyses for the projected 3- and 5-year conditions with the development at the study intersection are presented in Tables 13-18.

Intersection	Critical Movement	PROPOSED DATA 3-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh) AM	Noon	PM	Intersection LOS AM	Noon	PM
Kinneys Road / Holman Road (Unsignalized)	Eastbound Left Turn	3	6	10	7.4	7.4	7.8	A	A	A
	Eastbound Thru	192	72	107	0.0	0.0	0.0			
	Westbound Thru	80	82	229	0.0	0.0	0.0			
	Westbound Right Turn	2	4	8	0.0	0.0	0.0			
	Southbound Left Turn	0	0	0	0.0	8.7	9.6			
	Southbound Right Turn	0	4	1	0.0	8.7	9.6			

Table 13. Proposed AM Noon PM Peak Hour Results 3-Year Projection Data for the Kinneys Road / Holman Road Intersection (2029)

Intersection	Critical Movement	PROPOSED DATA 3-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh) AM	Noon	PM	Intersection LOS AM	Noon	PM
Kinneys School Road / Holman Road (Unsignalized)	Eastbound Thru	27	21	23	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	0	0	1	0.0	0.0	7.3			
	Westbound Thru	4	13	25	0.0	0.0	0.0			
	Northbound Left Turn	6	11	16	8.7	8.7	8.8			
	Northbound Right Turn	1	0	1	8.7	8.7	8.8			

Table 14. Proposed AM Noon PM Peak Hour Results 3-Year Projection Data for the Kinneys School Road / Holman Road Intersection (2029)

Intersection	Critical Movement	PROPOSED DATA 3-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Road A (Unsignalized)	Eastbound Thru	11	8	12	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	6	12	18	7.2	7.3	7.3			
	Westbound Thru	4	12	23	0.0	0.0	0.0			
	Northbound Left Turn	0	0	0	8.4	8.4	8.4			
	Northbound Right Turn	16	13	11	8.4	8.4	8.4			

Table 15. Proposed AM Noon PM Peak Hour Results 3-Year Projection Data for the Kinneys School Road / Road A Intersection (2029)

Intersection	Critical Movement	PROPOSED DATA 5-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys Road / Holman Road (Unsignalized)	Eastbound Left Turn	3	7	10	7.4	7.4	7.8	A	A	A
	Eastbound Thru	203	77	114	0.0	0.0	0.0			
	Westbound Thru	85	87	242	0.0	0.0	0.0			
	Westbound Right Turn	2	4	8	0.0	0.0	0.0			
	Southbound Left Turn	0	0	0	0.0	8.8	9.7			
	Southbound Right Turn	0	5	1	0.0	8.8	9.7			

Table 16. Proposed AM Noon PM Peak Hour Results 5-Year Projection Data for the Kinneys Road / Holman Road Intersection (2031)

Intersection	Critical Movement	PROPOSED DATA 5-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Holman Road (Unsignalized)	Eastbound Thru	29	22	24	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	0	0	1	0.0	0.0	7.3			
	Westbound Thru	5	14	26	0.0	0.0	0.0			
	Northbound Left Turn	6	11	17	8.7	8.7	8.8			
	Northbound Right Turn	1	0	1	8.7	8.7	8.8			

Table 17. Proposed AM Noon PM Peak Hour Results 5-Year Projection Data for the Kinneys School Road / Holman Road Intersection (2031)

Intersection	Critical Movement	PROPOSED DATA 5-YEAR PROJECTION								
		AM Peak Hour	Noon Hour	PM Peak Hour	Delay (sec/veh)			Intersection LOS		
					AM	Noon	PM	AM	Noon	PM
Kinneys School Road / Road A (Unsignalized)	Eastbound Thru	12	8	13	0.0	0.0	0.0	A	A	A
	Eastbound Right Turn	0	0	0	0.0	0.0	0.0			
	Westbound Left Turn	6	12	19	7.3	7.3	7.3			
	Westbound Thru	5	13	24	0.0	0.0	0.0			
	Northbound Left Turn	0	0	0	8.4	8.4	8.4			
	Northbound Right Turn	17	14	11	8.4	8.4	8.4			

Table 18. Proposed AM Noon PM Peak Hour Results 5-Year Projection Data for the Kinneys School Road / Road A Intersection (2031)

4.0 ROADWAY SIZING

To determine if any lane counts were required, analysis was performed at the study intersections. This analysis is to confirm the proper number of lanes required for left and right turn movements at each intersection to operate at an acceptable level of service. Synchro 12 was utilized to model and analyze the roadway network. Upon studying the intersections modeled with Synchro 12, the options to consider are as follows:

For the Kinneys Road / Holman Road intersection,

- No modifications



Figure 6. Unmodified Kinneys Road / Holman Road Intersection

For the Kinneys School Road / Holman Road intersection,

- No modifications

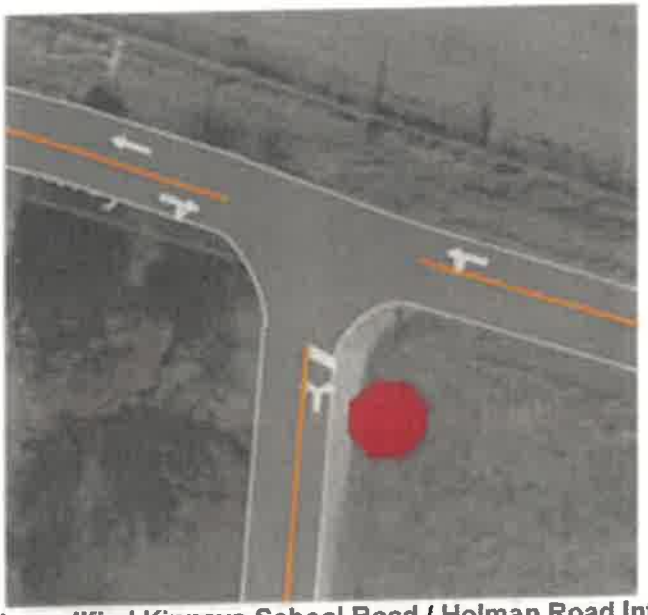


Figure 7. Unmodified Kinneys School Road / Holman Road Intersection

For the Kinneys School Road / Road A intersection,

- No modifications



Figure 8. Unmodified Kinneys School Road / Road A Intersection

As the land uses are conceptual at this point, the anticipated traffic must be presented with the same assumptions previously identified in this report. The assumed traffic is assumed to be distributed reasonably among the anticipated intersections.

Based on the traffic distribution assumptions provided in this report, the collector road segments will operate at acceptable levels of service.

5.0 CONCLUSIONS & RECOMMENDATIONS

The analyses included in this report indicate that the new Kinneys School Road development will create no significant traffic impacts to the study intersections. In conclusion, the analyses contained in this study indicate that peak hour levels of service can be maintained at the intersections studied.

Appendix A

Existing Count Data

Study Location: Kinneys Rd/Holman Rd
Study Date:
Name:

	Time	Eastbound		Westbound		Southbound	
		Left	Thru	Right	Thru	Left	Right
MORNING	6:00-6:15						
	6:15-6:30						
	6:30-6:45						
	6:45-7:00						
	7:00-7:15		41		19		
	7:15-7:30		47		23		
	7:30-7:45		43		20		
	7:45-8:00		44		11		
	8:00-8:15		40		8		
	8:15-8:30		25		13		
	8:30-8:45		27		15		
	8:45-9:00		21		16		
Mid-day	12:00-12:15		11		11		2
	12:15-12:30		16		29		1
	12:30-12:45		15		20		1
	12:45-1:00		24		15		
AFTERNOON	3:00-3:15		26		32		
	3:15-3:30		22	1	28		
	3:30-3:45		31		39		
	3:45-4:00		23		47		
	4:00-4:15		18	1	46		
	4:15-4:30		25	1	64		
	4:30-4:45		17		64		
	4:45-5:00		26		43		1
	5:00-5:15		30		38		
	5:15-5:30		16		37		1
	5:30-5:45		21		43		
	5:45-6:00		20		34		
	6:00-6:15	7	13		26		1
	6:15-6:30		12		42		
	6:30-6:45		29	1	16		
	6:45-7:00		16		15		

Study Location: Kinneys School Rd/Holman Rd
Study Date:
Name:

	Time	Eastbound		Westbound		Northbound	
		Right	Thru	Left	Thru	Left	Right
MORNING	6:00-6:15		2				
	6:15-6:30		2		1		
	6:30-6:45		2		2		
	6:45-7:00		3		1		
	7:00-7:15		2				
	7:15-7:30		3		1		1
	7:30-7:45		2		1		
	7:45-8:00		2		1		
	8:00-8:15		2				
	8:15-8:30				2		
	8:30-8:45		1	1	2		
	8:45-9:00						
Mid-day	12:00-12:15		3		1		
	12:15-12:30		1		4		
	12:30-12:45				3		
	12:45-1:00		3		3		
AFTERNOON	3:00-3:15		2		4		
	3:15-3:30		3		6		
	3:30-3:45		5	1	8		1
	3:45-4:00		2		5		
	4:00-4:15		1		7		
	4:15-4:30		2		1		
	4:30-4:45				3		
	4:45-5:00	1			7		
	5:00-5:15		3		3		
	5:15-5:30				5		
	5:30-5:45		3		2		
	5:45-6:00		3		6		
	6:00-6:15		2		3		
	6:15-6:30		1		2		
	6:30-6:45		1				
	6:45-7:00				1		

Appendix B

ITE Calculation Results

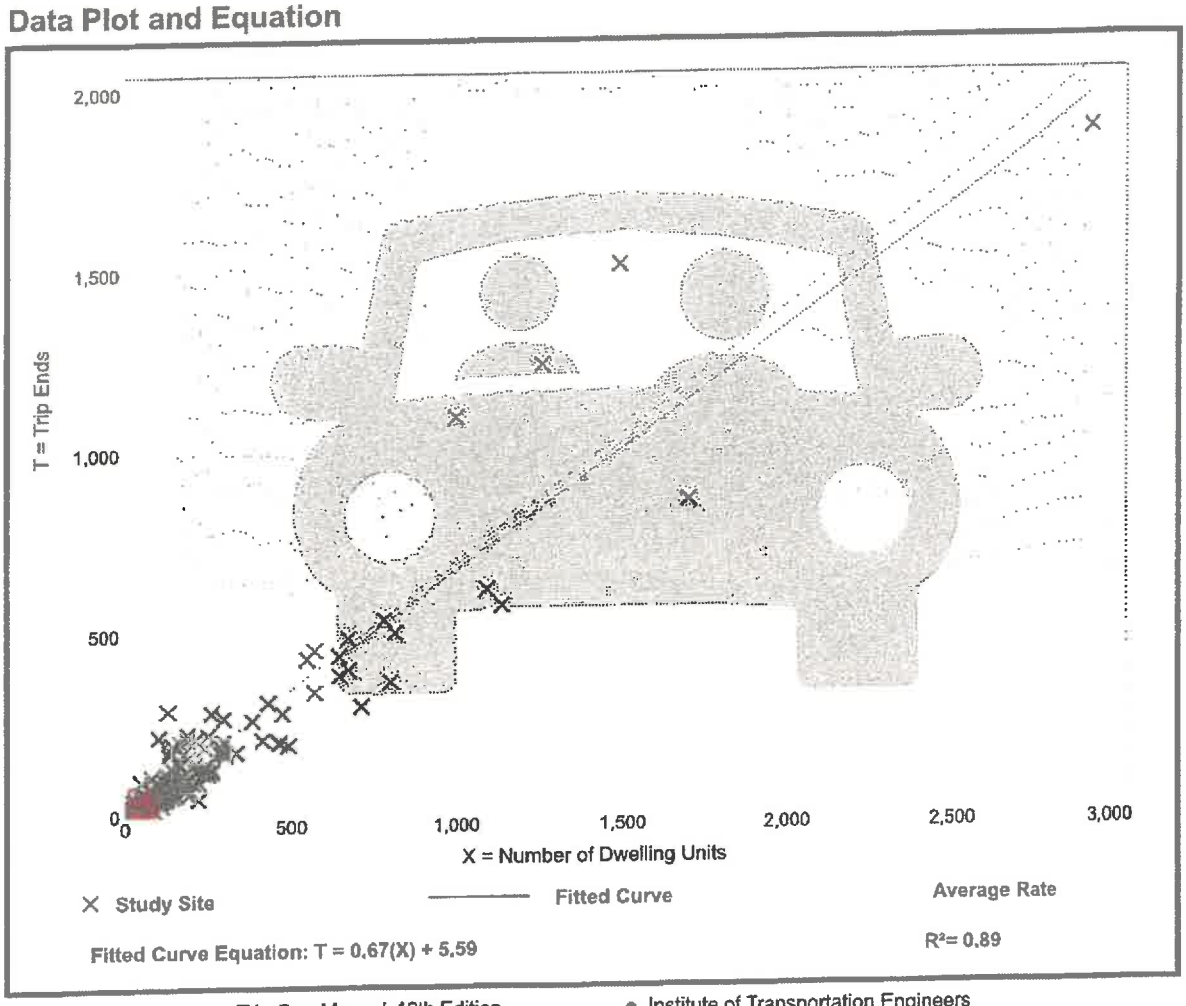
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 153
Avg. Num. of Dwelling Units: 239
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.22 - 2.27	0.26

Data Plot and Equation



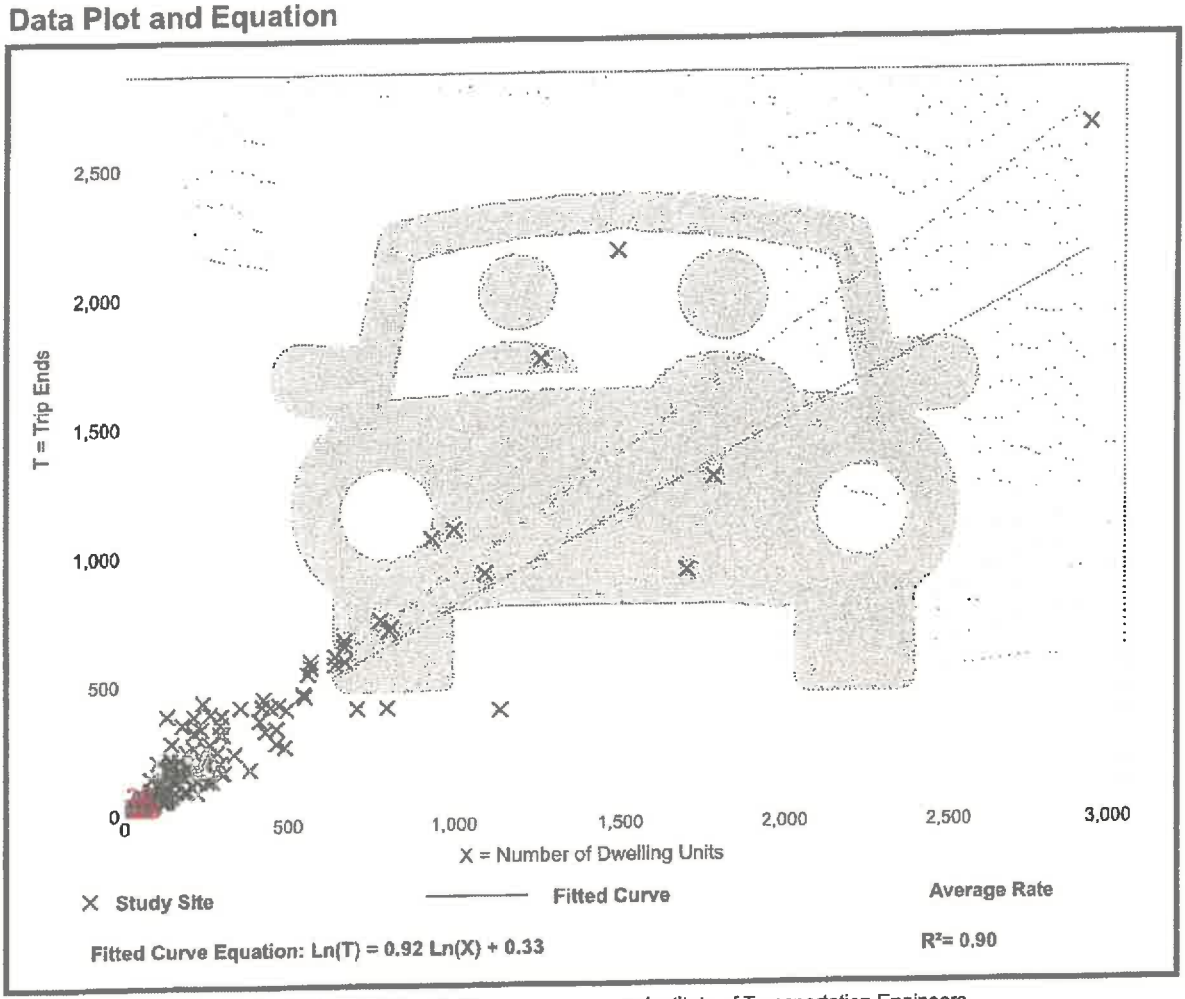
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 166
Avg. Num. of Dwelling Units: 266
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.93	0.35 - 2.98	0.33

