



1-W-23-RZ / 1-J-23-SP
TIL Version 3
12/20/2022

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JMTE WAYN 1364

TECHNICAL MEMORANDUM

DECEMBER 20, 2022

To: Rebecca Walls
120 Suburban Road,
Suite 204
Knoxville, TN 31923
Becca@hditn.com

From: David W. Hyder, P.E., Engineering Director
J.M. Teague Engineering & Planning

SUBJECT: Traffic Impact Letter for Poplar Farms (WAYN 1364)

J.M. Teague Engineering and Planning (JMTE) has prepared a Traffic Impact Letter documenting the impacts of Home Development Incorporated's Poplar Farms development. Poplar Farms is a one hundred and fifty (150) unit single-family residential development off West Emory Road on approximately 68 acres in the unincorporated portion of Knox County Tennessee (Figure 1). The Knox County Development Ordinance provides for a two-phase process for getting development approval. The first phase of the process is developing a Traffic Impact Letter addressing the impacts of the "maximum potential use" for the proposed parcel. The second phase of the process is preparing a formal traffic impact study of the specific project and its immediate area.

Based on the Growth Policy Plan and the current zoning regulations, 204 dwelling units is the maximum number of dwelling units allowed on this 68 acre site.

Poplar Farms Subdivision Technical Memorandum

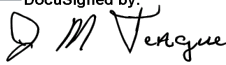
Knoxville, Tennessee

Documentation Prepared by:



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DocuSigned by:

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Dec-20-2022

J. Mark Teague, P.E.

December 20, 2022



Figure 1: Site (Poplar Farms) Location (source Knox County GIS)

This Traffic Impact Letter (TIL) includes a project description, an assessment of existing conditions, proposed site access information, and information on trip demand. Based on our fieldwork and capacity analysis, we believe that a development of up to 204 dwelling units will not cause or contribute to a significant decline in traffic operations or safety on the affected roads or at the affected intersections.

EXISTING SITE CONDITIONS

JMTE visited Oak Ridge Highway and West Emory Road on the afternoon of November 16, 2022, and November 21, 2022. The site visits included driving on West Emory Road from the intersection with Oak Ridge Highway to the intersection with Karns Valley Drive. The conditions observed during the site visit are described below.

OAK RIDGE HIGHWAY – Oak Ridge Highway (TN 62) is a publicly maintained, two-lane 24-foot-wide paved highway with a 6-foot paved shoulder with a guardrail on both sides. The posted speed limit near the intersection with West Emory Road is 55 mph. The cross-section, vertical alignment, and horizontal alignment are typical of 2-lane rural, medium-volume, highways in east Tennessee. The condition of the asphalt and the width of the road indicate a medium to high traffic volume.

The intersection of Oak Ridge Highway and West Emory Road is a 'T' intersection. The intersection is approximately sixty-five (65) feet wide and has no dedicated turn lanes on any approach. West Emory Road is the minor approach and is controlled by a stop sign. Figure 2 and Figure 3 show the intersection of Oak Ridge Highway with West Emory Road. Figure 4 shows the measured sight distances at the intersection of Oak Ridge Highway and West Emory Road. The shortest measured sight distance is nine hundred seventy (970) feet; exceeding AASHTO's recommended sight distance (of 610 feet) by three hundred sixty (360) feet.



Figure 2: Oak Ridge Highway at W. Emory Rd (looking east)



Figure 3: Oak Ridge Highway at W. Emory Rd. (looking west)

WEST EMORY ROAD - Beginning at the intersection with Oak Ridge Highway, West Emory Road is a two-lane paved road approximately three miles in length between Oak Ridge Highway and Karns Valley Drive. The travel way consists of asphalt paving, the width is approximately 20 feet wide near the connection to Oak Ridge Highway narrowing to approximately eighteen (18) feet in width near the proposed Poplar Farm entrances. The grades on West Emory Road vary and the terrain

