7733 N. Wallace Avenue | Kansas City, MO 64158 | 816.912.4720 | www.HgCons.com

Mr. Brad Cooley
City of Lee's Summit, MO
Public Works

Re: Colton's Crossing Traffic Study
Hg Consult Project Number: 21.018

Mr. Cooley,

The purpose of this memo is to document the amount of traffic generated by the Colton's Crossing development, located within Lee's Summit. The development is located on Hamblen Road and shown below in **Figure 1.**

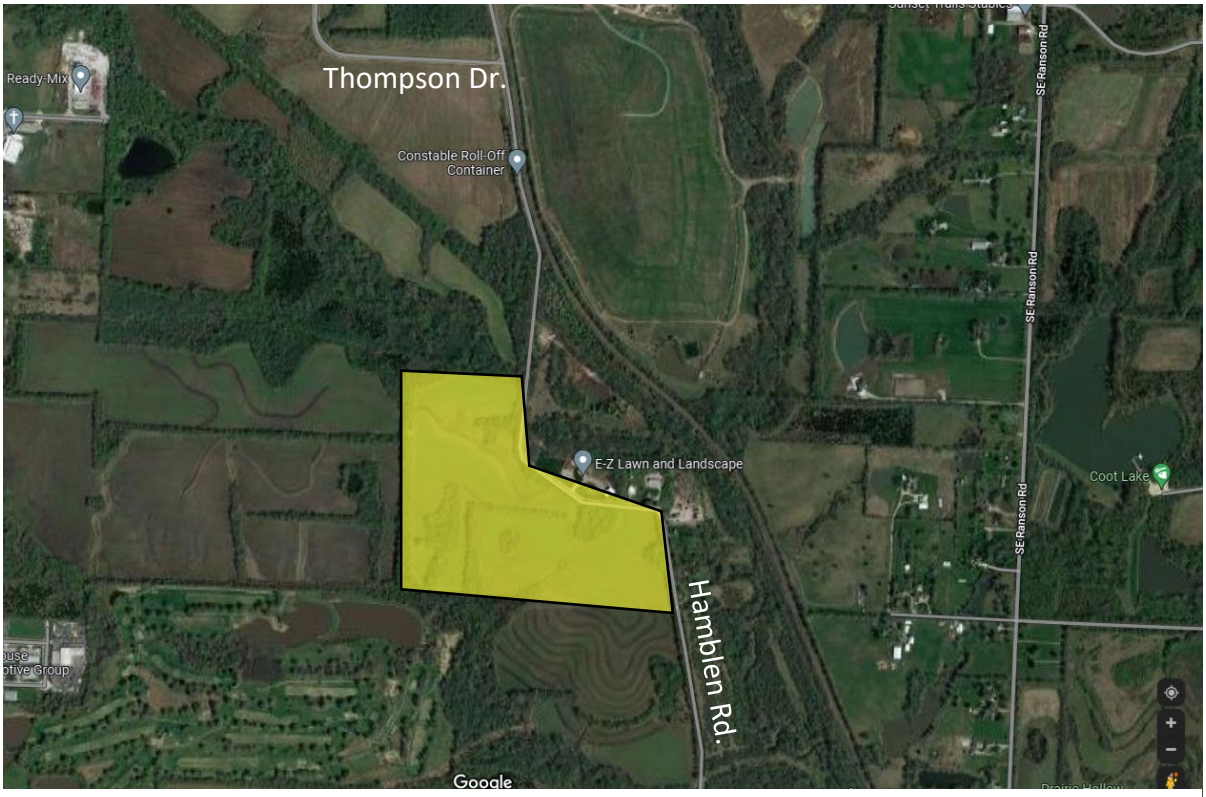


Figure 1: Project Vicinity Map

Existing Conditions

Currently, Hamblen Road is classified as a minor arterial according to Lee's Summit Functional Classification map. It is a two-lane, paved roadway with open ditches and a posted speed limit

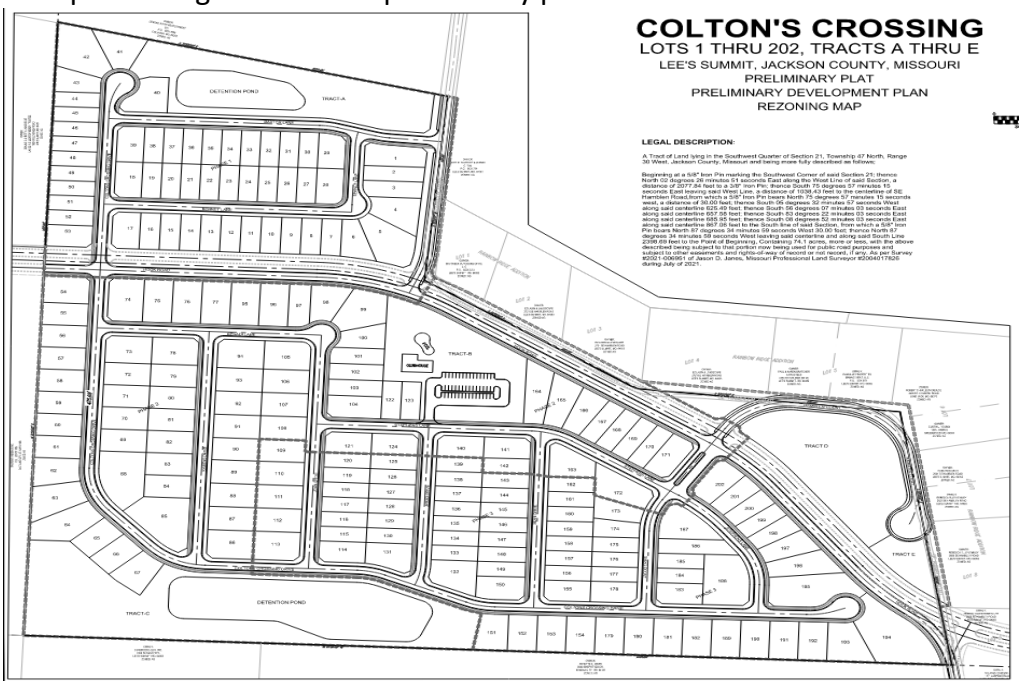
of 35mph. The existing pavement width is approximately 20-feet wide and will need to be improved as a part of this project.

