Technical Memorandum

Date: December 04, 2024

To: Turney Energy Center (AECI)

From: Burns & McDonnell

Subject: Turney Energy Center Traffic Assessment

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

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Project Description

Associated Electric Cooperative Incorporated (AECI) plans to construct and operate a new energy center at the proposed site in Turney, MO. This facility operates under typical working hours of 7:00 AM – 4:30 PM. Construction is set to begin in June 2025 and is anticipated to be completed in 2027. This traffic study analyzes the existing, construction, and permanent traffic generated by the facility and sight distance availability at the major intersections within the project scope. The intersections within the project limits are listed below:

1. State Highway A & 280th Street
2. State Highway A & 296th Street
3. NE Breckenridge Road & 280th Street
4. NE Breckenridge Road & 288th Street
5. Proposed Driveway & 288th Street

AECI has identified a preferred route for truck traffic during construction. These trucks will access the site by turning onto 280th Street from State Highway A. They will then make an eastbound right onto NE Breckenridge Road, followed by a northbound left onto 288th Street, where they will access the plant.

State Highway A is a north-south 2-lane highway with no turn lanes, no pedestrian facilities, and a posted speed limit of 60 mph. NE Breckenridge Road is a north-south 2-lane unpaved roadway with no turn lanes, no pedestrian facilities, and a posted speed limit of 35 mph. 280th Street is an east-west 2-lane unpaved roadway with no turn lanes, no pedestrian facilities, and a posted speed limit of 35 mph. 288th Street is an east-west 2-lane unpaved roadway with no turn lanes, no pedestrian facilities, and a posted speed limit of 35 mph. 296th Street is an east-west 2-lane unpaved roadway with no turn lanes, no pedestrian facilities, and a posted speed limit of 35 mph. A site map is provided in Appendix A.

Existing Traffic Volumes

Traffic counts were collected utilizing Gewalt Hamilton Associates, Inc. Turning movement counts were collected from 6AM-6PM on Thursday, November 7th, 2024. Weather was typical this Thursday, reaching a high of 56 and a low of 37.

Due to the concern of school traffic, we investigated the potential presence of school buses in the area. The traffic counts and videos indicate one regular entry and exit trip from a school bus during typical pick-up and drop-off hours. Additionally, because the traffic counts were conducted during a specific time of year, a seasonality adjustment factor of 1.74 was applied to

account for seasonal variations in traffic volume. This factor was derived from MoDOT's data, reflecting the periods of heaviest travel throughout the year.

Vehicle Trip Generation

Historic ADT volumes from MoDOT's interactive ADT traffic map were used to calculate a growth rate for State Highway A. Based on these 2019 and 2023 traffic volumes, an annual growth rate of 4.00% was determined and applied to all movements in the project area.

Under existing conditions, 0 vehicles enter and exit the site during peak hours. It is estimated that 468 personnel, consisting of the construction and operation workforce, will visit the site during peak construction hours. A North-South split of 50% / 50% was applied to the vehicles generated during construction. After construction is completed, the permanent traffic during peak hours is anticipated to be 10 vehicles.

Appendix B provides traffic flow maps displaying turning movements during existing conditions, peak construction conditions, and permanent conditions.

Traffic Operations Analysis

Synchro 12 was used to analyze the level of service, delay, and queue lengths of the identified intersections serving the project site. Synchro 12 uses the Highway Capacity Manual (HCM) 7th Edition methodology to determine the level of service. The peak hours have been identified as 7:15 AM – 8:15 AM and 4:30 PM – 5:30 PM. The traffic analysis results for the existing conditions can be found in Table 1 below and Appendix C.

Table 1: Existing Conditions Results

	Metric	Overall AM (PM)		Turning Movement AM (PM)							
				EB		WB		NB		SB	
State Highway A & 280th St	LOS	A	(A)	A	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	0.9	(1.9)	9.0	(9.3)	-	(-)	(0.7)	(1.5)	0.0	(0.0)
State Highway A & 296th St	LOS	A	(A)	A	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	0.2	(0.4)	8.8	(8.7)	-	-	0.0	(0.4)	0.0	(0.0)
NE Breckenridge Rd & 280th St	LOS	A	(A)	A	(A)	A	(A)	A	(A)	A	(A)
	Delay (sec)	7.4	(8.6)	8.8	(8.7)	6.5	(8.9)	6.4	(7.0)	8.0	(8.9)
NE Breckenridge Rd & 288th St	LOS	A	(A)	A	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	7.2	(4.9)	9.0	(8.8)	-	-	8.1	(4.6)	0.0	(0.0)

The Synchro analysis indicates that the existing conditions operate at an acceptable level.

Construction Conditions Analysis

The construction conditions account for both the existing traffic projected through 2027 and the additional vehicle volume generated by peak construction activity on the site. The traffic analysis results can be found in Table 2 below and Appendix C

Table 2: Construction Conditions Results

	Metric	Overall AM (PM)		Turning Movement AM (PM)							
				EB		WB		NB		SB	
State Highway A & 280th St	LOS	A	(D)	B	(E)	-	(-)	B	(A)	A	(A)
	Delay (sec)	5.4	(26.1)	13.0	(36.0)	-	(-)	(11.8)	(1.6)	0.0	(0.0)
State Highway A & 296th St	LOS	A	(A)	B	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	0.1	(0.2)	10.8	(8.7)	-	-	0.0	(0.2)	0.0	(0.0)
NE Breckenridge Rd & 280th St	LOS	B	(F)	A	(B)	B	(B)	A	(A)	A	(F)
	Delay (sec)	11.8	(90.1)	9.4	(11.2)	11.9	(11.5)	7.6	(8.1)	9.2	(98.2)
NE Breckenridge Rd & 288th St	LOS	C	(E)	A	(E)	-	(-)	B	(B)	A	(A)
	Delay (sec)	19.7	(42.1)	9.1	(42.6)	-	-	19.9	(10.9)	0.0	(0.0)

The Synchro analysis indicates that the construction conditions operate at an acceptable level at both intersections along State Highway A. However, NE Breckenridge Road at both 280th Street and 288th Street operates below acceptable levels of service during the PM peak.

Alternative Construction Conditions Analysis

Given the delays during construction, an alternative construction plan was explored. The intersection of NE Breckinridge Rd & 288th St is anticipated to experience very little opposing traffic to the site traffic. Therefore, a flagger is recommended at NE Breckenridge Rd & 288th St. A flagger was modeled as a fully actuated traffic signal. Furthermore, operating NE Breckenridge Rd & 280th St as a two-way stop-controlled intersection, with free flow movement northbound and southbound, is suggested. The traffic analysis results for this alternative can be found in Table 3 below and Appendix C.

Table 3: Alternative Construction Conditions Results

	Metric	Overall AM (PM)		Turning Movement AM (PM)							
				EB		WB		NB		SB	
State Highway A & 280th St	LOS	A	(D)	B	(E)	-	(-)	B	(A)	A	(A)
	Delay (sec)	5.4	(26.1)	13.0	(36.0)	-	(-)	(11.8)	(1.6)	0.0	(0.0)
State Highway A & 296th St	LOS	A	(A)	B	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	0.1	(0.2)	10.8	(8.7)	-	-	0.0	(0.2)	0.0	(0.0)
NE Breckenridge Rd & 280th St	LOS	C	(C)	B	(F)	C	(F)	A	(A)	A	(B)
	Delay (sec)	23.1	(20.7)	13.8	(79.4)	23.6	(152.4)	0.0	(2.1)	3.8	(12.1)
NE Breckenridge Rd & 288th St	LOS	A	(A)	D	(A)	-	(-)	A	(C)	A	(C)
	Delay (sec)	3.9	(9.5)	38.6	(9.3)	-	-	3.9	(20.7)	1.1	(20.6)

The Synchro analysis indicates that the alternative construction conditions operate at an acceptable intersection level. However, the site traffic causes significant delays to the stop-controlled traffic at NE Breckenridge Rd & 280th St. The site traffic will also experience delays eastbound on State Highway A & 280th St.

An additional alternative construction plan includes extending the time that the workers arrive and leave from 1 hour to 1.5 hours. The traffic analysis results for this alternative can be found in Table 4 below and Appendix C.

Table 4: Alternative Construction Shift Conditions Results

	Metric	Overall AM (PM)		Turning Movement AM (PM) EB		WB		NB		SB	
State Highway A & 280th St	LOS	A	(A)	B	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	0.1	(0.2)	10.0	(8.7)	-	(-)	(0.0)	(0.2)	(0.0)	(0.0)
State Highway A & 296th St	LOS	A	(A)	B	(B)	-	(-)	A	(A)	A	(B)
	Delay (sec)	3.2	(9.0)	10.7	(13.7)	-	-	7.1	(1.6)	0.0	(0.0)
NE Breckenridge Rd & 280th St	LOS	A	(C)	A	(B)	A	(B)	A	(A)	A	(D)
	Delay (sec)	8.8	(23.1)	9.2	(10.4)	8.8	(10.7)	7.2	(7.7)	8.8	(25.1)
NE Breckenridge Rd & 288th St	LOS	B	(C)	B	(A)	-	(-)	A	(A)	A	(C)
	Delay (sec)	11.6	(18.7)	3.4	(7.7)	-	-	0.0	(0.0)	9.1	(19.0)

The Synchro analysis indicates that the alternative construction shift conditions operate at an acceptable level.