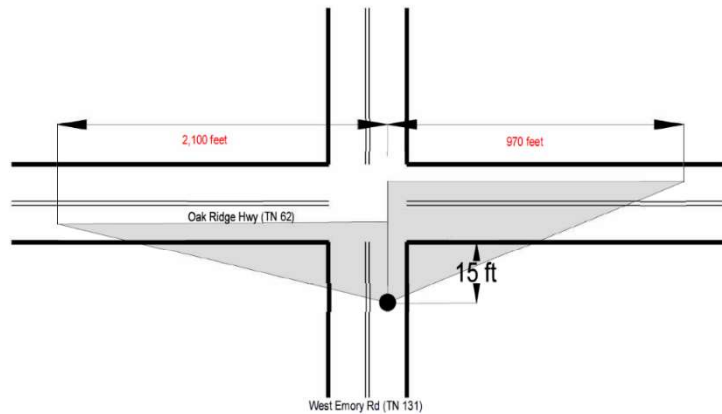


Figure 4: Sight Distance (Oak Ridge Highway & Emory Road)

is considered rolling, the longitudinal grade near the proposed subdivision entrances is approximately 5.5%. On the north side of the road, the shoulder falls off immediately from the edge of the pavement into the drainage ditch (i.e., there is no recovery area). On the south side of the road, the shoulder is approximately two-feet wide between the edge of the pavement and the top of the embankment. The

posted speed limit is 30 mph (Figure 5). The distance from the intersection of Oak Ridge Highway to the first proposed entrance is approximately 0.8 miles (4,224 feet) and the second entrance is approximately 0.9 miles (4,752 feet) from the intersection of Oak Ridge Highway and West Emory Road. There is a “Hill Blocks View Next 1.2 Miles” sign (Figure 6). Both proposed entrances are within that 1.2 miles.



Figure 5: West Emory Road (Posted Speed Limit)



Figure 6: Hill Blocks View Sign on West Emory Road

KARNS VALLEY DRIVE – Karns Valley Drive is a paved road approximately one mile east from the intersection with Oak Ridge Highway to the intersection with West Emory Road. The three-lane cross-section includes two twelve (12) foot travel lanes separated by a two-way turn lane plus an eight-foot paved shoulder on each side (Figure 7). The posted speed limit for this section of Karns Valley Road is roadway is 45 mph (Figure 8).



Figure 7: Karns Valley Drive at West Emory Road



Figure 8: Karns Valley Drive (Posted Speed Limit)

Figure 10 shows the measured sight distances at the intersection of Karns Valley Drive and West Emory Road. The shortest measured sight distance is seven hundred (700) feet; exceeding AASHTO’s recommended sight distance (of 500 feet) by two hundred (200) feet. Figure 10 shows the measured sight distances at the intersection of Oak Ridge Road and Karns Valley Drive. The shortest measured sight

distance is seven hundred seventy (700) feet; exceeding AASHTO’s recommended sight distance (of 610 feet) by ninety (90) feet.

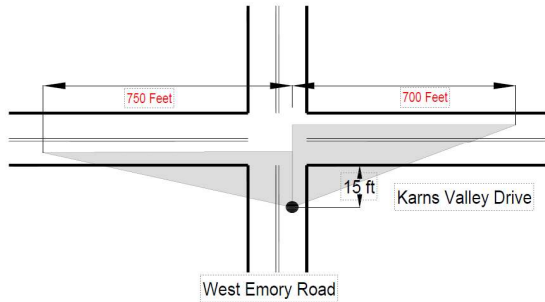


Figure 10: Sight Distance (Karns Valley Drive & West Emory Road)

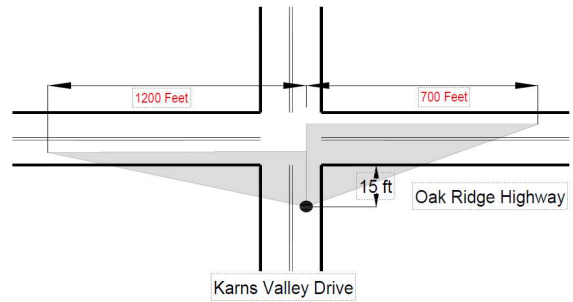


Figure 9: Sight Distance (Oak Ridge Highway & Karns Valley Drive)

Table 1 estimates the existing Level of Service (LOS) for each studied roadway using the Florida Department of Transportation (FDOT) method. The estimated LOS is based on Table 4-3 of the FDOT capacity guidance (See Appendix B). Each studied roadway section is assumed to be a rural uninterrupted two-lane roadway. Using these assumptions all the studied roadways operate at or above LOS C.

Existing Travel Demand

JMTE installed a pneumatic tube volume counter between the two proposed access points. The count began on Wednesday, November 16th at 1 PM and ended Saturday, November 19th at 1 pm. The three-day average daily traffic at that location was 535 vehicles with the AM peak hour being 48 vehicles and the PM peak hour at 79 vehicles. (See attached Appendix A). An equipment failure Sunday, November 20th, 2022, resulted in a shorter-than-expected count.

