LSC TRANSPORTATION CONSULTANTS, INC.
545 East Pikes Peak Avenue, Suite 210
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com

Branding Iron at Sterling Ranch Filing 2
Traffic Technical Memorandum
(LSC #184282)
June 10, 2019

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

COLORADO LICENSED
JEFFREY C. HODSDON
31684
6-13-19
PROFESSIONAL ENGINEER

Engineering Review
10/23/2019 1:31:23 PM
dsdrice
JeffRice@elpasoco.com
(719) 520-7877
EPC Planning & Community Development Department

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

6/13/19
Date

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June 13, 2019

Mr. Jim Morley
Morley-Bentley Investments, LLC
20 Boulder Crescent, 1st Floor
Colorado Springs, CO 80903

RE: Branding Iron at Sterling Ranch Filing 2
El Paso County, CO
Transportation Memorandum
LSC #184282

Dear Mr. Morley:

LSC Transportation Consultants, Inc. has prepared this Transportation Memorandum for Branding Iron at Sterling Ranch Filing 2. As shown on Figure 1, Sterling Ranch is located east of Vollmer Road near Lochwinnoch Lane between the future extensions of Marksheffel Road and Stapleton Drive in El Paso County, Colorado. This report is intended as a site-specific, final plat traffic report for the currently proposed filing.

REPORT CONTENTS

This report presents:

- A list of previous Sterling Ranch traffic reports and the context of this project.
- A summary of the proposed land use and access plan.
- The existing roadway and traffic conditions in the site's vicinity including the roadway widths, surface conditions, lane geometries, traffic controls, and posted speed limits.
- Existing (2017) traffic volume data.
- Estimates of projected short-term and intermediate-term traffic volumes.
- The projected average weekday and peak-hour vehicle-trips to be generated by the proposed development.
- The assignment of the projected site-generated traffic volumes to the area roadways.
- The projected short-term total traffic volumes on the area roadways.
- The projected levels of service at the key intersections in the vicinity of the site.
- The recommended street classifications for the internal streets within the proposed development.
- The project's obligation to the County roadway improvement fee program.

PREVIOUS STERLING RANCH TRAFFIC REPORTS AND MEMORANDUM

LSC prepared a traffic impact study (TIS) for the entire Sterling Ranch development dated June 5, 2008. LSC also prepared a traffic impact analysis for the first phase of the Sterling Ranch development dated March 16, 2015; a memorandum for Phases 1-3 dated October 2, 2017; and a traffic impact analysis for the Sterling Ranch Phase 2 Preliminary Plan dated December 20, 2018. The following site-specific, final plat traffic reports have also been prepared:

- Branding Iron at Sterling Ranch Filing No. 1 and Homestead at Sterling Ranch Filing No. 1 dated December 19, 2017
- Sterling Ranch Filing No. 2 dated April 3, 2018
- Copper Chase at Sterling Ranch dated December 20, 2018
- Homestead at Sterling Ranch Filing No. 2 dated March 1, 2019

LAND USE AND ACCESS

Land Use

Figure 2 shows the location of the Sterling Ranch developments in the vicinity of the site that are either approved or currently under review. Branding Iron at Sterling Ranch Filing No. 1 and Homestead at Sterling Ranch Filing No. 1 have both been approved, but no homes have been constructed in either filing. Applications to plat both Branding Iron at Sterling Ranch Filing No. 2 and Homestead at Sterling Ranch Filing No. 2 have been submitted and are currently in the review process. It is our understanding that Sterling Ranch Filing No. 2, Copper Chase at Sterling Ranch and Sterling Ranch Phase 2 are all currently on hold, however, for the purposes of this report these developments were assumed to occur in the intermediate-term future.

This site-specific, final traffic report is for The Branding Iron at Sterling Ranch Filing 2. The currently proposed filing is planned to include 75 lots for single-family homes. Four full-movement access points are proposed to Dines Boulevard. The site plan is shown in Figure 3.

Access

Figure 4 shows the proposed short-term street connection plan. As shown on Figure 4 Dines Boulevard is planned to be constructed south from Vollmer Road to the future Sterling Ranch Road. A short half section of Briargate Parkway is planned to be constructed between Vollmer Road and Wheatland Drive and Wheatland Drive is planned to be constructed south from Briargate Parkway adjacent to and through the Homestead at Sterling Ranch Filings 1 and 2 to the future intersection of Sterling Ranch Road. The section of Sterling Ranch Road between Dines Boulevard and Marksheffel Road and the section of Marksheffel Road between Vollmer Road and Sterling Ranch Road are **not** planned to be constructed in the short-term. An emergency access

provide time frame

Dines Blvd?

has been?

road will be constructed southwest from the terminus of Dines Boulevard to Vollmer Road. The approved plans for this access road have been attached. See comment letter.

For the purposes of this report it was assumed that Marksheffel Road would be constructed from its current terminus just north of Woodmen Road to Vollmer Road in the intermediate-term future and that the emergency only access drive would be fully constructed and opened at that time. If areas of Sterling Ranch other than those identified on Figure 2 as "intermediate-term" are developed prior to this occurring or if other intermediate-term street connections are constructed this report may need to be revised.

this doesn't make sense

ROADWAY AND TRAFFIC CONDITIONS

The roadways in the site's vicinity are shown on Figure 1 and are described below.

Vollmer Road is currently a five-lane urban street within the City of Colorado Springs limits between Black Forest Road and Cowpoke Road; and a two-lane, rural, paved roadway north of Cowpoke Road extending to north of Hodgen Road. In the southbound direction, Vollmer Road has a posted speed limit of 45 miles per hour (mph). South of Cowpoke Road, Vollmer Road has a 40-mph posted speed limit. The 2040 El Paso County *Major Transportation Corridors Plan* (MTCP) and the Sterling Ranch master traffic study show Vollmer Road as a four-lane Urban Minor Arterial in the vicinity of the site. In the interim, auxiliary turn lanes will be completed on Vollmer Road as shown in the memos by LSC dated October 2, 2017 and February 2, 2019.

Marksheffel Road is a Principal Arterial extending north from the City of Fountain to Woodmen Road. Marksheffel Road is planned to ultimately be widened to six lanes and extended north and west from Woodmen Road to connect to Research Parkway at Black Forest Road. Marksheffel Road is shown as a six-lane Principal Arterial through the site on the El Paso County MTCP.

Briargate Parkway is a six-lane, Principal Arterial that extends east from I-25 to Grand Lawn Circle (about one-half mile east of Powers Boulevard). Briargate Parkway is planned to ultimately extend to Towner Drive. With the Sterling Ranch Phase 1 development, Stapleton Road is planned to be constructed as a two-lane roadway between Vollmer Road and the proposed first site access intersection 750 feet east of Vollmer (Wheatland Drive). For this report of short-term conditions, it was assumed that only this section of Briargate Parkway would be constructed in the vicinity of the site.

Sterling Ranch Road is a planned Non-Residential Collector shown extending through the Sterling Ranch development between Marksheffel Road and Stapleton Drive.

EXISTING (2017) TRAFFIC VOLUMES

Figure 5 shows the existing (2017) daily and peak-hour traffic volumes on Vollmer Road in the vicinity of the site. The traffic volumes are from the attached traffic counts conducted adjacent to the site in September 2017. Figure 5 also shows the average weekday traffic volumes on Vollmer Road based on 24-hour machine (tube) counts conducted in September 2017.

BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent roadways and at adjacent intersections without the proposed development's trip generation of site-generated traffic volumes. Background traffic includes the through traffic and the traffic generated by nearby developments, but assumes zero traffic generated by the site.

Figure 6 shows the projected short-term background traffic volumes. The short-term background volumes assume only the short-term street connections shown in Figure 4. The short-term background traffic includes the existing traffic volumes (from Figure 5) with increases in through traffic due to regional growth, plus traffic estimated to be generated by buildout of the Homestead at Sterling Ranch Filings 1 and 2, Branding Iron at Sterling Ranch Filing 1, and the proposed Retreat at Timber Ridge development to be located generally northeast of the intersection of Vollmer Road and Poco Road.

Figures 7a and 7b show the projected intermediate-term background traffic volumes. These volumes assume Marksheffel Road has been extended northwest from Woodmen Road to Vollmer Road, Sterling Ranch Road has been constructed northeast from Marksheffel Road to Dines Boulevard, and Dines Boulevard has been completed between Sterling Ranch Road and Vollmer Road. The intermediate traffic volumes are based on the short-term background traffic volumes shown in Figure 6 with some changes in traffic patterns due to the new street connections, plus traffic estimated to be generated by buildout of Sterling Ranch Filing 2, Copper Chase at Sterling Ranch and the residential portion of Sterling Ranch Phase 2. Figure 7a shows the intermediate-term background traffic volumes at the site access points to Dines Boulevard. Figure 7b shows the intermediate-term background traffic volumes at the key external intersections.

TRIP GENERATION

The site-generated vehicle-trips were estimated using the nationally-published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 1 shows the current trip generation estimate.

As shown in Table 1, Branding Iron at Sterling Ranch is projected to generate about 708 new vehicle-trips on the average weekday, with about one-half of the vehicles entering and one-half of the vehicles exiting in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 14 vehicles would enter and 42 vehicles would

exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:30 and 6:30 p.m., about 47 vehicles would enter and 27 vehicles would exit the site.

SHORT-TERM DIRECTIONAL DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the street and roadway system serving the site is one of the most important factors in determining the site's traffic impacts. The specific short-term and intermediate-term distribution estimates are shown in Figure 8. The directional distribution estimates are based on the following factors: the location of the site with respect to the Colorado Springs metropolitan area, the planned access system for the site, the street and roadway system serving the site, and the land uses proposed for the site.

The short-term distribution estimate shown in Figure 8 assumes:

- Dines Boulevard has been constructed south of Vollmer Road to the southern-most access for the Branding Iron at Sterling Ranch Filing 1 (Kintla Court) only.
- No sections of Sterling Ranch Road have been constructed.
- Only the short section of Briargate Parkway between Vollmer Road and Wheatland Drive has been constructed in the vicinity of the site.
- The section Marksheffel Road east of Vollmer Road has **not** been constructed.

The intermediate-term distribution estimate shown in Figure 8 assumes:

- Marksheffel Road has been constructed between Woodmen Road and Vollmer Road, but not west of Vollmer Road.
- Sterling Ranch Road has been constructed between Marksheffel Road and Dines Boulevard, but not north of Dines Boulevard.
- The completion of Dines Boulevard between Sterling Ranch Road and Vollmer Road.
- Only the short section of Briargate Parkway between Vollmer Road and Wheatland Drive has been constructed in the vicinity of the site.

When the distribution percentages (from Figure 8) are applied to the trip generation estimates (from Table 1), the resulting site-generated traffic volumes can be determined. Figure 9 shows the short-term site-generated traffic volume estimate and Figure 10 shows the intermediate-term site-generated traffic volumes estimate.

TOTAL TRAFFIC

Figure 11 shows the projected short-term total traffic. The short-term total traffic volumes include short-term background traffic volumes (from Figure 6) plus the short-term site-generated traffic volumes (from Figure 9). The short-term total traffic volumes assume only the short-term street connections shown in Figure 4.