Build Conditions Analysis

The build conditions account for both the existing traffic projected through 2027 and the additional vehicle volume generated by the energy center following the completion of construction. The traffic analysis results can be found in Table 5 below and Appendix C

Table 5: Build Conditions Results

	Metric	Overall AM (PM)		Turning Movement AM (PM)							
				EB		WB		NB		SB	
State Highway A & 280th St	LOS	A	(A)	A	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	1.1	(2.3)	9.1	(9.6)	-	(-)	(1.4)	(1.6)	0.0	(0.0)
State Highway A & 296th St	LOS	A	(A)	A	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	0.2	(0.4)	8.9	(8.7)	-	-	0.0	(0.4)	0.0	(0.0)
NE Breckenridge Rd & 280th St	LOS	A	(A)	A	(A)	A	(A)	A	(A)	A	(A)
	Delay (sec)	7.4	(8.8)	8.8	(8.8)	6.5	(9.1)	6.4	(7.0)	8.0	(9.2)
NE Breckenridge Rd & 288th St	LOS	A	(A)	A	(A)	-	(-)	A	(A)	A	(A)
	Delay (sec)	7.8	(6.9)	9.1	(8.9)	-	-	8.2	(4.6)	0.0	(0.0)

The Synchro analysis indicates that the build conditions operate at an acceptable level.

Sight Distance Evaluation

A sight distance evaluation was performed at the intersections of State Highway A and 280th Street, State Highway A and 296th Street, and Proposed Driveway and 288th Street. The required sight distance was determined based on procedures outlined in *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway and Transportation Officials (AASHTO). The available sight distance was compared to the minimum required stopping sight distance (SSD) and intersection sight distance (ISD) for the design speed of 60 mph for State Highway A and 35 mph for 288th Street. The full evaluation of the ISD and SSD can be found in Appendix D.

Based on the sight distance evaluation, nearly all sight distances met both the required SSD and ISD. However, the sight distance at the intersection of State Highway A and 280th Street observing the northbound vehicles was discovered to be 752', well short of the calculated requirement of

1015'. While there is not an existing safety issue, the additional traffic could lead to an increase in safety issues. To help reduce the risk at this intersection, an installation of a flashing beacon facing both southbound towards the northbound traveling traffic and westbound to the stopped eastbound traffic can be considered. This beacon would flash when a vehicle is approaching within the required intersection sight distance and act as a warning of a potentially unsafe turn. Additionally, construction zone signing can be installed in order to improve awareness to the potential traffic queue. Alternatively, the route could be adjusted to use State Highway A and 296th Street.

Conclusions

The proposed facility's peak construction workforce is expected to be 468 employees during both AM and PM peak hours and will return to 10 employees after construction. A capacity analysis of the project area indicates that the build traffic volumes will not cause delays or queueing issues. However, during construction traffic will cause delays or queueing issues. To mitigate the impacts of construction traffic, two alternatives are proposed:

Alternative 1 uses flaggers at the NE Breckenridge Rd & 288th intersection during arrival and departure times. During other time periods, operations would remain as a two-way stop-controlled intersection, with free flow movement northbound and southbound. The flagging operations allow for flexibility in assigning the right-of-way at the intersections.

Alternative 2 includes expanding the arrival and departure window to 90 minutes, as opposed to the existing 60-minute window and leaving the intersections as two-way stop control. By extending the arrival and departure time to 90 minutes, the number of vehicles using the intersections decreases during peak times.

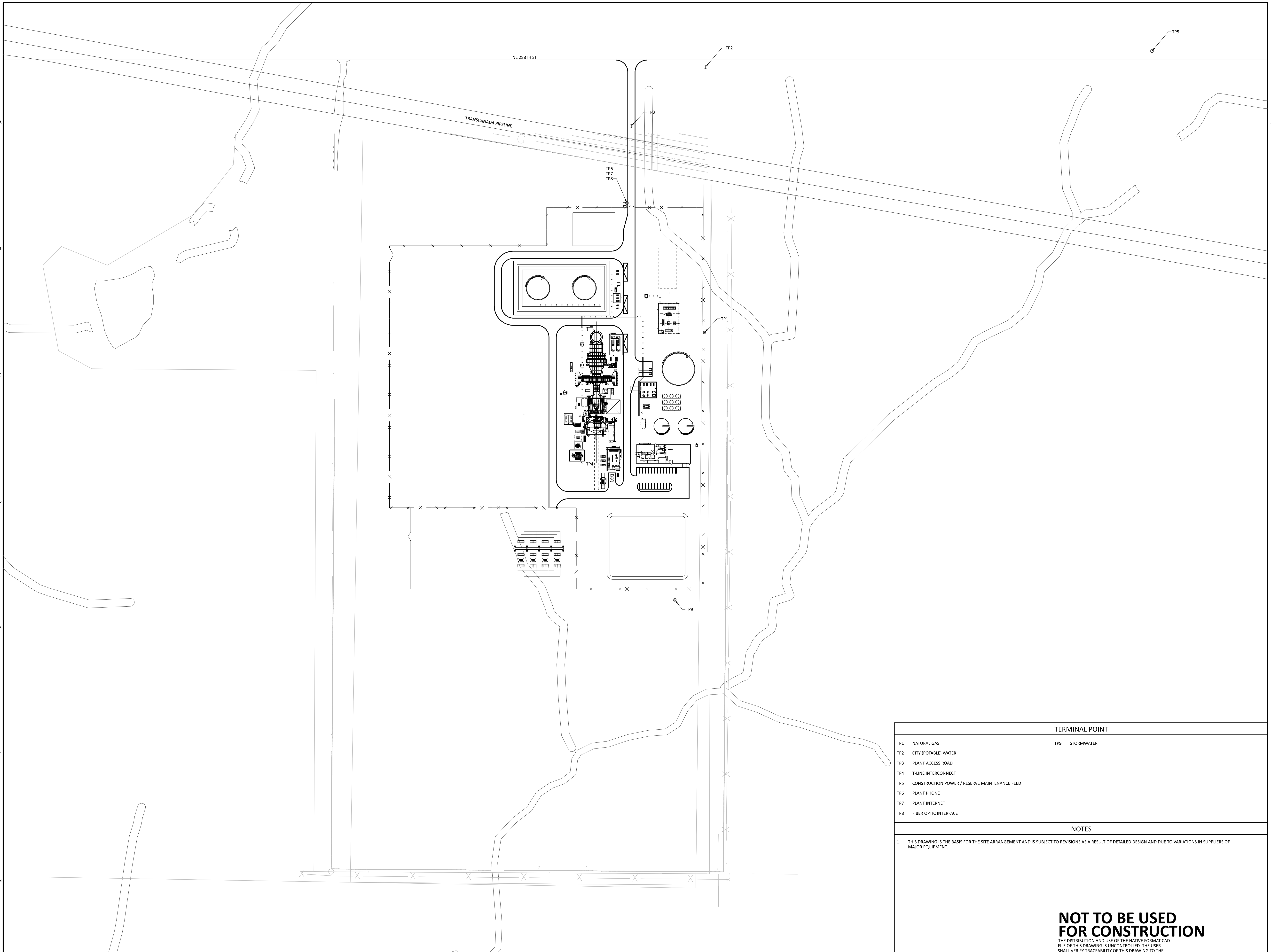
A sight distance evaluation was also conducted. It was found that the existing sight distance at State Highway A and 280th Street does not meet minimum ISD requirements for a 60-mph roadway. To help offset the limited sight distance, three options are proposed: a flashing beacon, construction signage, or moving the access to the northern intersection of 296th Street.

If the construction traffic accesses the site via 296th Street & State Highway A, one less intersection is gone through, sight distance is improved, and operations remain consistent with what is shown at 280th Street & State Highway A. However, this route does have a 90-degree right turn to navigate.

APPENDIX

APPENDIX A

Site Map



TERMINAL POINT

TP1	NATURAL GAS	TP9	STORMWATER
TP2	CITY (POTABLE) WATER		
TP3	PLANT ACCESS ROAD		
TP4	T-LINE INTERCONNECT		
TP5	CONSTRUCTION POWER / RESERVE MAINTENANCE FEED		
TP6	PLANT PHONE		
TP7	PLANT INTERNET		
TP8	FIBER OPTIC INTERFACE		

NOTES

1. THIS DRAWING IS THE BASIS FOR THE SITE ARRANGEMENT AND IS SUBJECT TO REVISIONS AS A RESULT OF DETAILED DESIGN AND DUE TO VARIATIONS IN SUPPLIERS OF MAJOR EQUIPMENT.

NOT TO BE USED FOR CONSTRUCTION

THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
B	01/MAR/24	ISSUED FOR CONTRACT	MJW	ATP			
A	27/OCT/23	ISSUED FOR PROPOSAL	KED	ATP			

BLACK & VEATCH

AECI
TURNEY ENERGY CENTER
PLOT PLAN

DESIGNER: ATP | DRAWN: KED | CHECKED: | DATE:

PROJECT / DRAWING NUMBER: 231389-TGAU-S1000 | REV: B

CODE: | AREA:

MicroStation v10.15.0.74
Full Size 1 = 1
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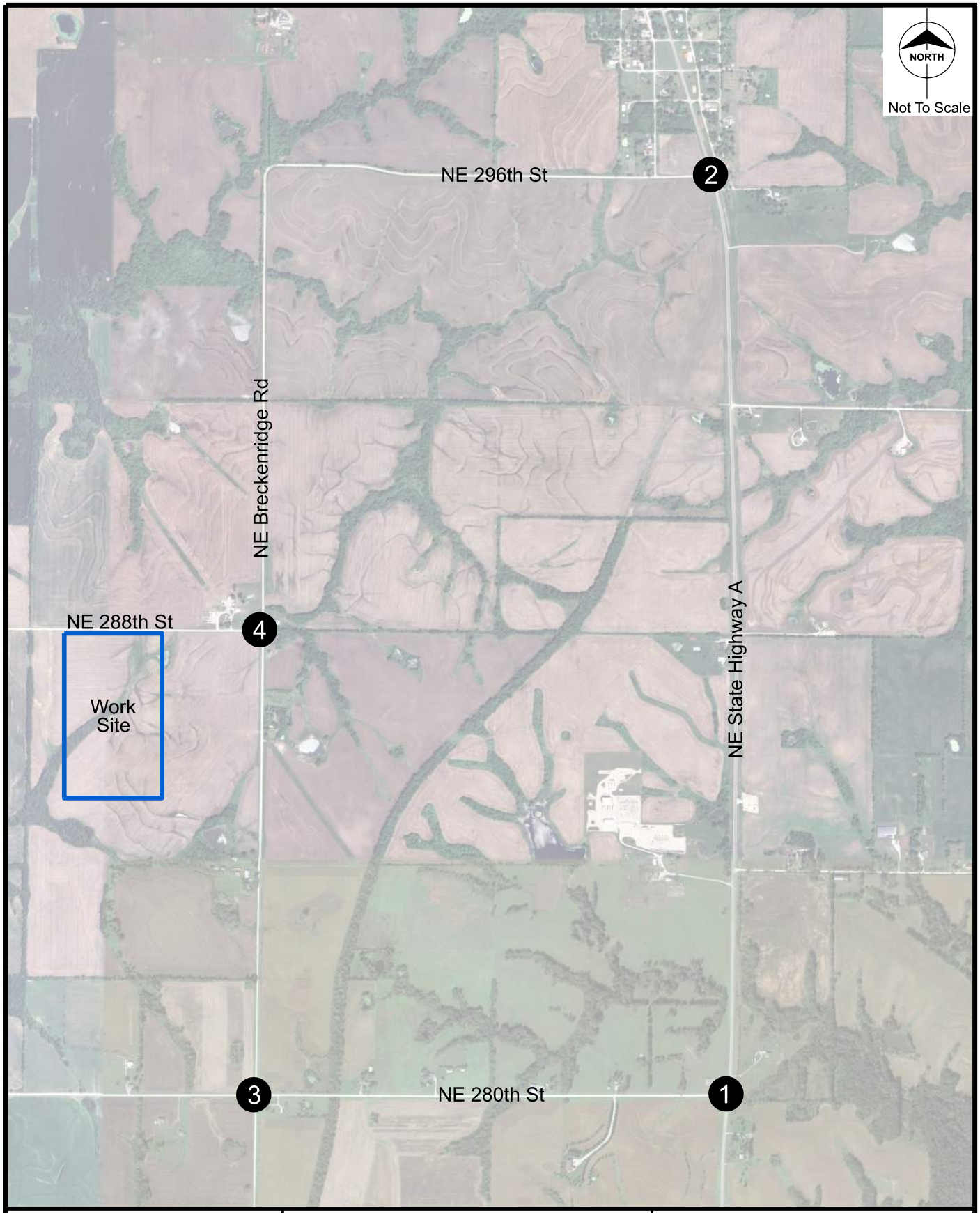
APPENDIX B

Volume Diagrams



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Layout Overview
Lane Use, Traffic Control & Volumes

LEGEND

X Study Intersection

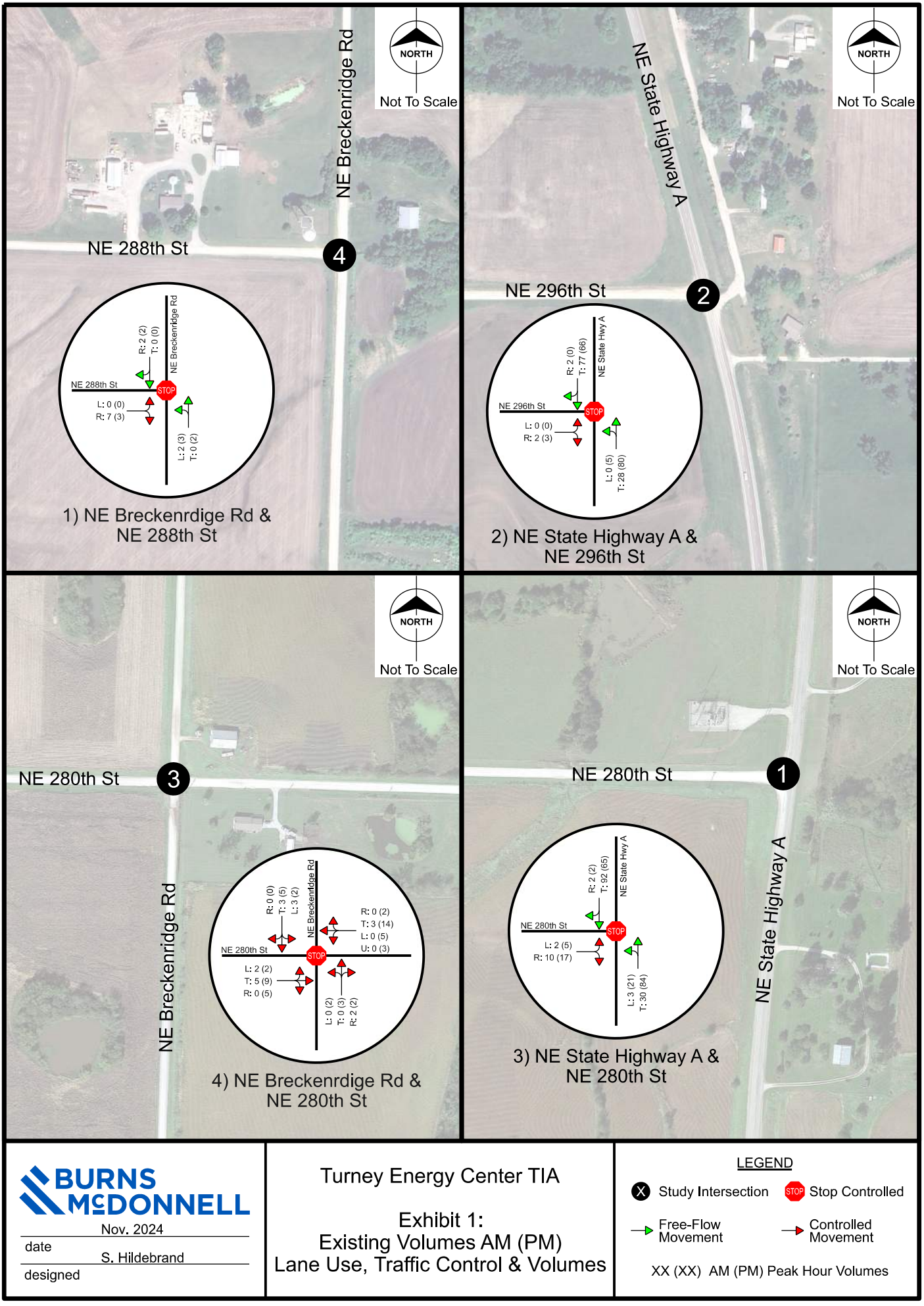
NE Breckenridge Rd
NORTH
Not To Scale
NE 288th St
4
NE 288th St
NE Breckenridge Rd
STOP
R: 2 (2)
T: 0 (0)
L: 0 (0)
R: 7 (3)
L: 2 (3)
T: 0 (2)
1) NE Breckenridge Rd &
NE 288th St
NE State Highway A
NORTH
Not To Scale
NE 296th St
2
NE 296th St
NE State Hwy A
STOP
R: 2 (0)
T: 77 (66)
L: 0 (0)
R: 2 (3)
L: 0 (5)
T: 28 (80)
2) NE State Highway A &
NE 296th St
NORTH
Not To Scale
NE 280th St
3
NE Breckenridge Rd
NE 280th St
NE Breckenridge Rd
STOP
R: 0 (0)
T: 3 (5)
L: 3 (2)
R: 0 (2)
T: 3 (14)
L: 0 (5)
U: 0 (3)
L: 2 (2)
T: 5 (9)
R: 0 (5)
L: 0 (2)
T: 0 (3)
R: 2 (2)
4) NE Breckenridge Rd &
NE 280th St
NORTH
Not To Scale
NE 280th St
1
NE State Highway A
NE 280th St
NE State Hwy A
STOP
R: 2 (2)
T: 92 (65)
L: 2 (5)
R: 10 (17)
L: 3 (21)
T: 30 (84)
3) NE State Highway A &
NE 280th St
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Exhibit 1:
Existing Volumes AM (PM)
Lane Use, Traffic Control & Volumes
LEGEND
Study Intersection
STOP Stop Controlled
Free-Flow Movement
Controlled Movement
XX (XX) AM (PM) Peak Hour Volumes