Data Plot and Equation



Single-Family Detached Housing
(210)

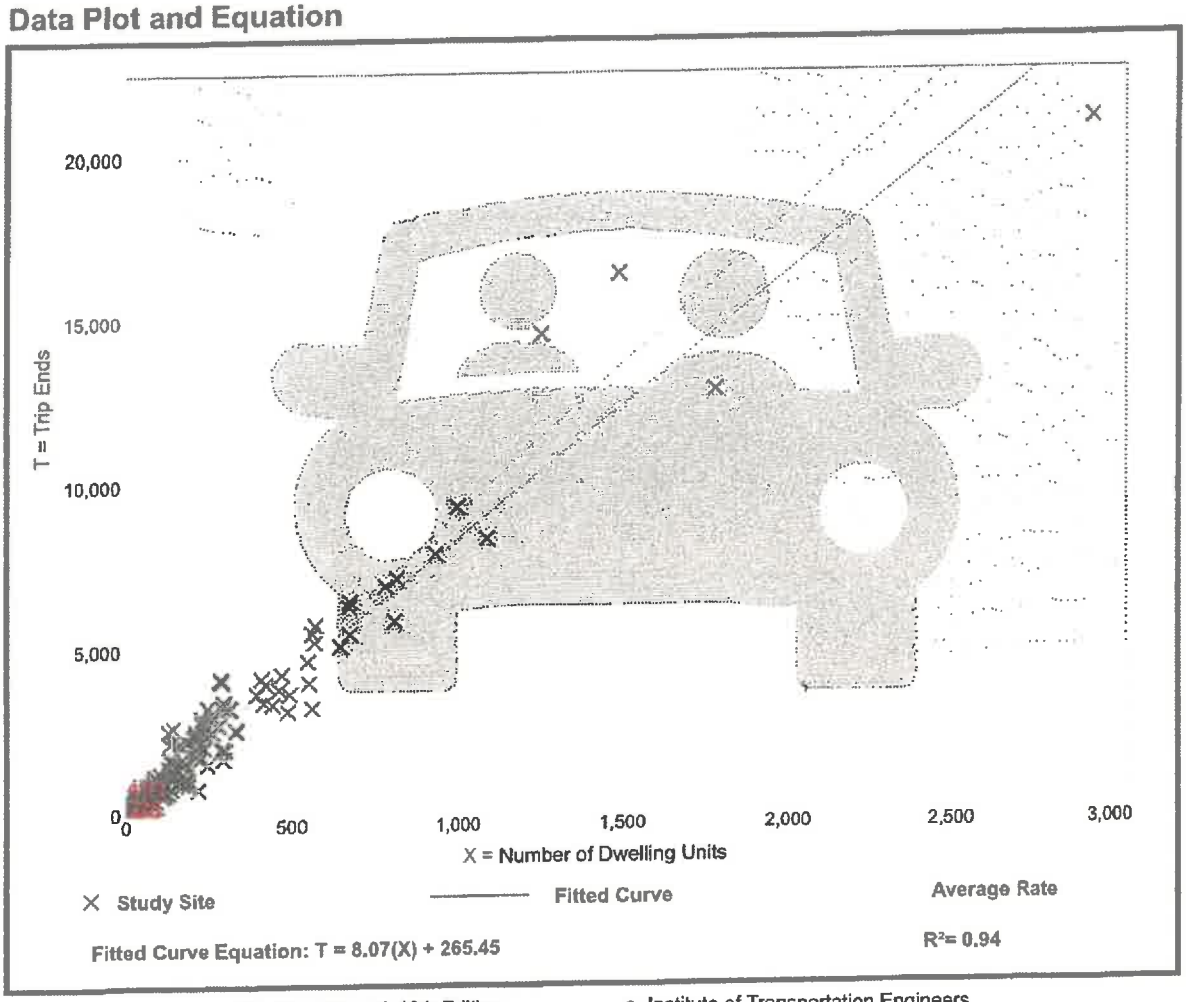
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 155
Avg. Num. of Dwelling Units: 261
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.09	3.47 - 23.80	2.29

Data Plot and Equation



Appendix C

Capacity Analysis

Synchro 12 Results
Existing Conditions

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	175	73	0	0	0
Future Vol, veh/h	0	175	73	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	190	79	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	79	0	-	0	270	79
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	190	-
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	1519	-	-	-	720	981
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1519	-	-	-	720	981
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1519	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	0	4	0	1
Future Vol, veh/h	10	0	0	4	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	0	4	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	11	0	15	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	4	-
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	-	-	1608	-	1003	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1019	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1608	-	1003	1070
Mov Cap-2 Maneuver	-	-	-	-	1003	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1019	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.37
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1070	-	-	1608	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Ctrl Dly (s/v)	8.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

EXISTING NOON HOUR

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	66	75	0	0	4
Future Vol, veh/h	0	66	75	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	72	82	0	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	82	0	-	0	153	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	72	-
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	1516	-	-	-	838	978
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1516	-	-	-	838	978
Mov Cap-2 Maneuver	-	-	-	-	838	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	951	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1516	-	-	-	978
HCM Lane V/C Ratio	-	-	-	-	0.004
HCM Ctrl Dly (s/v)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

EXISTING NOON HOUR

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	0	0	11	0	0
Future Vol, veh/h	7	0	0	11	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	0	12	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	20	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	12	-
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	-	-	1613	-	998	1075
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1613	-	998	1075
Mov Cap-2 Maneuver	-	-	-	-	998	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	1011	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1613	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	98	209	1	0	1
Future Vol, veh/h	0	98	209	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	107	227	1	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	228	0	-	0	334	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	107	-
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	1340	-	-	-	661	812
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1340	-	-	-	661	812
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	918	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.44
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1340	-	-	-	812
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Ctrl Dly (s/v)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

EXISTING PM PEAK HOUR

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	0	1	21	0	1
Future Vol, veh/h	11	0	1	21	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	1	23	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	12	0	37	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	25	-
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	-	-	1607	-	975	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	975	1069
Mov Cap-2 Maneuver	-	-	-	-	975	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	997	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.33	8.37
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1069	-	-	82	-
HCM Lane V/C Ratio	0.001	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	192	80	0	0	0
Future Vol, veh/h	0	192	80	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	209	87	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	87	0	-	0	296	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	209	-
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	1509	-	-	-	695	972
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	826	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1509	-	-	-	695	972
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	826	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1509	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

EXISTING AM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	0	0	4	0	1
Future Vol, veh/h	11	0	0	4	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	0	4	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	12	0	16	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	4	-
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	-	-	1607	-	1002	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1019	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	1002	1069
Mov Cap-2 Maneuver	-	-	-	-	1002	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1019	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.37
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1069	-	-	1607	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Ctrl Dly (s/v)	8.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

EXISTING NOON HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	72	82	0	0	4
Future Vol, veh/h	0	72	82	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	78	89	0	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	167	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	78	-
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	1506	-	-	-	823	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	823	969
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	945	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.73
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	969
HCM Lane V/C Ratio	-	-	-	-	0.004
HCM Ctrl Dly (s/v)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC
7: Holman Road & Kinneys School Road 03/16/2026

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	0	12	0	0
Future Vol, veh/h	8	0	0	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	0	13	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	22	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	13	-
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	-	-	1611	-	995	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	995	1073
Mov Cap-2 Maneuver	-	-	-	-	995	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1611	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	107	229	1	0	1
Future Vol, veh/h	0	107	229	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	116	249	1	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	250	0	-	0	366	249
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	116	-
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	1316	-	-	-	634	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1316	-	-	-	634	789
Mov Cap-2 Maneuver	-	-	-	-	634	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	909	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.57
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1316	-	-	-	789
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Ctrl Dly (s/v)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

EXISTING PM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	0	1	23	0	1
Future Vol, veh/h	12	0	1	23	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	1	25	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	40	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	27	-
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	-	-	1605	-	971	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	995	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1605	-	971	1067
Mov Cap-2 Maneuver	-	-	-	-	971	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	995	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.3	8.38
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	75	-
HCM Lane V/C Ratio	0.001	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

EXISTING AM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	203	85	0	0	0
Future Vol, veh/h	0	203	85	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	221	92	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	92	0	-	0	313	92
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	221	-
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	1502	-	-	-	680	965
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1502	-	-	-	680	965
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	816	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1502	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

EXISTING AM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	0	0	5	0	1
Future Vol, veh/h	12	0	0	5	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	0	5	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	18	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	5	-
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	-	-	1605	-	999	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1018	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1605	-	999	1067
Mov Cap-2 Maneuver	-	-	-	-	999	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1018	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.35
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	1605	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Ctrl Dly (s/v)	8.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

EXISTING NOON HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	0	77	87	0	0	5
Future Vol, veh/h	0	77	87	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	84	95	0	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	95	0	-	0	178	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	84	-
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	1499	-	-	-	811	962
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	811	962
Mov Cap-2 Maneuver	-	-	-	-	811	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	940	-

Approach	EB	WB	SB
HCM Ctl Dly, s/v	0	0	8.76
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	962
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Ctl Dly (s/v)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

EXISTING NOON HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	0	13	0	0
Future Vol, veh/h	8	0	0	13	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	0	14	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	23	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	14	-
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	-	-	1611	-	993	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	993	1073
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1611	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

EXISTING PM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	114	242	1	0	1
Future Vol, veh/h	0	114	242	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	124	263	1	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	264	0	-	0	388	264
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	124	-
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	1300	-	-	-	616	775
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1300	-	-	-	616	775
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.65
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1300	-	-	-	775
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Ctrl Dly (s/v)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	13	0	1	24	0	1
Future Vol, veh/h	13	0	1	24	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	0	1	26	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	14	0	42	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	28	-
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	-	-	1604	-	969	1066
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1604	-	968	1066
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	994	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.29	8.38
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1066	-	-	72	-
HCM Lane V/C Ratio	0.001	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Appendix D

Capacity Analysis

Synchro 12 Results
Proposed Conditions

PROPOSED AM PEAK HOUR

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	175	73	2	0	0
Future Vol, veh/h	3	175	73	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	190	79	2	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	82	0	-	0	277	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	197	-
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	1516	-	-	-	713	980
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	836	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1516	-	-	-	711	980
Mov Cap-2 Maneuver	-	-	-	-	711	-
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	836	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.12	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	30	-	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Ctrl Dly (s/v)	7.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

PROPOSED AM PEAK HOUR

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	0	0	4	5	1
Future Vol, veh/h	25	0	0	4	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	0	0	4	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	32	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	4	-
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	-	-	1587	-	982	1048
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	1019	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1587	-	982	1048
Mov Cap-2 Maneuver	-	-	-	-	982	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	1019	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.65
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	993	-	-	1587	-
HCM Lane V/C Ratio	0.007	-	-	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED AM PEAK HOUR

Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	5	4	0	15
Future Vol, veh/h	10	0	5	4	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	5	4	0	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	11	0	26	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	15	-
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	-	-	1608	-	989	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1608	-	986	1070
Mov Cap-2 Maneuver	-	-	-	-	986	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1004	-

Approach	EB	WB	NB
HCM Ctl Dly, s/v	0	4.03	8.42
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1070	-	-	1000	-
HCM Lane V/C Ratio	0.015	-	-	0.003	-
HCM Ctl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED NOON HOUR

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	66	75	4	0	4
Future Vol, veh/h	6	66	75	4	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	72	82	4	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	86	0	-	0	168	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	85	-
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	1510	-	-	-	822	976
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1510	-	-	-	818	976
Mov Cap-2 Maneuver	-	-	-	-	818	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	SB
HCM Ctl Dly, s/v	0.62	0	8.71
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	150	-	-	-	976
HCM Lane V/C Ratio	0.004	-	-	-	0.004
HCM Ctl Dly (s/v)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PROPOSED NOON HOUR

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	19	0	0	12	10	0
Future Vol, veh/h	19	0	0	12	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	0	13	11	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	21	0	34	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	13	-
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	-	-	1595	-	980	1057
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1595	-	980	1057
Mov Cap-2 Maneuver	-	-	-	-	980	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.72
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	980	-	-	1595	-
HCM Lane V/C Ratio	0.011	-	-	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED NOON HOUR

Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	7	0	11	11	0	12
Future Vol, veh/h	7	0	11	11	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	12	12	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	43	8
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	36	-
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	-	-	1613	-	987	1075
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1613	-	980	1075
Mov Cap-2 Maneuver	-	-	-	-	960	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	979	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.62	8.39
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1075	-	-	980	-
HCM Lane V/C Ratio	0.012	-	-	0.007	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED PM PEAK HOUR

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	98	209	7	0	1
Future Vol, veh/h	9	98	209	7	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	107	227	8	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	357	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	126	-
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	1333	-	-	-	641	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	900	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1333	-	-	-	636	808
Mov Cap-2 Maneuver	-	-	-	-	636	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	900	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.65	0	9.46
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	151	-	-	-	808
HCM Lane V/C Ratio	0.007	-	-	-	0.001
HCM Ctrl Dly (s/v)	7.7	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PROPOSED PM PEAK HOUR

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	0	1	23	15	1
Future Vol, veh/h	21	0	1	23	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	1	25	16	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	23	0	50	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	27	-
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	-	-	1592	-	959	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	995	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1592	-	958	1054
Mov Cap-2 Maneuver	-	-	-	-	958	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	995	-

Approach	EB	WB	NB
HCM Ctl Dly, s/v	0	0.3	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	984	-	-	75	-
HCM Lane V/C Ratio	0.018	-	-	0.001	-
HCM Ctl Dly (s/v)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

PROPOSED PM PEAK HOUR

Intersection						
Int Delay, s/veh	3.5					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	0	16	21	0	10
Future Vol, veh/h	11	0	16	21	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	17	23	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	12	0	70	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	58	-
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	-	-	1607	-	935	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	965	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	925	1069
Mov Cap-2 Maneuver	-	-	-	-	925	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	954	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.14	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1069	-	-	778	-
HCM Lane V/C Ratio	0.01	-	-	0.011	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED AM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	192	80	2	0	0
Future Vol, veh/h	3	192	80	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	209	87	2	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	303	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	215	-
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	1506	-	-	-	668	970
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	687	970
Mov Cap-2 Maneuver	-	-	-	-	687	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.11	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	28	-	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Ctrl Dly (s/v)	7.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

PROPOSED AM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	0	0	4	6	1
Future Vol, veh/h	27	0	0	4	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	0	0	4	7	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	29	0	34	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	4	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1584	-	980	1045
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	1019	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	980	1045
Mov Cap-2 Maneuver	-	-	-	-	980	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	1019	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.67
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	988	-	-	1584	-
HCM Lane V/C Ratio	0.008	-	-	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED AM PEAK HOUR 3-YEAR PROJECTION

Intersection						
Int Delay, s/veh	4.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	0	6	4	0	16
Future Vol, veh/h	11	0	6	4	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	7	4	0	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	12	0	29	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	17	-
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	-	-	1607	-	985	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	981	1069
Mov Cap-2 Maneuver	-	-	-	-	981	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1001	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4.35	8.42
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1069	-	-	1080	-
HCM Lane V/C Ratio	0.016	-	-	0.004	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED NOON HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	72	82	4	0	4
Future Vol, veh/h	6	72	82	4	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	78	89	4	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	183	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	91	-
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	1501	-	-	-	807	966
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1501	-	-	-	803	966
Mov Cap-2 Maneuver	-	-	-	-	803	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.57	0	8.74
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	138	-	-	-	966
HCM Lane V/C Ratio	0.004	-	-	-	0.004
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PROPOSED NOON HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	0	0	13	11	0
Future Vol, veh/h	21	0	0	13	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	0	14	12	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	23	0	37	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	14	-
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	-	-	1592	-	975	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1592	-	975	1054
Mov Cap-2 Maneuver	-	-	-	-	975	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.74
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	975	-	-	1592	-
HCM Lane V/C Ratio	0.012	-	-	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED NOON HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	12	12	0	13
Future Vol, veh/h	8	0	12	12	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	13	13	0	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	48	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	39	-
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	-	-	1611	-	962	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	954	1073
Mov Cap-2 Maneuver	-	-	-	-	954	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	975	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.63	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1073	-	-	900	-
HCM Lane V/C Ratio	0.013	-	-	0.008	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED PM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	107	229	8	0	1
Future Vol, veh/h	10	107	229	8	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	116	249	9	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	258	0	-	0	391	253
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	138	-
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	1307	-	-	-	613	785
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1307	-	-	-	507	785
Mov Cap-2 Maneuver	-	-	-	-	607	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.66	0	9.59
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	154	-	-	-	785
HCM Lane V/C Ratio	0.008	-	-	-	0.001
HCM Ctrl Dly (s/v)	7.8	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PROPOSED PM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	0	1	25	16	1
Future Vol, veh/h	23	0	1	25	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	0	1	27	17	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	25	0	54	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	29	-
Critical Hdwy	-	-	4.12	-	5.42	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	-	-	1589	-	954	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1589	-	953	1051
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	992	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.28	8.83
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	958	-	-	89	-
HCM Lane V/C Ratio	0.019	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