Figures 12a and 12b shows the projected intermediate-term total traffic. The intermediate-term total traffic volumes include intermediate-term background traffic volumes (from Figures 7a and 7b) plus the intermediate-term site-generated traffic volumes (from Figure 10). Figure 12a shows the intermediate-term total traffic volumes at the site access points to Dines Boulevard. Figure 12b shows the intermediate-term total traffic volumes at the key external intersections. The intermediate-term total traffic volumes assume buildout of the residential portion of the Sterling Ranch development located in the vicinity of Marksheffel Road and Sterling Ranch Road. Applications for these developments have been previously submitted but it is our understanding that these projects are currently on hold. If the areas east of the currently proposed short-term Sterling Ranch filings are developed prior to those assumed in the intermediate-term the analysis may need to be updated.

LONG-TERM TRAFFIC

Please refer to the master traffic report—the June 5, 2008 *Sterling Ranch Updated Traffic Impact Analysis* by LSC—for the long-term peak-hour traffic volume projections and level of service analysis. The original report is for the entire Sterling Ranch Sketch Plan.

PROJECTED INTERSECTION LEVELS OF SERVICE

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 2 shows the level of service delay ranges.

Table 2
Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle)[1]
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

(1) For unsignalized intersections if V/C ratio is greater than 1.0 the level of service is LOS F regardless of the projected average control

The key area intersection and site access points were analyzed to determine the projected levels of service for the short-term and intermediate-term background and total traffic volumes based on the unsignalized intersection analysis procedures from the *Highway Capacity Manual 6th Edition*. Figures 6, 7a, 7b, 11, 12a and 12b show the level of service analysis results. The level of service reports are attached.

The intersections of Dines/Vollmer and Briargate/Vollmer are projected to operate at LOS B or better during the peak hours for all movements as stop-sign controlled intersections based on the projected short-term and intermediate-term total traffic volumes.

All of the site access points are projected to operate at a Level of Service A for all movements during the peak hours as stop sign-controlled intersections based on the projected intermediate-term total traffic volumes.

SUBDIVISION STREET CLASSIFICATIONS

Figure 13 shows the recommended street classifications for the internal streets within Branding Iron at Sterling Ranch Filing No. 2.

ROADWAY IMPROVEMENTS

Sterling Road is to be constructed when and when does the ER access Sterling Road go away? When does Marksheffel get constructed or a section of it? We have 304 lots proposed on essentially one functioning access point for the residents....

Vollmer Road

Road improvements to Vollmer Road including auxiliary turn lanes as discussed in our October 2, 2017 transportation memorandum are required as part of the Subdivision Improvements Agreement (SIA) for Homestead at Sterling Ranch Filing No. 1 and Branding Iron at Sterling Ranch Filing No. 1. The applicant will be constructing an interim cross section for Vollmer Road between Marksheffel Road and Briargate Parkway. The interim road improvement would widen the roadway to the east side. There would continue to be one through lane in each direction, but the interim road improvements would allow for southbound left-turn and northbound right-turn lanes at the Briargate Parkway/Vollmer, and Dines/Vollmer intersections. An escrow agreement requires a fair share contribution be deposited toward these improvements with each plat or replat within Sterling Ranch.

Dines Boulevard

Based on the projected intermediate-term total traffic volumes, the criteria contained in the El Paso County *Engineering Criteria Manual* and the classification of Dines Boulevard as an Urban Collector, northbound left-turn lanes and southbound right-turn lanes would **not** be required approaching the site access points. Southbound left-turn lanes on Dines Boulevard would also not be necessary in the long-term future as the southbound left-turn volumes would remain below the 25 vph ECM turning volume threshold requiring separate left-turn lanes.

Address for this plat specifically. Provide a table.

TRANSPORTATION IMPROVEMENT FEE PROGRAM

The applicant will be required to participate in the Countywide Transportation Improvement Fee Program. This project will annex into the 10 mil PID. Based on a per-lot upfront building permit fee of $1,221 per dwelling unit, the total building permit fee amount for the 75 lots would be $91,575.

* * * * *

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: _____
Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH/KDF:ro

Enclosures: Table 1
Figures 1-13
Traffic Count Reports
Level of Service Reports
Branding Iron at Sterling Ranch Fil. No. 1 Emergency Access Rd – Alt. Route Plan

Tables and Figures

TRANSPORTATION
CONSULTANTS, INC.

Table 1
Trip Generation Estimate
Branding Iron at Sterling Ranch Filing 2

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Trip Generation Rates [1] Morning Peak Hour In	Trip Generation Rates [1] Morning Peak Hour Out	Trip Generation Rates [1] Evening Peak Hour In	Trip Generation Rates [1] Evening Peak Hour Out	Total External Trips Generated Average Weekday Traffic	Total External Trips Generated Morning Peak Hour In	Total External Trips Generated Morning Peak Hour Out	Total External Trips Generated Evening Peak Hour In	Total External Trips Generated Evening Peak Hour Out
210	Single-Family Detached Housing	75 DU[2]	9.44	0.19	0.56	0.62	0.37	708	14	42	47	27

Notes:
(1) Source: "*Trip Generation, 10th Edition, 2017*" by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Approximate Scale
Scale: 1"= 3,000'

Figure 1

Vicinity Map

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

TRANSPORTATION CONSULTANTS, INC.

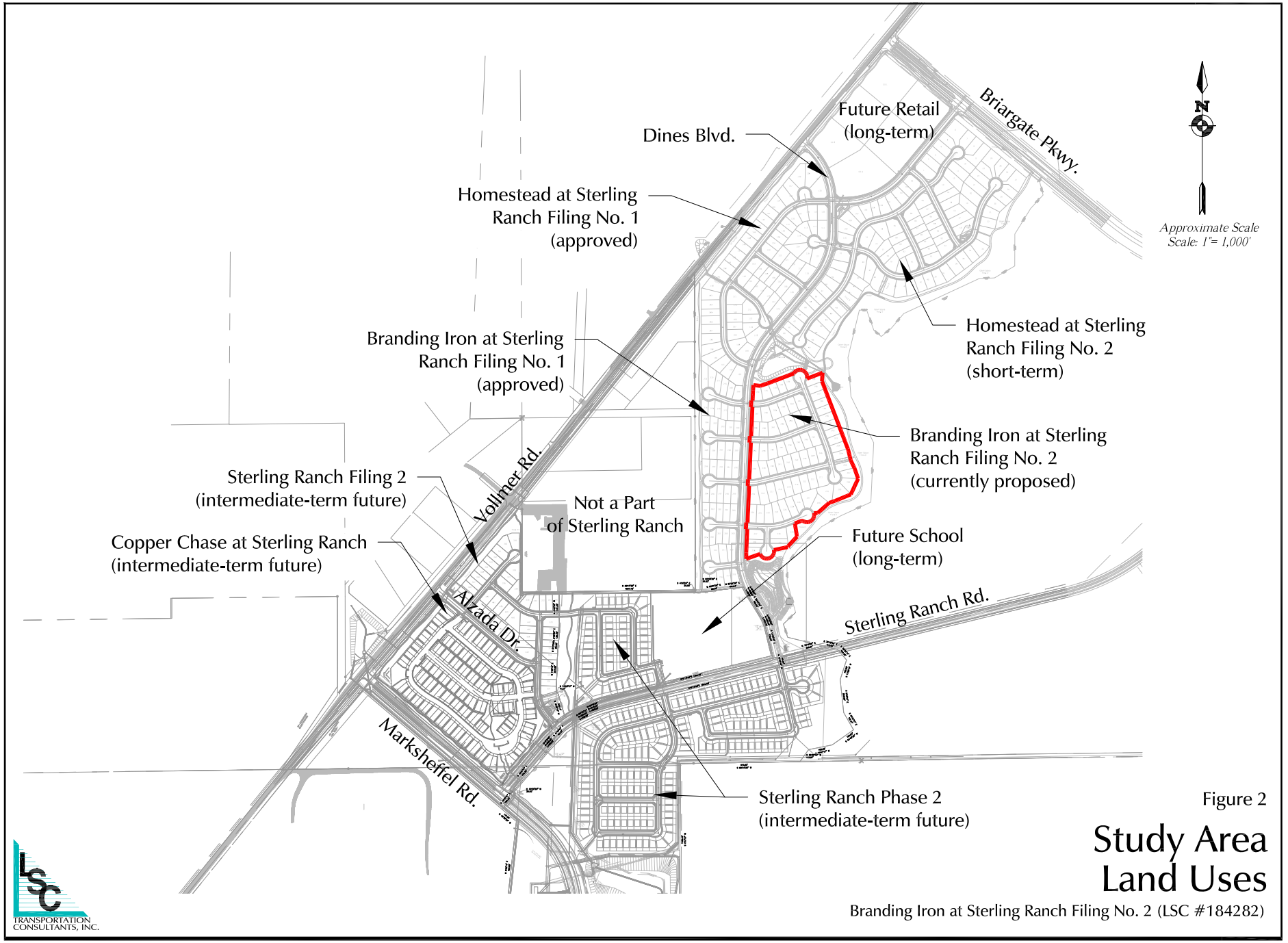
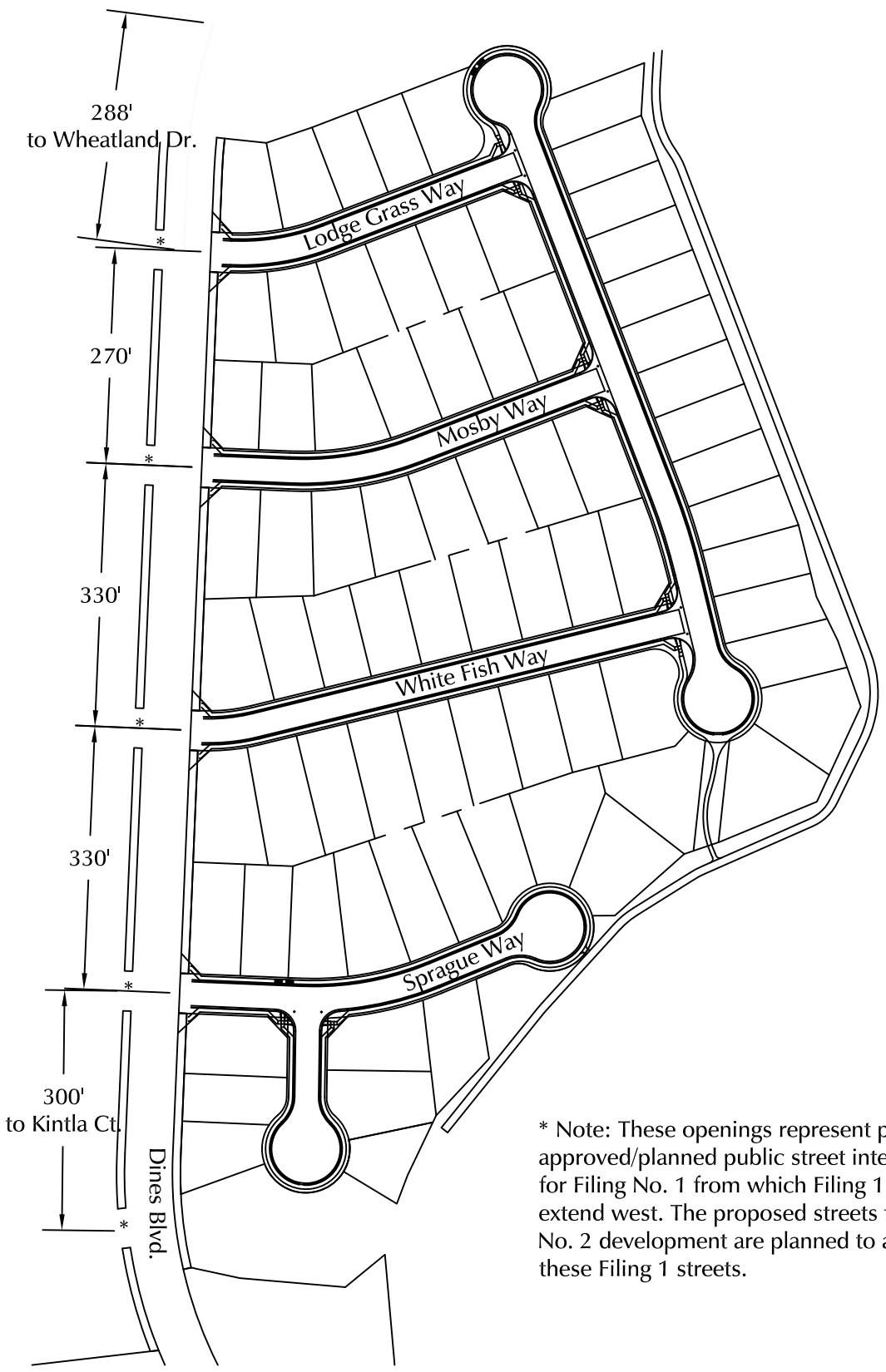


Figure 2

Study Area Land Uses

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

TRANSPORTATION CONSULTANTS, INC.