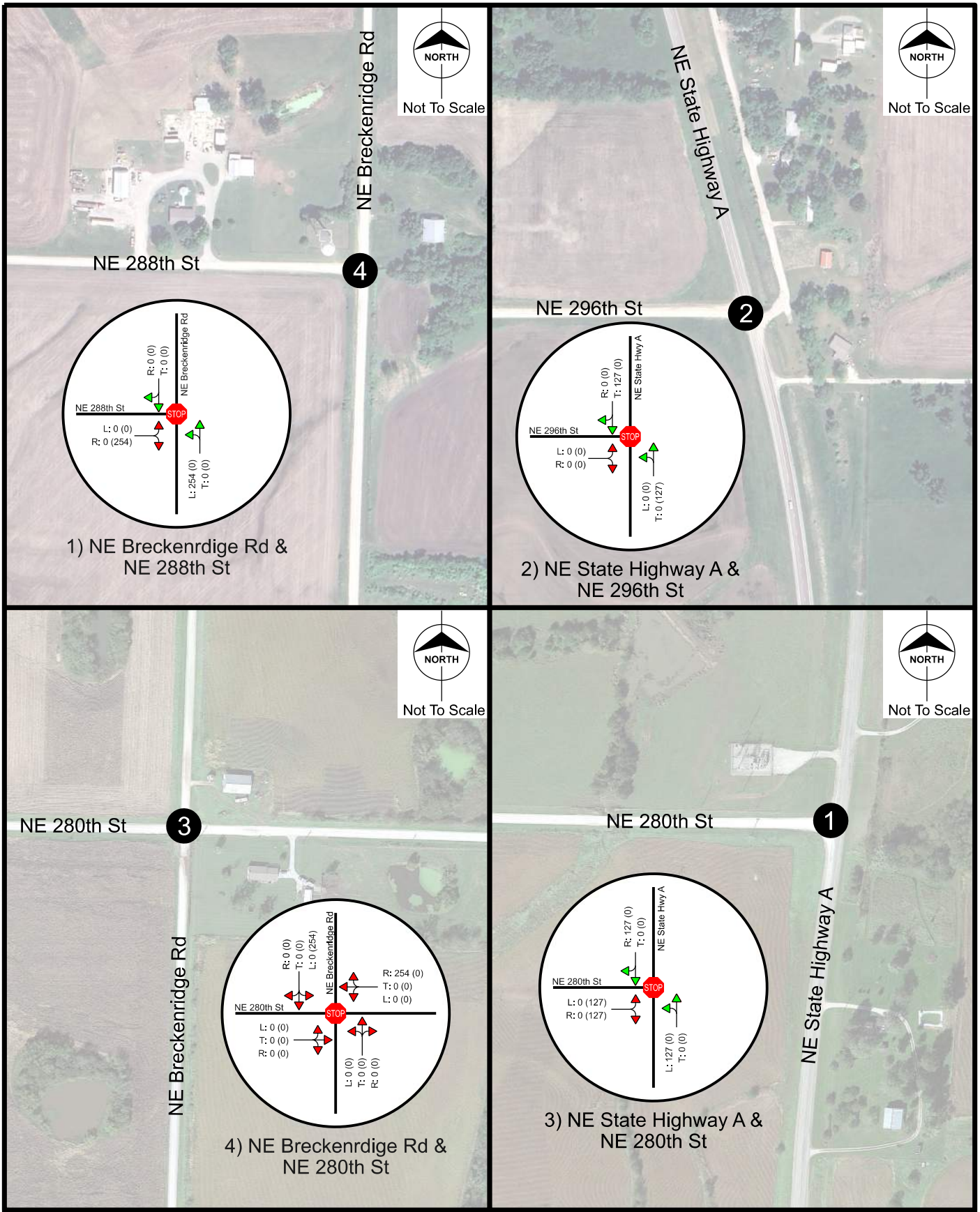

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Exhibit 2:
Site Traffic Volumes AM (PM)
Lane Use, Traffic Control & Volumes

LEGEND

- Study Intersection
- STOP Stop Controlled
- Free-Flow Movement
- Controlled Movement

XX (XX) AM (PM) Peak Hour Volumes

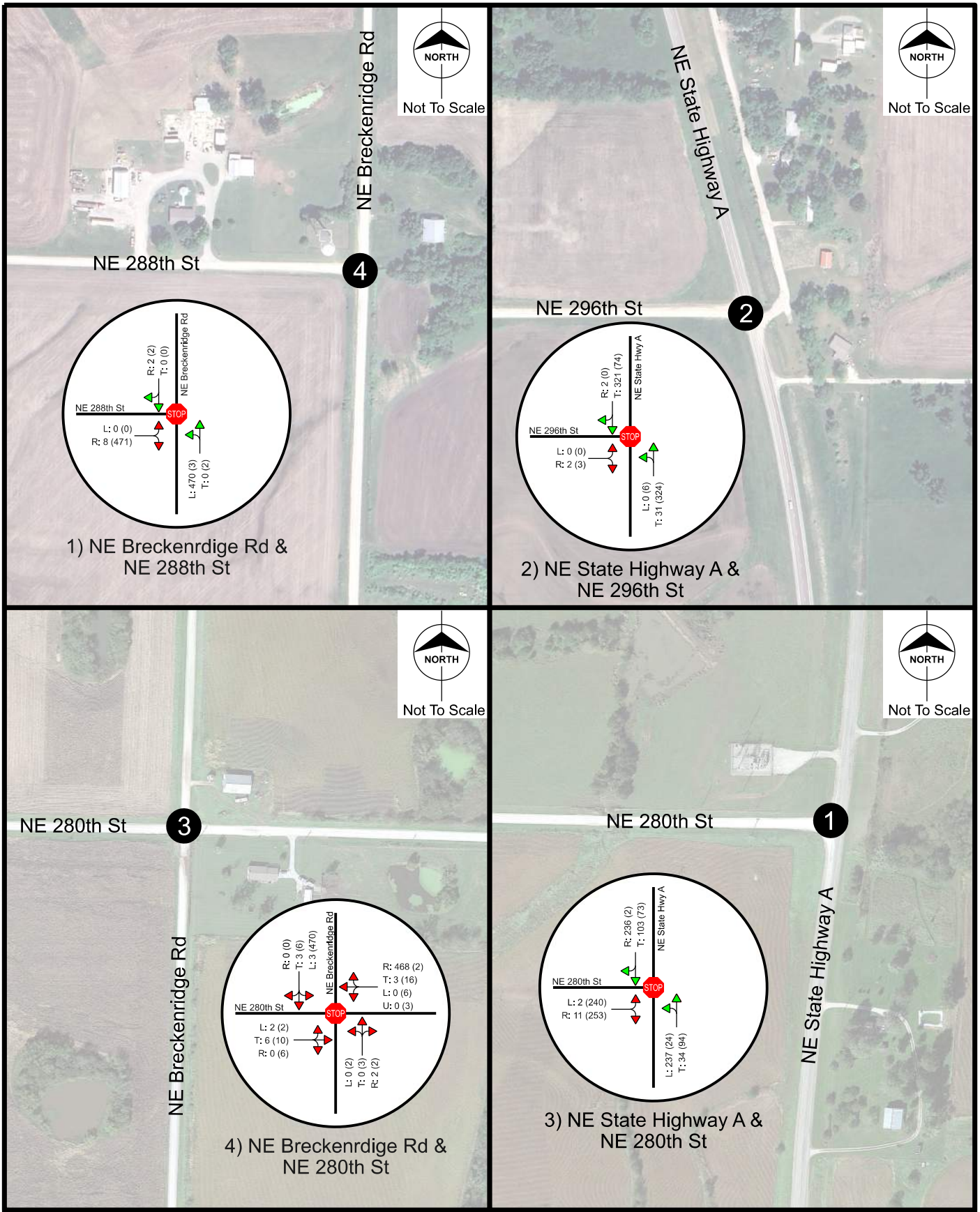

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Exhibit 3:
Construction Conditions
Volumes AM (PM)
Lane Use, Traffic Control & Volumes

LEGEND

- Study Intersection
- Stop Controlled
- Free-Flow Movement
- Controlled Movement

XX (XX) AM (PM) Peak Hour Volumes

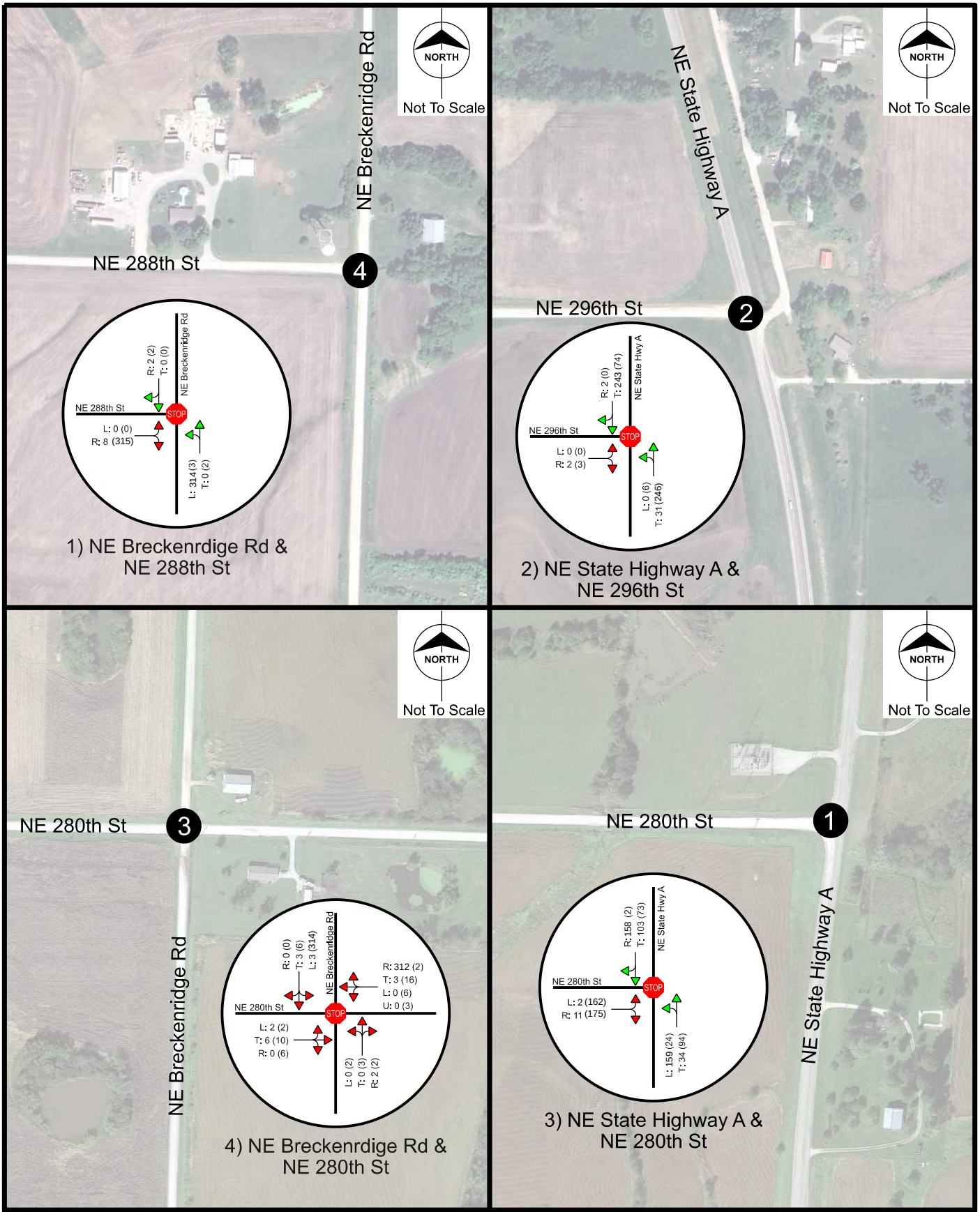

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Exhibit 4:
Construction Conditions 2
Volumes AM (PM)
Lane Use, Traffic Control & Volumes