PROPOSED PM PEAK HOUR 3-YEAR PROJECTION

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	0	18	23	0	11
Future Vol, veh/h	12	0	18	23	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	20	25	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	77	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	64	-
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	-	-	1605	-	926	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1605	-	914	1067
Mov Cap-2 Maneuver	-	-	-	-	914	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.19	8.41
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	790	-
HCM Lane V/C Ratio	0.011	-	-	0.012	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED AM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	203	85	2	0	0
Future Vol, veh/h	3	203	85	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	221	92	2	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	95	0	-	0	321	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	227	-
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	1499	-	-	-	673	964
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	671	964
Mov Cap-2 Maneuver	-	-	-	-	671	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	811	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.11	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	26	-	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Ctrl Dly (s/v)	7.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

PROPOSED AM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	29	0	0	5	6	1
Future Vol, veh/h	29	0	0	5	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	0	0	5	7	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	32	0	37	32
Stage 1	-	-	-	-	32	-
Stage 2	-	-	-	-	5	-
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	-	-	1581	-	975	1042
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1018	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1581	-	975	1042
Mov Cap-2 Maneuver	-	-	-	-	975	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1018	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.69
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	984	-	-	1581	-
HCM Lane V/C Ratio	0.008	-	-	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED AM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	0	6	5	0	17
Future Vol, veh/h	12	0	6	5	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	7	5	0	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	32	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	18	-
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	-	-	1605	-	982	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1004	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1605	-	978	1067
Mov Cap-2 Maneuver	-	-	-	-	978	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1000	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.96	8.43
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	982	-
HCM Lane V/C Ratio	0.017	-	-	0.004	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

PROPOSED NOON HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	77	87	4	0	5
Future Vol, veh/h	7	77	87	4	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	84	95	4	0	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	196	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	99	-
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	1494	-	-	-	793	960
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1494	-	-	-	789	960
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	925	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.62	0	8.77
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	150	-	-	-	960
HCM Lane V/C Ratio	0.005	-	-	-	0.006
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PROPOSED NOON HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	0	0	14	11	0
Future Vol, veh/h	22	0	0	14	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	0	0	15	12	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	24	0	39	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1591	-	973	1053
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1008	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1591	-	973	1053
Mov Cap-2 Maneuver	-	-	-	-	973	-
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	1008	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.75
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	973	-	-	1591	-
HCM Lane V/C Ratio	0.012	-	-	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED NOON HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	12	13	0	14
Future Vol, veh/h	8	0	12	13	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	13	14	0	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	49	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	40	-
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	-	-	1611	-	960	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	953	1073
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	974	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.48	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1073	-	-	864	-
HCM Lane V/C Ratio	0.014	-	-	0.008	-
HCM Ctrl Dly (s/v)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

PROPOSED PM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	114	242	8	0	1
Future Vol, veh/h	10	114	242	8	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	124	263	9	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	272	0	-	0	413	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	146	-
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	1292	-	-	-	595	771
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	882	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1292	-	-	-	590	771
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.63	0	9.67
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	145	-	-	-	771
HCM Lane V/C Ratio	0.008	-	-	-	0.001
HCM Ctrl Dly (s/v)	7.8	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

PROPOSED PM PEAK HOUR 5-YEAR PROJECTION

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	0	1	26	17	1
Future Vol, veh/h	24	0	1	26	17	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	0	1	28	18	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	26	0	57	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	30	-
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	-	-	1588	-	951	1050
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1588	-	950	1050
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	991	-

Approach	EB	WB	NB
HCM Ctl Dly, s/v	0	0.27	8.85
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	955	-	-	67	-
HCM Lane V/C Ratio	0.02	-	-	0.001	-
HCM Ctl Dly (s/v)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

PROPOSED PM PEAK HOUR 5-YEAR PROJECTION

Intersection						
Int Delay, s/veh	3.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	13	0	19	24	0	11
Future Vol, veh/h	13	0	19	24	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	0	21	26	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	14	0	82	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	67	-
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	-	-	1604	-	921	1066
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1604	-	909	1066
Mov Cap-2 Maneuver	-	-	-	-	909	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	943	-

Approach	EB	WB	NB
HCM Ctl Dly, s/v	0	3.21	8.42
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1066	-	-	795	-
HCM Lane V/C Ratio	0.011	-	-	0.013	-
HCM Ctl Dly (s/v)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Appendix E

Driveway Sight Distance Analysis Documentation

Table 3-2. Stopping Sight Distance on Grades

U.S. Customary						
Design Speed (mph)	Stopping Sight Distance (ft)					
	Downgrades			Upgrades		
	3%	6%	9%	3%	6%	9%
15	80	82	85	75	74	73
20	116	120	126	109	107	104
25	158	165	173	147	143	140
30	205	215	227	200	184	179
35	257	271	287	237	229	222
40	315	333	354	289	278	269
45	378	400	427	344	331	320
50	446	474	507	405	388	375
55	520	553	593	469	450	433
60	598	638	686	538	515	495
65	682	728	785	612	584	561
70	771	825	891	690	658	631
75	866	927	1003	772	736	704
80	965	1035	1121	859	817	782
85	1070	1149	1246	949	902	862

3.2.6 Criteria for Measuring Sight Distance

Sight distance is the distance along a roadway throughout which an object of specified height is continuously visible to the driver. This distance is dependent on the height of the driver's eye above the road surface, the specified object height above the road surface, and the height and lateral position of sight obstructions within the driver's line of sight.

3.2.6.1 Height of Driver's Eye

For all sight distance calculations for passenger vehicles, the height of the driver's eye is considered to be 3.50 ft [1.08 m] above the road surface. This value is based on a study (*19*) that found average vehicle heights have decreased to 4.25 ft [1.30 m] with a comparable decrease in average eye heights to 3.50 ft [1.08 m]. Because of various factors that appear to place practical limits on further decreases in passenger car heights and the relatively small increases in the lengths of vertical curves that would result from further changes that do occur, 3.50 ft [1.08 m] is considered to be the appropriate height of driver's eye for measuring both stopping and passing sight distances. For large trucks, the driver eye height ranges from 3.50 to 7.90 ft [1.80 to 2.40 m]. The recommended value of truck driver eye height for design is 7.60 ft [2.33 m] above the road surface.

3.2.6.2 Height of Object

For stopping sight distance and decision sight distance calculations, the height of object is considered to be 2.00 ft [0.60 m] above the road surface. For passing sight distance calculations, the height of object is considered to be 3.50 ft [1.08 m] above the road surface.

Stopping sight distance object—The selection of a 2.00-ft [0.60-m] object height was based on research indicating that objects with heights less than 2.00 ft [0.60 m] are seldom involved in crashes (*19*). Therefore, it is considered that an object 2.00 ft [0.60 m] in height is representative of the smallest object that involves risk to drivers. An object height of 2.00 ft [0.60 m] is representative of the height of automobile headlights and taillights. Using object heights of less than 2.00 ft [0.60 m] for stopping sight distance calculations would result in longer crest vertical curves without a documented decrease in the frequency or severity of crashes (*19*). Object height of less than 2.00 ft [0.60 m] could substantially increase construction costs because additional excavation would be needed to provide the longer crest vertical curves. It is also doubtful that the driver's ability to perceive situations involving risk of collisions would be increased because recommended stopping sight distances for high-speed design are beyond most drivers' capabilities to detect objects less than 2.00 ft [0.60 m] in height (*19*).

Passing sight distance object—An object height of 3.50 ft [1.08 m] is adopted for passing sight distance. This object height is based on a vehicle height of 4.35 ft [1.33 m], which represents the 15th percentile of vehicle heights in the current passenger car population, less an allowance of 0.85 ft [0.25 m], which represents a near-maximum value for the portion of the vehicle height that needs to be visible for another driver to recognize a vehicle as such (*35*). Passing sight dis-

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- Case B2—Right turns from the minor road; and
- Case B3—Crossing the major road from a minor-road approach.

Intersection sight distance criteria for stop-controlled intersections are longer than stopping sight distance to allow the intersection to operate smoothly. Minor-road vehicle operators can wait until they can proceed safely without forcing a major-road vehicle to stop.

9.5.3.2.1 Case B1—Left Turn from the Minor Road

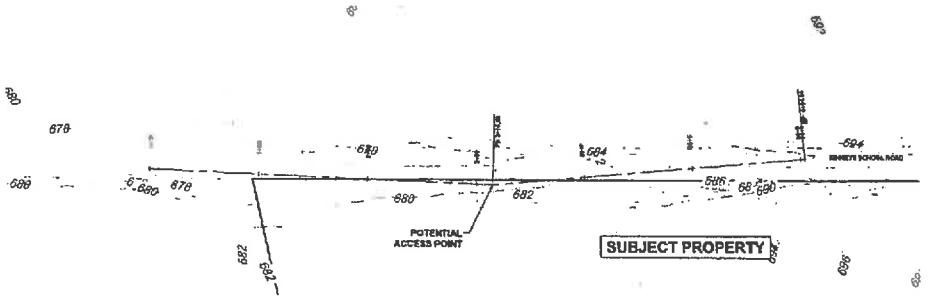
Departure sight triangles for traffic approaching from either the right or the left, like those shown in Figure 9-17, should be provided for left turns from the minor road onto the major road for all stop-controlled approaches. The length of the leg of the departure sight triangle along the major road in both directions, shown as distance b in Figure 9-17, is the recommended intersection sight distance for Case B1.

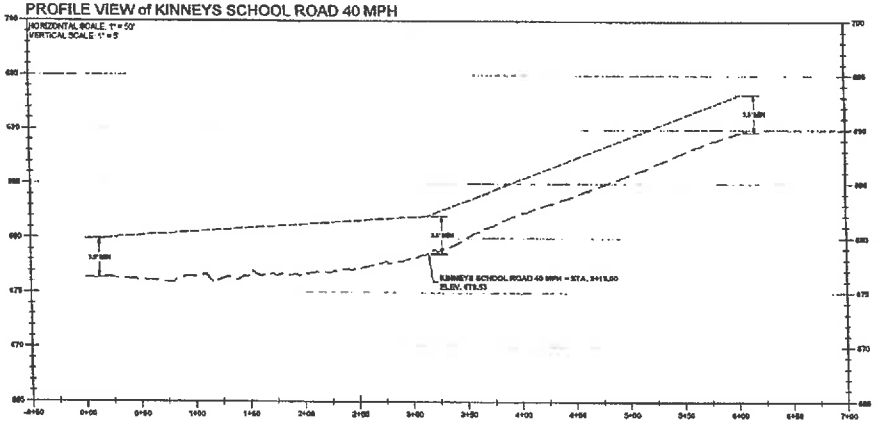
The vertex (decision point) of the departure sight triangle on the minor road should be 14.5 ft [4.4 m] from the edge of the major-road traveled way. This represents the typical position of the minor-road driver's eye when a vehicle is stopped relatively close to the major road. Field observations of vehicle stopping positions found that, where needed, drivers will stop with the front of their vehicle 6.5 ft [2.0 m] or less from the edge of the major-road traveled way. Measurements of passenger cars indicate that the distance from the front of the vehicle to the driver's eye for the current U.S. passenger car population is nearly always 8 ft [2.4 m] or less (*21*). Where practical, it is desirable to increase the distance from the edge of the major-road traveled way to the vertex of the clear sight triangle from 14.5 to 18 ft [4.4 m to 5.4 m]. This increase allows 10 ft [3.0 m] from the edge of the major-road traveled way to the front of the stopped vehicle, providing a larger sight triangle. The length of the sight triangle along the minor road (distance *a* in Figure 9-17) is the sum of the distance from the major road plus $^1/_2$ lane width for vehicles approaching from the left, or $1^1/_2$ lane widths for vehicles approaching from the right.

Field observations of the gaps in major-road traffic actually accepted by drivers turning onto the major road have shown that the values in Table 9-6 provide sufficient time for the minor-road vehicle to accelerate from a stop and complete a left turn without unduly interfering with major-road traffic operations. The time gap acceptance time does not vary with approach speed on the major road. Studies have indicated that a constant value of time gap, independent of approach speed, can be used as a basis for intersection sight distance determinations. Observations have also shown that major-road drivers will reduce their speed to some extent when minor-road vehicles turn onto the major road. Where the time gap acceptance values in Table 9-6 are used to determine the length of the leg of the departure sight triangle, most major-road drivers should not need to reduce speed to less than 70 percent of their initial speed (*21*).

The intersection sight distance in each direction should be equal to the distance traveled at the design speed of the major road during a period of time equal to the applicable time gap shown

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0 50 100 150
SCALE: 1" = 50'

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TENNESSEE STATE PLANE COORDINATES
N.A.D. 83
GRID NORTH
VERTICAL DATUM: N.A.V.D. 88

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MAP 68 PARCEL 134 PROPERTY EXHIBIT

THE HALL COMPANY LLC

KINNEY'S SCHOOL ROAD
ROBERTSON COUNTY, TENNESSEE

Sheet Title
STOPPING SIGHT DISTANCE PLAN & PROFILE

No.	Date	Revision Description

Drawn By: CSS | Checked By: MEB
Date: March 25, 2021 | File No.: 215200001 Hall
P:\Active Projects\Hall Inc, The (215200001)\Civil\Exhibits\

Sheet No.
P&P

Appendix F

Distribution and Assignment Figures

EXAM

TRAFFIC EXHIBIT

No.	Date	Revision Description

Drawn By: CS | Checked By: MW
Date: March 17, 2026 | Proj. No.: 25-12-0C800 Hall
File Name: Kinneys School Rd_TIS Exhibits.dwg

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Sheet Title

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Drawn By: BS | Checked By: MW

Date: March 17, 2026 | Proj. No.: 7512-00600 Hall

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Sheet No.

EX 1N

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LEGEND
SCALE: 1" = 200'
0
200
400
800
TENNESSEE STATE PLANE COORDINATES
NAD 83
VERTICAL DATUM: N.A.V.D. 88
EX PM
TRAFFIC EXHIBIT
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Revision Description
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Checked By: HRS
Date: March 27, 2026
Proj. No.: 25-EB-00000 Hall
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Date: March 17, 2026 | Proj. No.: 26-1240800 Rpt

File Name: Kinney's School Rd_TIA_24Hr Counts.dwg

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LEGEND

NORTH BASED ON TENNESSEE STATE PLANE COORDINATES N.A.D. 83 CRS SMITH VERTICAL DATUM N.A.V.D. 88

0 200 400 800

SCALE: 1" = 200'

PJ NN

Sheet Title

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No.	Date	Revision Description

Drawn By: SS | Checked By: HH

Date: March 17, 2026 | Proj. No.: 24-12-00000 Hall

J:\...\Kinneys School Rd, TN Exhibits.dwg

MAP 68 PARCEL 134 PROPERTY EXHIBIT

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LEGEND

PROPERTY LINE

0 200 400 800

SCALE: 1" = 200'

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PJ PM

Sheet No.

TRAFFIC EXHIBIT

No.	Date	Revision Description

Drawn By: CS | Checked By: MS

Date: March 17, 2026 | Proj. No.: 25-13-00000 Hall

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MAP 68 PARCEL 134 PROPERTY EXHIBIT

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LEGEND

PROPERTY LINE

SCALE: 1" = 200'

0 200 400 600

HORIZONTAL DATUM: TENNESSEE STATE PLANE COORDINATES N.A.D. 83

VERTICAL DATUM: N.A.V.D. 88

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Sheet Title

TRAFFIC EXHIBIT

No.	Date	Revision Description

Drawn By: KS | Checked By: MKS

Date: March 17, 2026 | Proj. No.: 26-13-08000 Hall

File Name: Kinneys School Rd_TIS Exhibits.dwg

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LEGEND

0 300 600 900

SCALE: 1" = 300'

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PP PM

Sheet Title

TRAFFIC EXHIBIT

No.	Date	Revision Description

Drawn By: CO | Checked By: KHS

Date: March 17, 2026 | Proj. No.: 264240000 Hall

File Name: Kinneys School Rd_PM Exhibit.dwg

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March 23, 2026
N-S Project No. 20550.001.002

Ms. Hunter Mantooth
Assistant Director
Robertson County Planning and Zoning
527 S Brown St.
Springfield, TN 37172

Subject: Review of Traffic Assessment Report
Kinneys School Road TIS_Updated Report Dated March 2026

Dear Hunter:

Please accept this correspondence as documentation of our review of the referenced Traffic Impact Study (TIS) prepared by TTL, Inc. on behalf of Eric Hall. This summary provides technical input to assist Robertson County staff in evaluating the proposed development and its potential transportation impacts.

At the County's request, we reviewed the Traffic Impact Study prepared for the proposed Map 68, Parcel 134 rezoning request (Kinneys School Road TA), located in the northwestern portion of Robertson County. The review evaluated the study's methodology, assumptions, operational analysis, and conclusions to determine consistency with accepted traffic engineering practice, applicable local requirements, and relevant state guidance.

The project consists of a proposed 56-acre residential subdivision with a density of approximately two (2) acres per lot, totaling 28 single-family residential units. The parcel is currently zoned AG-2 (Agricultural/Residential District) and is proposed to be rezoned to RP-80 (Rural Preservation District). This review does not evaluate zoning policy or land use considerations; it acknowledges the zoning reclassification only as documented in the TIS.