* Note: These openings represent previously approved/planned public street intersections for Filing No. 1 from which Filing 1 streets will extend west. The proposed streets for this Filing No. 2 development are planned to align with these Filing 1 streets.

Figure 3

Site Plan

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

LSC TRANSPORTATION CONSULTANTS, INC.

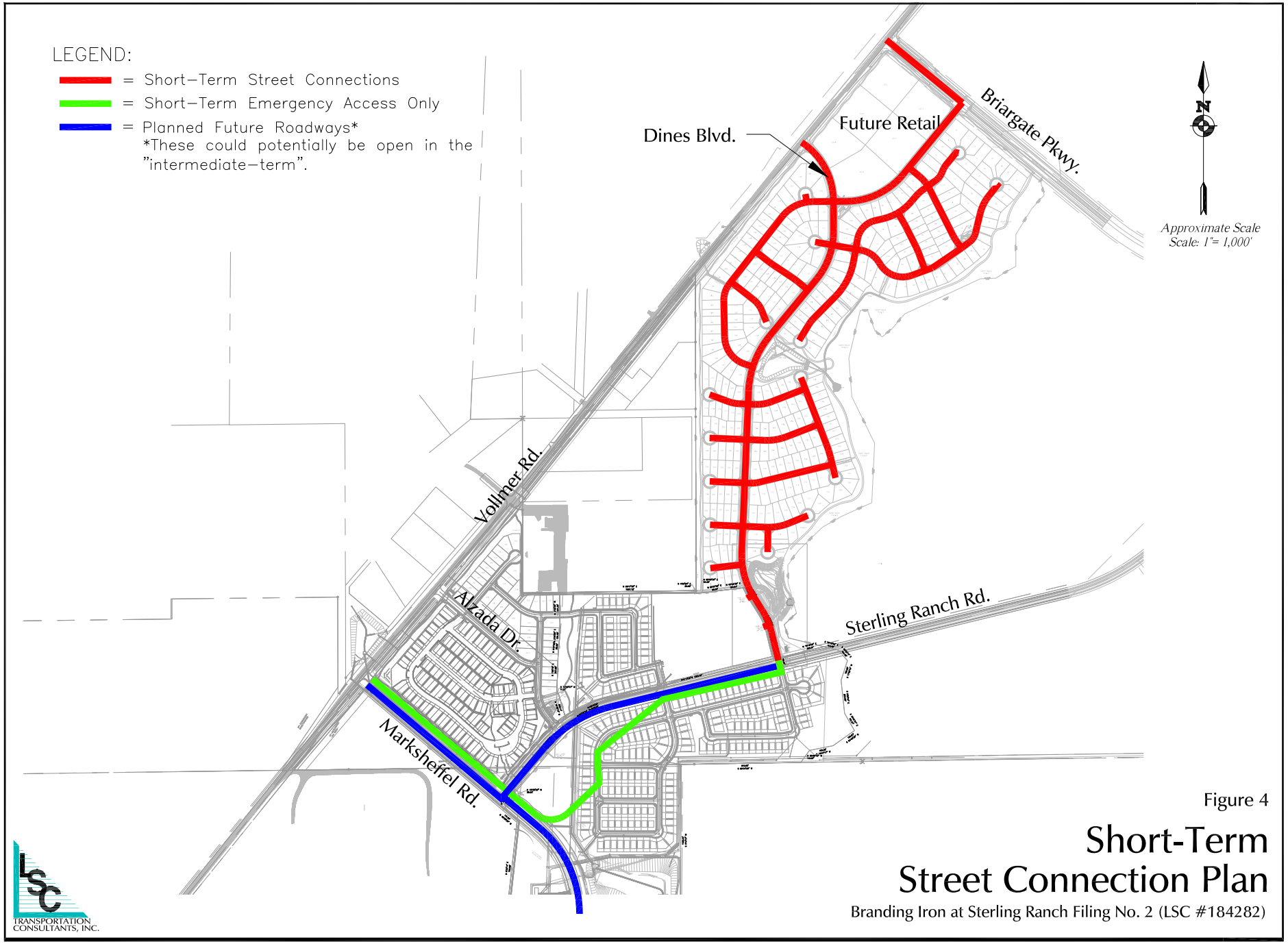


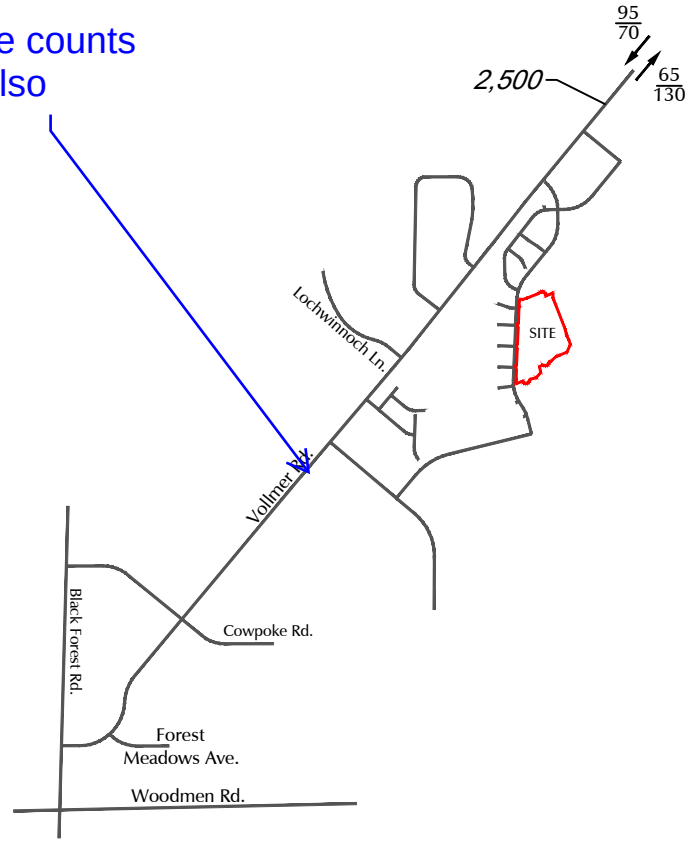
Figure 4

Short-Term Street Connection Plan

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

LSC TRANSPORTATION CONSULTANTS, INC.

provide counts here also



Approximate Scale
Scale: 1"= 3,000'

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

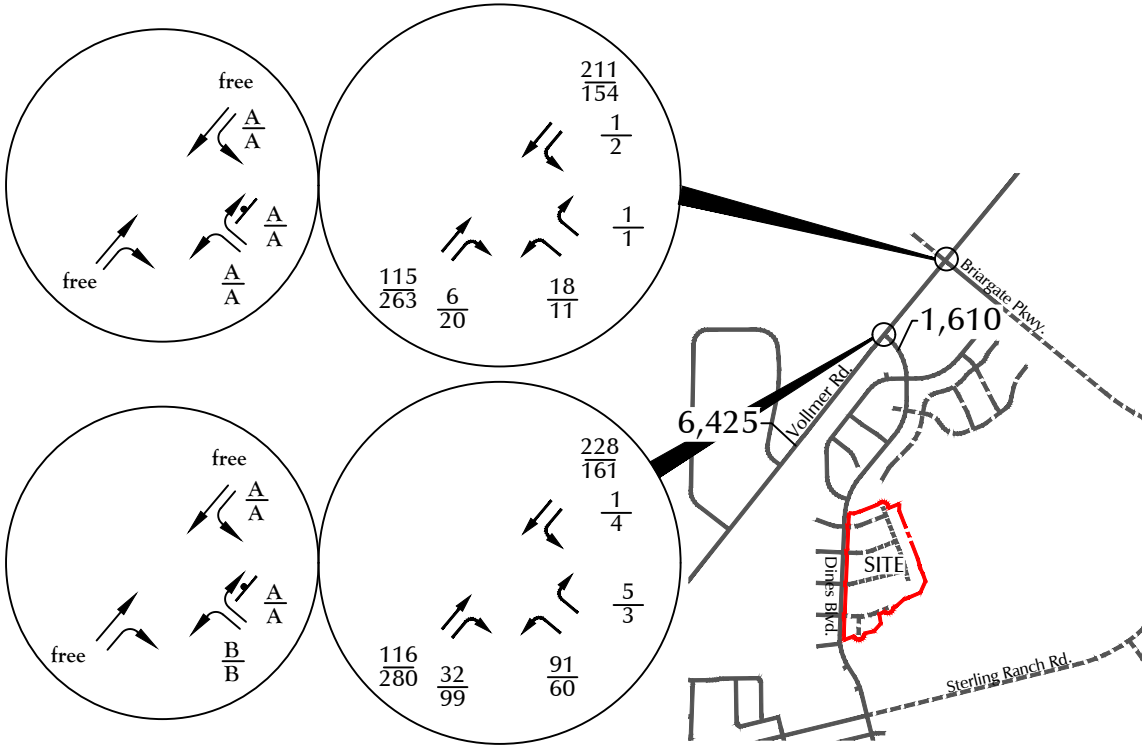
XXX = Average Weekday Traffic (vehicles per day) September 2017

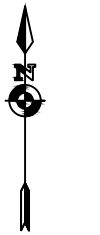
TRANSPORTATION CONSULTANTS, INC.