LEGEND

- X Study Intersection
- STOP Stop Controlled
- Free-Flow Movement
- Controlled Movement

XX (XX) AM (PM) Peak Hour Volumes

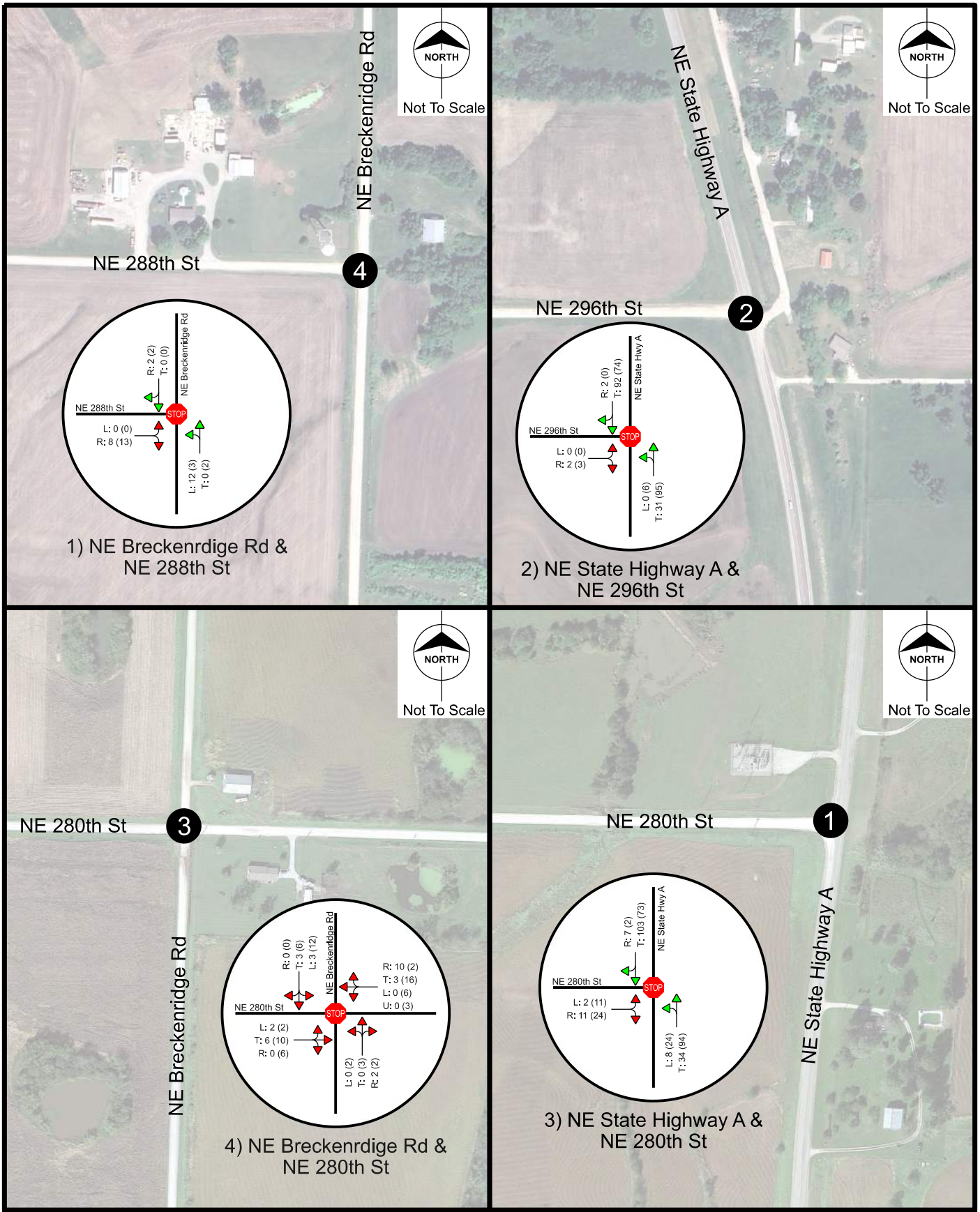

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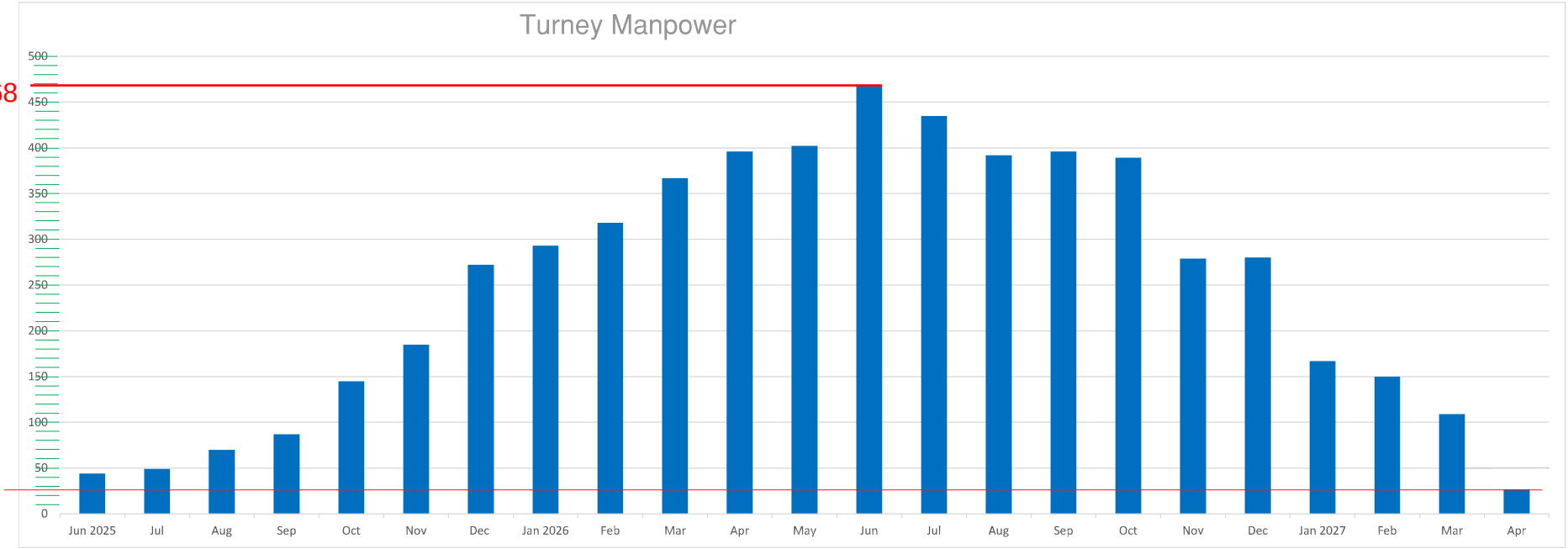
Exhibit 5:
Build Conditions Volumes AM (PM)
Lane Use, Traffic Control & Volumes

LEGEND

- X Study Intersection
- STOP Stop Controlled
- Free-Flow Movement
- Controlled Movement

XX (XX) AM (PM) Peak Hour Volumes



Schedule Rev F

APPENDIX C

Synchro Reports

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	3	30	92	2
Future Vol, veh/h	2	10	3	30	92	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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	3	14	4	41	124	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	174	126	127	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	820	930	1472	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	818	930	1472	-	-	-
Mov Cap-2 Maneuver	818	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.03	0.68	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	164	-	909	-	-
HCM Lane V/C Ratio	0.003	-	0.018	-	-
HCM Control Delay (s/veh)	7.5	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	28	77	2
Future Vol, veh/h	0	2	0	28	77	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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	0	3	0	38	104	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	143	105	107	0	-	0
Stage 1	105	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	854	954	1497	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	990	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	854	954	1497	-	-	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	990	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.78	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1497	-	954	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s/veh)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	5	0	0	3	0	0	0	2	3	3	0
Future Vol, veh/h	2	5	0	0	3	0	0	0	2	3	3	0
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	100	0	0	0	0	0	0	0	0	50	50	0
Mvmt Flow	3	7	0	0	4	0	0	0	3	4	4	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	7	6.4	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	29%	0%	50%
Vol Thru, %	0%	71%	100%	50%
Vol Right, %	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	7	3	6
LT Vol	0	2	0	3
Through Vol	0	5	3	3
RT Vol	2	0	0	0
Lane Flow Rate	3	10	4	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.016	0.005	0.012
Departure Headway (Hd)	3.332	5.682	3.929	4.878
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	1074	633	913	736
Service Time	1.351	3.691	1.943	2.894
HCM Lane V/C Ratio	0.003	0.016	0.004	0.012
HCM Control Delay, s/veh	6.4	8.8	7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0	0

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	2	0	0	2
Future Vol, veh/h	0	7	2	0	0	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	50	50	50	50	50	50
Heavy Vehicles, %	0	75	100	0	0	0
Mvmt Flow	0	14	4	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	10	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	8	-	-	-	-	-
Critical Hdwy	6.4	6.95	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.975	3.1	-	-	-
Pot Cap-1 Maneuver	1015	903	1157	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1012	903	1157	-	-	-
Mov Cap-2 Maneuver	1012	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.05	8.12	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	903	-	-
HCM Lane V/C Ratio	0.003	-	0.016	-	-
HCM Control Delay (s/veh)	8.1	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	17	21	84	65	2
Future Vol, veh/h	5	17	21	84	65	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	87	87	87	87	87	87
Heavy Vehicles, %	0	40	25	2	0	0
Mvmt Flow	6	20	24	97	75	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	221	76	77	0	-	0
Stage 1	76	-	-	-	-	-
Stage 2	145	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.35	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.425	-	-	-
Pot Cap-1 Maneuver	772	889	1388	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	758	889	1388	-	-	-
Mov Cap-2 Maneuver	758	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.34	1.53	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	360	-	856	-	-
HCM Lane V/C Ratio	0.017	-	0.03	-	-
HCM Control Delay (s/veh)	7.6	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	80	66	0
Future Vol, veh/h	0	3	5	80	66	0
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	0	4	6	101	84	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	197	84	84	0	-	0
Stage 1	84	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	796	981	1526	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	792	981	1526	-	-	-
Mov Cap-2 Maneuver	792	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.68	0.43	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	106	-	981	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	9	5	5	14	2	2	3	2	2	5	0
Future Vol, veh/h	2	9	5	5	14	2	2	3	2	2	5	0
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles, %	100	20	0	100	0	0	0	0	100	100	33	0
Mvmt Flow	3	13	7	7	20	3	3	4	3	3	7	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	8.9	7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	13%	24%	29%
Vol Thru, %	43%	56%	67%	71%
Vol Right, %	29%	31%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	16	21	7
LT Vol	2	2	5	2
Through Vol	3	9	14	5
RT Vol	2	5	2	0
Lane Flow Rate	10	23	30	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0.011	0.034	0.046	0.016
Departure Headway (Hd)	3.883	5.495	5.643	5.756
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	910	651	635	618
Service Time	1.955	3.53	3.673	3.825
HCM Lane V/C Ratio	0.011	0.035	0.047	0.016
HCM Control Delay, s/veh	7	8.7	8.9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0

Existing Conditions

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	3	2	0	2
Future Vol, veh/h	0	3	3	2	0	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	44	44	44	44	44	44
Heavy Vehicles, %	0	50	50	0	0	0
Mvmt Flow	0	7	7	5	0	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	20	2	5	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.6	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.65	-	-	-
Pot Cap-1 Maneuver	1002	957	1353	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	997	957	1353	-	-	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	1010	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.79	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1080	-	957	-	-
HCM Lane V/C Ratio	0.005	-	0.007	-	-
HCM Control Delay (s/veh)	7.7	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	130	31	96	129
Future Vol, veh/h	2	10	130	31	96	129
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	98	6	0	98
Mvmt Flow	3	14	176	42	130	174

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	610	217	304	0	-	0
Stage 1	217	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Critical Hdwy	6.4	6.2	5.08	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	3.082	-	-	-
Pot Cap-1 Maneuver	461	828	864	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	365	828	864	-	-	-
Mov Cap-2 Maneuver	365	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	686	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.4	8.26	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	844	-	683	-	-
HCM Lane V/C Ratio	0.203	-	0.024	-	-
HCM Control Delay (s/veh)	10.2	0	10.4	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	29	207	2
Future Vol, veh/h	0	2	0	29	207	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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	62	0
Mvmt Flow	0	3	0	39	280	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	281	282	0	-	0
Stage 1	281	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	677	763	1292	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	677	763	1292	-	-	-
Mov Cap-2 Maneuver	677	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.74	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1292	-	763	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s/veh)	0	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	5	0	0	3	254	0	0	2	3	3	0
Future Vol, veh/h	2	5	0	0	3	254	0	0	2	3	3	0
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	100	0	0	0	0	100	0	0	0	50	50	0
Mvmt Flow	3	7	0	0	4	368	0	0	3	4	4	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.1	8.1	7	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	29%	0%	50%
Vol Thru, %	0%	71%	1%	50%
Vol Right, %	100%	0%	99%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	7	257	6
LT Vol	0	2	0	3
Through Vol	0	5	3	3
RT Vol	2	0	254	0
Lane Flow Rate	3	10	372	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.017	0.345	0.013
Departure Headway (Hd)	3.969	5.961	3.336	5.523
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	897	602	1080	647
Service Time	2.015	3.984	1.352	3.564
HCM Lane V/C Ratio	0.003	0.017	0.344	0.014
HCM Control Delay, s/veh	7	9.1	8.1	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	1.6	0

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	256	0	0	2
Future Vol, veh/h	0	7	256	0	0	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	50	50	50	50	50	50
Heavy Vehicles, %	0	75	100	0	0	0
Mvmt Flow	0	14	512	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1026	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	1024	-	-	-	-	-
Critical Hdwy	6.4	6.95	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.975	3.1	-	-	-
Pot Cap-1 Maneuver	262	903	1157	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	146	903	1157	-	-	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	350	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.05	10.56	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	903	-	-
HCM Lane V/C Ratio	0.443	-	0.016	-	-
HCM Control Delay (s/veh)	10.6	0	9	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	2.3	-	0	-	-

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	132	145	22	87	68	2
Future Vol, veh/h	132	145	22	87	68	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	87	87	87	87	87	87
Heavy Vehicles, %	96	88	0	6	0	0
Mvmt Flow	152	167	25	100	78	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	230	79	80	0	-	0
Stage 1	79	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	7.36	7.08	4.1	-	-	-
Critical Hdwy Stg 1	6.36	-	-	-	-	-
Critical Hdwy Stg 2	6.36	-	-	-	-	-
Follow-up Hdwy	4.364	4.092	2.2	-	-	-
Pot Cap-1 Maneuver	591	787	1530	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	580	787	1530	-	-	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	15.06	1.49	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	363	-	673	-	-
HCM Lane V/C Ratio	0.017	-	0.473	-	-
HCM Control Delay (s/veh)	7.4	0	15.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.5	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	210	69	0
Future Vol, veh/h	0	3	5	210	69	0
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	61	0	0
Mvmt Flow	0	4	6	266	87	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	366	87	87	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	638	977	1521	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	977	1521	-	-	-
Mov Cap-2 Maneuver	635	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	773	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.7	0.17	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	42	-	977	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	9	5	5	15	2	2	3	2	256	5	0
Future Vol, veh/h	2	9	5	5	15	2	2	3	2	256	5	0
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles, %	100	0	0	0	0	0	0	0	0	100	50	0
Mvmt Flow	3	13	7	7	21	3	3	4	3	361	7	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10	8.4	7.5	17.6
HCM LOS	A	A	A	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	13%	23%	98%
Vol Thru, %	43%	56%	68%	2%
Vol Right, %	29%	31%	9%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	16	22	261
LT Vol	2	2	5	256
Through Vol	3	9	15	5
RT Vol	2	5	2	0
Lane Flow Rate	10	23	31	368
Geometry Grp	1	1	1	1
Degree of Util (X)	0.012	0.042	0.044	0.602
Departure Headway (Hd)	4.457	6.694	5.13	5.899
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	804	537	702	607
Service Time	2.477	4.702	3.136	3.977
HCM Lane V/C Ratio	0.012	0.043	0.044	0.606
HCM Control Delay, s/veh	7.5	10	8.4	17.6
HCM Lane LOS	A	A	A	C
HCM 95th-tile Q	0	0.1	0.1	4

Intersection	
Int Delay, s/veh	17.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	257	3	2	0	2
Future Vol, veh/h	0	257	3	2	0	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	44	44	44	44	44	44
Heavy Vehicles, %	0	100	100	0	0	0
Mvmt Flow	0	584	7	5	0	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	20	2	5	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	6.4	7.2	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	4.2	3.1	-	-	-
Pot Cap-1 Maneuver	1002	854	1156	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	996	854	1156	-	-	-
Mov Cap-2 Maneuver	996	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1010	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	17.8	4.88	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1080	-	854	-	-
HCM Lane V/C Ratio	0.006	-	0.684	-	-
HCM Control Delay (s/veh)	8.1	0	17.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	5.6	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	236	31	96	236
Future Vol, veh/h	2	10	236	31	96	236
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	98	6	0	98
Mvmt Flow	3	14	319	42	130	319