Figure 11 below shows the location of the Tennessee DOT average daily traffic count stations. Table 1 shows the counts of each location for the year 2021.



Figure 11: TDOT Traffic Count Stations

Table 1 Current Roadway Operating Conditions

Roadway Name	FDOT Class	Count Station ID	Average Daily Traffic	Next Highest FDOT Capacity	Level of Service
Oak Ridge Highway	Rural Uninterrupted Flow Highways	47000364	10,611	13,800	C
West Emory Road	Rural Uninterrupted Flow Highways	47000582	818	2,600	A
Karns Valley Drive	Rural Uninterrupted Flow Highways	47000468	7,904	8,600	C

Differences in Travel Demand

JMTE used the *ITE Trip Generation Manual* (11th ed.) to estimate the daily, morning, and afternoon weekday trips for the maximum land use as it is currently zoned (1 dwelling unit per acre) and proposed zoning (3 dwelling units per acre). Table 2 summarized the results of the trip generation calculation.

Table 2: Poplar Farms Trip Generation

ITE LUC	Proposed Land Use	Size	Trip Rate	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
210	Proposed Zoning	204 DU		1944	37	106	143	122	72	194
	Existing Zoning	68 DU		708	14	38	52	43	26	69
<i>Difference</i>		136 DU		1236	23	68	91	79	46	125

Table 4 estimates the effects of Poplar Farms on the studied roadways. One hundred percent of the trips generated by Poplar Farms are assumed to use West Emory Road. Sixty percent (Table 3) of the trips generated by Poplar Farms are assumed to use Oak Ridge Highway and the remaining forty percent (Table 3) of trips are assumed to use Karns Valley Drive (Figure 12). The trip distribution on West Emory is assumed to be proportional to the traffic volumes in Table 1 and Table 3. This proposed development does not change the trip distribution in this region. The Average Daily Traffic column of Table 1 shows the existing traffic, the added traffic, and the total traffic at build-out. *Comparing Table 1 with Table 4 shows no significant change in the Levels of Service.*

Table 3: Trip Distribution Calculations

Road Name	AADT	Portion	Rounded
Oak Ridge Highway	10,611	0.57	60%
Karns Valley Drive	7,904	0.43	40%
<i>Totals</i>	18,515	1.00	100%

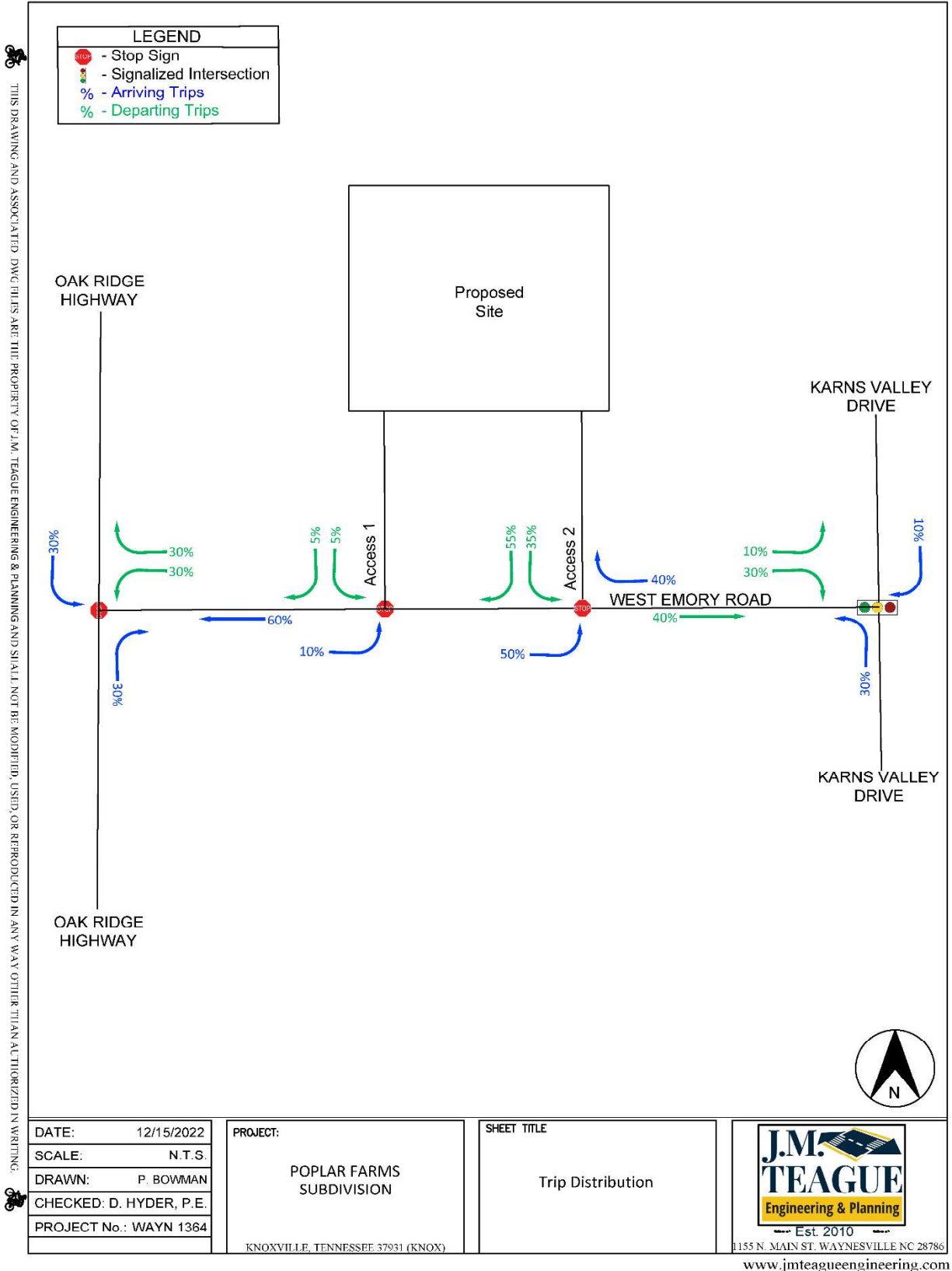


Figure 12: Trip Distribution Diagram

Table 4: Estimated Effect of Poplar Farms on Traffic Operations

Roadway Name	FDOT Class	Count Station ID	Average Daily Traffic		Next Highest FDOT Capacity	Level of Service
Oak Ridge Highway	Rural Uninterrupted Flow Highways	47000364	Existing	10,611	13,800	C
			Added	879		
			Total	11,490		
West Emory Road	Rural Uninterrupted Flow Highways	47000582	Existing	818	2,600	A
			Added	1,465		
			Total	2,283		
Karns Valley Drive	Rural Uninterrupted Flow Highways	47000468	Existing	7,904	8,600	C
			Added	586		
			Total	8,490		

SITE ACCESS

Safe access to and from the roadway is critical in the development process. This section of the TIL addresses sight distance, the need for turn lanes, and the ability of emergency vehicles to access the sight. Figure 13 and Figure 14 are photographs taken at the approximate location of Access 1. Figure 15 and Figure 16 are photographs taken at the approximate location of Access 2.



Figure 13 Access 1 looking northeast

Figure 14 Access 1 looking southwest



Sight Distance

Per the Knoxville-Knox County *Subdivision Regulations* section 3.04.j.5. The minimum required sight distance for a road with a posted speed limit of 35 mph is 350 feet in each direction. During the site visit, JMTE was not able to get an accurate sight distance from the proposed entrances due to the terrain and vegetation. It appears that the sight distance may be acceptable. However, it is the affirmative responsibility of the developer to ensure that sight distance is adequate when construction is complete.

Turn lane Warrant

The Knox County Department of Engineering and Public Works handbook, “*Access Control and Driveway Design Policy*,” was used to determine if a northbound left turn lane or a southbound right turn lane is warranted at either of the proposed entrances. Based on existing opposing volumes (AM peak of 48 vehicles per hour (vph) and a PM peak of 79 vph), turn lanes are not warranted at either proposed driveway connection. (See Table 5). The red block indicates where these unwarranted values fall. However, turn lanes may be warranted if specific site traffic distribution exceeds the threshold shown in Table 5.

Table 5: Knox County Left Turns Thresholds for 2-lane Roads (source Knox County)

OPPOSING VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	<100	100 -199	200 - 249	250 - 299	300 - 349	350 - 399
Fewer Than 25						
25 - 49						
50 - 99						
100 - 149						
150 - 199						
200 - 249						
250 - 299						Yes
300 - 349					Yes	Yes
350 - 399				Yes	Yes	Yes
400 - 449			Yes	Yes	Yes	Yes
450 - 499			Yes	Yes	Yes	Yes
500 - 549		Yes	Yes	Yes	Yes	Yes
550 - 599		Yes	Yes	Yes	Yes	Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

Emergency Access

Emergency access will be available through the intersection of Oak Ridge Highway and West Emory Road. The width and condition of West Emory Road at the proposed access point would not hamper emergency vehicle access to the site. The National Fire Protection Association's Brian O'Connor summarizes the needed fire access requirements at <https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2021/01/08/Fire-Apparatus-Access-Roads> Fire Departments need 20 feet of unobstructed width and 13.5 feet of vertical clearance.

Appendix D of the *2012 International Fire Code* requires multiple-family residential projects having more than 100 dwelling units to be equipped with two separate and approved fire access roads. The code also requires these roads to be spaced not less than one-half the length of the longest diagonal dimension of the area to be served. If the developer cannot meet the spacing requirement, Appendix D provides for other methods to ensure the safety of lives and property.

CRASH HISTORY

Knox County staff did not require crash history.

OTHER CONDITIONS

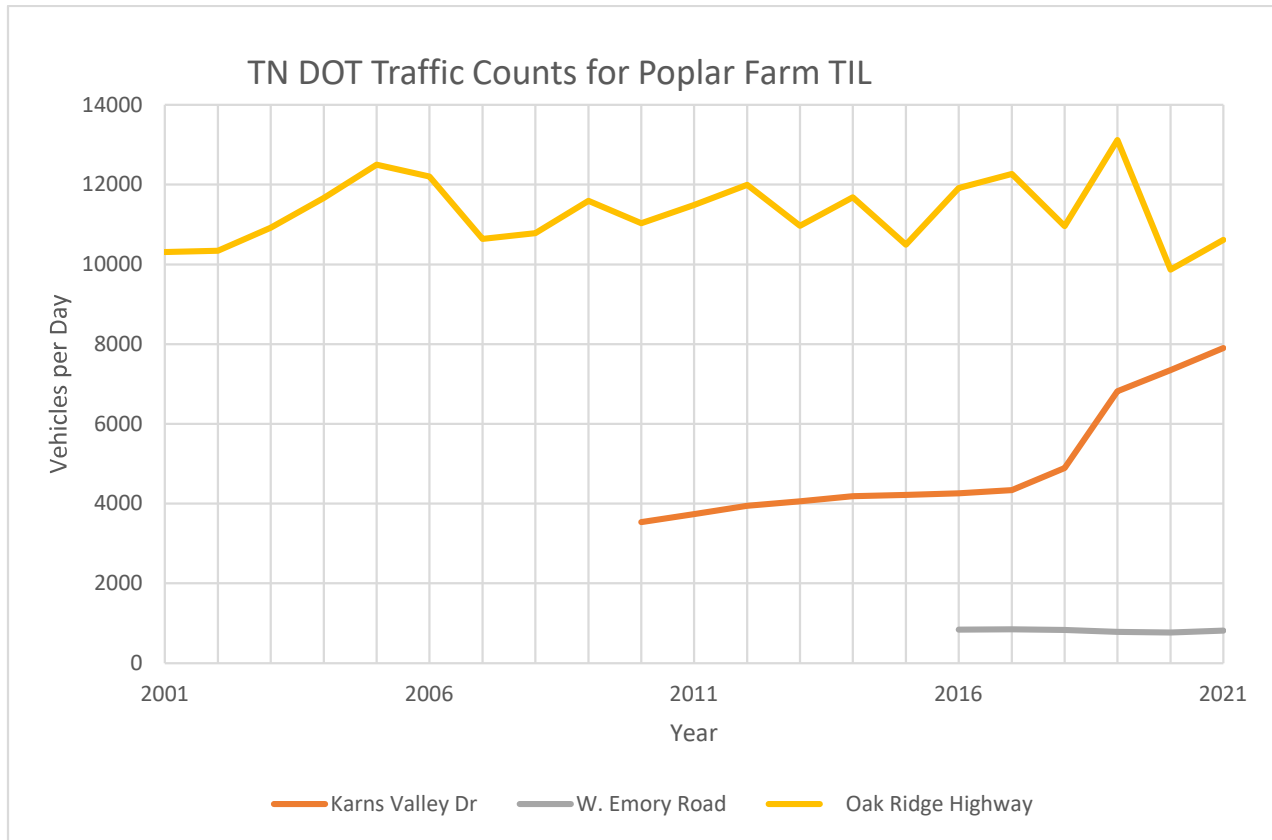
Knox County staff reported no special considerations.

CONCLUSION

Poplar Farms Subdivision will cause no significant deterioration of Oak Ridge Highway, West Emory Road, or Karns Valley Drive. Oak Ridge Highway operates at LOS C, West Emory Road operates at LOC A and Karns Valley Drive operates at LOS C. After the construction of the proposed Poplar Farms Subdivision,

it is expected that the Levels of Service on all studied roadways will maintain the same LOS. The sight distances at the existing intersections are adequate. The sight distance at the proposed intersections could not be evaluated because of the terrain and vegetation. The developer will be responsible for achieving the required sight distance from both proposed entrances and getting approval for these entrances from Knox County. The developer is also responsible for ensuring proper stem length to prevent blockage of internal intersections.

APPENDIX A: TRAFFIC COUNT DATA



JMTE - West Emory Road Traffic Count

Printed: 11/21/2022 at 16:17
TrafficViewer Pro v1.6.4.124

PicoCount 2500 V2.40 (s/n# 19092719)

Daily Vehicle Volume Report

Study Date: Wednesday, 11/16/2022 / Thursday, 11/17/2022

Unit ID: 0453

Location: WAYN 1364

	Southbound Volume	Northbound Volume	Total Volume
13:00 - 13:59	12	11	23
14:00 - 14:59	27	22	49
15:00 - 15:59	16	23	39
16:00 - 16:59	8	25	33
17:00 - 17:59	10	53	63
18:00 - 18:59	20	63	83
19:00 - 19:59	8	25	33
20:00 - 20:59	6	21	27
21:00 - 21:59	5	14	19
22:00 - 22:59	9	7	16
23:00 - 23:59	1	3	4
00:00 - 00:59	3	7	10
01:00 - 01:59	2	2	4
02:00 - 02:59	0	0	0
03:00 - 03:59	0	2	2
04:00 - 04:59	1	0	1
05:00 - 05:59	8	0	8
06:00 - 06:59	16	1	17
07:00 - 07:59	24	3	27
08:00 - 08:59	49	12	61
09:00 - 09:59	35	12	47
10:00 - 10:59	23	14	37
11:00 - 11:59	15	21	36
12:00 - 12:59	17	15	32
Totals	315	356	671
AM Peak Time	08:22 - 09:21	10:59 - 11:58	08:24 - 09:23
AM Peak Volume	58	21	75
PM Peak Time	14:08 - 15:07	17:29 - 18:28	17:33 - 18:32
PM Peak Volume	28	73	91

APPENDIX B: FLORIDA CAPACITY TABLE

TABLE 4 - 3
**GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S
 RURAL UNDEVELOPED AREAS AND CITIES OR
 DEVELOPED AREAS LESS THAN 5,000 POPULATION***

RURAL UNDEVELOPED AREAS						CITIES OR RURAL DEVELOPED AREAS LESS THAN 5000					
FREEWAYS						FREEWAYS					
Level of Service						Level of Service					
Lanes	A	B	C	D	E	Lanes	A	B	C	D	E
4	21,300	35,300	47,900	56,600	63,000	4	21,300	35,300	47,900	56,600	63,000
6	33,100	54,300	73,900	87,400	97,200	6	33,100	54,300	73,900	87,400	97,200
8	44,700	73,600	100,000	118,400	131,400	8	44,700	73,600	100,000	118,400	131,400
UNINTERRUPTED FLOW HIGHWAYS						UNINTERRUPTED FLOW HIGHWAYS					
Level of Service						Level of Service					
Lanes Divided	A	B	C	D	E	Lanes Divided	A	B	C	D	E
2 Undivided	2,500	7,200	12,700	17,300	23,500	2 Undivided	2,500	7,200	12,700	17,300	23,500
4 Divided	17,800	28,900	41,800	54,100	61,500	4 Divided	17,800	28,900	41,800	54,100	61,500
6 Divided	26,800	43,300	62,700	81,200	92,200	6 Divided	26,800	43,300	62,700	81,200	92,200
INTERRUPTED FLOW ARTERIALS						INTERRUPTED FLOW ARTERIALS					
Level of Service						Level of Service					
Lanes Divided	A	B	C	D	E	Lanes Divided	A	B	C	D	E
2 Undivided	**	2,200	11,000	13,900	14,900	2 Undivided	**	2,200	11,000	13,900	14,900
4 Divided	**	5,300	25,500	29,400	31,200	4 Divided	**	5,300	25,500	29,400	31,200
6 Divided	**	8,400	39,400	44,200	46,800	6 Divided	**	8,400	39,400	44,200	46,800
PASSING LANE ADJUSTMENTS						NON-STATE SIGNALIZED ROADWAYS					
(alter corresponding two-lane LOS A-D volumes indicated percent)						(signalized intersection analysis)					
Level of Service						Level of Service					
Passing Lane Spacing					Adjustment Factors	Lanes	A	B	C	D	E
5 mi					+25%	2	**	**	1,900	7,600	10,100
10 mi					+10%						
ISOLATED SIGNALIZED INTERSECTIONS						BICYCLE MODE					
Level of Service						Level of Service					
Lanes	A	B	C	D	E	Paved Shoulder/ Bicycle Lane Coverage	A	B	C	D	E
2	**	1,900	8,000	10,700	12,100	0-49%	**	**	2,800	6,900	>6,900
4	**	2,900	17,400	23,000	25,200	50-84%	**	2,100	3,500	>3,500	***
6	**	4,500	27,100	35,500	43,100	85-100%	2,800	4,000	>4,000	***	***
BICYCLE MODE						PEDESTRIAN MODE					
(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 55 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by directional roadway lanes to determine maximum service volumes.)						(Note: Level of service for the pedestrian mode in this table is based on roadway geometric at 45 mph posted speed and traffic conditions, not number of pedestrian using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine maximum service volumes.)					
Level of Service						Level of Service					
Paved Shoulder/ Bicycle Lane Coverage	A	B	C	D	E	Sidewalk Coverage	A	B	C	D	E
0-49%	**	**	**	**	6,200	0-49%	**	**	**	4,400	14,200
50-84%	**	**	**	**	17,600	50-84%	**	**	**	8,000	18,000
85-100%	**	**	3,900	>3,900	***	85-100%	**	**	9,400	>9,400	***
NON-FREEWAY AND SIGNALIZED INTERSECTION ANALYSES DIVIDED/UNDIVIDED ADJUSTMENTS						NON-FREEWAY AND SIGNALIZED INTERSECTION ANALYSES DIVIDED/UNDIVIDED ADJUSTMENTS					
(alter corresponding volumes by the indicated percent)						(alter corresponding volumes by the indicated percent)					
Source:	Florida Department of Transportation Systems Planning Office 605 Suwannee Street, MS 19 Tallahassee, FL 32399-0450					Lanes	Median	Left Turn Lanes	Adjustment Factors		
						2	Divided	Yes	+5%		
						2	Undivided	No	-20%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
http://www11.myflorida.com/planning/systems/sn/los/default.htm											
<p>*This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Values shown are two-way annual average daily volumes (based on K₁₂ factors) for levels of service and are for the automobile/truck modes unless specifically stated. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. The table's input value defaults and level of service criteria appear on the following page. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, and Pedestrian LOS Model, respectively for the automobile/truck, bicycle and pedestrian modes.</p> <p>**Cannot be achieved using table input value defaults.</p> <p>***Not applicable for the level of service letter grade. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.</p>											

APPENDIX C: KNOX COUNTY PRE-SUBMITTAL



ATTACHMENT B: Pre-Submittal Transportation Impact Analysis (TIA) Scope Determination Form

DEVELOPMENT INFORMATION	
Project name:	Poplar Farms
Project Description:	A residential community in the Karns area
Project Location	9841 West Emory Rd. Knoxville, TN 37931
Existing Zoning:	Ag
Development Name:	Poplar Farms
Developer name & address:	Home Development Inc. 120 Suburban Rd. Suite 204 Knoxville, TN
Telephone number:	7736201627
Email:	becca@hditn.com
Tax Map & Parcel #:	076 018 and 076 021

CHECKLIST (All items should be available at the time of discussion)

Complete description of the development that includes:

Site Map details (this should be <u>attached</u>):	
<input checked="" type="checkbox"/>	Building footprints Varied within lot size 60 x 100
<input checked="" type="checkbox"/>	Number of units/unit size 150 DU
<input checked="" type="checkbox"/>	Access points 2 from West Emory Rd
<input checked="" type="checkbox"/>	Internal roadways (if any)
<input checked="" type="checkbox"/>	Adjacent streets
<input checked="" type="checkbox"/>	Proposed sidewalks and bicycle facilities, and Lot depth allows sidewalks
<input type="checkbox"/>	Location and number of proposed parking spaces (if applicable)
Phasing plan (if applicable) that includes:	
<input type="checkbox"/>	Phase size, location, & timing

BELOW TO BE FILLED OUT BY KNOXVILLE-KNOX COUNTY PLANNING STAFF

- Pre-study scope meeting **needed**
- Pre-study scope meeting **not needed**

Intersection(s) to study:

N/A -see notes below

Level of Analysis:

Transportation Impact Letter (TIL) required due to rezoning within the "Rural Area" portion of Knox County according to the Growth Policy Plan

Notes:

Refer to Section 6.A. of the Knoxville-Knox County Planning TIA Guidelines for scope requirements of a Rural Area TIL with an existing conditions assessment of W. Emory Rd in handling the additional traffic from higher proposed density on this parcel.

Additional notes:

- 1.) Crash history/analysis not required
- 2.) Average Daily Traffic (Daily Traffic Capacity) level analysis based on FDOT standards or other approved methodology for arterial routes of:
 - Karns Valley Drive btwn W. Emory Rd and Oak Ridge Hwy (TDOT sta. 47000468)
 - W. Emory Rd near Clinton Hwy (TDOT sta. 47000047)
 - Oak Ridge Hwy btwn Pellissippi Pkwy and W. Emory Rd (TDOT sta. 47000364)



11/15/2022

Signature

Date



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December 15, 2022

Mike Conger, P.E.
Knoxville-Knox County Planning
400 Main Street, Suite 403
Knoxville, TN 37902

Re: Poplar Farms Subdivision - Traffic Impact Letter

Dear Mr. Conger,

On behalf of Home Development Incorporated, we are pleased to submit the requested additional information for your review and approval. The comments identified from your office dated December 12, 2022, and the associated responses are listed below.

Comment	Response
Please add P.E. stamp to the cover sheet of the TIL	Mark Teague P.E. has stamped this TIL.
This report needs to speak in more general terms regarding a proposed development that could result from the rezoning request rather than a specific development plan which will be reviewed at a later Concept plan and full TIS if the zoning request is approved. Please state in the introductory paragraph that this report addresses the requirement for a transportation analysis associated with rezoning to higher density in the Rural Areas as designated by the Growth Policy Plan. The subsequent sections of the TIL need to perform analyses based on the maximum number of dwelling units that would be allowed if the requested zoning (3 Du/acre) is granted by the Planning Commission.	The text has been updated to speak in more general when referring to a proposed development.
On page 2, it would be preferable to show the affected parcel(s) on this location map if possible.	An image of the Knox County GIS map with the subject parcel highlighted is now included in the report.
On page 5, please add a map showing the ADT evaluation locations. The same map could also be used in the subsequent section to display the before/after traffic volumes with and without this development on each affected roadway.	The ADT evaluation location map has been added to the report. As figure 11 on page 8.


WAYN 1364

December 15, 2022

Comment	Response
On page 6, as noted previously, trip generation should be based on the maximum unit count that is allowable per the requested zoning. Additionally, please include the trip generation estimate for the existing allowable dwelling unit density in the Ag zoning, which is 1 DU/Acre and report the total net increase that will result from the requested increased density.	Table 2 has been updated to show the requested zoning and the existing zoning along with their differences.
On page 6, please provide additional supporting information as to how the trip distribution percentages were derived. Additionally, please include a figure with the roadway network that graphically shows the general distribution patterns.	Additional information and a Trip Distribution figure have been added to the report on page 9.
Regarding sight distance, please note that intersection sight distance minimums are based on different methodologies when strictly dealing with a County-maintained roadway which are instead measured as 10 times the posted speed limit (refer to Section 3.04.J.5 of the Knoxville-Knox County Subdivision Regulations). The Tennessee DOT however does require ISD to meet AASHTO requirements where a state-maintained roadway is involved.	The site distance requirements statement has been updated to Knox County requirements rather than Tennessee DOT.
On page 9, the information being conveyed by the turn lane warrant sheets is not clear including the blanked-out areas. Please provide an updated sheet denoting the volumes for this analysis and where they fall on the chart to indicate the warrant status.	The tables have been updated and replaced and are clearly denoting where the volumes fall on Table 5 page 13.
On page 10 in the "Conclusion" section, in line 8 Replace "The Fire Marshall" with "Knox County".	This replacement has been made.
On page 11, in the legend, replace " E. of Pellissippi Parkway" with Oak Ridge Highway".	This replacement has been made.
A few typos were found where "sight" was spelled as "site" and "Karns" was spelled as "Karnes", please correct as necessary.	All typos have been addressed.

If you should have any questions or comments regarding this submittal, please do not hesitate to contact our office.

Sincerely,

DocuSigned by:

 4226FF2577A7414...

Dec-20-2022

J. Mark Teague, P.E., CPM

Owner and Principal Engineer