Figure 5

Existing Traffic Volumes

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)





Approximate Scale
Scale: 1"= 2,000'

LEGEND:

= Stop Sign

$\frac{26}{31}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

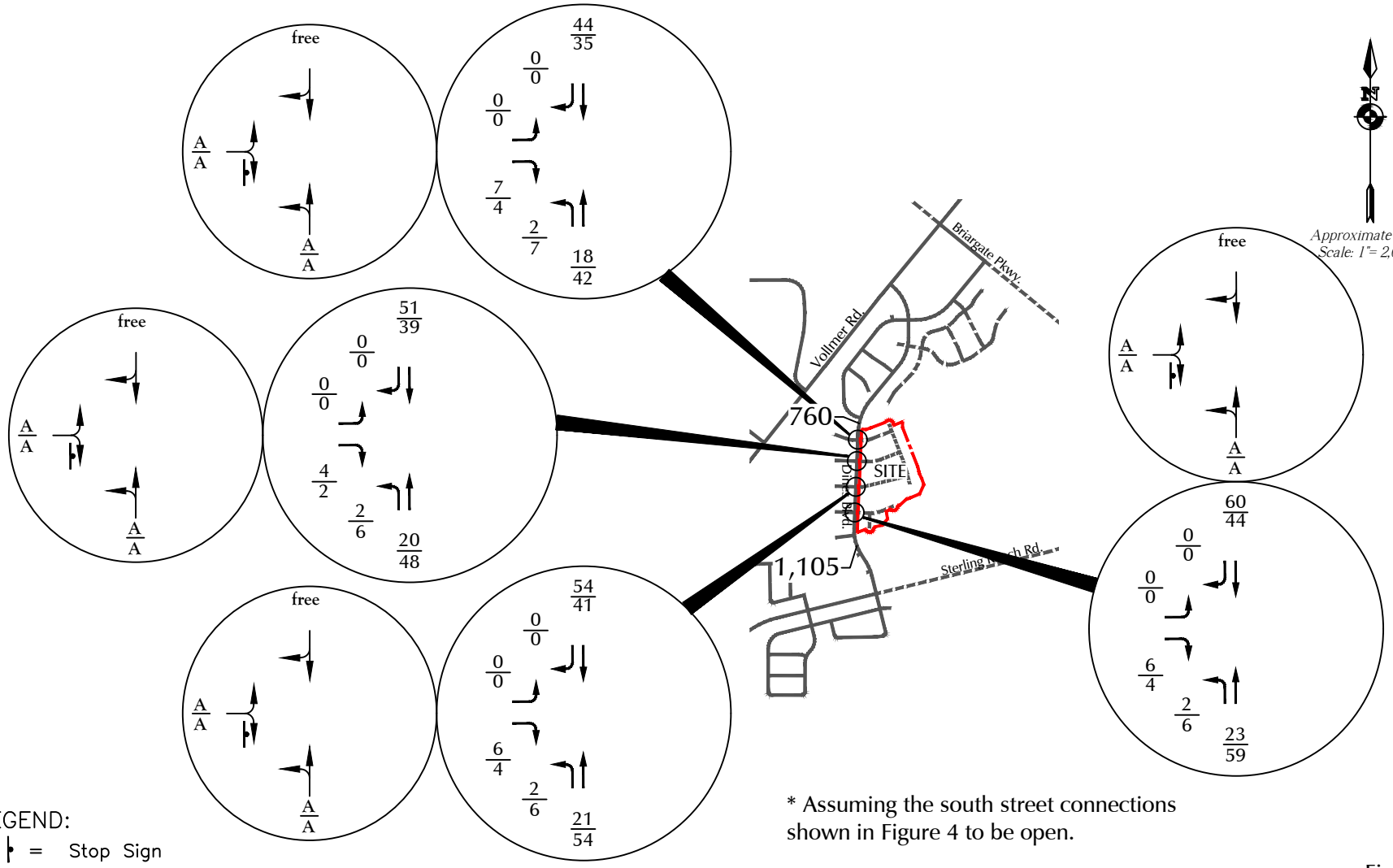
500 = Average Weekday Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

Figure 6

Short-Term Background Traffic, Lane Geometry, Traffic Control and Level of Service

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)



LEGEND:

⊢ = Stop Sign

$\frac{26}{31}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

500 = Average Weekday Traffic (vehicles per day)

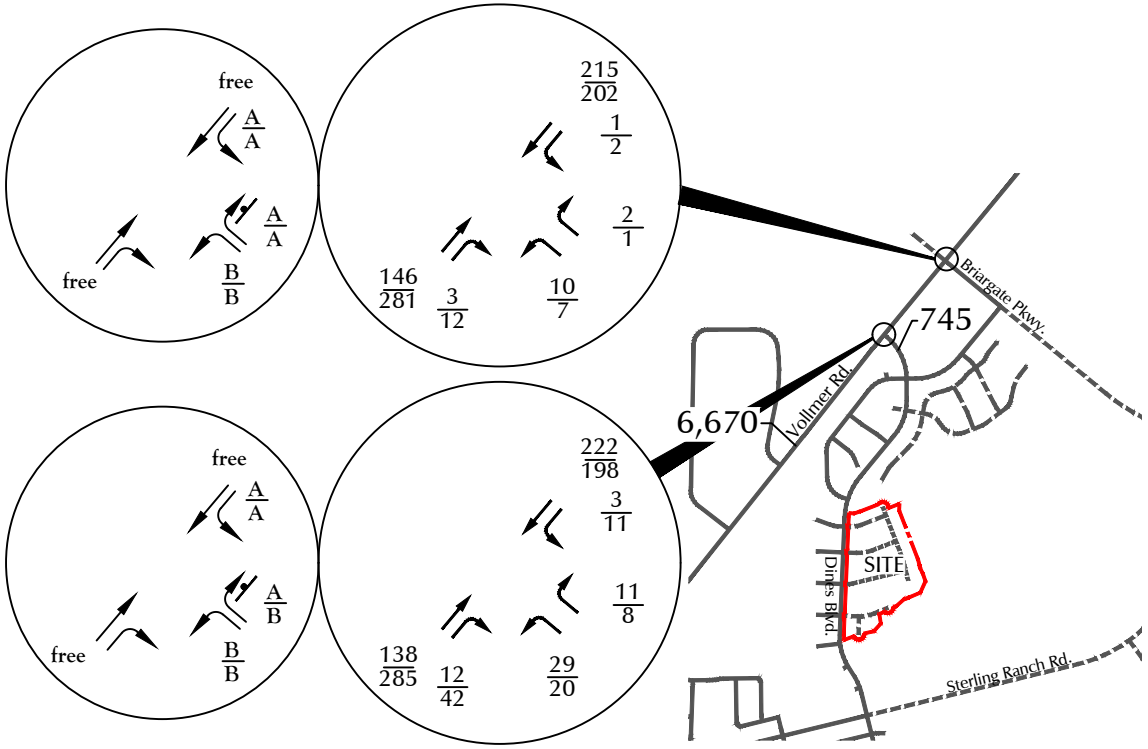
* Assuming the south street connections shown in Figure 4 to be open.

Figure 7a

Intermediate-Term Background Traffic, Lane Geometry, Traffic Control and Level of Service w/ South Street Connections*(Part 1)

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

LSC TRANSPORTATION CONSULTANTS, INC.



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

| = Stop Sign

$\frac{26}{31}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

500 = Average Weekday Traffic (vehicles per day)

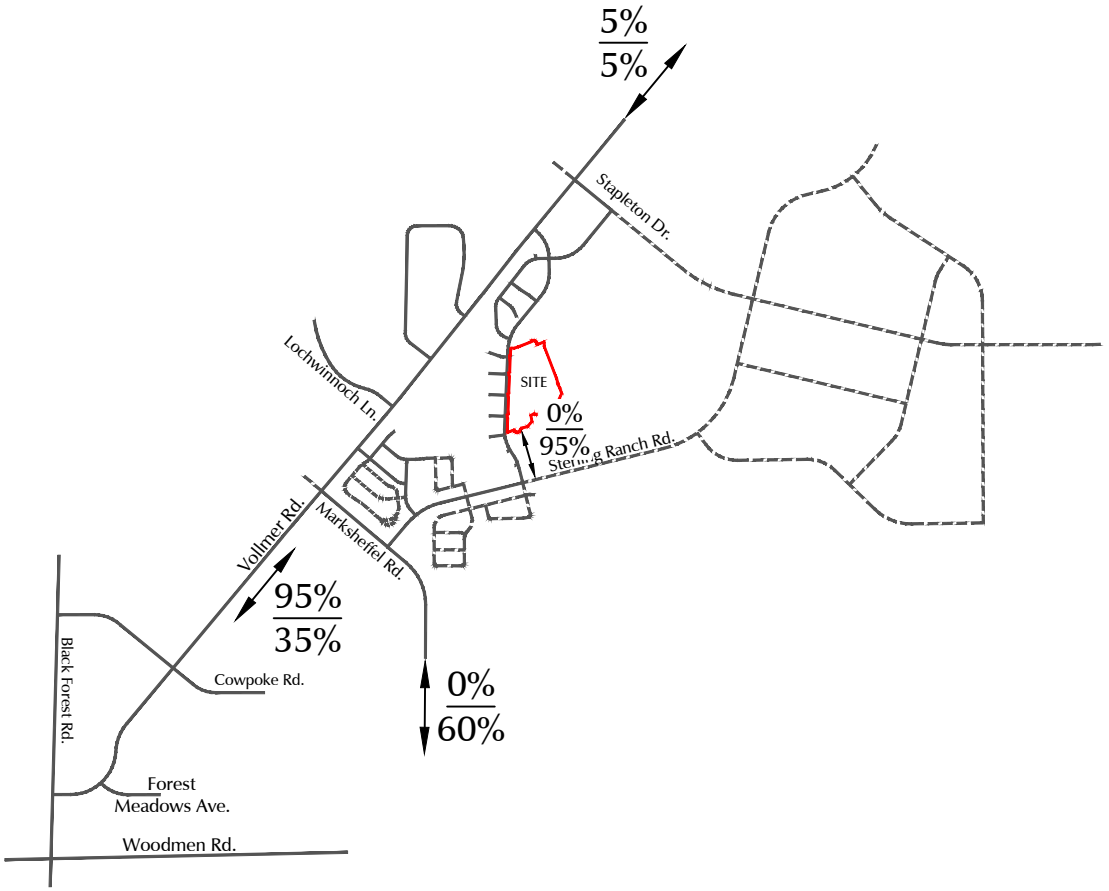
* Assuming the south street connections shown in Figure 4 to be open.

Figure 7b

Intermediate-Term Background Traffic, Lane Geometry, Traffic Control and Level of Service w/ South Street Connections*(Part 2)

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

LSC TRANSPORTATION CONSULTANTS, INC.



N

Approximate Scale
Scale: 1"= 3,000'

LEGEND:

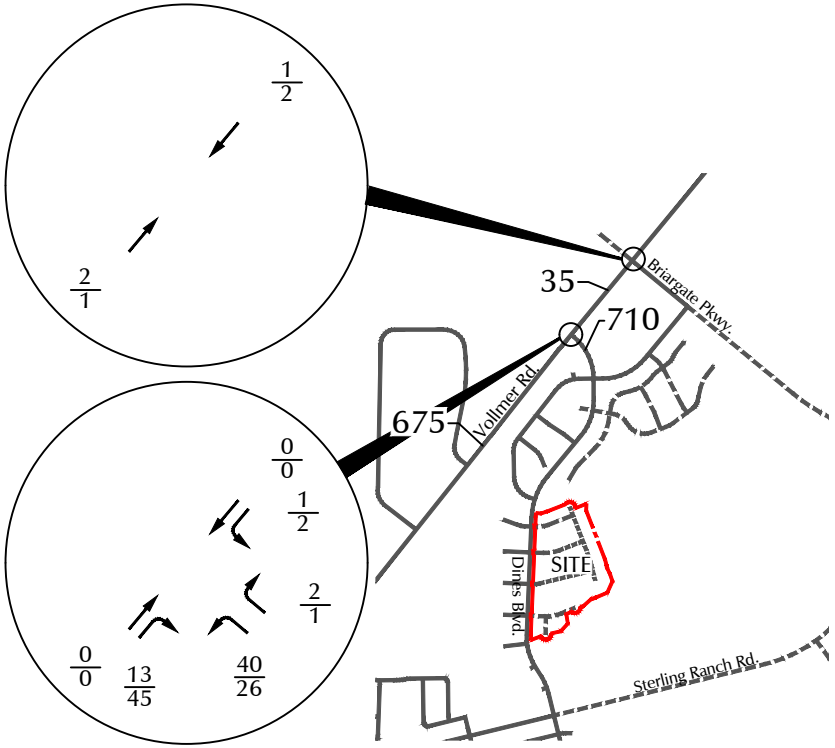
5%
5%
= Short–Term Percent Directional Distribution
Intermediate–term Percent Directional Distribution

TRANSPORTATION CONSULTANTS, INC.