Remarks and Recommendations

We offer the following comments and recommendations for consideration by Robertson County officials. These remarks are provided as independent technical input based on engineering judgment and professional experience.

The review confirms that preparation of a Traffic Impact Study is appropriate based on the applicability thresholds established in Robertson County's Ordinance, Section 3012 – Traffic Studies and Assessments. The proposed development meets the following applicable criteria:

- The proposed development is projected to generate approximately **254 daily trip ends.**
- The number of residential lots proposed (28 units) and the sub-division of the existing 56-acre parcel into more than two (2) lots.

Review concluded that the study data and supporting information are consistent with what is typically expected for a Traffic Impact Study, as defined by the Robertson County ordinance.

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Project Description
TIS provides the necessary information to clearly establish the project location, defines the study area limits, and the existing and proposed site conditions.

Examine Existing Intersections
The study identified the applicable roadway intersections with the study area and performed level-of-service analysis based on methodologies and procedures provided by the *Highway Capacity Manual* (HCM) 7th Edition. The TIS followed customary practices for conducting Level-of-Service (LOS) traffic capacity analysis. The results concluded that ongoing intersection traffic operations experience LOS "A" conditions.

Baseline Traffic Counts
The study conducted intersection turning movement counts at the intersections of Kinneys Road at Holman Road and Kinneys School Road at Holman Road, on Thursday, March 12, 2026, during the AM peak, noon, and PM peak hour timeframes.

Trip Generation
The TIS utilized the *ITE Trip Generation Manual, 12th Edition*. Due to the very low traffic volumes expected to be generated by the development, the project is not anticipated to affect overall roadway performance. The study assumed 90% of site traffic will depart on Kinneys Road and the remaining 10% on Kinneys School Road.

Traffic Forecasts
Review noted that the TIS followed standard practices in estimating background traffic volume forecasts. To determine the growth rate within the project area, the TIS referenced TDOT count station 74000034, which indicated an average annual traffic growth rate of approximately 3.19% since 2015. The TIS applied an ambient growth rate of 3.19% per year. Review observed that TIS analysis did not identify or reference any third-party projects as contributing to background traffic volume demand.

Study Horizon Years
The traffic study estimated the build-out period for the project to be five years. The three and five traffic forecast years are 2029 and 2031, respectively.

Proposed Traffic Analysis
The TIS reported LOS results and forecasted average vehicle delays for total conditions. The review noted the following: Under total build conditions, all study intersections are projected to operate within acceptable LOS thresholds. All other intersections and movements, including Kinneys Road at Holman Road, Kinneys School Road at Holman Road, and the new site entrance on Kinneys School Road (Road A), are projected to operate at LOS A or better during the AM, Noon (midday), and PM peak periods.

Driveway Sight Distance Analysis
The TIS evaluated stopping sight distance requirements for vehicles traveling along Kinneys School Road at the proposed Road A (site driveway) intersection. The study references the AASHTO Green Book for guidance. Based on the analysis, the TIS concludes that the available approach sight distances meet minimum standards and that no existing conditions are expected to create visibility conflicts for approaching motorists. This review takes no exception to the study's sight distance evaluation.

Roadway Sizing
The study determined that no intersection modifications, specifically the addition of approach lanes, are necessary to maintain or improve operations at the study intersections. The review agrees that intersection improvements are not warranted based on the inclusion of site-generated traffic.

Conclusions and Recommendations
The TIS provides the flowing conclusion: "The analyses included in this report indicate that the new Kinneys School Road development will create no significant traffic impacts to the study intersections. In conclusion, the analyses contained in this study indicate that peak hour levels of service can be maintained at the intersections studied."

Final Remarks and Recommendations
In summary, the review finds the Traffic Impact Study to be adequate for the proposed project and the anticipated level of traffic impact associated with the residential development. The review confirms that the study was revised in response to comments from the previous review. No deficiencies were identified in the study methodology, analysis, or conclusions. Overall, the TIS sufficiently addresses traffic-related considerations associated with the proposed residential development.

Thank you for allowing us the opportunity to assist the County with this review. We are happy to answer any questions or provide clarification as needed. Please contact us if additional information is needed.

Sincerely,
NEEL-SCHAFFER, INC.

Jacob Carson

Jacob Carson, P.E., PTOE, RSP$_1$
Engineer II

Robertson County Planning and Zoning
Agenda Review Sheet
Amanda Harrington, AICP, Planning Advisor
Planning Commission Meeting
April 23, 2026

Applicant: Eric Hall
Surveyor: Todd Bollinger

Request: Rezone **57.03 surveyed *acres***
Tax Map 068, Parcel 134.00
from AG-2 to RP-80



Figure 1: TN Property Viewer: Tax Map 068, Parcel134.00 In its entirety is highlighted

Property Information:

- Tax Map 068, Parcel 134.00
- Kinneys School Rd., Springfield
- Total lot acreage: 57.03 surveyed acres (2,484,226.80 sq. ft.)
- **Rezone Request: 57.03 surveyed acres. (2,484,226.80 sq. ft.)**

Project Narrative:
RP-80 Minimum Requirements
Minimum Lot Size: 80,000 sq. ft.
Front: 60'
Side: 25'
Rear: 35'
Min. Lot Width @ Front Bldg. Setback Line: 150'
Min Road Frontage: 50'
Maximum Height: 35'
Max Bldg. Coverage: 30%.

Discussion & Observations:
The applicant intends to rezone 57.03 surveyed acres to enable property division. The property is surrounded by various zones, with some lots non-conforming and currently zoned R-40 and R-30, respectively, according to current standards. The rezoning request to RP-80 seems dimensionally suitable. Refer to Exhibit 1 for excerpts from the Robertson County zoning map and the 2040 Growth Plan.

Growth Plan Compatibility: The Growth Plan requires this area to remain Rural. The purpose of the Rural character area in the County is to ensure the continuation of agrarian and rural type uses. As rural areas are closer to cities and villages, the focus shifts from primarily agrarian to predominantly rural residential. Location of Rural Preservation Areas: Most of the County will remain designated as Rural during this land use plan's planning horizon. Uses in Rural Areas: agrarian and rural uses,

including open space, agriculture, homesteads related to agricultural activities, and agricultural service businesses, are encouraged within this category.

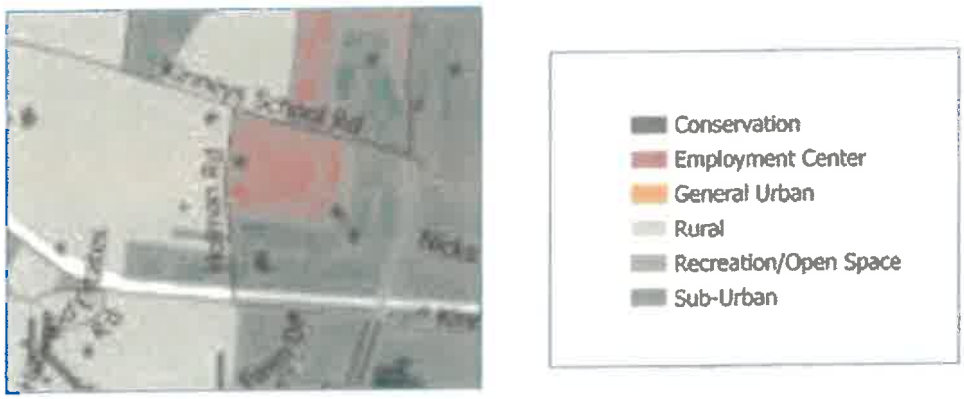
Review of Traffic Assessment Report: Neel-Schaffer and Associates provided a review of the Traffic Assessment Report for the Kinneys School Road under separate cover *(March 23, 2026, N-S Project No. 20550.001.002).* In summary, the review finds the Traffic Impact Study adequate for the proposed project and for the anticipated level of traffic impact associated with the residential development. The review confirms that the study was revised in response to comments from the previous review. No deficiencies were identified in the study methodology, analysis, or conclusions. Overall, the TIS sufficiently addresses traffic-related considerations associated with the proposed residential development.

Recommendation: Staff respectfully recommends a positive recommendation to the County Legislative Body for the rezoning application. **** END COMMENTS ****

Exhibit 1

Austin Peay University Zoning Map





ROBERTSON COUNTY HIGHWAY DEPARTMENT

TROY ADKINS, Superintendent
P.O. BOX 401 - 4751 HWY 41 N
SPRINGFIELD, TENNESSEE 37172
(615) 384-2507 FAX (615) 384-0211

Commission
DONNIE MARTIN, Chairman
MARK A. HAND, SR.
RALPH (FRED) HEAD

STEVE ARMSTRONG
CHARLIE J. COOK
DAVID PEACH

April 09, 2026

Mrs. Pam Groves
Director of Planning and Zoning
527 South Brown Street
Springfield, TN 37172

RE: Traffic Assessment Report – Kinneys School Road

Dear Mrs. Groves,

This letter is regarding the traffic assessment report for Kinneys School Road.

In my opinion, TTL, Inc., on behalf of Eric Hall, should conduct an additional traffic study for this development located at Tax Map 68, Parcel 134. This is due to them not including evaluation of the railroad crossing located on Holman Road prior to Kinneys Road. The purpose of including this crossing in the study is to determine whether signal arms are warranted for safety and traffic control at this location.

If you have any questions, please feel free to contact me.

Sincerely,

Troy Adkins
Highway Superintendent

TA/llc

New Business: A

ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615-384-3666

Application for Rezoning

**** PLEASE READ CAREFULLY BEFORE SUBMITTING APPLICATION ****

ANY REZONING REQUIRING A TRAFFIC IMPACT ASSESSMENT OR A TRAFFIC IMPACT STUDY, AT THE DISCRETION OF THE DEPARTMENT DIRECTOR WILL BE CONSIDERED INCOMPLETE AND WILL NOT BE PLACED ON ANY PLANNING COMMISSION AGENDA UNTIL SUCH TIME AS THE STUDY IS SUBMITTED WITH THE APPLICATION.

Applicant Information:

Name: Nick Changas
Mailing Address: 5369 Hoods Branch Rd, Springfield, TN 37172
Email Address:
Phone Number:

Applicant's Representative Information:

Name: Clint Head
Name of Firm: Head Surveying + Engineering
Mailing Address: 1676 Standville Rd, Cedar Hill, TN 37032
Email:
Telephone Number:

Property Information:

Owner (if not applicant provide letter giving applicate permission): Applicant
Physical Address: 5369 Hoods Branch Rd, Springfield, TN 37172
Tax Map and Parcel Number: 089, 095.00 (part of)
Current Zoning Designation: Ag-2
Requested Zoning Designation: RD-80

Will this property be subdivided (or combined) in some way within the next year? (Yes) No

Purpose of rezoning request:

Requests Rezone to Subdivide a single 3 acre lot.
Reason for rezone is due to width of remaining tract. (5.4 ac)

SUBMITTAL REVIEW PROCEDURE:

1. Deliver one (1) copy of this application & any supporting materials to the Development Office before or by the final due date (Please see attached schedule- the "Corrections Due" does not apply to this type of application)
2. Provide copy of deed to prove ownership.
3. Provide aerial photograph of the property from TN Property Viewer
4. Provide Legal description **AND** Survey of the areas to be rezoned including map and parcel number.
5. Provide water letter from utility company stating location and size of current water line, adequate pressure for domestic use and if/where fire hydrants are required.
6. Provide Traffic Assessment or Traffic Study if required.
7. Pay the review fee.
8. Email a .PDF of the application & supporting materials to hmentooth@robcotn.org
9. Attend the Planning Commission meeting. Be ready to present and answer questions. Failure to appear at the Planning Commission meeting may result in the denial of the application.

Owner of Record Signature & DATE

Applicant's Signature & DATE

Robertson County - Parcel: 089 095.00



Date: February 26, 2026

County: ROBERTSON
Owner: CHANGAS NICHOLAS CHARLES
Address: HOODS BRANCH RD 5369
Parcel ID: 089 095.00
Deeded Acreage: 8.38
Calculated Acreage: 0
Vexcel Imagery Date: 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

State of Tennessee, Comptroller of the Treasury, Division of Property Assessments (DPA), Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

The property lines are compiled from information maintained by your local county Assessor's office but are not conclusive evidence of property ownership in any court of law.

SURVEY NOTES:

INFORMATION REGARDING THE PRESENCE, SIZE AND LOCATION OF UNDERGROUND UTILITIES IS SHOWN HEREON. THIS INFORMATION HAS BEEN SHOWN BASED ON THE LOCATION OF ABOVE GROUND APPURTENANCES, AVAILABLE DESIGN PLANS, AND FLAGS AND PAINT PLACED BY THE UNDERGROUND PROTECTION SERVICE. NO CERTIFICATION IS MADE AS TO THE ACCURACY OF THOROUGHNESS OF THE INFORMATION CONCERNING UNDERGROUND UTILITIES AND STRUCTURES SHOWN HEREON. (TN ONE CALL SYSTEM, INC. 1-800-351-1111 OR 811).

NO PRIVATE UTILITY LOCATE WAS PERFORMED ON THIS SITE AT THE TIME OF THIS SURVEY.

CONTACT PROPER AUTHORITIES BEFORE BUILDING NEAR UTILITY LINES, FOR EASEMENT WIDTH AND RESTRICTIONS. UTILITIES ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO ANY CONSTRUCTION.

THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE PERSON OR ENTITIES NAMED HEREON. NO EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE INFORMATION SHOWN HEREON IS TO BE EXTENDED TO ANY PERSONS OR ENTITIES OTHER THAN THOSE SHOWN HEREON.

THIS PROPERTY IS SUBJECT TO RESTRICTIONS OF RECORD IN RECORD BOOK 348, PAGE 748, SAID REGISTER'S OFFICE.

NO TITLE REPORT WAS PROVIDED TO THE SURVEYOR.

THIS SURVEY DOES NOT ADDRESS OR IMPLY OWNERSHIP OF ANY FENCE SHOWN HEREON, NOR DOES THIS SURVEY ADDRESS ANY ADVERSE CLAIM OF OWNERSHIP OF ANY ADJOINING PROPERTY. THE REMOVAL OF ANY PROPERTY LINE FENCE SHOULD BE COORDINATED WITH ADJACENT OWNER PRIOR TO REMOVAL.

UNLESS STATED OTHERWISE, ANY MONUMENT REFERRED TO HEREIN AS AN "IRON PIN SET OR IPS" IS A SET 1/2" DIAMETER REBAR, 18" IN LENGTH, WITH AN ORANGE PLASTIC CAP STAMPED "HEAD 2731"

THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH CHAPTER 0820-3, STANDARDS OF PRACTICE AS ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS.

THIS IS AN EXHIBIT FOR REZONING PURPOSES; THIS DOES NOT CONSTITUTE A BOUNDARY SURVEY.

I HEREBY CERTIFY THAT THIS SURVEY HAS BEEN MADE USING THE RECORDED INFORMATION SHOWN, AND THAT THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND I HEREBY CERTIFY THAT THIS IS A CATEGORY 4 SURVEY. FOR BOUNDARY ASPECTS OF THIS SURVEY, RTK GPS POSITIONAL DATA WAS OBSERVED ON/BETWEEN THE DATES OF 11/11/25 UTILIZING A CARLSON BRX7 DUAL FREQUENCY BASE AND RECEIVER WITH THE FOLLOWING INFORMATION.