Existing Traffic Volumes

The existing traffic volumes on Hamblen Road are very low and are estimated to be less than 1,000 vehicles per day. AM peak period traffic volumes were collected on Thursday, Dec. 15th 2022, and PM peak period traffic volumes were collected on Friday, Dec. 9th 2022. Although traffic volumes are generally obtained on Tuesdays-Thursdays, traffic volumes were obtained on Friday for the PM counts for scheduling reasons to complete the traffic study. Given the volumes and nature of the area the difference in traffic volumes for the analysis is assumed to be an insignificant difference. The AM peak hour is between 7:15-8:15 AM with 51 total vehicles (19 SB and 32 NB) while the PM peak hour is between 4:45-5:45 PM (50 SB and 28 NB). The AM peak hour has 63% of vehicles traveling northbound while the PM peak hour has 64% of vehicles traveling southbound.

Proposed Development

The proposed site consists of 135 single family detached homes, and 60 single-family attached homes in a duplex configuration. The preliminary plat is shown below.



There are several improvements to the public roadway system that will be constructed with this project. The project will improve Hamblen Road to the north from the development to Thompson Drive. The improvements will be to widen Hamblen Road by four feet to provide

twenty-four (24) feet of pavement, as well as construct six-foot wide paved shoulders. These improvements are in accordance with the City's unimproved road policy. Hook Road will also be constructed as the east-west arterial through the development. The preliminary plat also shows the intersection spacing between Hamblen Road and Hamblen Court is over 900', which complies with the City's spacing requirement of 660' between intersections.

Other improvements constructed by this project include sidewalks throughout the public roadway system in accordance with City regulations. The project also includes the installation of over 5,000 feet of water line to provide the site with water. Additionally, the project has been coordinated with the adjacent landowner to the west and preserved 100' of right-of-way for the future extension of Hook Road from Route 291.

Proposed Trip Generation

The amount of traffic generated by the proposed development has been calculated by the *Institute of Transportation Engineer's, Trip Generation Manual, 11th Edition.* The amount of traffic expected to be generated by the proposed site for the typical weekday, am peak hour and pm peak hour is summarized in the table shown below.

Table 1 - Colton's Crossing Trip Generation

Land Use	Number of Units	Weekday	AM Peak Hour		PM Peak Hour	
			Entering	Exiting	Entering	Exiting
Single Family Detached	135	1330	25	73	83	49
Single Family Attached (Duplex)	60	432	9	20	19	15
	TOTAL	1762	34	93	102	64

The table above shows that there will be approximately 127 trips generated in the AM peak hour, and 166 trips generated in the PM peak hour.

Trip distributions are assumed to estimate where traffic is coming from and going to help study the impacts to the area. The distributions attempted to replicate the existing traffic patterns, entering and exiting, for both the AM and PM peak hours. The section north of Hook Drive has 26% of the lots in the development so 26% of the entering and exiting vehicles were assumed to use these entrances with the remaining 74% using the entrances for the parcels south of Hook Drive. In the AM 63% of entering and exiting traffic comes is northbound while 64% of entering and exiting traffic comes is southbound in the PM peak hour.

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Traffic Operations

Traffic was analyzed using Synchro traffic modeling software, the industry standard for intersections based on the Highway Capacity Manual. Synchro calculates several Measures of Effectiveness (MOEs) based on traffic volumes, lane configurations, and type of intersection control. Some of the more commonly used MOE's are Delay, Queue lengths, and Level of Service. Level of Service (LOS) is a qualitative measure used to relate the quality of traffic service. The HCM defines LOS for signalized and unsignalized intersections as a function of the average vehicle control delay. LOS ranges from A (unimpeded driving, no delays) to F (highly congested roads, high delays). The table below gives the average vehicle delay ranges for each Level of Service.

Level of Service	Control Delay per Vehicle (sec.)	
(LOS)	Signalized	Unsignalized
A	<= 10	<= 10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-80	35-50
F	> 80	> 50

The existing conditions of Hamblen Road is a two-lane road with no intersections so this condition is not analyzed in Synchro. Below are the results for the Existing plus Proposed Development traffic for the AM and PM peak hours. In all tables, Delay is the average control delay per vehicle and listed in seconds. (U) denotes an unsignalized intersection.

Existing + Build AM - Avg. Delay/LOS				
	NB	SB	EB	WB
Baxter Ln/Hamblen Rd (U)	0/A	0/A	9/A	-
Colton's Dr/Hook Rd (U)	8/A	9/A	0/A	5/A
Hamblen Rd/Hook Rd (U)	-	9/A	5/A	0/A
Dustin Dr/Hook Rd (U)	9/A	9/A	7/A	1/A

Existing + Build PM - Avg. Delay/LOS				
	NB	SB	EB	WB
Baxter Ln/Hamblen Rd (U)	1/A	0/A	9/A	-
Colton's Dr/Hook Rd (U)	8/A	9/A	0/A	6/A
Hamblen Rd/Hook Rd (U)	-	9/A	3/A	0/A
Dustin Dr/Hook Rd (U)	10/A	10/A	1/A	2/A

In the Existing plus Build scenarios, all intersections are expected to operate at LOS A for both the AM and PM peak hours.

Access Management Compliance

In review of the City's access management regulations, the project will construct Hook Road, which will provide a ½-roadway section for a future major arterial roadway. Per the Access Management Code, a right-turn lane is warranted at Hook Road and Hamblen for the west-bound to north-bound movement because the turning volumes are above the threshold established in the Access Management Code. The Access Management Code requires left turn lanes be constructed on all arterial roadways at intersections with other roads where turning traffic is twenty (20) vehicles in an hour, as well as arterial-to-arterial connections. The left-turn lane shall be 250-feet long plus taper. This requirement indicates that left turn lanes need to be constructed for eastbound traffic on Hook Road at the intersection of Hamblen Road, and eastbound and westbound left-turn lanes at the intersection of Hook Road with Hamblen Court/Dustin Drive. An eastbound/westbound left-turn lane at the intersection of Hook Road and Coltons Crossing Drive is not currently needed. This is due to Hook Road terminating at the western project terminus, therefore there is no conflicting traffic for these movements. When Hook Road is extended west of the project limits, these turn lanes will be required.

In addition, the roadway intersections exceed the City's spacing requirement of 660'. Pedestrian connectivity is provided throughout the development. All roadway connections have adequate throat length and will comply with the City's regulations pertaining to roadway spacing and design.

Unimproved Road Policy

The project will also make improvements to Hamblen Road. The current condition of Hamblen Road is a 20-foot wide travel-way. The project will widen Hamblen Road by four feet to provide 24-feet of travel-way and also construct six-foot wide, paved shoulders. The limits of these improvements will be from Thompson Drive to the development (intersection with Hook Road). These improvements and limits were discussed with City staff and conform to the Unimproved Road Policy. A left-turn lane will also be required at the intersection of Hamblen Road and Hook Road because of the arterial-arterial connection. The cross-section is acceptable because of the expected traffic volumes on Hamblen Road are expected to reach the volumes required for a full urban standard of 11,000 vehicles per day.

Future-Year Traffic Analysis and Considerations

Most of the adjacent land parcels to this development are currently undeveloped. Knowing that they may develop in the future means that the roadway network will need to accommodate this future traffic.

Traffic growth of existing traffic assumed to be 2% for 20 years was calculated for future conditions. Higher developed areas may experience lower growth while more undeveloped areas may experience higher growth rates. Given the nature of Hamblen Road with the tight "S" curve around the at-grade railroad crossing to the north, and the "T" intersection to the residential Gambrell Street to the south a fairly moderate growth rate was assumed. The Synchro results for this scenario are shown in the tables below.

Build 2042 AM - Avg. Delay/LOS				
	NB	**SB**	**EB**	**WB**
Baxter Ln/Hamblen Rd (U)	0/A	0/A	9/A	-
Colton's Dr/Hook Rd (U)	8/A	9/A	0/A	5/A
Hamblen Rd/Hook Rd (U)	-	9/A	5/A	0/A
Dustin Dr/Hook Rd (U)	10/A	0/A	7/A	1/A

Build 2042 PM - Avg. Delay/LOS				
	NB	**SB**	**EB**	**WB**
Baxter Ln/Hamblen Rd (U)	1/A	0/A	10/A	-
Colton's Dr/Hook Rd (U)	8/A	9/A	0/A	6/A
Hamblen Rd/Hook Rd (U)	-	10/B	3/A	0/A
Dustin Dr/Hook Rd (U)	10/A	0/A	6/A	2/A

Additionally, the long-range plan for Hook Road is to connect from the east, cross the railroad tracks, extend to Ranson Road, and then extend to the west to the Route 291 Outer Road which connects directionally to north Route 291. This scenario can be seen to attract more traffic long-term than Hamblen Road. Hamblen Road 2042 volumes were approximately quadrupled to assume traffic volumes for Hook Road, directional to be westbound in the AM and eastbound in the PM. The Interim conditions are for two lanes on Hook Road while the Ultimate plan is for it to be four lanes. Results of the two-lane Interim scenarios are in the tables below.

Build 2042 Interim Hook AM - Avg. Delay/LOS				
	NB	**SB**	**EB**	**WB**
Baxter Ln/Hamblen Rd (U)	0/A	0/A	9/A	-
Colton's Dr/Hook Rd (U)	9/A	13/B	0/A	5/A
Hamblen Rd/Hook Rd (U)	-	13/B	1/A	0/A
Dustin Dr/Hook Rd (U)	13/B	12/B	0/A	0/A

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Build 2042 Interim Hook PM - Avg. Delay/LOS				
	NB	SB	EB	WB
Baxter Ln/Hamblen Rd (U)	1/A	0/A	10/A	-
Colton's Dr/Hook Rd (U)	10/B	16/C	0/A	1/A
Hamblen Rd/Hook Rd (U)	-	18/C	0/A	0/A
Dustin Dr/Hook Rd (U)	22/C	0/A	9/A	1/A

Even in the two-lane section of Hook Road, the roadway network is expected to operate at LOS C or better in the PM Peak periods. As other parcels of land are developed, improvements will made to the adjacent roadway network. The roadway network constructed and improved by this project will be able to meet the needs of the foreseeable future traffic demand.

Lee's Summit Thoroughfare Master Plan Review

In review of the current TFMP, Exhibit 2, it shows Doc Henry Road as a 4 lane North-South arterial extending from M-150 to the proposed alignment of an East-West arterial, Hook Road. The majority of the Doc Henry alignment is located outside of the Lee's Summit city limits in the City of Greenwood. This alignment had been discussed during the preliminary development design within a previous project, Cobey Creek, and determined to be a less than a desirable alignment due to Greenwood's building of a portion of the road with a 3-lane section of road with no consideration of width expansion and their intention of the road being built no further than Gambrell Road, due to the topography further north of Gambrell Road being in the floodway.

Per the Cobey Creek project, the future north-south arterial has been shown to be approximately 1400 feet west of Doc Henry Road with a 4-lane road through a 4 legged round-a-bout and potentially being extended north from that location. Based on this alternate arterial alignment, no consideration for the extension of Doc Henry Road into the Colton's Crossing project has been made. Additionally, with consideration of the Greenway Master Plan, a future 100' right-of-way width would be adequate to provide a four-lane roadway, plus median, and a sidewalk on one side of the roadway and a shared-use path on the other.

With consideration of Hook Road with regards to the TFMP, the existing alignment shown in the TFMP did not take into consideration current topography and floodway/floodplain limits. The alignment of Hook Road was designed with these constraints in consideration. It is proposed that Hook Road will be the 1/2-section of a future major arterial. The intersection spacing along Hook Road meets the spacing requirements set forth in the Access Management Code.

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Conclusions and Recommendations

The following conclusions and recommendations are made regarding the Colton's Crossing Development and the impacts to the local roadway system.