Figure 8

Directional Distribution of Site-Generated Traffic

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

$\frac{26}{31}$ = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

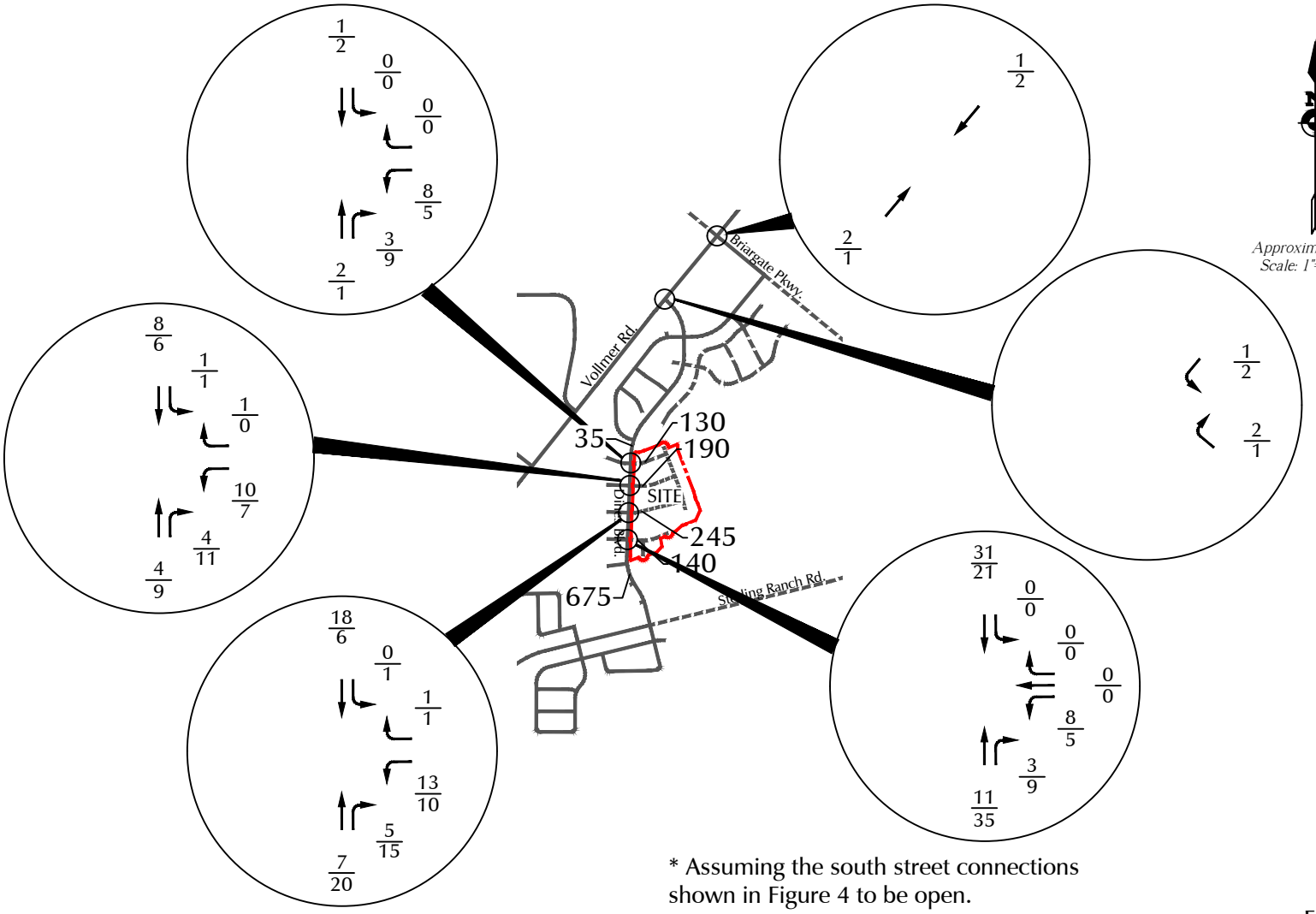
500 = Average Weekday Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

Figure 9

Short-Term Assignment of Site-Generated Traffic

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)



* Assuming the south street connections shown in Figure 4 to be open.

Figure 10

Intermediate-Term Assignment of Site-Generated Traffic w/ South Street Connections*

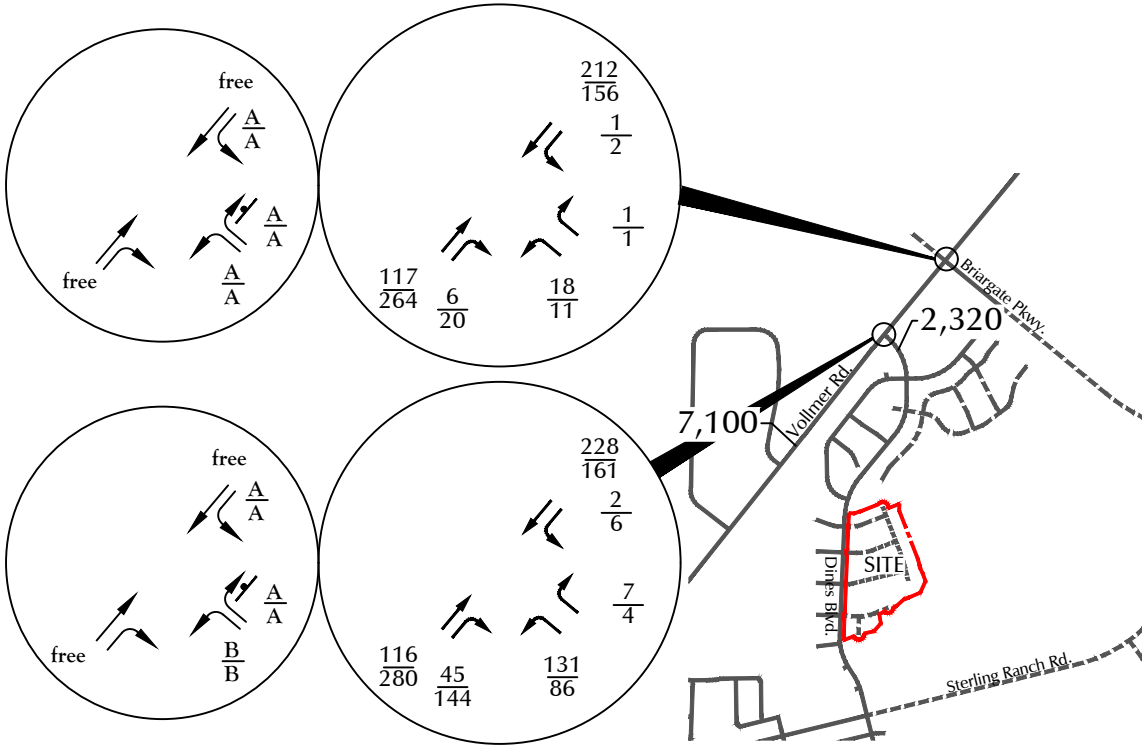
Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

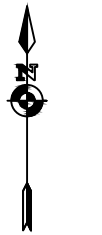
LEGEND:

$\frac{26}{31}$ = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

500 = Average Weekday Traffic (vehicles per day)

LSC TRANSPORTATION CONSULTANTS, INC.





Approximate Scale
Scale: 1"= 2,000'

LEGEND:

⊢ = Stop Sign

$\frac{26}{31}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

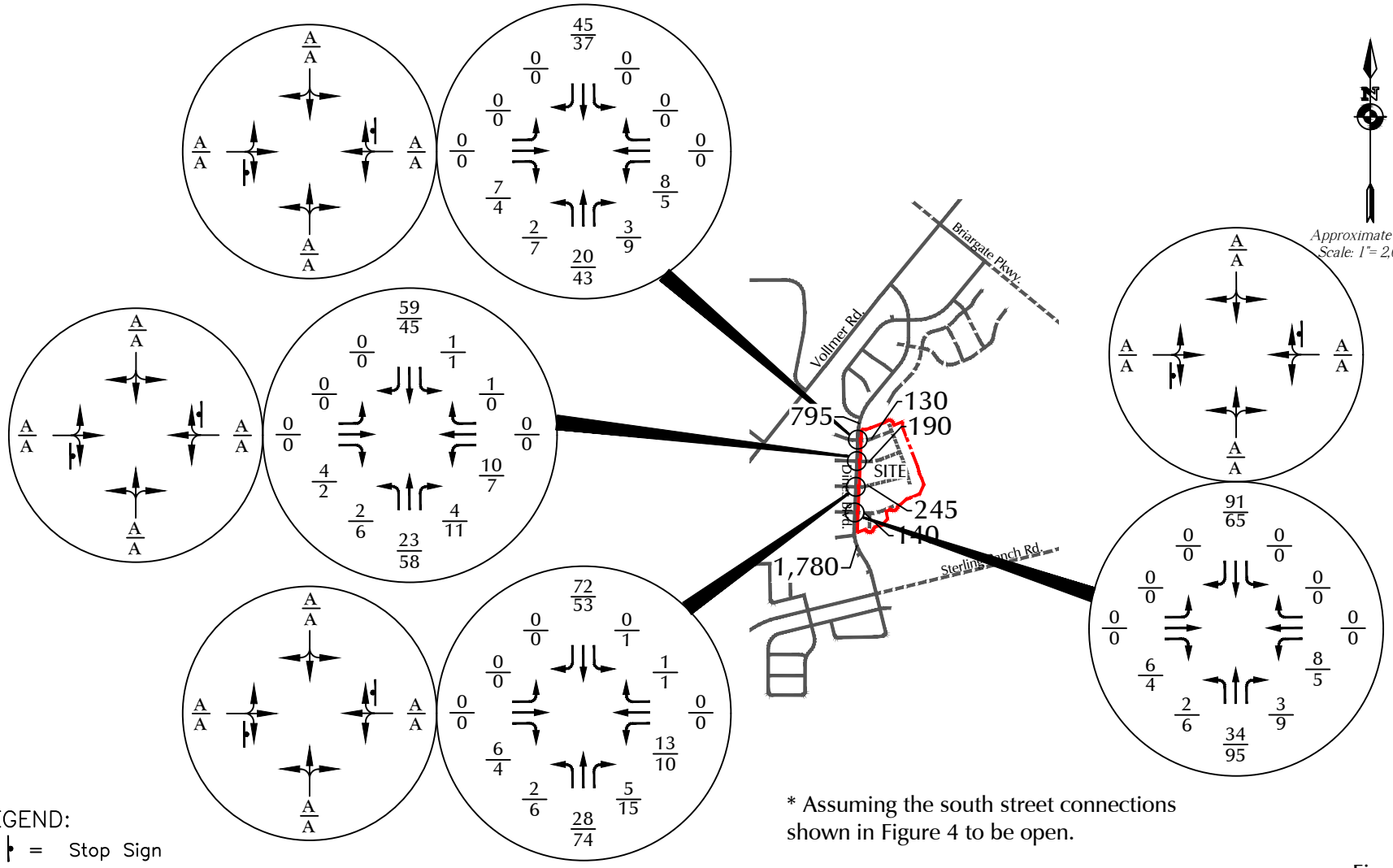
500 = Average Weekday Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