A.) TYPE OF SURVEY: REAL TIME KINEMATIC
B.) POSITIONAL ACCURACY: H=0.05e
C.) DATE OF SURVEY: NOVEMBER 11, 2025.
D.) DATUM/EPOCH: NAD83 (2011) EPOCH 2010.00.
E.) PUBLISHED/FIXED CONTROL USED: OPUS-RS SOLUTION
F.) GEOID MODEL: GEOID 18
G.) COMBINED GRID FACTOR: 0.99998491

N

W E

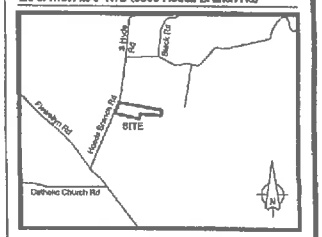
S

BASIS OF BEARINGS: TENNESSEE STATE PLANE COORDINATE SYSTEM (NAD 83)(TN 4100)

0 100 200 300

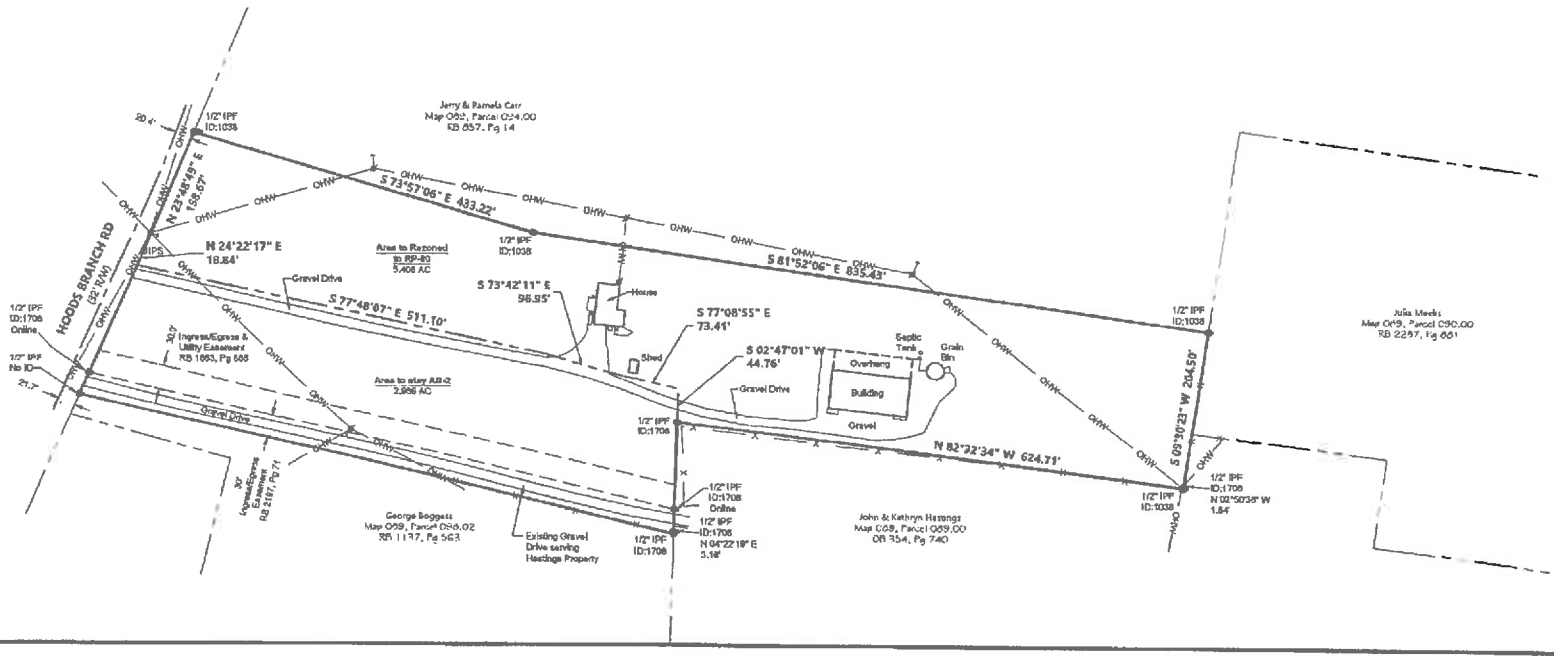
SCALE - 1"=100'

LOCATION MAP NTS (5369 Hoods Branch Rd)



LEGEND:

- IRON PIN SET
- IRON PIN FOUND
- UTILITY POLE
- WATER METER
- ADJACENT PROPERTY LINE
- BOUNDARY LINE
- WOODEN PRIVACY FENCE
- OVERHEAD WIRE
- CENTERLINE OF ROAD



HEAD
SURVEYING
&
ENGINEERING

1202 CROSSLAND AVE.*
CLARKSVILLE, TN 37040
PHONE 615-207-4688 *
CHEAD711@GMAIL.COM

REVISIONS

DRAWN BY:	CTH
APPROVED BY:	CTH
JOB #	010-25
FIELD DATE:	11/11/25
OFFICE DATE:	12/7/25

OWNER INFORMATION

NICHOLAS CHANGAS
PROPERTY RECORDED IN RECORD BOOK 2187, PAGE 71, REGISTER'S OFFICE FOR ROBERTSON COUNTY, TENNESSEE.

MAP 068, PARCEL 095.00

8TH CIVIL DISTRICT
ROBERTSON COUNTY, TENNESSEE

CLINTON T HEAD
REGISTERED LAND SURVEYOR
TENNESSEE NO. 2731
12/7/25
CLINTON T HEAD, PLS 2731

REZONING EXHIBIT

LEGAL DESCRIPTION

LAND LYING IN THE 8TH CIVIL DISTRICT, COUNTY OF ROBERTSON, STATE OF TENNESSEE, BEING A PART OF THE NICHOLAS CHANGAS PROPERTY (PARENT TRACT) OF RECORD IN RECORD BOOK 2197, PAGE 71 IN THE REGISTER'S OFFICE OF ROBERTSON COUNTY, TENNESSEE, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A ½" IRON PIN FOUND (ID: 1038) IN THE EAST RIGHT OF WAY LINE OF HOODS BRANCH ROAD (32' R/W), SAID PIN BEING THE SOUTHWEST CORNER OF THE JERRY & PAMELA CARR PROPERTY (RB 857, PG 14);

THENCE LEAVING SAID EAST RIGHT OF WAY LINE WITH THE SOUTH LINE OF SAID CARR PROPERTY AS FOLLOWS: S 73°57'06" E A DISTANCE OF 433.22 FEET TO A 1/2" IRON PIN FOUND (ID: 1038); THENCE S 81°52'06" E A DISTANCE OF 835.43 FEET TO A 1/2" IRON PIN FOUND (ID: 1038) IN THE WEST LINE OF THE JULIA MEEKS PROPERTY (RB 2287, PG 881), SAID PIN BEING THE SOUTHEAST CORNER OF SAID CARR PROPERTY;

THENCE WITH THE WEST LINE OF SAID MEEKS PROPERTY AND THE NORTH LINE OF THE JOHN & KATHERINE HASTINGS PROPERTY S 09°30'23" W A DISTANCE OF 204.50 FEET TO A 1/2" IRON PIN FOUND (ID: 1038) IN SAID NORTH LINE;

THENCE WITH SAID NORTH LINE OF HASTINGS N 82°32'34" W A DISTANCE OF 624.71 FEET TO A 1/2" IRON PIN FOUND (ID: 1708);

THENCE LEAVING SAID NORTH LINE ACROSS SAID PARENT TRACT AS FOLLOWS: N 02°47'01" E A DISTANCE OF 44.76 FEET TO A POINT; THENCE N 77°08'55" W A DISTANCE OF 73.41 FEET TO A POINT; THENCE N 73°42'11" W A DISTANCE OF 96.95 FEET TO A POINT; THENCE N 77°48'07" W A DISTANCE OF 511.10 FEET TO A POINT IN SAID EAST RIGHT OF WAY LINE OF HOODS BRANCH ROAD;

THENCE WITH SAID EAST RIGHT OF WAY LINE AS FOLLOWS: N 24°22'17" E A DISTANCE OF 18.84 FEET TO A POINT; THENCE N 23°48'49" E A DISTANCE OF 158.67 FEET TO THE POINT OF BEGINNING,

CONTAINING AN AREA OF 235,586 SQUARE FEET OR 5.408 ACRES, ACCORDING TO A SURVEY BY CLINTON T. HEAD, RLS #2731, DATED 1/26/26.

THIS DESCRIPTION AND PROPERTY IS SUBJECT TO VALID AND ENFORCEABLE EASEMENTS, RESTRICTIONS, AND COVENANTS OF RECORD OR IN EXISTENCE.

CITY OF SPRINGFIELD
Water/Wastewater Department

924 Central Avenue • Springfield, Tennessee 37172 • (615) 382-1600 • FAX (615) 384-6951
www.springfieldtn.gov

November 13, 2025

TO WHO IT MAY CONCERN:

There has been a water availability letter requested by Mr. Nicholas Changas for a property located at 5369 Hoods Branch in Robertson County. The property is located by Tax Map 89 Parcel 95. This letter will serve as notice that there is an existing 6" water main adjacent to this property. The property is currently provided water services by the City of Springfield's Water and Wastewater Department. This availability is good for the period of one year. If nothing has been done by November 13, 2026 the property will need to be reevaluated.

If you need further information or have questions, please contact me at 615-382-1600.

Thank you,

David L. Brewer

David L. Brewer, P.E.
City Engineer
Springfield Water and Wastewater Department

Robertson County Planning and Zoning
Agenda Review Sheet
Amanda Harrington, AICP, Planning Advisor
Planning Commission Meeting
April 23, 2026

Applicant: Nick Changas
Surveyor: Clint Head

Request: Rezone **5.4 surveyed *acres***
Of the 8.38 acres
Tax Map 089, Part of Parcel 095.00
from AG-2 to RP-80



Figure 1: TN Property Viewer: Tax Map 089, Part of Parcel 095.00 In its entirety is highlighted

Property Information:

- Tax Map 089, Part of Parcel 095.00
- 5369 Hoods Branch Rd., Springfield
- Total lot acreage: 8.38 acres (365,032.80 sq. ft.)
- **Rezone Request: 5.4 surveyed acres. (235,224 sq. ft.)**

Project Narrative:
RP-80 Minimum Requirements
Minimum Lot Size: 80,000 sq. ft.
Front: 60'
Side: 25'
Rear: 35'
Min. Lot Width @ Front Bldg. Setback Line: 150'
Min Road Frontage: 50'
Maximum Height: 35'
Max Bldg. Coverage: 30%.

Discussion & Observations. The applicant wishes to rezone 5.4 surveyed acres of the 8.38 acres to divide the property. They want to cut off a 3-acre AG-2 lot, and it would make the lot width of the remaining 5.4 acres (where the current house sits) too narrow to remain AG-2. The subject property is surrounded by the AG-2 zone. Some of those lots are non-conforming and would be zoned RP-80 by today's standards. Please *see Exhibit 1 for excerpts from the Robertson County zoning map and Growth Plan.* The applicant's request to rezone RP-80 appears to be dimensionally appropriate.

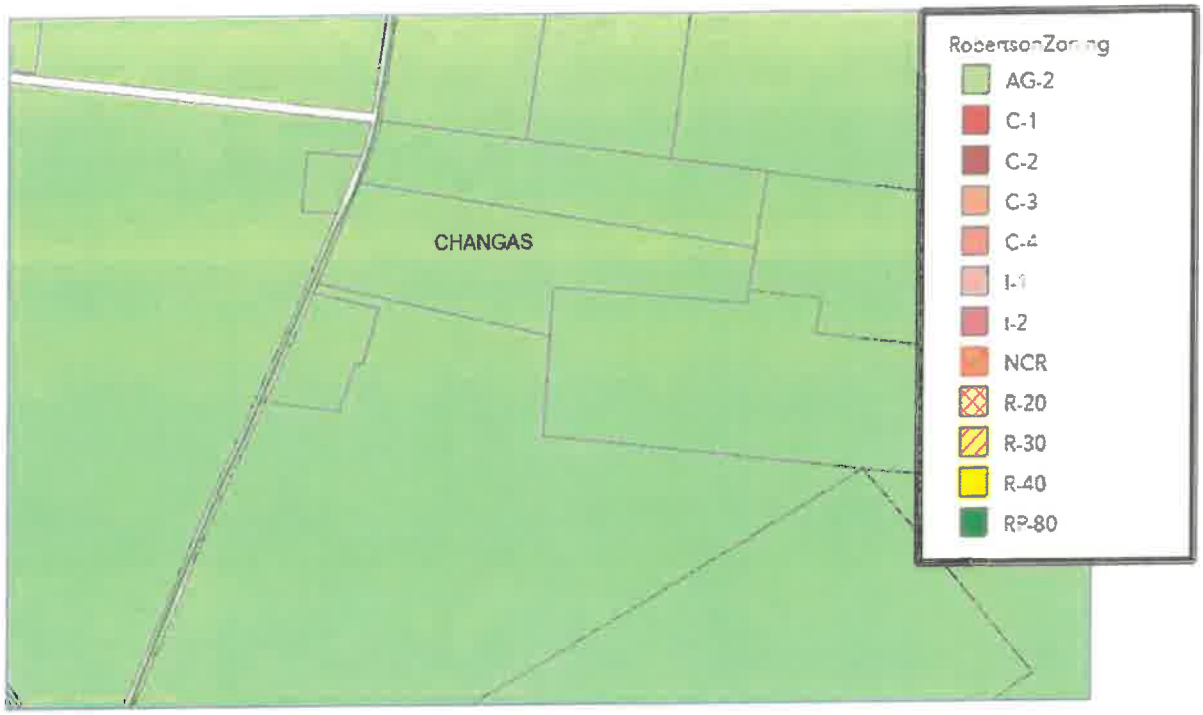
Growth Plan: This area is intended to stay Rural in nature; The majority of the County shall remain designated as Rural during the planning horizon of this land use plan. Uses in Rural Areas include agrarian and rural type uses ranging from open space to agriculture, homesteads associated with agricultural uses, and agriculture service businesses are encouraged within this category.

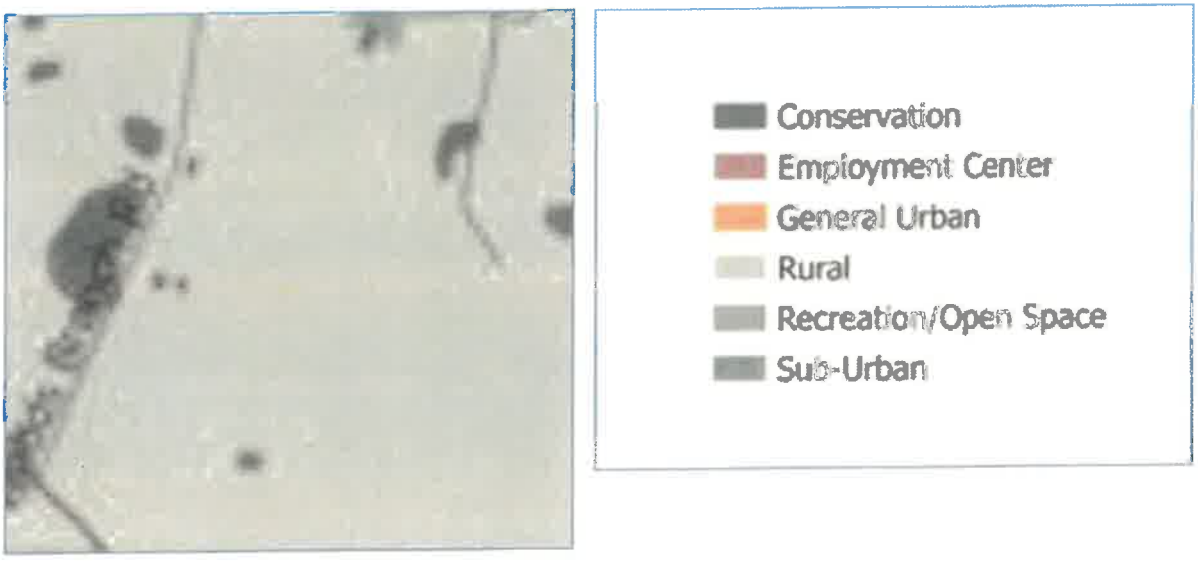
Recommendation: Approval for recommendation to the County legislative body.

**** END COMMENTS ****

Exhibit 1

Austin Peay University Zoning Map





New Business: B

Robertson County Planning and Zoning
Staff Comments
Amanda Harrington, AICP, Planning Advisor
April 23, 2026

Applicants: Scot Head

Request: Final Site Plan Approval for a new self-supporting cell tower

Property Information:

- Tax Map 114, Parcel 071.01
- Logan Rd., Greenbrier, TN 37073
- 17.44 acres
- Zoned AG-2
- 3rd Voting District

The applicant is seeking Site Plan approval to construct a new self-supporting cell tower. The plans were reviewed by the planner and the engineer. The proposed site plan features a 195' self-supported communications tower, which requires 97.5' setbacks per the Zoning Resolution (these are denoted on the enlarged site plan).

Article 4, Section 4-9 of the Robertson County Zoning Resolution contains the "Minimum Design Standards for Transmission and Communication Towers and Stations." The following comments were yielded after review of the plans under that section:

1. All towers with a height of one hundred fifty (150) feet (from base to top) or more shall be constructed in accordance with Electronic Industries Association ("EIA") Standard 222E-1991, utilizing a wind rating of eighty (80) miles per hour plus ice loading for Robertson County, Tennessee. Each application for a building permit shall be accompanied by a certification by a professional engineer licensed in the State of Tennessee and competent in such design.
    - *The proposed tower is 195' in height. Please indicate on the plan information regarding the wind rating and ice loading capacity per Robertson County regulations.*

Recommendation: Staff recommends conditional approval of the site plan, contingent upon the applicant providing the missing information noted in the staff comments above.

**** END COMMENTS ****

EARL R. MAYO **CONSULTING ENGINEER AND SURVEYOR**
119 SUESAND COURT PLEASANT VIEW, TN 37146 (615)522-4704

April 14, 2026

Traye Fann
County Engineer
Robertson County Planning and Zoning
527 South Brown Street
Springfield, Tennessee 37172

RE: Review of Revised Hall Lane BDN Cell Tower Site Plan

Dear Traye:

I have reviewed the referenced revised site plan that I received on April 14, 2026 for the April 23, 2026 Planning Commission meeting. Following is a list of my comments.

Sheet No. C-1.0.1- Overall Site Plan

1. Show the size of the proposed culvert under the gravel access drive at Logan Road.
2. Show the existing and proposed contours.

Sheet No. C-1.0.2- Enlarged Site Plan

3. Show the existing and proposed contours. There is an existing drain that the proposed access drive will cross just east of the tower site.

Only a very cursory review has been performed of these documents in order to get an overall sense of general compliance with the surveying and engineering requirements contained in the Robertson County Subdivision Regulations. No planning related review was performed. This review is not intended as a check of accuracy of the documents or compliance with other state or federal laws and regulations, including Erosion Protection and Sediment Control or water quality design that was not reviewed by me but is to be reviewed by TDEC. No liability for the correctness or completeness of design or surveying performed by others is assumed by me or Robertson County by my review of these documents.

Please contact me if you have any questions or comments. Thank you for the opportunity to serve you.

Sincerely,

Rick Mayo, PE, RLS

ROBERTSON COUNTY DEVELOPMENT OFFICE
ROBERTSON COUNTY OFFICE BUILDING
527 SOUTH BROWN STREET, SPRINGFIELD, TENNESSEE 37172
615- 384-3666

Application for Site Plan Approval

Type of Site Plan (Please Circle One): *Sketch Site Plan* *Preliminary Site Plan* *Final Site Plan*

Property Information:

1. Current Zoning of Property: AG-2
2. Physical Address of Property: Logan Rd, Greenbrier, TN 37073 (36.451530° -86.809279°)
3. Tax Map & Parcel Number: 074114 07101
4. Size of Property (square feet or acres): ±17.4 ac

5. Owner of Record Information
   Name: Scot Alan Head etux
   Mailing Address (No P.O. Boxes, please): 1004 Island Brook Dr, Hendersonville, TN 37075
   Email: _
   Telephone Number: _

6. Owner's Representative Information (Surveyor, Self, Engineer, etc.)
   Name: Jeb Dominick
   Name of Firm: GeoNet Services
   Mailing Address (No P.O. Boxes, please): 208 Sawbridge Dr, Ridgeland, MS 39157
   Email: _
   Telephone Number: _

7. Purpose of Site Plan:
   New Self Support Cell Tower

SUBMITTAL REVIEW PROCEDURE:

1. Submit 1 hard copy (no smaller than 17" x 22") of the site plan, this completed application, and fee payment to the Robertson County Development Office. **Please ensure the application is signed.** ***Attach proof of ownership of property (copy of deed is typical). Pay the review fee.***
2. Email a .PDF of the submitted site plan to hmantooth@robcotn.org (Hunter Mantooth).
3. Application and site plan will be reviewed, and corrective comments provided, by date listed on calendar (see attached).
4. Submit corrections by date listed on Planning Commission Submittal & Meeting Calendar
5. FINAL SUBMITTAL: Deliver one (1) folded hard copies of the corrected plat, no smaller than 17" x 22", and any supporting documentation to the Development Office before or by the final due date.
6. Email a .PDF of the corrected site plan to hmantooth@robcotn.org
7. Attend the Planning Commission meeting. Be ready to present and answer questions. **Failure to appear at the Planning Commission meeting may result in the denial of the application.**

Scot Alan Head 3/26/26
Owner's Signature & DATE

Jeb Dominick 3/26/26
Owner's Representative Signature & DATE

AT&T FA NUMBER
16765702

AT&T SITE NAME
HALL LANE BDN

TILLMAN SITE NUMBER
TI-OPP-39487

TILLMAN SITE NAME
SCOT HEAD GREENBRIER TN

TOWER TYPE
PROPOSED 195' SELF SUPPORT

SITE ADDRESS
NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073

AS OF 3/19/26, NO TOWER DRAWINGS OR SA ARE CURRENTLY AVAILABLE TO INCORPORATE INTO CD'S. ONCE RECEIVED, CD'S WILL BE UPDATED TO REFLECT TOWER DESIGN.

SUBJECT PROPERTY IS LOCATED IN PANEL #47147C0383C, DATED 04/16/206
AND IS IN THE BASE FLOOD ZONE "X"
AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. 2015 INTERNATIONAL BUILDING CODE (IBC)
2. 2014 NATIONAL ELECTRIC CODE (NEC)
3. 2015 INTERNATIONAL ENERGY CONSERVATION CODE
4. 2015 INTERNATIONAL PLUMBING CODE
5. 2015 INTERNATIONAL MECHANICAL CODE
6. 2015 INTERNATIONAL FUEL GAS CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

VICINITY MAP



SHEET INDEX

SHEET NO:	DESCRIPTION:
T-1	TITLE SHEET & PROJECT INFORMATION
–	SURVEY
C-1	OVERALL SITE PLAN
C-1.0.1	OVERALL SITE PLAN
C-1.1	ENLARGED SITE PLAN
C-1.2	EQUIPMENT PLAN
C-2	TOWER ELEVATION
C-3	SITE SIGNAGE
C-3.0.1	EQUIPMENT & GENERATOR SIGNAGE
C-3.1	FENCE DETAILS
C-3.1.1	FENCE DETAILS

PROJECT SUMMARY

SITE ADDRESS:

NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073
COUNTY: ROBERTSON
PARCEL OWNER: HEAD SCOT ALAN & JAYNE
PARCEL ID: 074114 071.00

GEOGRAPHIC COORDINATES:

LATITUDE: 36° 27' 05.25" N / 36.451458°
LONGITUDE: 86° 48' 41.97" W / -86.811657°
GROUND ELEVATION: 768'

ZONING INFORMATION:

JURISDICTION: ROBERTSON COUNTY
ZONING CLASS: AG-2

UTILITY COMPANIES

POWER COMPANY: SPRINGFIELD ELECTRIC
PHONE: 1-615-384-6770

TELEPHONE COMPANY: AT&T
PHONE: 1-865-754-1078

PROJECT DESCRIPTION

THE PROPOSED PROJECT CONSISTS OF:

- NEW FENCED COMPOUND WITHIN A 100'X100' LEASE AREA
- NEW AT&T WLC & GENERATOR ON A CONCRETE PAD
- NEW 195' SELF SUPPORT
- NEW AT&T ANTENNAS & ASSOCIATED EQUIPMENT ON NEW 195' SELF SUPPORT

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.
6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

PROJECT LOCATION DIRECTIONS

DIRECTIONS FROM 1025 LENOX PARK BLVD NE ATLANTA, GA: TAKE GA-400 NORTH. GO 2.9 MILES AND USE THE RIGHT LANE TO TAKE EXIT 4A FOR I-285 E TOWARDS GREENVILLE/AUGUSTA. GO 1.8 MILES AND TAKE THE I-285 W TOWARDS BIRMINGHAM/CHATTANOOGA. GO 4.8 MILES AN DUSE THE 3RD FROM LEFT LANE TO STAY ON I-285 W AND FOLLOW SINGS FOR I-75/BIRMINGHAM/MONTGOMERY. USE THE RIGHT LANE TO I-75 EXPRESS. GO 18.5 MILES AND KEEP RIGHT TO STAY ON I-75 EXPRESS. GO 0.7 MILES AND MERGE ONTO I-75 N. GO 81.7 MILES AND TAKE EXIT 2 FOR I-24 W TOWARDS CHARLOTTE. GO 118 MILES AN KEEP LEFT TO STAY O I-40 W/NASHVILLE. GO 2.2 MILES AND CONTINUE TO I-65 N. GO 10.4 MILE SAND TAKE EXIT 98 FOR US-31 S TOWARDS SPRINGFIELD. GO 8.9 MILES AND TURN RIGHT ONTO LIGHT 6 CHAPEL ROAD. TURN RIGHT ONTO LOGAN ROAD, AND SITE WILL BE ON THE LEFT.

PROJECT TEAM

ENGINEER:
SMW ENGINEERING
156 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
CONTACT: JEREMY SHARIT, PE
PHONE: 205-397-8781

APPLICANT:
NEW CINGULAR WIRELESS PCS LLC.
1025 LENOX PARK BLVD NE, 3RD FLOOR
ATLANTA, GA 30319

TOWER OWNER:
TILLMAN INFRASTRUCTURE
152 W. 57TH STREET
NEW YORK, NY 10019
CONTACT: CUSTOMER SERVICE
PHONE: 212-706-1677

811 Know what's below. Call before you dig.

at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
156 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-8855 www.smweng.com

SMW JOB #24-1567

AT&T FA
16765702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-39487
SITE ADDRESS
NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073

ISSUED FOR:

REV	DESCRIPTION	BY	DATE
A	CLIENT REVIEW	DAJ	03/05/26
0	ZONING	RA	03/18/26

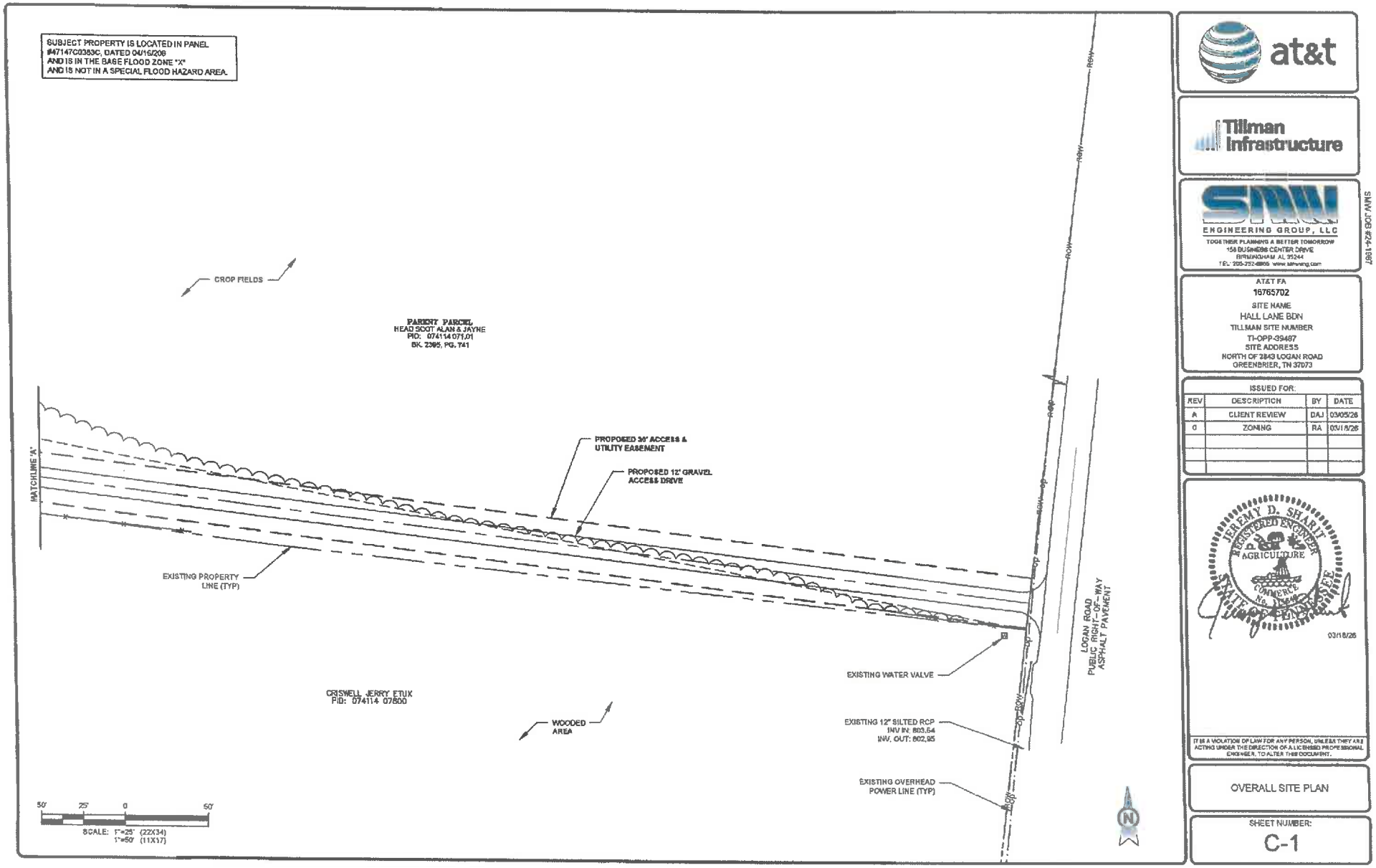
JEREMY D. SHARIT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

03/18/26

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TITLE SHEET & PROJECT INFORMATION

SHEET NUMBER:
T-1



at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-8856 www.smweng.com

SMW JOB #24-1887

AT&T FA
16765702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-39467
SITE ADDRESS
NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073

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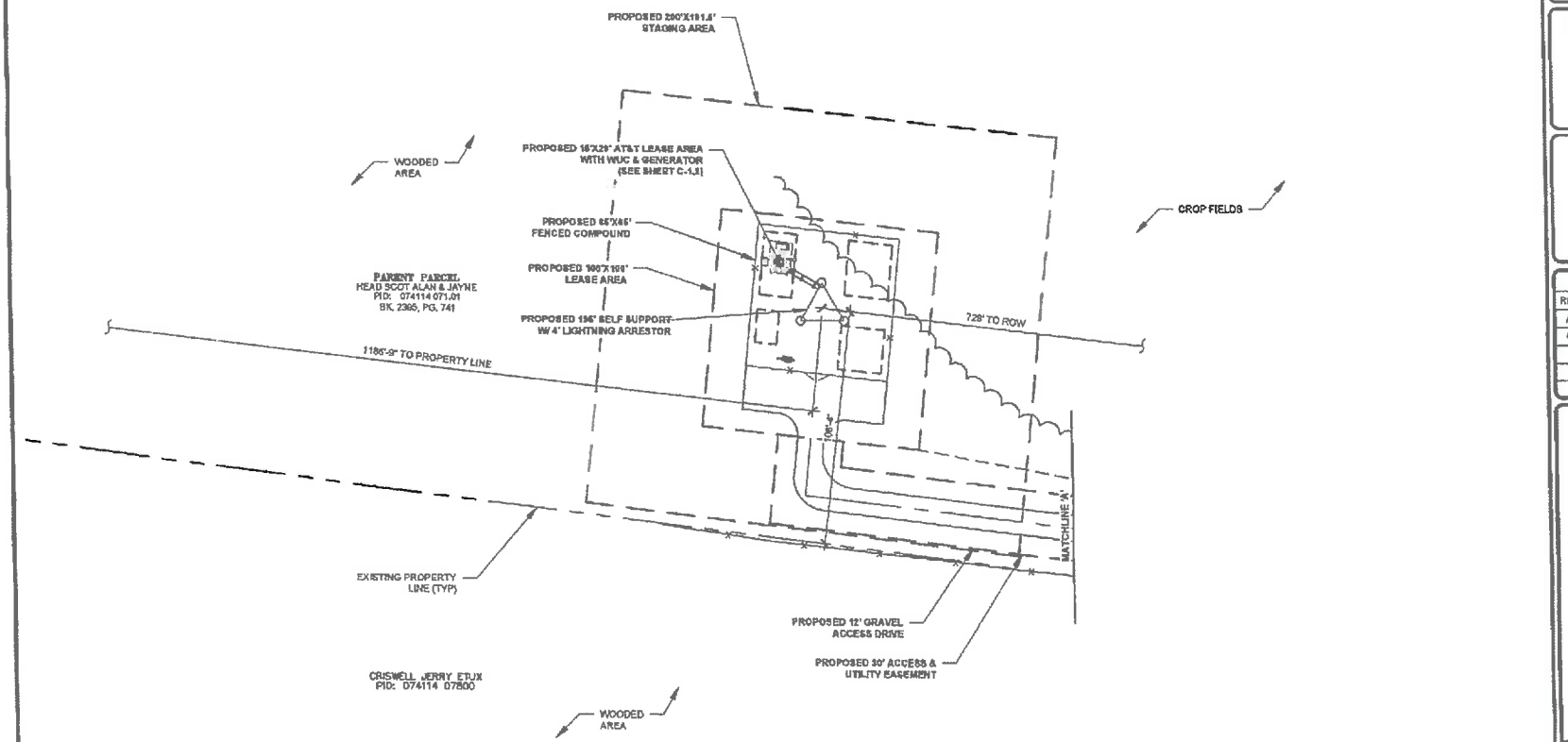
JEREMY D. SHARIT
REGISTERED ENGINEER
STATE OF TENNESSEE
03/18/26

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OVERALL SITE PLAN

SHEET NUMBER:
C-1

SUBJECT PROPERTY IS LOCATED IN PANEL
#47147C0383C, DATED 04/16/208
AND IS IN THE BASE FLOOD ZONE "X"
AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.



at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-733-8995 www.smweng.com

SMW JOB #24-1987

AT&T FA
16795702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-39487
SITE ADDRESS
NORTH OF 2643 LOGAN ROAD
GREENBRIER, TN 37073

ISSUED FOR:

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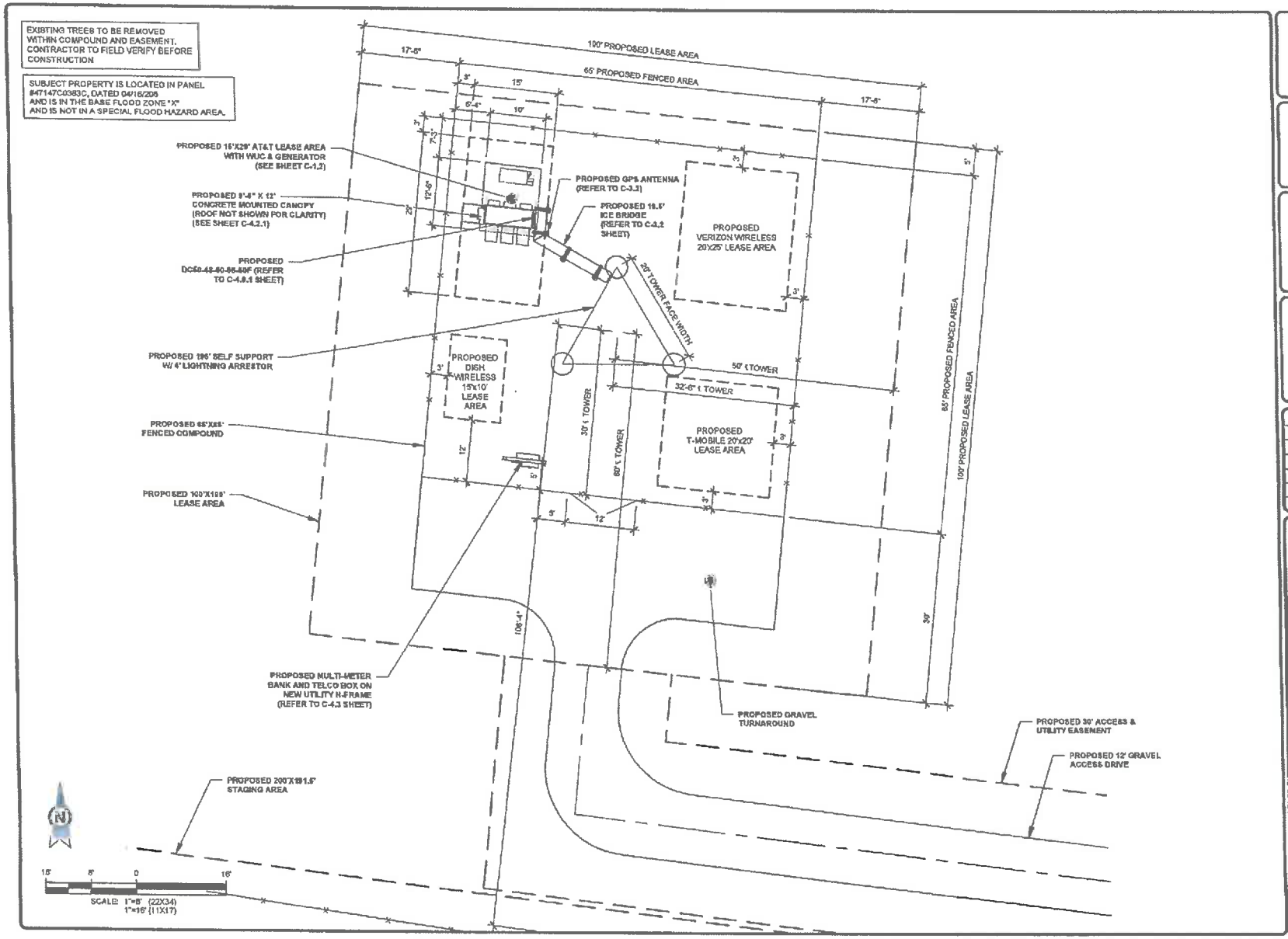
JEREMY D. SHARP
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 125611
STATE OF TENNESSEE

03/18/26

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ENLARGED SITE PLAN

SHEET NUMBER:
C-1.0.1



at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-733-8863 www.smweng.com

SMW JOB #24-1987

AT&T FA
16765702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-38487
SITE ADDRESS
NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073

ISSUED FOR:

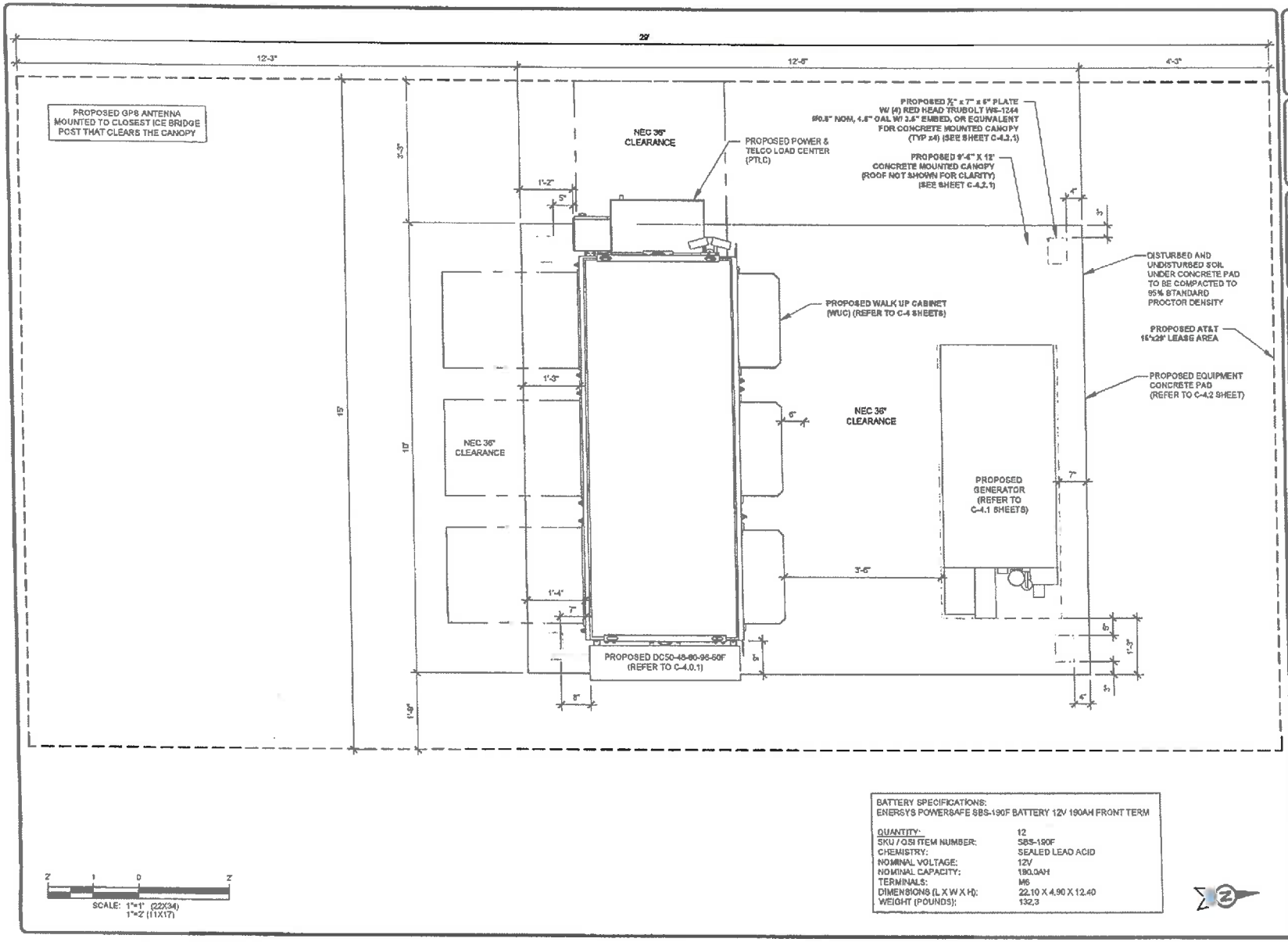
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JEREMY D. SHARIT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
03/18/26

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ENLARGED SITE PLAN

SHEET NUMBER:
C-1.1



BATTERY SPECIFICATIONS:
ENERSYS POWERSAFE SBS-190F BATTERY 12V 190AH FRONT TERM

QUANTITY:	12
SKU / OSI ITEM NUMBER:	SBS-190F
CHEMISTRY:	SEALED LEAD ACID
NOMINAL VOLTAGE:	12V
NOMINAL CAPACITY:	190.0AH
TERMINALS:	M6
DIMENSIONS (L X W X H):	22.10 X 4.90 X 12.40
WEIGHT (POUNDS):	132.3

at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
735 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL 205-252-8885 www.smweng.com

SMW JOB #24-1987

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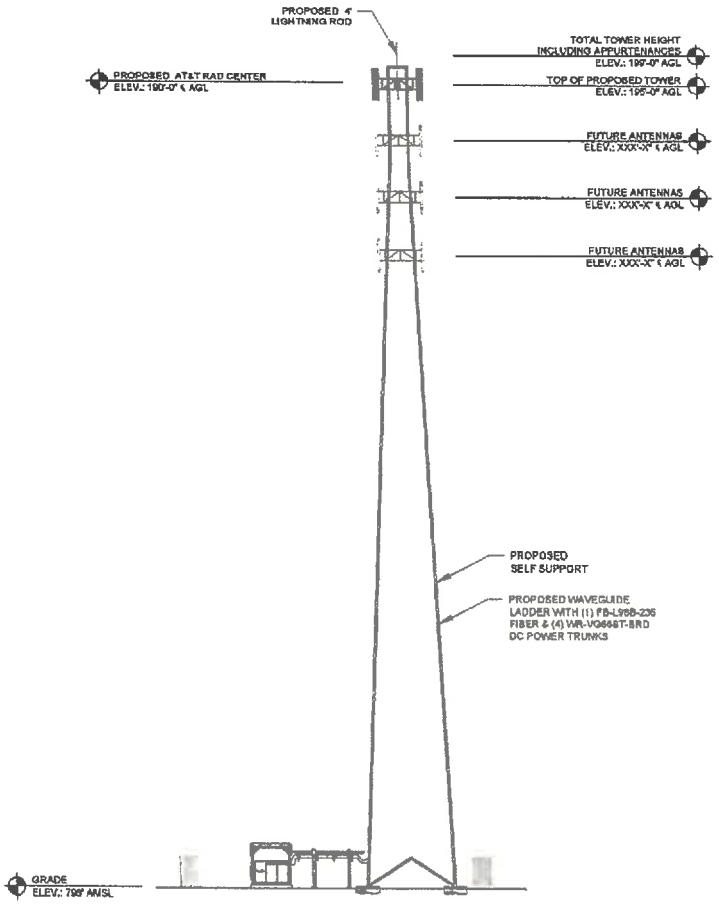
JEREMY D. SHARP
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/18/26

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EQUIPMENT PLAN

SHEET NUMBER:
C-1.2

AS OF 3/19/26, NO TOWER DRAWINGS OR SA ARE CURRENTLY AVAILABLE TO INCORPORATE INTO CD'S. ONCE RECEIVED, CD'S WILL BE UPDATED TO REFLECT TOWER DESIGN.



100' 50' 0 100'

SCALE: 1"=50' (22X34)
1"=100' (11X17)

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Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
150 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL 205-252-6965 www.smweng.com

SMW JOB #24-1987

AT&T FA
16765702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
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JEREMY D. SHARIT
REGISTERED ENGINEER
AGRICULTURE
CONNECTICUT
No. 31,000
STATE OF TENNESSEE

03/18/26

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TOWER ELEVATION

SHEET NUMBER:
C-2

AT&T C&E Mobility Program Office ATT-002-290-269 Supplement

Section 1: Standard Cell Site Signage

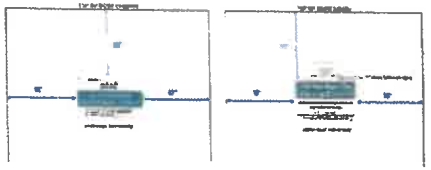
- AT&T owned sites require the following signs:
  1. Gate sign
     - 18" x 20" aluminum gate sign



  2. Door sign (shelter or tenant improvement room)
     - 8" x 12" door sign



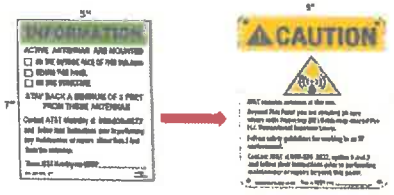
Recommended layouts for main shelter door



NEW INFO-2 SIGN POLICY

Effective immediately, Information 2 sign shall be used from AT&T sign inventory and 5"x7" Caution Sign 2C sign will be used as need.

Mandatory ATT-owned locations shall remove existing "Information Sign 2" sign(s) that currently exist at the site(s) as per work request and replace them with the following "Caution Sign 2C" sign which has 5"x7" dimension



INFORMATION Sign 2 Caution Sign 2C

SITE SIGNAGE PLACEMENT:
ALL SIGNS SHALL BE SECURED TO THE COMPOUND FENCE LEFT OR RIGHT OR THE MAIN ACCESS GATE AND ON THE SITE OF THE SITE FACING THE ENTRANCE DRIVE. ALL SIGNS SHALL BE SECURED TO THE FENCE AT A HEIGHT SUITABLE FOR EASE OF VIEWING AND REASONABLY LEVEL. ALL SIGNS SHALL BE SECURED TO THE FENCE WITH STEEL HOG RINGS OR METAL TIES, NYLON OR PLASTIC ZIP TIES ARE NOT ALLOWED. SITE IDENTIFICATION SIGNAGE SHALL BE PLACED AT THE ROAD GATE IF NEEDED.

AT&T C&E Mobility Program Office ATT-002-290-269 Supplement

  3. FCC Custodial License sign (use is change in address for FCC Group effective 9/2017)
     - 3" x 8.5"



  4. No Trespassing signs



- AT&T leased sites (not owned by AT&T) only require a door and FCC Custodial License sign

Combination sign packages for shelters and WIC (Walk-In-Cabinet):
- Available from Excel Signs, item # ATT-SIWC-DC-3X7. Includes door, log book and FCC Custodial Letter signs



NEW INFO-2 SIGN POLICY (Existing Historical Signs)

If Information sign 2 sign/s are not able to be removed (i.e. existing mechanical damage etc. to structure), the verbiage will be covered as example on bottom right as well as adding "Base Antennas" with a marker



INFORMATION Sign 2 Covered INFORMATION Sign 2

AT&T C&E Mobility Program Office ATT-002-290-269 Supplement

Section 4: FCC Signs

- Antenna Structure Registration (ASR) sign
  1. 8" x 12" sign



- FCC custodial letter
  1. 3" x 8.5" decal sign (available through Excel Sign, part #ATT DC CUS 653)



OR

  2. 8.5" x 11" standard paper

THE CUSTODIAN OF THIS STATION'S LICENSE IS:
AT&T
ATTENTION TO: FCC GROUP
208 S. AKARD STREET, RM 1010
DALLAS, TEXAS 75202
855-969-7073
FCCMW@att.com

AT&T C&E Mobility Program Office ATT-002-290-269 Supplement

Section 5: Miscellaneous signs

The following signs are optional and may be posted as needed

- Log Book sign
  1. Posting on inside of shelter door recommended



- Padlock decal
  1. Can be affixed to padlocks to indicate an AT&T lock
  2. Can also be used to label items such as electrical disconnect boxes, electrical meters, etc
  3. 1" x 4" decal if ordered from Excel Sign



- Gate signs

- Door knob sign
  1. May be posted on the inside of shelter doors or areas currently not equipped with an Exit sign (or emergency lighted/wall sign combination) above the door
  2. Sign has glow in the dark letters and borders to aid visibility
  3. Excel part # EXT-126-DL



at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-8985 www.smwengr.com

SMWG JOB #24-1587

AT&T FA
16765702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-38487
SITE ADDRESS
NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073

ISSUED FOR:

REV	DESCRIPTION	BY	DATE
A	CLIENT REVIEW	DAJ	03/05/26
0	ZONING	RA	03/18/26

JEREMY D. SHARIT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 125618
STATE OF TENNESSEE

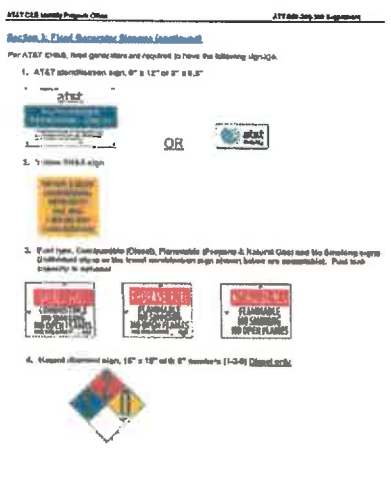
03/18/26

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SITE SIGNAGE

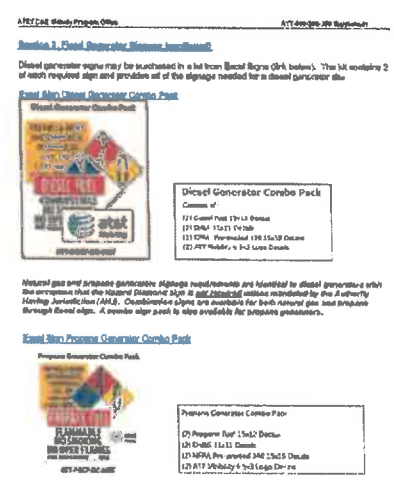
SHEET NUMBER:
C-3











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Tillman Infrastructure

SMW ENGINEERING GROUP, LLC

TOGETHER PLANNING A BETTER TOMORROW

135 BLUEWAVE CENTER DRIVE
BIRMINGHAM, AL 35244
TEL. 205-252-8885, www.smweng.com

SMW JOB #24-1987

AT&T FA
16765702

SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-39487
SITE ADDRESS
NORTH OF 2843 LOGAN ROAD
GREENBRIER, TN 37073

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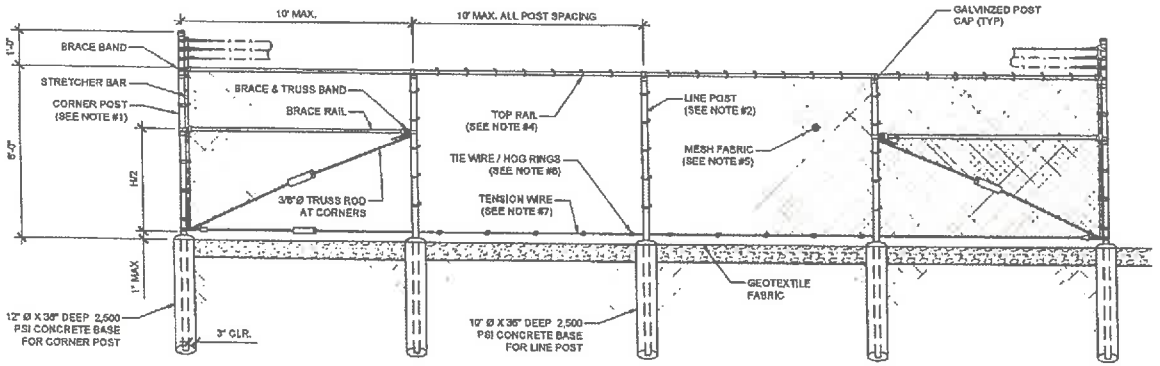
JEREMY D. SHARIT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
No. 121[illegible]

03/18/26

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EQUIPMENT & GENERATOR SIGNAGE

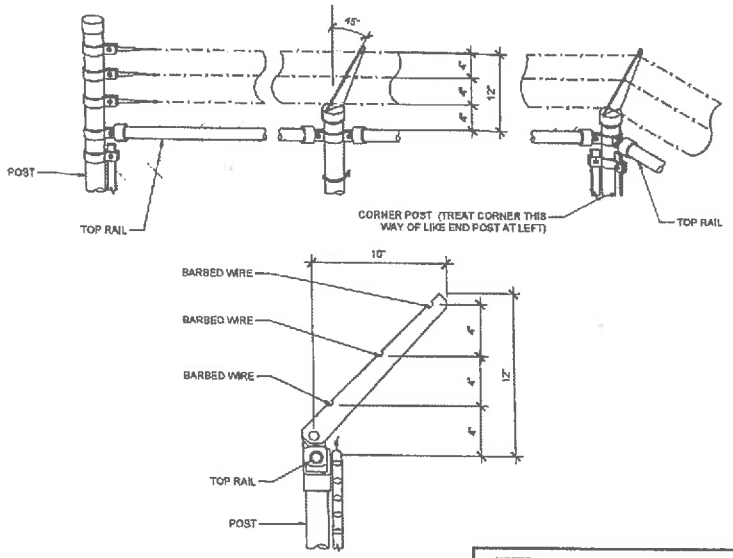
SHEET NUMBER:
C-3.0.1



1 FENCE DETAILS & NOTES
SCALE: N.T.S.

FENCE NOTES:

1. CORNER, END OR PULL POSTS SHALL BE 3" Ø SCHEDULE 40 PIPE.
2. LINE POSTS SHALL BE 2" Ø SCHEDULE 40 PER ASTM-F1083 EQUALLY SPACED AT MAXIMUM 10'-0" O.C.
3. GATE POSTS SHALL BE 4" Ø NOMINAL SCH 40, ALL GATE PIPES TO BE 1 ½" Ø GALV. (HOT DIP, ASTM A120 GRADE "A" STEEL) ALL GATE FRAMES SHALL BE WELDED, ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV. (OR EQUAL)
4. TOP RAIL & BRACE RAILS SHALL BE 1½" Ø SCHEDULE 40 PIPE PER ASTM-F1083.
5. 2" MESH FABRIC SHALL BE 9 GA GALVANIZED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POST, BARS CONFORMING TO ASTM-A392, & AASHTO M 181.
6. TIE WIRES SHALL BE MINIMUM 11 GA GALVANIZED STEEL. INSTALL A SINGLE WRAP TIE WIRE AT POSTS AND RAILS AT MAX. 12" INTERVALS VERT & 24" HORIZ. INSTALL HOG RINGS ON TENSION WIRE AT 24" INTERVALS.
7. TENSION WIRE SHALL BE 9 GA. GALVANIZED STEEL.
8. BARBED WIRE SHALL BE DOUBLE STRAND 12 1/2" OD TWISTED WIRE TO MATCH WITH FABRIC 14GA, 4 PT BARBS SPACED ON APPROX. 4" CENTERS CONFORMING TO AASHTO N 280.
9. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED
10. INSTALL FENCING PER CURRENT BUILDING CODE
11. INSTALL FENCING PER ASTM F-567
12. INSTALL SWING GATES PER ASTM-900
13. ALL OPEN POSTS SHALL HAVE END-CAPS
14. FINISH GRADE SHALL BE UNIFORM AND LEVEL
15. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC USING GALVANIZED HOG RING WIRE
16. USE COMMERCIAL GRADE MATERIALS ONLY



2 BARBED WIRE TOP DETAIL
SCALE: N.T.S.

NOTES:
1. SLOPE TOP OUT OF COMPOUND AT 45°.
2. BARBED WIRE OVER GATES SHALL NOT BE SLOPED.

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Tillman Infrastructure

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TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-8800 www.smweng.com

SMW JOB #24-198

AT&T FA
16765702
SITE NAME
HALL LANE BDN
TILLMAN SITE NUMBER
TI-OPP-38487
SITE ADDRESS
NORTH OF 2343 LOGAN ROAD
GREENBRIER, TN 37073

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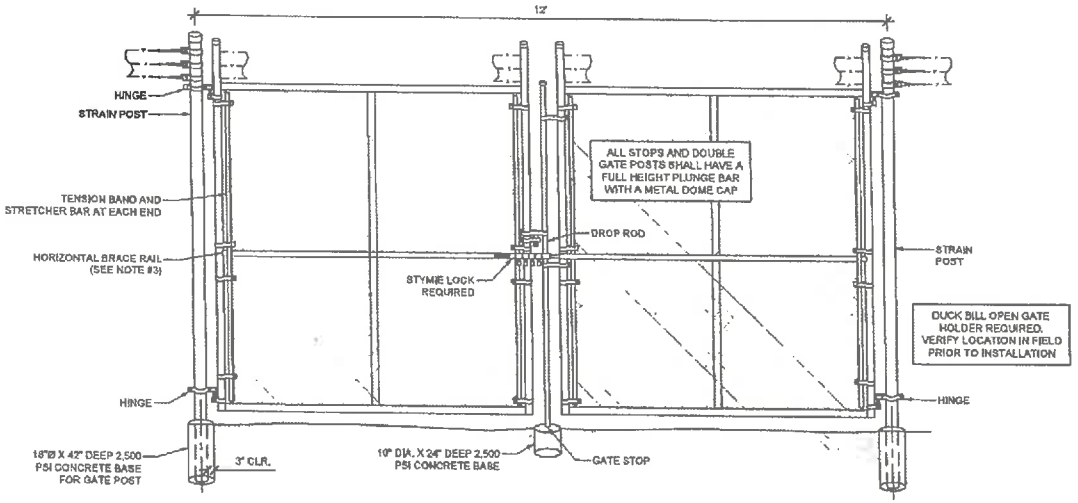
JEREMY D. SHARIT
REGISTERED ENGINEER
STATE OF TENNESSEE
AGRICULTURE
COMMERCE
No. 140636

03/18/26

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FENCE DETAILS

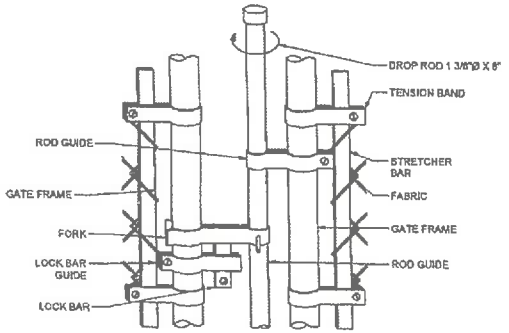
SHEET NUMBER:
C-3.1



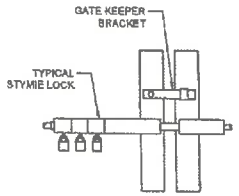
1 DOUBLE GATE DETAIL
SCALE: N.T.S.

FENCE NOTES:

1. CORNER, END OR PULL POSTS SHALL BE 3" Ø SCHEDULE 40 PIPE.
2. LINE POSTS SHALL BE 2" Ø SCHEDULE 40 PER ASTM-F1083 EQUALLY SPACED AT MAXIMUM 10'-0" O.C.
3. GATE POSTS SHALL BE 4" Ø NOMINAL SCH 40. ALL GATE PIPES TO BE 1.9" Ø GALV. (HOT DIP, ASTM A120 GRADE "A" STEEL) ALL GATE FRAMES SHALL BE WELDED, ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV. (OR EQUAL)
4. TOP RAIL & BRACE RAILS SHALL BE 1½" Ø SCHEDULE 40 PIPE PER ASTM-F1083.
5. 2" MESH FABRIC SHALL BE 9 GA GALVANIZED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POST, BARS CONFORMING TO ASTM-A392, & AASHTO M 181.
6. TIE WIRES SHALL BE MINIMUM 11 GA GALVANIZED STEEL. INSTALL A SINGLE WRAP TIE WIRE AT POSTS AND RAILS AT MAX. 12" INTERVALS VERT & 24" HORIZ. INSTALL HOG RINGS ON TENSION WIRE AT 24" INTERVALS.
7. TENSION WIRE SHALL BE 9 GA. GALVANIZED STEEL.
8. BARBED WIRE SHALL BE DOUBLE STRAND 12 1/2" OD TWISTED WIRE TO MATCH WITH FABRIC 14GA, 4 PT BARBS SPACED ON APPROX. 4" CENTERS CONFORMING TO AASHTO M 280.
9. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED
10. INSTALL FENCING PER CURRENT BUILDING CODE
11. INSTALL FENCING PER ASTM F-567
12. INSTALL SWING GATES PER ASTM-900
13. ALL OPEN POSTS SHALL HAVE END-CAPS
14. FINISH GRADE SHALL BE UNIFORM AND LEVEL
15. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC USING GALVANIZED HOG RING WIRE
16. USE COMMERCIAL GRADE MATERIALS ONLY



2 TYPICAL DROP ROD ASSEMBLY
SCALE: N.T.S.



3 STYMIE LOCK DETAIL
SCALE: N.T.S.

STANDARD COMBINATION LOCK SPEC
ALL LOCK SHOULD BE MARINE GRADE BRASS LOCK WITH STAINLESS STEEL SHACKLE. SOLID BRASS BODY PROVIDES STRENGTH AND CORROSION RESISTANCE.

STAINLESS STEEL SHACKLES
HACKSAWS, BOLT CUTTERS, AND CORROSIVE WEATHER CONDITIONS
ALL LOCKS SHOULD BE A PROGRAMMABLE COMBINATION LOCK THAT IS STRONG, DURABLE, AND HIGHLY WEATHER RESISTANT

THE FOLLOWING LOCK IS APPROVED BY PTD TO BE USED ON SITES (BUT IS NOT LIMITED TO THE ONLY MANF. OF THIS TYPE OF LOCK)

PART NUMBERS
ABUS 1900KB 50-63 WITH 2-1/4" MARINE GRADE WITH 4 DIALS.
ABUS 180 COMBINATION 1" MARINE GRADE WITH 4 DIALS.

at&t

Tillman Infrastructure

SMW ENGINEERING GROUP, LLC
TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM AL 35244
TEL: 205-252-4885 www.smweng.com

SMW JOB #24-1967

AT&T FA
16765702
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TILLMAN SITE NUMBER
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JEREMY D. SHARP
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

03/18/26

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FENCE DETAILS

SHEET NUMBER:
C-3.1.1

Reports From Staff

RESOLUTION NO. _____

A RESOLUTION AMENDING THE ROBERTSON COUNTY SUBDIVISION REGULATIONS TO REGULATE THE CREATION OF FLAG LOTS IN ROBERTSON COUNTY.

WHEREAS, the Robertson County Regional Planning Commission is vested with the authority to regulate the subdivision of land pursuant to Tennessee Code Annotated §13-3-401 et seq.; and

WHEREAS, the existing subdivision regulations and zoning resolution allow the creation of flag lots under certain conditions; and

WHEREAS, flag lots—characterized by a narrow strip of land ("flagpole" or "stem") providing access to a buildable interior parcel ("flag")—can lead to inefficient land use patterns, emergency access challenges, and potential conflicts with neighborhood character and development standards; and

WHEREAS, the Planning Commission finds that carefully managing the future creation of flag lots will promote more orderly development, improve access for emergency services, reduce driveway and utility conflicts, and enhance the overall quality and function of residential neighborhoods in Robertson County; and

WHEREAS, the Planning Commission desires to amend the Robertson County Subdivision Regulations, and if necessary, the Zoning Resolution, to manage the creation of flag lots in all zoning districts;

NOW, THEREFORE, BE IT RESOLVED BY THE ROBERTSON COUNTY REGIONAL PLANNING COMMISSION AS FOLLOWS:

SECTION 1. RECOMMENDATION TO AMEND SUBDIVISION REGULATIONS

The Planning Commission hereby recommends the following language be added to Article IV (Requirement For Improvements, Reservations, and Design) of the Robertson County Subdivision Regulations:

> **Section 4-102.9 – Flag Lots.** Generally, the Robertson County Regional Planning Commission finds that Flag Lots tend to be characteristic of "Scattered or Premature" development and fall within its statutory authority to regulate. The Commission also determines that Flag Lots often cause confusion regarding emergency access, hinder efficient school bus, mail, and public utility services, and lead to conflicts among

property owners. Therefore, the Planning Commission establishes the following requirements for Flag Lots within its Planning Region.

a) Flag lots proposed for approval shall demonstrate compliance with the requirements contained in this section and in these regulations generally.
b) The Planning Commission's policy is not to consider variances or requests for exceptions to these requirements, unless the applicant disputes the staff's interpretation of the regulations. In such cases, the Planning Commission will make a final decision on whether to support or overturn the staff's interpretation.

1. **Additional Requirements for Flag Lots.** All proposed flag lots shall demonstrate compliance with each of the following additional requirements:

a) In subdivisions containing five lots or more, Flag Lots shall not compose more than 20 percent of lots; subdivisions of fewer than 5 lots shall contain no more than 1 one Flag Lot.
b) Minor Subdivisions as defined herein containing a Flag Lot may be approved utilizing the same process as established for other Minor Subdivisions, provided that all requirements for Flag Lots are met.
c) All Flag Lots shall have a minimum of 50 feet of physical road frontage along a public road. In no case shall an easement satisfy this requirement. In no case shall widths be reduced to less than 50 feet.
d) Flag Stems for proposed Flag Lots shall not be longer than 500 feet.
    1. Flag Stems shall be measured from the edge of the public right of way to the beginning of the front Building Setback Line.
    2. Such Building Setback Line is defined as the point at which the lot in question meets minimum lot width requirements for its applicable zoning district.
e) Only one intervening lot or tract shall be permitted between the Flag Lot and the public road that provides access.
f) Flag Stems shall not change directions more than once; angles for Flag Stems shall not exceed 90 degrees.
g) Flag Lots shall provide adequate, safe, and reasonable access to the building site, as determined by the Planning Commission. To this end, Flag Stems:
    1. Shall not contain any portion of ponds, buildings, or other obstructions except vegetative cover to be removed during construction.
    2. Shall not cross flowing or intermittent streams, ravines, or other topographic features without installing a culvert or bridge that will ensure emergency access during the 25-year storm event.

3. Any necessary culverts or bridges must be designed and sized by a licensed engineer and installed at the applicant's expense.

h) Additional buffering requirements may be required for subdivisions containing Flag Lots to minimize the visual impact of adjacent rear yards to front yards. These requirements may include plantings, construction of opaque fencing, preservation of existing trees and other vegetative cover, and increased setback requirements, which may be required to be depicted on the plat.

Article VI, Definitions:

Lot, Flag: A lot not meeting minimum lot frontage requirements and where access to a public or private street is provided by means of a long, narrow driveway or easement between abutting lots.

SECTION 3. EFFECTIVE DATE

This resolution shall become effective upon its adoption by the Planning Commission and the official approval of the recommended amendments by the Robertson County Board of Commissioners, as required for the public welfare.

Adopted this [___] day of March 2026.

Chairperson: _____

Secretary: _____