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	969	289	449	0	-	0
Stage 1	289	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.4	6.2	5.08	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	3.082	-	-	-
Pot Cap-1 Maneuver	284	755	747	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	160	755	747	-	-	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.01	11.81	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	730	-	466	-	-
HCM Lane V/C Ratio	0.427	-	0.035	-	-
HCM Control Delay (s/veh)	13.4	0	13	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	2.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	29	321	2
Future Vol, veh/h	0	2	0	29	321	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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	62	0
Mvmt Flow	0	3	0	39	434	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	474	435	436	0	-	0
Stage 1	435	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	552	625	1134	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	552	625	1134	-	-	-
Mov Cap-2 Maneuver	552	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.78	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1134	-	625	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s/veh)	0	-	10.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	23.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	6	0	0	3	468	0	0	2	3	3	0
Future Vol, veh/h	2	6	0	0	3	468	0	0	2	3	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	100	0	0	0	0	100	0	0	0	50	50	0
Mvmt Flow	3	9	0	0	4	678	0	0	3	4	4	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	15	16	4	19	14	1	4	0	0	3	0	0
Stage 1	13	13	-	1	1	-	-	-	-	-	-	-
Stage 2	2	3	-	17	13	-	-	-	-	-	-	-
Critical Hdwy	8.1	6.5	6.2	7.1	6.5	7.2	4.1	-	-	4.6	-	-
Critical Hdwy Stg 1	7.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.4	4	3.3	3.5	4	4.2	2.2	-	-	2.65	-	-
Pot Cap-1 Maneuver	798	882	1085	1000	884	855	1630	-	-	1355	-	-
Stage 1	804	889	-	1027	899	-	-	-	-	-	-	-
Stage 2	816	897	-	1007	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	164	879	1085	987	881	855	1630	-	-	1355	-	-
Mov Cap-2 Maneuver	164	879	-	987	881	-	-	-	-	-	-	-
Stage 1	801	886	-	1027	899	-	-	-	-	-	-	-
Stage 2	168	897	-	994	886	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.8	23.55	0	3.83
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1630	-	-	420	856	900	-	-
HCM Lane V/C Ratio	-	-	-	0.028	0.798	0.003	-	-
HCM Control Delay (s/veh)	0	-	-	13.8	23.6	7.7	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	8.5	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	8	470	0	0	2
Future Volume (veh/h)	0	8	470	0	0	2
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	789	418	1900	1900	1900
Adj Flow Rate, veh/h	0	16	940	0	0	4
Peak Hour Factor	0.50	0.50	0.50	0.50	0.50	0.50
Percent Heavy Veh, %	0	75	100	0	0	0
Cap, veh/h	0	27	1367	0	0	1474
Arrive On Green	0.00	0.02	0.92	0.00	0.00	0.92
Sat Flow, veh/h	0	1529	1434	0	0	1610
Grp Volume(v), veh/h	0	17	940	0	0	4
Grp Sat Flow(s),veh/h/ln	0	1625	1434	0	0	1610
Q Serve(g_s), s	0.0	1.4	21.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.4	21.6	0.0	0.0	0.0
Prop In Lane	0.00	0.94	1.00			1.00
Lane Grp Cap(c), veh/h	0	28	1367	0	0	1474
V/C Ratio(X)	0.00	0.60	0.69	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	218	1367	0	0	1474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	65.5	1.4	0.0	0.0	0.5
Incr Delay (d2), s/veh	0.0	18.5	2.8	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	1.8	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	84.0	4.2	0.0	0.0	0.5
LnGrp LOS		F	A			A
Approach Vol, veh/h	17			940	4	
Approach Delay, s/veh	84.0			4.2	0.5	
Approach LOS	F			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		127.5		6.8		127.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		123.0		18.0		123.0
Max Q Clear Time (g_c+I1), s		23.6		3.4		2.0
Green Ext Time (p_c), s		10.4		0.0		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	5.6
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	26.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	240	253	24	94	73	2
Future Vol, veh/h	240	253	24	94	73	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	87	87	87	87	87	87
Heavy Vehicles, %	98	92	25	2	0	0
Mvmt Flow	276	291	28	108	84	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	248	85	86	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	7.38	7.12	4.35	-	-	-
Critical Hdwy Stg 1	6.38	-	-	-	-	-
Critical Hdwy Stg 2	6.38	-	-	-	-	-
Follow-up Hdwy	4.382	4.128	2.425	-	-	-
Pot Cap-1 Maneuver	572	774	1377	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	560	774	1377	-	-	-
Mov Cap-2 Maneuver	560	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	678	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	35.99	1.56	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	366	-	652	-	-
HCM Lane V/C Ratio	0.02	-	0.869	-	-
HCM Control Delay (s/veh)	7.7	0	36	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	10.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	6	324	74	0
Future Vol, veh/h	0	3	6	324	74	0
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	72	0	0
Mvmt Flow	0	4	8	410	94	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	519	94	94	0	-	0
Stage 1	94	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	521	969	1513	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	517	969	1513	-	-	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.73	0.13	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	33	-	969	-	-
HCM Lane V/C Ratio	0.005	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	20.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	10	6	6	16	2	2	3	2	470	6	0
Future Vol, veh/h	2	10	6	6	16	2	2	3	2	470	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	100	20	0	100	0	0	0	0	100	100	33	0
Mvmt Flow	3	14	8	8	23	3	3	4	3	662	8	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1354	1345	8	1351	1344	6	8	0	0	7	0	0
Stage 1	1332	1332	-	11	11	-	-	-	-	-	-	-
Stage 2	21	13	-	1339	1332	-	-	-	-	-	-	-
Critical Hdwy	8.1	6.7	6.2	8.1	6.5	6.2	4.1	-	-	5.1	-	-
Critical Hdwy Stg 1	7.1	5.7	-	7.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.1	5.7	-	7.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	4.4	4.18	3.3	4.4	4	3.3	2.2	-	-	3.1	-	-
Pot Cap-1 Maneuver	80	139	1079	80	153	1083	1625	-	-	1153	-	-
Stage 1	120	205	-	806	890	-	-	-	-	-	-	-
Stage 2	795	850	-	118	225	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	27	59	1079	30	65	1083	1625	-	-	1153	-	-
Mov Cap-2 Maneuver	27	59	-	30	65	-	-	-	-	-	-	-
Stage 1	51	87	-	804	889	-	-	-	-	-	-	-
Stage 2	771	849	-	42	95	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	79.4	152.42	2.06	12.09
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	476	-	-	72	53	1148	-	-
HCM Lane V/C Ratio	0.002	-	-	0.35	0.636	0.574	-	-
HCM Control Delay (s/veh)	7.2	0	-	79.4	152.4	12.2	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	2.6	3.8	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	471	3	2	0	2
Future Volume (veh/h)	0	471	3	2	0	2
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	418	418	1900	1900	1900
Adj Flow Rate, veh/h	0	1070	7	5	0	5
Peak Hour Factor	0.44	0.44	0.44	0.44	0.44	0.44
Percent Heavy Veh, %	0	100	100	0	0	0
Cap, veh/h	0	1161	182	97	0	160
Arrive On Green	0.00	0.72	0.10	0.10	0.00	0.10
Sat Flow, veh/h	0	1609	695	979	0	1610
Grp Volume(v), veh/h	0	1071	12	0	0	5
Grp Sat Flow(s),veh/h/ln	0	1610	1674	0	0	1610
Q Serve(g_s), s	0.0	27.8	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.0	27.8	0.3	0.0	0.0	0.1
Prop In Lane	0.00	1.00	0.58			1.00
Lane Grp Cap(c), veh/h	0	1162	280	0	0	160
V/C Ratio(X)	0.00	0.92	0.04	0.00	0.00	0.03
Avail Cap(c_a), veh/h	0	2962	708	0	0	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.8	20.5	0.0	0.0	20.5
Incr Delay (d2), s/veh	0.0	3.6	0.1	0.0	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	9.4	20.6	0.0	0.0	20.5
LnGrp LOS		A	C			C
Approach Vol, veh/h	1071			12	5	
Approach Delay, s/veh	9.4			20.6	20.5	
Approach LOS	A			C	C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		9.5		40.8		9.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.5		92.5		18.5
Max Q Clear Time (g_c+I1), s		2.3		29.8		2.1
Green Ext Time (p_c), s		0.0		6.5		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	9.6
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	11	159	34	103	158
Future Vol, veh/h	2	11	159	34	103	158
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	3	15	215	46	139	214

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	722	246	353	0	-	0
Stage 1	246	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	397	798	1217	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	325	798	1217	-	-	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	629	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.68	7.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1186	-	652	-	-
HCM Lane V/C Ratio	0.177	-	0.027	-	-
HCM Control Delay (s/veh)	8.6	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	31	243	2
Future Vol, veh/h	0	2	0	31	243	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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	0	3	0	42	328	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	372	330	331	0	-	0
Stage 1	330	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	633	716	1240	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	633	716	1240	-	-	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.04	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1240	-	716	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s/veh)	0	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	0	0	3	312	0	0	2	3	3	0
Future Vol, veh/h	2	6	0	0	3	312	0	0	2	3	3	0
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	100	0	0	0	0	0	0	0	0	50	50	0
Mvmt Flow	3	9	0	0	4	452	0	0	3	4	4	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	8.8	7.2	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	0%	50%
Vol Thru, %	0%	75%	1%	50%
Vol Right, %	100%	0%	99%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	8	315	6
LT Vol	0	2	0	3
Through Vol	0	6	3	3
RT Vol	2	0	312	0
Lane Flow Rate	3	12	457	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.019	0.423	0.014
Departure Headway (Hd)	4.116	6.018	3.335	5.672
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	863	596	1082	629
Service Time	2.171	4.045	1.355	3.721
HCM Lane V/C Ratio	0.003	0.02	0.422	0.014
HCM Control Delay, s/veh	7.2	9.2	8.8	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	2.1	0

Intersection	
Int Delay, s/veh	11.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	314	0	0	2
Future Vol, veh/h	0	8	314	0	0	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	50	50	50	50	50	50
Heavy Vehicles, %	0	75	100	0	0	0
Mvmt Flow	0	16	628	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1258	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	1256	-	-	-	-	-
Critical Hdwy	6.4	6.95	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.975	3.1	-	-	-
Pot Cap-1 Maneuver	190	903	1157	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	87	903	1157	-	-	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	271	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.06	11.74	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	903	-	-
HCM Lane V/C Ratio	0.543	-	0.018	-	-
HCM Control Delay (s/veh)	11.7	0	9.1	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	3.4	-	0.1	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	162	175	24	94	73	2
Future Vol, veh/h	162	175	24	94	73	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	87	87	87	87	87	87
Heavy Vehicles, %	0	40	25	2	0	0
Mvmt Flow	186	201	28	108	84	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	248	85	86	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.35	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.425	-	-	-
Pot Cap-1 Maneuver	745	878	1377	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	729	878	1377	-	-	-
Mov Cap-2 Maneuver	729	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.66	1.56	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	366	-	799	-	-
HCM Lane V/C Ratio	0.02	-	0.485	-	-
HCM Control Delay (s/veh)	7.7	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.7	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	6	246	74	0
Future Vol, veh/h	0	3	6	246	74	0
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	0	4	8	311	94	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	420	94	94	0	-	0
Stage 1	94	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	594	969	1513	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	590	969	1513	-	-	-
Mov Cap-2 Maneuver	590	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.73	0.18	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	43	-	969	-	-
HCM Lane V/C Ratio	0.005	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	23.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	10	6	6	16	2	2	3	2	314	6	0
Future Vol, veh/h	2	10	6	6	16	2	2	3	2	314	6	0
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles, %	100	20	0	100	0	0	0	0	100	100	33	0
Mvmt Flow	3	14	8	8	23	3	3	4	3	442	8	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.4	10.7	7.7	25.1
HCM LOS	B	B	A	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	11%	25%	98%
Vol Thru, %	43%	56%	67%	2%
Vol Right, %	29%	33%	8%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	18	24	320
LT Vol	2	2	6	314
Through Vol	3	10	16	6
RT Vol	2	6	2	0
Lane Flow Rate	10	25	34	451
Geometry Grp	1	1	1	1
Degree of Util (X)	0.013	0.049	0.067	0.753
Departure Headway (Hd)	4.638	6.981	7.142	6.012
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	513	502	604
Service Time	2.677	5.017	5.176	4.037
HCM Lane V/C Ratio	0.013	0.049	0.068	0.747
HCM Control Delay, s/veh	7.7	10.4	10.7	25.1
HCM Lane LOS	A	B	B	D
HCM 95th-tile Q	0	0.2	0.2	6.7

Intersection	
Int Delay, s/veh	18.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	315	3	2	0	2
Future Vol, veh/h	0	315	3	2	0	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	44	44	44	44	44	44
Heavy Vehicles, %	0	50	50	0	0	0
Mvmt Flow	0	716	7	5	0	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	20	2	5	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.6	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.65	-	-	-
Pot Cap-1 Maneuver	1002	957	1353	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	997	957	1353	-	-	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	1010	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	19	4.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1080	-	957	-	-
HCM Lane V/C Ratio	0.005	-	0.748	-	-
HCM Control Delay (s/veh)	7.7	0	19	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	7.2	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	11	8	34	103	7
Future Vol, veh/h	2	11	8	34	103	7
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	3	15	11	46	139	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	211	144	149	0	-	0
Stage 1	144	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	781	909	1445	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	775	909	1445	-	-	-
Mov Cap-2 Maneuver	775	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.15	1.43	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	343	-	885	-	-
HCM Lane V/C Ratio	0.007	-	0.02	-	-
HCM Control Delay (s/veh)	7.5	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	31	92	2
Future Vol, veh/h	0	2	0	31	92	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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	0	3	0	42	124	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	168	126	127	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	827	930	1472	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	827	930	1472	-	-	-
Mov Cap-2 Maneuver	827	-	-	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.88	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1472	-	930	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s/veh)	0	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	6	0	0	3	10	0	0	2	3	3	0
Future Vol, veh/h	2	6	0	0	3	10	0	0	2	3	3	0
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	100	0	0	0	0	0	0	0	0	50	50	0
Mvmt Flow	3	9	0	0	4	14	0	0	3	4	4	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	6.5	6.4	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	0%	50%
Vol Thru, %	0%	75%	23%	50%
Vol Right, %	100%	0%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	8	13	6
LT Vol	0	2	0	3
Through Vol	0	6	3	3
RT Vol	2	0	10	0
Lane Flow Rate	3	12	19	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.018	0.018	0.012
Departure Headway (Hd)	3.359	5.686	3.468	4.906
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	1065	632	1034	731
Service Time	1.38	3.695	1.483	2.923
HCM Lane V/C Ratio	0.003	0.019	0.018	0.012
HCM Control Delay, s/veh	6.4	8.8	6.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	12	0	0	2
Future Vol, veh/h	0	8	12	0	0	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	50	50	50	50	50	50
Heavy Vehicles, %	0	75	100	0	0	0
Mvmt Flow	0	16	24	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	50	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.4	6.95	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.975	3.1	-	-	-
Pot Cap-1 Maneuver	964	903	1157	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	944	903	1157	-	-	-
Mov Cap-2 Maneuver	944	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	980	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.06	8.18	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	903	-	-
HCM Lane V/C Ratio	0.021	-	0.018	-	-
HCM Control Delay (s/veh)	8.2	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	24	24	94	73	2
Future Vol, veh/h	11	24	24	94	73	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	87	87	87	87	87	87
Heavy Vehicles, %	0	40	25	2	0	0
Mvmt Flow	13	28	28	108	84	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	248	85	86	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.35	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.425	-	-	-
Pot Cap-1 Maneuver	745	878	1377	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	729	878	1377	-	-	-
Mov Cap-2 Maneuver	729	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.59	1.56	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	366	-	825	-	-
HCM Lane V/C Ratio	0.02	-	0.049	-	-
HCM Control Delay (s/veh)	7.7	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	6	95	74	0
Future Vol, veh/h	0	3	6	95	74	0
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	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	6	0	0
Mvmt Flow	0	4	8	120	94	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	229	94	94	0	-	0
Stage 1	94	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	764	969	1513	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	759	969	1513	-	-	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.73	0.44	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	107	-	969	-	-
HCM Lane V/C Ratio	0.005	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	10	6	6	16	2	2	3	2	12	6	0
Future Vol, veh/h	2	10	6	6	16	2	2	3	2	12	6	0
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles, %	100	20	0	100	0	0	0	0	100	100	33	0
Mvmt Flow	3	14	8	8	23	3	3	4	3	17	8	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	9.1	7	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	11%	25%	67%
Vol Thru, %	43%	56%	67%	33%
Vol Right, %	29%	33%	8%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	18	24	18
LT Vol	2	2	6	12
Through Vol	3	10	16	6
RT Vol	2	6	2	0
Lane Flow Rate	10	25	34	25
Geometry Grp	1	1	1	1
Degree of Util (X)	0.011	0.039	0.053	0.041
Departure Headway (Hd)	3.909	5.511	5.683	5.846
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	900	646	628	608
Service Time	2	3.571	3.737	3.925
HCM Lane V/C Ratio	0.011	0.039	0.054	0.041
HCM Control Delay, s/veh	7	8.8	9.1	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.2	0.1

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	3	2	0	2
Future Vol, veh/h	0	13	3	2	0	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	44	44	44	44	44	44
Heavy Vehicles, %	0	50	50	0	0	0
Mvmt Flow	0	30	7	5	0	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	20	2	5	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	6.4	6.7	4.6	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	2.65	-	-	-
Pot Cap-1 Maneuver	1002	957	1353	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	997	957	1353	-	-	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	1010	-	-	-	-	-

Build Conditions

Approach	EB	NB	SB
HCM Control Delay, s/v	8.88	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1080	-	957	-	-
HCM Lane V/C Ratio	0.005	-	0.031	-	-
HCM Control Delay (s/veh)	7.7	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX D

Sight Distance Evaluation

NE 296th

Stopping Sight Distance

V = Speed (mph)	V = 60 mph
G = Grade (%)	G = < 1 %
t = Brake Reaction Time (s)	t = 2.5 s
a = Deceleration Rate (ft/s^2)	a = 11.2 ft/s^2

Brake Reaction Distance = 1.47*V*t = 1.47*(60)*(2.5)
Brake Reaction Distance = 221 ft

Braking Distance = $1.075*V^2 / a = 1.075*(60)^2 / 11.2$
Braking Distance = 346 ft

Stopping Sight Distance = Brake Reaction Distance + Braking Distance
Stopping Sight Distance = 567 ft

Intersection Sight Distance

V = Speed — V = 60 mph

t_g = Time Gap (s)

t_g = 7.5 s Passenger Car Left Turn
t_g = 9.5 s Single-Unit Truck Left Turn
t_g = 11.5 s Combination Truck Left Turn

t_g = 6.5 s Passenger Car Right Turn
t_g = 8.5 s Single-Unit Truck Right Turn
t_g = 10.5 s Combination Truck Right Turn

Intersection Sight Distance = 1.47*V*t = 1.47*(60)*(11.5)
Intersection Sight Distance = 1,015 ft (Combination Truck Left Turn)

Intersection Sight Distance = 1.47*V*t = 1.47*(60)*(10.5)
Intersection Sight Distance = 927 ft (Combination Truck Right Turn)

NE 288th

Stopping Sight Distance

V = Speed (mph)	V = 35 mph
G = Grade (%)	G = < 1 %
t = Brake Reaction Time (s)	t = 2.5 s
a = Deceleration Rate (ft/s^2)	a = 11.2 ft/s^2

Brake Reaction Distance = 1.47*V*t = 1.47*(35)*(2.5)
Brake Reaction Distance = 129 ft

Braking Distance = $1.075*V^2 / a = 1.075*(35)^2 / 11.2$
Braking Distance = 118 ft

Stopping Sight Distance = Brake Reaction Distance + Braking Distance
Stopping Sight Distance = 247 ft

Intersection Sight Distance

V = Speed — V = 35 mph

t_g = Time Gap (s)

t_g = 7.5 s Passenger Car Left Turn
t_g = 9.5 s Single-Unit Truck Left Turn
t_g = 11.5 s Combination Truck Left Turn

t_g = 6.5 s Passenger Car Right Turn
t_g = 8.5 s Single-Unit Truck Right Turn
t_g = 10.5 s Combination Truck Right Turn

Intersection Sight Distance = 1.47*V*t = 1.47*(35)*(11.5)
Intersection Sight Distance = 592 ft (Combination Truck Left Turn)

Intersection Sight Distance = 1.47*V*t = 1.47*(35)*(10.5)
Intersection Sight Distance = 541 ft (Combination Truck Right Turn)

NE 280th

Stopping Sight Distance

V = Speed (mph)	V = 60 mph
G = Grade (%)	G = -3 %
t = Brake Reaction Time (s)	t = 2.5 s
a = Deceleration Rate (ft/s^2)	a = 11.2 ft/s^2

Brake Reaction Distance = 1.47*V*t = 1.47*(60)*(2.5)
Brake Reaction Distance = 221 ft

Braking Distance = V^2 / 30*[(a/32.2) + G] = $(60)^2$ / 30*[(11.2/32.2) – 0.03]
Braking Distance = 378 ft

Stopping Sight Distance = Brake Reaction Distance + Braking Distance
Stopping Sight Distance = 599 ft

Intersection Sight Distance

V = Speed — V = 60 mph

t_g = Time Gap (s)

t_g = 7.5 s Passenger Car Left Turn
t_g = 9.5 s Single-Unit Truck Left Turn
t_g = 11.5 s Combination Truck Left Turn

t_g = 6.5 s Passenger Car Right Turn
t_g = 8.5 s Single-Unit Truck Right Turn
t_g = 10.5 s Combination Truck Right Turn

Intersection Sight Distance = 1.47*V*t = 1.47*(60)*(11.5)
Intersection Sight Distance = 1,015 ft (Combination Truck Left Turn)

Intersection Sight Distance = 1.47*V*t = 1.47*(60)*(10.5)
Intersection Sight Distance = 927 ft (Combination Truck Right Turn)

APPENDIX E

Sight Distance Photos

State Highway A & 280th Street (Facing South)

Proposed Driveway & 288th Street (Facing East)

Proposed Driveway & 288th Street (Facing West)