Figure 11

Short-Term Total Traffic, Lane Geometry, Traffic Control and Level of Service

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)



LEGEND:

= Stop Sign

$\frac{26}{31}$ = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

500 = Average Weekday Traffic (vehicles per day)

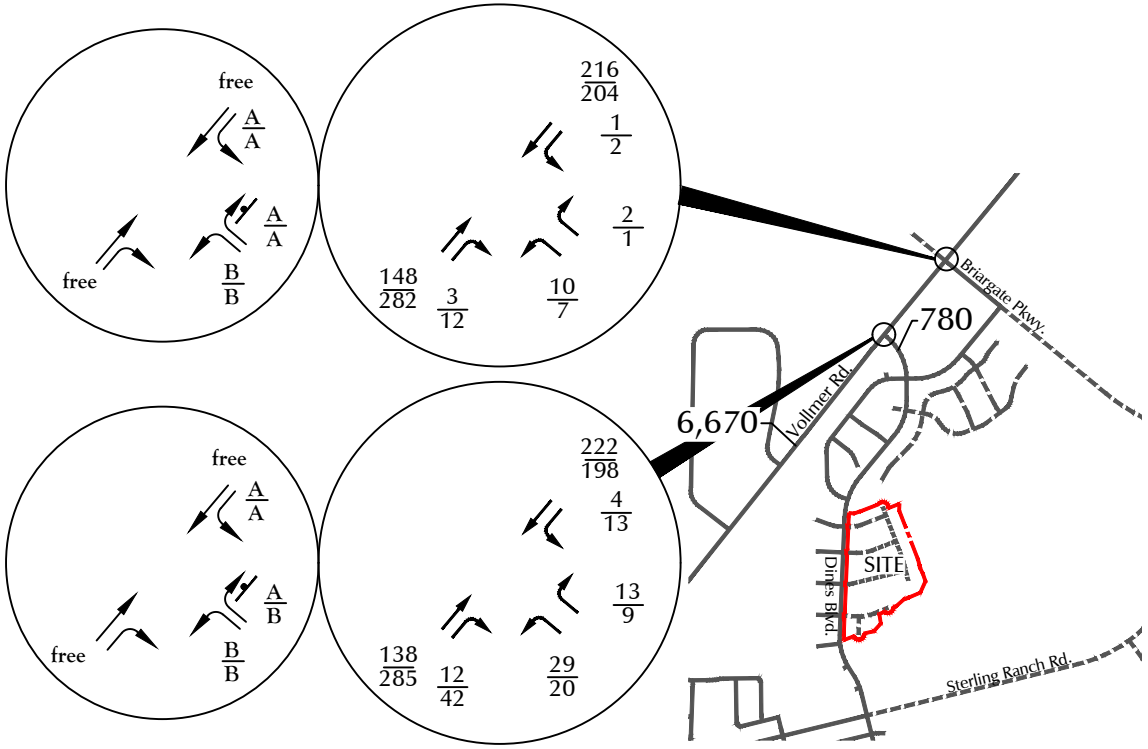
* Assuming the south street connections shown in Figure 4 to be open.

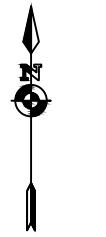
Figure 12a

Intermediate-Term Total Traffic, Lane Geometry, Traffic Control and Level of Service w/ South Street Connections*(Part 1)

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

LSC TRANSPORTATION CONSULTANTS, INC.





Approximate Scale
Scale: 1"= 2,000'

LEGEND:

= Stop Sign

$\frac{26}{31}$ = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

500 = Average Weekday Traffic (vehicles per day)

* Assuming the south street connections shown in Figure 4 to be open.

Figure 12b

Intermediate-Term Total Traffic, Lane Geometry, Traffic Control and Level of Service w/ South Street Connections*(Part 2)

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

TRANSPORTATION CONSULTANTS, INC.

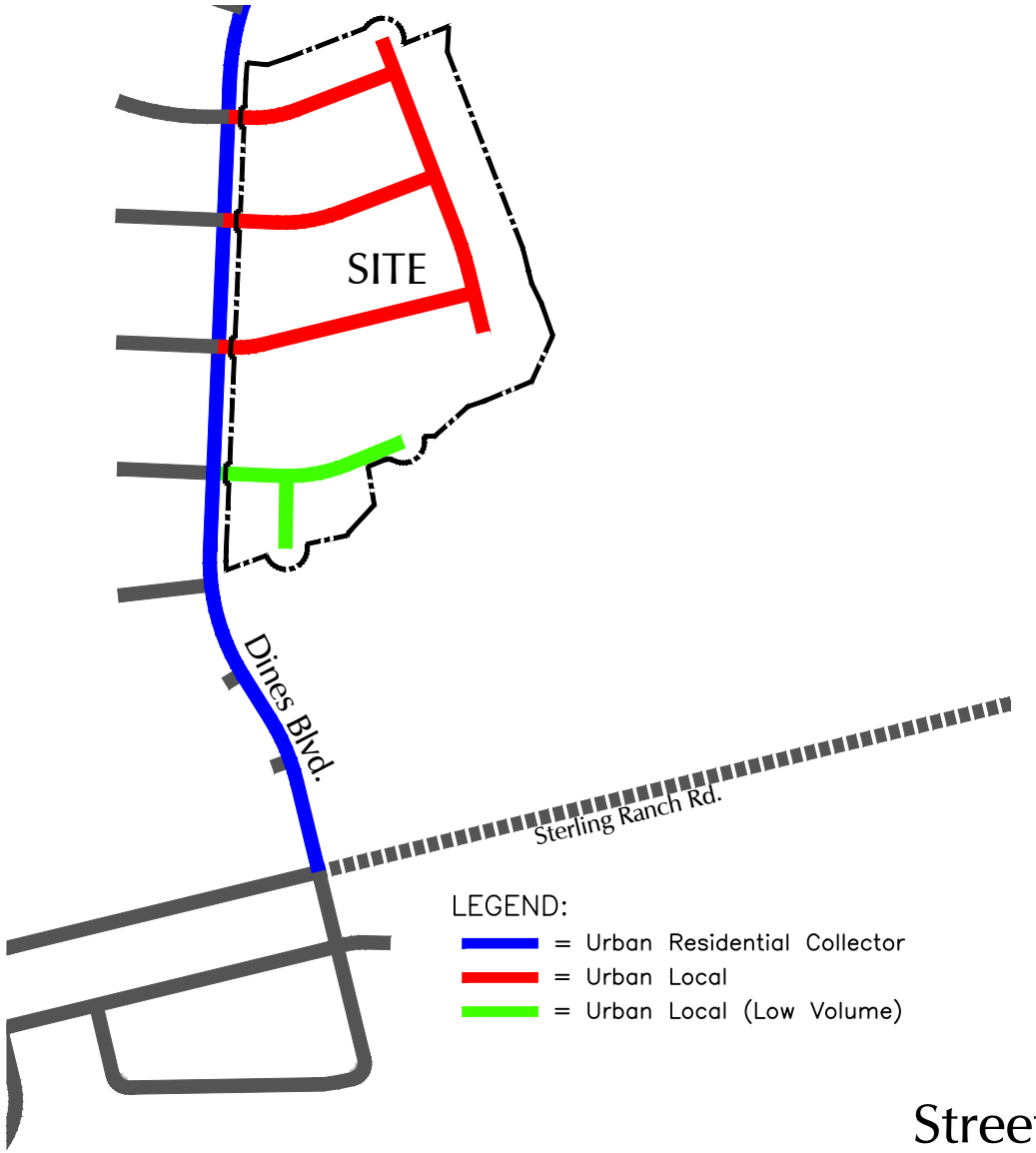


Figure 13

Recommended Street Classifications

Branding Iron at Sterling Ranch Filing No. 2 (LSC #184282)

TRANSPORTATION CONSULTANTS, INC.

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

COUNTER MEASURES INC.

1889 YORK STREET
DENVER,COLORADO 80206
303-333-7409

Location: VOLLMER RD S/O POCO RD
City:
County: EL PASO
Direction: SOUTHBOUND-NORTHBOUND

Site Code: 092712
Station ID: 092712

Start	28-Sep-17	SB		NB		Combined		29-Sep	SB		NB		Combined	
Time	Thu	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		0	25	1	16	1	41		*	*	*	*	*	*
12:15		0	12	0	25	0	37		*	*	*	*	*	*
12:30		1	12	1	26	2	38		*	*	*	*	*	*
12:45		0	18	0	18	0	36		*	*	*	*	*	*
01:00		0	24	0	16	0	40		*	*	*	*	*	*
01:15		0	16	0	23	0	39		*	*	*	*	*	*
01:30		0	25	2	29	2	54		*	*	*	*	*	*
01:45		0	17	0	20	0	37		*	*	*	*	*	*
02:00		1	21	0	34	1	55		*	*	*	*	*	*
02:15		0	22	2	23	2	45		*	*	*	*	*	*
02:30		0	21	1	28	1	49		*	*	*	*	*	*
02:45		0	14	0	37	0	51		*	*	*	*	*	*
03:00		0	40	0	28	0	68		*	*	*	*	*	*
03:15		0	15	1	27	1	42		*	*	*	*	*	*
03:30		0	24	2	30	2	54		*	*	*	*	*	*
03:45		3	18	0	31	3	49		*	*	*	*	*	*
04:00		1	19	1	25	2	44		*	*	*	*	*	*
04:15		3	18	1	30	4	48		*	*	*	*	*	*
04:30		0	30	0	25	0	55		*	*	*	*	*	*
04:45		6	18	0	30	6	48		*	*	*	*	*	*
05:00		7	19	4	32	11	51		*	*	*	*	*	*
05:15		4	13	0	28	4	41		*	*	*	*	*	*
05:30		19	15	3	30	22	45		*	*	*	*	*	*
05:45		5	16	2	30	7	46		*	*	*	*	*	*
06:00		20	12	6	37	26	49		*	*	*	*	*	*
06:15		16	14	6	18	22	32		*	*	*	*	*	*
06:30		27	16	9	33	36	49		*	*	*	*	*	*
06:45		18	20	4	12	22	32		*	*	*	*	*	*
07:00		14	4	16	15	30	19		*	*	*	*	*	*
07:15		27	2	14	16	41	18		*	*	*	*	*	*
07:30		22	6	12	19	34	25		*	*	*	*	*	*
07:45		16	4	21	16	37	20		*	*	*	*	*	*
08:00		20	4	12	21	32	25		*	*	*	*	*	*
08:15		26	3	16	14	42	17		*	*	*	*	*	*
08:30		23	5	14	15	37	20		*	*	*	*	*	*
08:45		16	5	18	14	34	19		*	*	*	*	*	*
09:00		34	4	27	17	61	21		*	*	*	*	*	*
09:15		19	7	11	4	30	11		*	*	*	*	*	*
09:30		16	6	12	13	28	19		*	*	*	*	*	*
09:45		18	4	12	6	30	10		*	*	*	*	*	*
10:00		21	3	10	7	31	10		*	*	*	*	*	*
10:15		18	4	28	1	46	5		*	*	*	*	*	*
10:30		28	0	15	2	43	2		*	*	*	*	*	*
10:45		28	1	16	1	44	2		*	*	*	*	*	*
11:00		21	1	13	1	34	2		*	*	*	*	*	*
11:15		13	0	18	1	31	1		*	*	*	*	*	*
11:30		15	1	14	3	29	4		*	*	*	*	*	*
11:45		14	0	20	3	34	3		*	*	*	*	*	*
Total		540	598	365	930	905	1528		0	0	0	0	0	0
Day Total		1138		1295		2433			0		0		0	
% Total		22.2%	24.6%	15.0%	38.2%				0.0%	0.0%	0.0%	0.0%		
Peak	-	08:15	02:15	08:15	05:15	08:15	02:45	-	-	-	-	-	-	-
Vol.	-	99	97	75	125	174	215	-	-	-	-	-	-	-
P.H.F.		0.728	0.606	0.694	0.845	0.713	0.790							