- Existing Hamblen Road currently carries approximately 1,000 vehicles per day.

- The proposed development will generate 127 AM peak hour trips, and 186 PM peak hour trips.

- This project will improve Hamblen Road from the intersection of Hook Drive to the intersection of Thompson Drive, a distance of approximately 2,800 feet. The improvements include widening Hamblen Road by four feet to provide 24-feet of travel way, and the construction of six-foot wide, paved shoulders. These improvements conform with the Unimproved Roadway Policy. A southbound left-turn lane from Hamblen Road to Hook Road is required per the AMC (arterial-to-arterial connection). The left-turn lane should be 250-feet long plus taper.

- This project will construct Hook Drive, which will provide a ½-roadway section for an arterial roadway and connecting intersections will exceed the City's intersection spacing requirement of 660'.

- A right-turn lane from westbound Hook Road to northbound Hamblen Road is required due to the proposed turning volumes. The right-turn lane should be 250-feet long plus a taper per the AMC.

- Left-turn lanes are required by the AMC on all connections with arterial streets. Based on this requirement, left-turn lanes are required at the Hook Road/Hamblen Road and Hook Road/Hamblen Court intersections. The turn lanes should be 250-feet long plus taper per the Access Management Code.

- Eastbound and westbound Left-turn lanes at Hook Road/Coltons Drive will be required once Hook Road is expanded to the west of the project but are not required with this project.

- The development will construct new sidewalk along Hook Drive and throughout the development which will provide facilities for a walkable environment.

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- Given the low volume of existing roadway traffic and the trips generated by this development, stop controlled intersections will operate adequately after the development is constructed and into the foreseeable future.

Please let me know if you have any questions regarding this memo.

Sincerely,
Nathan Hladky
Nathan Hladky, PE, PTOE
Hg Consult, Inc.

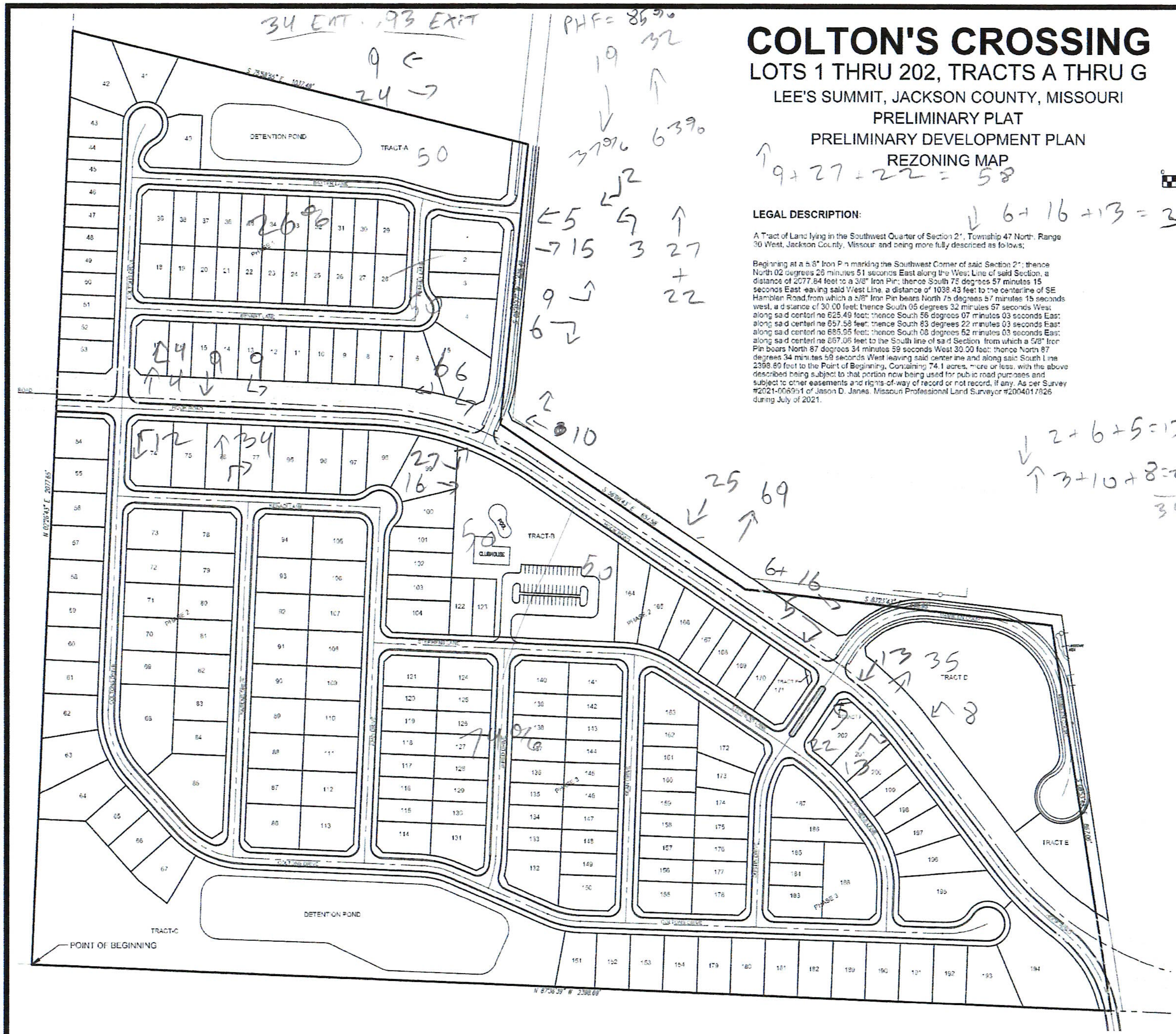
Appendix A – Trip Generation

AM Trip Distributions

COLTON'S CROSSING

LOTS 1 THRU 202, TRACTS A THRU G

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
PRELIMINARY PLAT
PRELIMINARY DEVELOPMENT PLAN
REZONING MAP



LEGAL DESCRIPTION:

A Tract of Land lying in the Southwest Quarter of Section 21, Township 47 North, Range 30 West, Jackson County, Missouri and being more fully described as follows;

Beginning at a 5/8" Iron Pin marking the Southwest Corner of said Section 21; thence North 02 degrees 26 minutes 51 seconds East along the West Line of said Section, a distance of 2077.84 feet to a 3/8" Iron Pin; thence South 75 degrees 57 minutes 15 seconds East leaving said West Line, a distance of 1038.43 feet to the centerline of SE Hamblen Road,from which a 5/8" Iron Pin bears North 75 degrees 57 minutes 15 seconds west, a distance of 30.00 feet; thence South 05 degrees 32 minutes 57 seconds West along said centerline 625.49 feet; thence South 56 degrees 07 minutes 03 seconds East along said centerline 657.58 feet; thence South 83 degrees 22 minutes 03 seconds East along said centerline 685.95 feet; thence South 08 degrees 52 minutes 03 seconds East along said centerline 867.06 feet to the South line of said Section from which a 5/8" Iron Pin bears North 87 degrees 34 minutes 59 seconds West 30.00 feet; thence North 87 degrees 34 minutes 59 seconds West leaving said centerline and along said South Line 2398.60 feet to the Point of Beginning, Containing 74.1 acres, more or less, with the above described being subject to that portion now being used for public road purposes and subject to other easements and rights-of-way of record or not record, if any. As per Survey #2021-006951 of Jason D. Janes, Missouri Professional Land Surveyor #2004017826 during July of 2021.

VICINITY MAP

NOT TO SCALE

NOTES:

1. Tracts "A thru G" are intended for open space and shall be owned and maintained by the Colton's Crossing Owners' Association.
2. A minimum 5 ft. ADA compliant sidewalk is required along one side of Hook Road. A minimum 5 ft. ADA compliant sidewalk is required along one side of all other proposed streets.
3. According to the F.E.M.A. Flood Insurance Rate Map Number 29095C0434G, Revised January 20, 2017, this tract graphically lies in OTHER AREAS, ZONE X, defined as areas determined to be outside the 0.2% annual chance floodplain and ZONE X (Future Base Flood), defined as areas of 1% annual chance flood based on future conditions hydrology. No base flood elevations determined.
4. No construction or disturbance of any type, including clearing, grubbing, stripping, fill, excavation, linear grading, paving, or building is allowed in the stream buffer zone except by permission of the City Engineer.
5. All lots with frontage along SW Hook Road shall not be allowed driveway access onto said street.
6. Lots 127 and 128 will need a Geotechnical Report at the time of building permit submittal due to the the presence of the pond that is being filled in.
7. There are no Oil and Gas Wells located on property per MoDNR Geological Survey as of October 19, 2022.

LOT PHASES:
PHASE 1: LOTS 1-53, TRACT-A
PHASE 2: LOTS 54-108, 121-124, 140-142, 163-172, TRACTS B, C & G
PHASE 3: LOTS 109-120, 125-139, 143-162, 173-202, TRACTS D, E & F

SANITARY SEWER ACREAGE:
SEWER SYSTEM TO NORTH (18" PVC) - 16.30 AC
SEWER SYSTEM TO SOUTH (24" PVC) - 52.00 AC

LOTS:
SINGLE FAMILY LOTS: 134
DUPLEX LOTS: 68
TOTAL DWELLINGS: 270

PROJECT SUMMARY:

EXISTING ZONING: AG
PROPOSED ZONING: RP-3 (10 UNITS/ACRE)
TOTAL BOUNDARY AREA: 74.1 ACRES
STREET TYPE: LOCAL - NEIGHBORHOOD STREET
BUILDING TYPES: SINGLE/MULTI FAMILY HOUSE
MINIMUM LOT SIZE AND WIDTH: 4,000 sq. ft. & 50-ft. WIDE (SF), 70-ft. WIDE (MF)
MINIMUM LIVABLE FLOOR AREA CLASSIFICATION: I
MINIMUM LIVABLE FLOOR AREA: 1,100 SQUARE FEET
AREA - LOTS: 202 (54.58 ACRES)
AREA - OPEN SPACE: 5 TRACTS (14.61 ACRES)

MINIMUM BUILDING SETBACKS:

SINGLE FAMILY LOTS:
FRONT YARD - 25 FEET
SIDE YARD - 5 FEET
REAR YARD - 20 FEET

DUPLEX LOTS:
FRONT YARD - 25 FEET
SIDE YARD - 10 FEET
REAR YARD - 30 FEET

LOT SIZE SUMMARY	
NUMBER OF LOTS	202
MINIMUM LOT SIZE	6,000 SQ.FT.
MAXIMUM LOT SIZE	29,923 SQ.FT.
AVERAGE LOT SIZE	17,961 SQ.FT.
MINIMUM LOT WIDTH	50 FEET
MAXIMUM LOT WIDTH	96 FEET
AVERAGE LOT WIDTH	73 FEET

DEVELOPER
HAMBLEN ROAD PROJECT, LLC
705 B MELODY LANE
LEE'S SUMMIT, MISSOURI 64063
(816) 877-5086
CONTACT - DUSTIN BAXTER

ENGINEER
Hg CONSULT, INC.
1533 LOCUST STREET
KANSAS CITY, MO. 64108
(816) 703-7098
CONTACT - MATT CASTOR

Hg Consult Inc engineers planners
1533 Locust Street, Kansas City, Missouri 64108

MATT CASTOR, MO 2015035104
October 20, 2022

PRELIMINARY PLAT

COLTON'S CROSSING
LOTS 1 THRU 202 AND TRACTS A THRU E
CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

21-018 Base
21-018 Preliminary Plat
Oct. 20, 2022
21-018

SHEET 1 OF 5

PM Trip Distributions

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LOTS 1 THRU 202, TRACTS A THRU G

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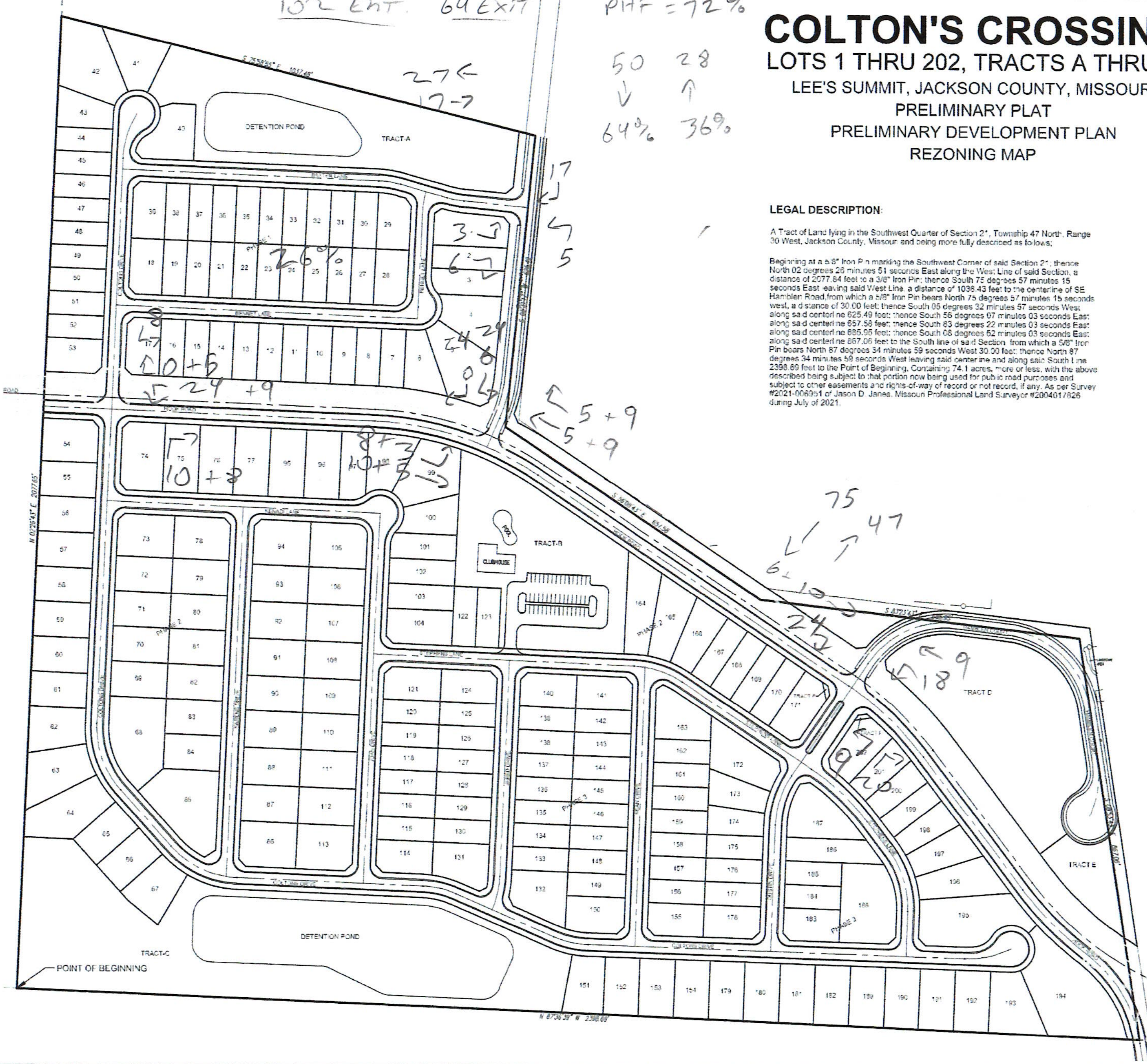

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SCALE IN FEET: 0, 100', 150', 200'

VICINITY MAP

NOT TO SCALE

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ENGINEER
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CONTACT - MATT CASTOR

DATE	REVISION	NO	BY	CK/APP
10/20/22	REVISED PER CITY'S COMMENTS DATED 08/31/22	2	MAC	MAC
08/08/22	SUBMITTED TO CITY OF LEE'S SUMMIT	1	MAC	MAC

IF THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI — MATTHEW JAMES CASTOR — NUMBER 2015035109 — REGISTERED PROFESSIONAL ENGINEER

MATT CASTOR, MO 2015035109
October 20, 2022

Hg Consult Inc engineers planners
1533 Locust Street, Kansas City, Missouri 64108
CORPORATE LICENSE No. E2010005573 (MO.) / E-1736 (KS.) / LS 2019005467

PRELIMINARY PLAT

COLTON'S CROSSING
LOTS 1 THRU 202 AND TRACTS A THRU E
CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

X-REF NO. 21-018 Base
DRAWING NO. 21-018 Preliminary Plat
DATE Oct. 20, 2022
JOB NO. 21-018
SHEET 1 OF 5

Appendix B – Synchro Output

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	1	40	5	8	44	1	1	0	0	13
Future Vol, veh/h	1	40	5	8	44	1	1	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None
Storage Length	200	-	-	200	-	-	0	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	47	6	9	52	1	1	0	0	15

Major/Minor	Major1			Major2			Minor2		Minor1	
Conflicting Flow All	53	0	0	53	0	0	131	53	123	50
Stage 1	-	-	-	-	-	-	71	-	52	-
Stage 2	-	-	-	-	-	-	60	-	71	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318
Pot Cap-1 Maneuver	1553	-	-	1553	-	-	841	1014	852	1018
Stage 1	-	-	-	-	-	-	939	-	961	-
Stage 2	-	-	-	-	-	-	951	-	939	-
Platoon blocked, %		-	-		-	-				
Mov Cap-1 Maneuver	1553	-	-	1553	-	-	824	1014	847	1018
Mov Cap-2 Maneuver	-	-	-	-	-	-	824	-	847	-
Stage 1	-	-	-	-	-	-	938	-	960	-
Stage 2	-	-	-	-	-	-	936	-	932	-

Approach	EB	WB	SB	NE
HCM Control Delay, s	0.2	1.1	9	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	903	1553	-	-	1553	-	-	909
HCM Lane V/C Ratio	0.046	0.001	-	-	0.006	-	-	0.003
HCM Control Delay (s)	9.2	7.3	-	-	7.3	-	-	9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	16	10	57	30	6
Future Vol, veh/h	27	16	10	57	30	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	250	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	19	12	67	35	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	79	0	-	0	95	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	83	-
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	-	-	-	905	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1519	-	-	-	886	1069
Mov Cap-2 Maneuver	-	-	-	-	886	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	940	-

Approach	EB	WB	SB
HCM Control Delay, s	4.7	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1519	-	-	-	886	1069
HCM Lane V/C Ratio	0.021	-	-	-	0.04	0.007
HCM Control Delay (s)	7.4	-	-	-	9.2	8.4
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	12	0	4	0	0	34	9	0	0
Future Vol, veh/h	0	0	0	12	0	4	0	0	34	9	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	5	0	0	40	11	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	1	0	0	32	34	1	52	32	3
Stage 1	-	-	-	-	-	-	1	1	-	31	31	-
Stage 2	-	-	-	-	-	-	31	33	-	21	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1616	-	-	1622	-	-	976	859	1084	947	861	1081
Stage 1	-	-	-	-	-	-	1022	895	-	986	869	-
Stage 2	-	-	-	-	-	-	986	868	-	998	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1616	-	-	1622	-	-	969	851	1084	905	853	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	969	851	-	905	853	-
Stage 1	-	-	-	-	-	-	1022	895	-	986	861	-
Stage 2	-	-	-	-	-	-	977	860	-	961	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	5.4	8.4	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1084	1616	-	-	1622	-	-	905
HCM Lane V/C Ratio	0.037	-	-	-	0.009	-	-	0.012
HCM Control Delay (s)	8.4	0	-	-	7.2	0	-	9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	6	3	81	30	2
Future Vol, veh/h	9	6	3	81	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	7	4	95	35	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	139	36	37	0	-	0
Stage 1	36	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	854	1037	1574	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	851	1037	1574	-	-	-
Mov Cap-2 Maneuver	851	-	-	-	-	-
Stage 1	983	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1574	-	917	-	-
HCM Lane V/C Ratio	0.002	-	0.019	-	-
HCM Control Delay (s)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	1	70	24	18	46	1	1	0	0	20
Future Vol, veh/h	1	70	24	18	46	1	1	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None
Storage Length	250	-	-	250	-	-	0	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	97	33	25	64	1	1	0	0	28

Major/Minor	Major1			Major2			Minor2		Minor1	
Conflicting Flow All	65	0	0	130	0	0	245	65	231	114
Stage 1	-	-	-	-	-	-	115	-	116	-
Stage 2	-	-	-	-	-	-	130	-	115	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318
Pot Cap-1 Maneuver	1537	-	-	1455	-	-	709	999	724	939
Stage 1	-	-	-	-	-	-	890	-	889	-
Stage 2	-	-	-	-	-	-	874	-	890	-
Platoon blocked, %		-	-		-	-				
Mov Cap-1 Maneuver	1537	-	-	1455	-	-	679	999	713	939
Mov Cap-2 Maneuver	-	-	-	-	-	-	679	-	713	-
Stage 1	-	-	-	-	-	-	889	-	888	-
Stage 2	-	-	-	-	-	-	848	-	873	-

Approach	EB	WB	SB	NE
HCM Control Delay, s	0.1	2.1	9.5	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	855	1537	-	-	1455	-	-	808
HCM Lane V/C Ratio	0.047	0.001	-	-	0.017	-	-	0.003
HCM Control Delay (s)	9.4	7.3	-	-	7.5	-	-	9.5
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	15	14	42	80	24
Future Vol, veh/h	11	15	14	42	80	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	250	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	21	19	58	111	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	70	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	51	-
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	1522	-	-	-	934	1059
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	925	1059
Mov Cap-2 Maneuver	-	-	-	-	925	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1522	-	-	-	925	1059
HCM Lane V/C Ratio	0.01	-	-	-	0.12	0.031
HCM Control Delay (s)	7.4	-	-	-	9.4	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	33	0	5	0	0	18	8	0	0
Future Vol, veh/h	0	0	0	33	0	5	0	0	18	8	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	46	0	7	0	0	25	11	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	7	0	0	1	0	0	97	100	1	110	97	4
Stage 1	-	-	-	-	-	-	1	1	-	96	96	-
Stage 2	-	-	-	-	-	-	96	99	-	14	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1614	-	-	1622	-	-	885	790	1084	868	793	1080
Stage 1	-	-	-	-	-	-	1022	895	-	911	815	-
Stage 2	-	-	-	-	-	-	911	813	-	1006	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1614	-	-	1622	-	-	866	768	1084	830	771	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	866	768	-	830	771	-
Stage 1	-	-	-	-	-	-	1022	895	-	911	792	-
Stage 2	-	-	-	-	-	-	885	790	-	983	895	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.3	8.4	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1084	1614	-	-	1622	-	-	830
HCM Lane V/C Ratio	0.023	-	-	-	0.028	-	-	0.013
HCM Control Delay (s)	8.4	0	-	-	7.3	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	5	48	98	17
Future Vol, veh/h	3	6	5	48	98	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	8	7	67	136	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	229	148	160	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	81	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	759	899	1419	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	755	899	1419	-	-	-
Mov Cap-2 Maneuver	755	-	-	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	845	-	-
HCM Lane V/C Ratio	0.005	-	0.015	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	1	199	5	8	310	1	1	0	0	13
Future Vol, veh/h	1	199	5	8	310	1	1	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None
Storage Length	200	-	-	200	-	-	0	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	234	6	9	365	1	1	0	0	15

Major/Minor	Major1			Major2			Minor2		Minor1	
Conflicting Flow All	366	0	0	240	0	0	631	366	623	237
Stage 1	-	-	-	-	-	-	384	-	239	-
Stage 2	-	-	-	-	-	-	247	-	384	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318
Pot Cap-1 Maneuver	1193	-	-	1327	-	-	394	679	398	802
Stage 1	-	-	-	-	-	-	639	-	764	-
Stage 2	-	-	-	-	-	-	757	-	639	-
Platoon blocked, %		-	-		-	-				
Mov Cap-1 Maneuver	1193	-	-	1327	-	-	384	679	395	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	384	-	395	-
Stage 1	-	-	-	-	-	-	638	-	763	-
Stage 2	-	-	-	-	-	-	742	-	634	-

Approach	EB	WB	SB	NE
HCM Control Delay, s	0	0.2	12.4	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	487	1193	-	-	1327	-	-	491
HCM Lane V/C Ratio	0.085	0.001	-	-	0.007	-	-	0.005
HCM Control Delay (s)	13.1	8	-	-	7.7	-	-	12.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	166	260	73	39	6
Future Vol, veh/h	27	166	260	73	39	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	250	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	195	306	86	46	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	392	0	-	0	565	306
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	259	-
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	1167	-	-	-	486	734
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1167	-	-	-	473	734
Mov Cap-2 Maneuver	-	-	-	-	473	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	784	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1167	-	-	-	473	734
HCM Lane V/C Ratio	0.027	-	-	-	0.097	0.01
HCM Control Delay (s)	8.2	-	-	-	13.4	10
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	150	0	12	250	4	0	0	34	9	0	0
Future Vol, veh/h	0	150	0	12	250	4	0	0	34	9	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	176	0	14	294	5	0	0	40	11	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	299	0	0	176	0	0	501	503	176	521	501	297
Stage 1	-	-	-	-	-	-	176	176	-	325	325	-
Stage 2	-	-	-	-	-	-	325	327	-	196	176	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1262	-	-	1400	-	-	480	471	867	466	472	742
Stage 1	-	-	-	-	-	-	826	753	-	687	649	-
Stage 2	-	-	-	-	-	-	687	648	-	806	753	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1262	-	-	1400	-	-	476	465	867	440	466	742
Mov Cap-2 Maneuver	-	-	-	-	-	-	476	465	-	440	466	-
Stage 1	-	-	-	-	-	-	826	753	-	687	641	-
Stage 2	-	-	-	-	-	-	679	640	-	769	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	9.4	13.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	867	1262	-	-	1400	-	-	440
HCM Lane V/C Ratio	0.046	-	-	-	0.01	-	-	0.024
HCM Control Delay (s)	9.4	0	-	-	7.6	0	-	13.4
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	6	3	97	39	2
Future Vol, veh/h	9	6	3	97	39	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	7	4	114	46	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	169	47	48	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	122	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	821	1022	1559	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	819	1022	1559	-	-	-
Mov Cap-2 Maneuver	819	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1559	-	890	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	1	344	24	18	210	1	1	0	0	20
Future Vol, veh/h	1	344	24	18	210	1	1	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None
Storage Length	200	-	-	200	-	-	0	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	478	33	25	292	1	1	0	0	28

Major/Minor	Major1			Major2			Minor2		Minor1	
Conflicting Flow All	293	0	0	511	0	0	854	293	840	495
Stage 1	-	-	-	-	-	-	343	-	497	-
Stage 2	-	-	-	-	-	-	511	-	343	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.22	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	6.12	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	3.318	3.518	3.318
Pot Cap-1 Maneuver	1269	-	-	1054	-	-	279	746	285	575
Stage 1	-	-	-	-	-	-	672	-	555	-
Stage 2	-	-	-	-	-	-	545	-	672	-
Platoon blocked, %		-	-		-	-				
Mov Cap-1 Maneuver	1269	-	-	1054	-	-	261	746	279	575
Mov Cap-2 Maneuver	-	-	-	-	-	-	261	-	279	-
Stage 1	-	-	-	-	-	-	671	-	554	-
Stage 2	-	-	-	-	-	-	518	-	655	-

Approach	EB	WB	SB	NE
HCM Control Delay, s	0	0.7	14.4	14.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	433	1269	-	-	1054	-	-	387
HCM Lane V/C Ratio	0.093	0.001	-	-	0.024	-	-	0.007
HCM Control Delay (s)	14.2	7.8	-	-	8.5	-	-	14.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	265	164	56	104	24
Future Vol, veh/h	11	265	164	56	104	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	250	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	368	228	78	144	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	306	0	-	0	626	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	398	-
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	1255	-	-	-	448	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	678	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1255	-	-	-	443	811
Mov Cap-2 Maneuver	-	-	-	-	443	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	678	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1255	-	-	-	443	811
HCM Lane V/C Ratio	0.012	-	-	-	0.326	0.041
HCM Control Delay (s)	7.9	-	-	-	17	9.6
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	1.4	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	250	0	33	150	5	0	0	18	8	0	0
Future Vol, veh/h	0	250	0	33	150	5	0	0	18	8	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	347	0	46	208	7	0	0	25	11	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	215	0	0	347	0	0	651	654	347	664	651	212
Stage 1	-	-	-	-	-	-	347	347	-	304	304	-
Stage 2	-	-	-	-	-	-	304	307	-	360	347	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1355	-	-	1212	-	-	382	386	696	374	388	828
Stage 1	-	-	-	-	-	-	669	635	-	705	663	-
Stage 2	-	-	-	-	-	-	705	661	-	658	635	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1355	-	-	1212	-	-	369	369	696	349	371	828
Mov Cap-2 Maneuver	-	-	-	-	-	-	369	369	-	349	371	-
Stage 1	-	-	-	-	-	-	669	635	-	705	634	-
Stage 2	-	-	-	-	-	-	675	633	-	634	635	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.4	10.4	15.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	696	1355	-	-	1212	-	-	349
HCM Lane V/C Ratio	0.036	-	-	-	0.038	-	-	0.032
HCM Control Delay (s)	10.4	0	-	-	8.1	0	-	15.7
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	5	62	122	17
Future Vol, veh/h	3	6	5	62	122	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	8	7	86	169	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	281	181	193	0	-	0
Stage 1	181	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	709	862	1380	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	705	862	1380	-	-	-
Mov Cap-2 Maneuver	705	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1380	-	802	-	-
HCM Lane V/C Ratio	0.005	-	0.016	-	-
HCM Control Delay (s)	7.6	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-