ADT	ADT 2,433	AADT 2,433

Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	5	116	32	1	228
Future Vol, veh/h	91	5	116	32	1	228
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	5	126	35	1	281

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	126	0	0	161	0
Stage 1	126	-	-	-	-	-
Stage 2	283	-	-	-	-	-
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	599	924	-	-	1418	-
Stage 1	900	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	924	-	-	1418	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	598	924	1418	-
HCM Lane V/C Ratio	-	-	0.165	0.006	0.001	-
HCM Control Delay (s)	-	-	12.2	8.9	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	1	115	6	1	211
Future Vol, veh/h	18	1	115	6	1	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	1	125	7	1	260

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	387	125	0	0	132	0
Stage 1	125	-	-	-	-	-
Stage 2	262	-	-	-	-	-
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	616	926	-	-	1453	-
Stage 1	901	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	615	926	-	-	1453	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	615	926	1453	-
HCM Lane V/C Ratio	-	-	0.032	0.001	0.001	-
HCM Control Delay (s)	-	-	11	8.9	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	3	280	99	4	161
Future Vol, veh/h	60	3	280	99	4	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	3	304	108	5	199

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	513	304	0	0	412	0
Stage 1	304	-	-	-	-	-
Stage 2	209	-	-	-	-	-
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	521	736	-	-	1147	-
Stage 1	748	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	736	-	-	1147	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	826	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	519	736	1147	-
HCM Lane V/C Ratio	-	-	0.126	0.004	0.004	-
HCM Control Delay (s)	-	-	12.9	9.9	8.2	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	1	263	20	2	154
Future Vol, veh/h	11	1	263	20	2	154
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	1	286	22	2	190

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	480	286	0	0	308	0
Stage 1	286	-	-	-	-	-
Stage 2	194	-	-	-	-	-
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	545	753	-	-	1253	-
Stage 1	763	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	544	753	-	-	1253	-
Mov Cap-2 Maneuver	544	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	544	753	1253	-
HCM Lane V/C Ratio	-	-	0.022	0.001	0.002	-
HCM Control Delay (s)	-	-	11.8	9.8	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	131	7	116	45	2	228
Future Vol, veh/h	131	7	116	45	2	228
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	8	126	49	2	281

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	411	126	0	0	175	0
Stage 1	126	-	-	-	-	-
Stage 2	285	-	-	-	-	-
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	597	924	-	-	1401	-
Stage 1	900	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	596	924	-	-	1401	-
Mov Cap-2 Maneuver	596	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	596	924	1401	-
HCM Lane V/C Ratio	-	-	0.239	0.008	0.002	-
HCM Control Delay (s)	-	-	12.9	8.9	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	1	117	6	1	212
Future Vol, veh/h	18	1	117	6	1	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	1	127	7	1	262

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	391	127	0	0	134	0
Stage 1	127	-	-	-	-	-
Stage 2	264	-	-	-	-	-
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	613	923	-	-	1451	-
Stage 1	899	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	612	923	-	-	1451	-
Mov Cap-2 Maneuver	612	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	780	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	612	923	1451	-
HCM Lane V/C Ratio	-	-	0.032	0.001	0.001	-
HCM Control Delay (s)	-	-	11.1	8.9	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	4	280	144	6	161
Future Vol, veh/h	86	4	280	144	6	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	4	304	157	7	199

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	517	304	0	0	461	0
Stage 1	304	-	-	-	-	-
Stage 2	213	-	-	-	-	-
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	518	736	-	-	1100	-
Stage 1	748	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	515	736	-	-	1100	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	515	736	1100	-
HCM Lane V/C Ratio	-	-	0.182	0.006	0.007	-
HCM Control Delay (s)	-	-	13.5	9.9	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	1	264	20	2	156
Future Vol, veh/h	11	1	264	20	2	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	1	287	22	2	193

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	484	287	0	0	309	0
Stage 1	287	-	-	-	-	-
Stage 2	197	-	-	-	-	-
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	542	752	-	-	1252	-
Stage 1	762	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	541	752	-	-	1252	-
Mov Cap-2 Maneuver	541	-	-	-	-	-
Stage 1	760	-	-	-	-	-
Stage 2	836	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	541	752	1252	-
HCM Lane V/C Ratio	-	-	0.022	0.001	0.002	-
HCM Control Delay (s)	-	-	11.8	9.8	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	11	138	12	3	222
Future Vol, veh/h	29	11	138	12	3	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	12	150	13	4	274

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	432	150	0	0	163	0
Stage 1	150	-	-	-	-	-
Stage 2	282	-	-	-	-	-
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	581	896	-	-	1416	-
Stage 1	878	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	579	896	-	-	1416	-
Mov Cap-2 Maneuver	579	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	766	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	579	896	1416	-
HCM Lane V/C Ratio	-	-	0.054	0.013	0.003	-
HCM Control Delay (s)	-	-	11.6	9.1	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	2	146	3	1	215
Future Vol, veh/h	10	2	146	3	1	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	2	159	3	1	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	426	159	0	0	162	0
Stage 1	159	-	-	-	-	-
Stage 2	267	-	-	-	-	-
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	585	886	-	-	1417	-
Stage 1	870	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	584	886	-	-	1417	-
Mov Cap-2 Maneuver	584	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	778	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	584	886	1417	-
HCM Lane V/C Ratio	-	-	0.019	0.002	0.001	-
HCM Control Delay (s)	-	-	11.3	9.1	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	2	18	44	0
Future Vol, veh/h	0	7	2	18	44	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	2	20	48	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	72	48	48	0	-	0
Stage 1	48	-	-	-	-	-
Stage 2	24	-	-	-	-	-
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	932	1021	1559	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	931	1021	1559	-	-	-
Mov Cap-2 Maneuver	931	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	999	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1559	-	1021	-	-
HCM Lane V/C Ratio	0.001	-	0.007	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	2	20	51	0
Future Vol, veh/h	0	4	2	20	51	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	2	22	55	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	81	55	55	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	26	-	-	-	-	-
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	921	1012	1550	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	920	1012	1550	-	-	-
Mov Cap-2 Maneuver	920	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1550	-	1012	-	-
HCM Lane V/C Ratio	0.001	-	0.004	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	2	21	54	0
Future Vol, veh/h	0	6	2	21	54	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	2	23	59	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	86	59	59	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	27	-	-	-	-	-
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	915	1007	1545	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	914	1007	1545	-	-	-
Mov Cap-2 Maneuver	914	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1545	-	1007	-	-
HCM Lane V/C Ratio	0.001	-	0.006	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	2	23	60	0
Future Vol, veh/h	0	6	2	23	60	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	2	25	65	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	94	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	29	-	-	-	-	-
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	906	999	1537	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	905	999	1537	-	-	-
Mov Cap-2 Maneuver	905	-	-	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1537	-	999	-	-
HCM Lane V/C Ratio	0.001	-	0.007	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	8	285	42	11	198
Future Vol, veh/h	20	8	285	42	11	198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	9	310	46	14	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	582	310	0	0	356	0
Stage 1	310	-	-	-	-	-
Stage 2	272	-	-	-	-	-
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	475	730	-	-	1203	-
Stage 1	744	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	469	730	-	-	1203	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	469	730	1203	-
HCM Lane V/C Ratio	-	-	0.046	0.012	0.011	-
HCM Control Delay (s)	-	-	13	10	8	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	1	281	12	2	202
Future Vol, veh/h	7	1	281	12	2	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	1	305	13	2	249

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	558	305	0	0	318	0
Stage 1	305	-	-	-	-	-
Stage 2	253	-	-	-	-	-
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	491	735	-	-	1242	-
Stage 1	748	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	490	735	-	-	1242	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	789	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	490	735	1242	-
HCM Lane V/C Ratio	-	-	0.016	0.001	0.002	-
HCM Control Delay (s)	-	-	12.5	9.9	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	7	42	35	0
Future Vol, veh/h	0	4	7	42	35	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	8	46	38	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	100	38	38	0	-	0
Stage 1	38	-	-	-	-	-
Stage 2	62	-	-	-	-	-
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	899	1034	1572	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	895	1034	1572	-	-	-
Mov Cap-2 Maneuver	895	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1572	-	1034	-	-
HCM Lane V/C Ratio	0.005	-	0.004	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	6	48	39	0
Future Vol, veh/h	0	2	6	48	39	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	7	52	42	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	108	42	42	0	-	0
Stage 1	42	-	-	-	-	-
Stage 2	66	-	-	-	-	-
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	889	1029	1567	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	885	1029	1567	-	-	-
Mov Cap-2 Maneuver	885	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	957	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1567	-	1029	-	-
HCM Lane V/C Ratio	0.004	-	0.002	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	6	54	41	0
Future Vol, veh/h	0	4	6	54	41	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	7	59	45	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	118	45	45	0	-	0
Stage 1	45	-	-	-	-	-
Stage 2	73	-	-	-	-	-
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	878	1025	1563	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	874	1025	1563	-	-	-
Mov Cap-2 Maneuver	874	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1563	-	1025	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	6	59	44	0
Future Vol, veh/h	0	4	6	59	44	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	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	7	64	48	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	126	48	48	0	-	0
Stage 1	48	-	-	-	-	-
Stage 2	78	-	-	-	-	-
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	869	1021	1559	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	865	1021	1559	-	-	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1559	-	1021	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	13	138	12	4	222
Future Vol, veh/h	29	13	138	12	4	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	14	150	13	5	274

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	150	0	0	163	0
Stage 1	150	-	-	-	-	-
Stage 2	284	-	-	-	-	-
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	579	896	-	-	1416	-
Stage 1	878	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	577	896	-	-	1416	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	577	896	1416	-
HCM Lane V/C Ratio	-	-	0.055	0.016	0.003	-
HCM Control Delay (s)	-	-	11.6	9.1	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	2	148	3	1	216
Future Vol, veh/h	10	2	148	3	1	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	2	161	3	1	267

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	430	161	0	0	164	0
Stage 1	161	-	-	-	-	-
Stage 2	269	-	-	-	-	-
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	582	884	-	-	1414	-
Stage 1	868	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	581	884	-	-	1414	-
Mov Cap-2 Maneuver	581	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	581	884	1414	-
HCM Lane V/C Ratio	-	-	0.019	0.002	0.001	-
HCM Control Delay (s)	-	-	11.3	9.1	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	7	8	0	0	2	20	3	0	45	0
Future Vol, veh/h	0	0	7	8	0	0	2	20	3	0	45	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	8	9	0	0	2	22	3	0	49	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	77	78	49	81	77	24	49	0	0	25	0	0
Stage 1	49	49	-	28	28	-	-	-	-	-	-	-
Stage 2	28	29	-	53	49	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	912	812	1020	907	813	1052	1558	-	-	1589	-	-
Stage 1	964	854	-	989	872	-	-	-	-	-	-	-
Stage 2	989	871	-	960	854	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	911	811	1020	900	812	1052	1558	-	-	1589	-	-
Mov Cap-2 Maneuver	911	811	-	900	812	-	-	-	-	-	-	-
Stage 1	963	854	-	988	871	-	-	-	-	-	-	-
Stage 2	988	870	-	953	854	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	9	0.6	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1558	-	-	1020	900	1589	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.01	-	-	-
HCM Control Delay (s)	7.3	0	-	8.6	9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	4	10	0	1	2	23	4	0	59	0
Future Vol, veh/h	0	0	4	10	0	1	2	23	4	0	59	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	11	0	1	2	25	4	0	64	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	96	97	64	97	95	27	64	0	0	29	0	0
Stage 1	64	64	-	31	31	-	-	-	-	-	-	-
Stage 2	32	33	-	66	64	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	887	793	1000	885	795	1048	1538	-	-	1584	-	-
Stage 1	947	842	-	986	869	-	-	-	-	-	-	-
Stage 2	984	868	-	945	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	885	792	1000	881	794	1048	1538	-	-	1584	-	-
Mov Cap-2 Maneuver	885	792	-	881	794	-	-	-	-	-	-	-
Stage 1	946	842	-	985	868	-	-	-	-	-	-	-
Stage 2	982	867	-	941	842	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	9.1	0.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	1000	894	1584	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.013	-	-	-
HCM Control Delay (s)	7.3	0	-	8.6	9.1	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	6	13	0	1	2	28	5	0	72	0
Future Vol, veh/h	0	0	6	13	0	1	2	28	5	0	72	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	7	14	0	1	2	30	5	0	78	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	115	117	78	119	115	33	78	0	0	35	0	0
Stage 1	78	78	-	37	37	-	-	-	-	-	-	-
Stage 2	37	39	-	82	78	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	862	773	983	857	775	1041	1520	-	-	1576	-	-
Stage 1	931	830	-	978	864	-	-	-	-	-	-	-
Stage 2	978	862	-	926	830	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	860	772	983	851	774	1041	1520	-	-	1576	-	-
Mov Cap-2 Maneuver	860	772	-	851	774	-	-	-	-	-	-	-
Stage 1	930	830	-	977	863	-	-	-	-	-	-	-
Stage 2	976	861	-	920	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.3	0.4	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1520	-	-	983	862	1576	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.018	-	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.3	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	6	8	0	0	2	34	3	0	91	0
Future Vol, veh/h	0	0	6	8	0	0	2	34	3	0	91	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	7	9	0	0	2	37	3	0	99	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	142	143	99	146	142	39	99	0	0	40	0	0
Stage 1	99	99	-	43	43	-	-	-	-	-	-	-
Stage 2	43	44	-	103	99	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	828	748	957	823	749	1033	1494	-	-	1570	-	-
Stage 1	907	813	-	971	859	-	-	-	-	-	-	-
Stage 2	971	858	-	903	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	827	747	957	816	748	1033	1494	-	-	1570	-	-
Mov Cap-2 Maneuver	827	747	-	816	748	-	-	-	-	-	-	-
Stage 1	906	813	-	970	858	-	-	-	-	-	-	-
Stage 2	970	857	-	897	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.5	0.4	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1494	-	-	957	816	1570	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.011	-	-	-
HCM Control Delay (s)	7.4	0	-	8.8	9.5	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	9	285	42	13	198
Future Vol, veh/h	20	9	285	42	13	198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	10	310	46	16	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	586	310	0	0	356	0
Stage 1	310	-	-	-	-	-
Stage 2	276	-	-	-	-	-
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	473	730	-	-	1203	-
Stage 1	744	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	467	730	-	-	1203	-
Mov Cap-2 Maneuver	467	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	771	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	467	730	1203	-
HCM Lane V/C Ratio	-	-	0.047	0.013	0.013	-
HCM Control Delay (s)	-	-	13.1	10	8	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	1	282	12	2	204
Future Vol, veh/h	7	1	282	12	2	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	205	0	-	235	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	1	307	13	2	252

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	563	307	0	0	320	0
Stage 1	307	-	-	-	-	-
Stage 2	256	-	-	-	-	-
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	487	733	-	-	1240	-
Stage 1	746	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	486	733	-	-	1240	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	787	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	486	733	1240	-
HCM Lane V/C Ratio	-	-	0.016	0.001	0.002	-
HCM Control Delay (s)	-	-	12.5	9.9	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	4	5	0	0	7	43	9	0	37	0
Future Vol, veh/h	0	0	4	5	0	0	7	43	9	0	37	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	5	0	0	8	47	10	0	40	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	108	113	40	110	108	52	40	0	0	57	0	0
Stage 1	40	40	-	68	68	-	-	-	-	-	-	-
Stage 2	68	73	-	42	40	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	871	777	1031	868	782	1016	1570	-	-	1547	-	-
Stage 1	975	862	-	942	838	-	-	-	-	-	-	-
Stage 2	942	834	-	972	862	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	868	773	1031	861	778	1016	1570	-	-	1547	-	-
Mov Cap-2 Maneuver	868	773	-	861	778	-	-	-	-	-	-	-
Stage 1	970	862	-	937	834	-	-	-	-	-	-	-
Stage 2	937	830	-	968	862	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	9.2	0.9	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1570	-	-	1031	861	1547	-	-
HCM Lane V/C Ratio	0.005	-	-	0.004	0.006	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	9.2	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	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	0	2	7	0	0	6	58	11	1	45	0
Future Vol, veh/h	0	0	2	7	0	0	6	58	11	1	45	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	8	0	0	7	63	12	1	49	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	140	49	135	134	69	49	0	0	75	0	0
Stage 1	51	51	-	83	83	-	-	-	-	-	-	-
Stage 2	83	89	-	52	51	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	838	751	1020	836	757	994	1558	-	-	1524	-	-
Stage 1	962	852	-	925	826	-	-	-	-	-	-	-
Stage 2	925	821	-	961	852	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	834	746	1020	830	752	994	1558	-	-	1524	-	-
Mov Cap-2 Maneuver	834	746	-	830	752	-	-	-	-	-	-	-
Stage 1	957	851	-	920	822	-	-	-	-	-	-	-
Stage 2	920	817	-	958	851	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	9.4	0.6	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1558	-	-	1020	830	1524	-	-
HCM Lane V/C Ratio	0.004	-	-	0.002	0.009	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.5	9.4	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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	0	4	10	0	1	6	74	15	1	53	0
Future Vol, veh/h	0	0	4	10	0	1	6	74	15	1	53	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	11	0	1	7	80	16	1	58	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	163	170	58	164	162	88	58	0	0	96	0	0
Stage 1	60	60	-	102	102	-	-	-	-	-	-	-
Stage 2	103	110	-	62	60	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	802	723	1008	801	730	970	1546	-	-	1498	-	-
Stage 1	951	845	-	904	811	-	-	-	-	-	-	-
Stage 2	903	804	-	949	845	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	797	719	1008	794	726	970	1546	-	-	1498	-	-
Mov Cap-2 Maneuver	797	719	-	794	726	-	-	-	-	-	-	-
Stage 1	946	844	-	899	807	-	-	-	-	-	-	-
Stage 2	897	800	-	944	844	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	9.5	0.5	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	1008	807	1498	-	-
HCM Lane V/C Ratio	0.004	-	-	0.004	0.015	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.6	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	4	5	0	0	6	95	9	0	65	0
Future Vol, veh/h	0	0	4	5	0	0	6	95	9	0	65	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	5	0	0	7	103	10	0	71	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	193	198	71	195	193	108	71	0	0	113	0	0
Stage 1	71	71	-	122	122	-	-	-	-	-	-	-
Stage 2	122	127	-	73	71	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	767	698	991	764	702	946	1529	-	-	1476	-	-
Stage 1	939	836	-	882	795	-	-	-	-	-	-	-
Stage 2	882	791	-	937	836	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	764	695	991	758	698	946	1529	-	-	1476	-	-
Mov Cap-2 Maneuver	764	695	-	758	698	-	-	-	-	-	-	-
Stage 1	934	836	-	878	791	-	-	-	-	-	-	-
Stage 2	878	787	-	933	836	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	9.8	0.4	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1529	-	-	991	758	1476	-	-
HCM Lane V/C Ratio	0.004	-	-	0.004	0.007	-	-	-
HCM Control Delay (s)	7.4	0	-	8.6	9.8	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Emergency Access Road - Alternative Route Plan

See comment letter.

TRANSPORTATION
CONSULTANTS, INC.

BRANDING IRON AT STERLING RANCH FIL. NO. 1

BETWEEN VOLLMER ROAD - DINES BOULEVARD

COUNTY OF EL PASO, STATE OF COLORADO

EMERGENCY ACCESS RD - ALT. ROUTE PLAN

FEBRUARY 2019

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO PROVIDE THE TYPICAL CROSS SECTION AND SCHEMATIC ROUTE FOR A TEMPORARY FIRE ACCESS ROADWAY TO THE DEVELOPED PORTION OF THE SITE, THE PLAN IS NOT INTENDED TO SERVE AS A DETAILED CONSTRUCTION DRAWING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE ROADWAY, UPON CONSTRUCTION, MEETS THE REQUIREMENTS OF THE BLACK FOREST FIRE PROTECTION DISTRICT.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
4. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
5. ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS.
6. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.

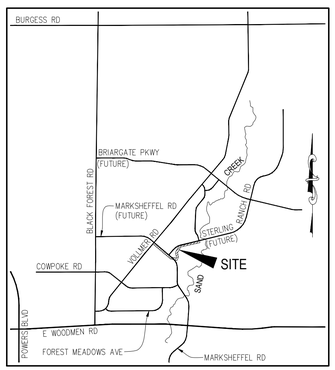
EMERGENCY ACCESS ROAD
ALT. ROUTE PLAN

EMERGENCY ACCESS ROAD
TYPICAL SECTION
SCALE: NTS

* DIRECTION OF DRAINAGE DEPENDANT UPON EXISTING LOCAL TOPOGRAPHY

AGENCIES

OWNER/DEVELOPER:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742	FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955-5485	GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 495-2283
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460	(719) COMMUNICATIONS: (U.N.C.C.	QWEST COMMUNICATIONS LOCATORS) (800) 922-1987 AT&T (LOCATORS) (719) 635-3674
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668-8769		



VICINITY MAP
N.T.S.

APPROVALS:

BLACK FOREST FIRE PROTECTION DISTRICT:

THIS DOCUMENT HAVE BEEN REVIEWED AND APPROVED.

FOR AND ON BEHALF OF THE BLACK FOREST FIRE PROTECTION DISTRICT — DATE

OWNER/DEVELOPER STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE THIS SET OF CONSTRUCTION DOCUMENTS.

JAMES F. MORLEY — DATE
SR LAND, LLC
20 BOULDER CRESCENT, SUITE 201
COLORADO SPRINGS, CO 80903
(719) 471-1742

STERLING RANCH METROPOLITAN DISTRICT:

THIS DOCUMENT HAVE BEEN REVIEWED AND APPROVED.

FOR AND ON BEHALF OF THE STERLING RANCH METRO DISTRIC — DATE

CONDITIONS:

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

BRANDING IRON AT STERLING RANCH FIL. NO. 1
EMERGENCY ACCESS RD - ALT ROUTE PLAN
PROJECT NO. 09-002 | DESIGNED BY: DM | DRAWN BY: JWP | CHECKED BY: VAS | SCALE: HORIZONTAL: N/A VERTICAL: N/A | DATE: 11/14/2018 | SHEET 2 OF 6 | SI02

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485
CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.
DARIN L. MOFFETT, COLORADO P.E. NO. 38923

REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APRV'D. BY:	DATE:

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION