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June 11, 2020

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

RE: Sterling Ranch Filing No. 2 and  
Sterling Ranch Phase 2  
Traffic Impact Study  
El Paso County, Colorado  
LSC #184660

Dear Mr. Morley:

LSC Transportation Consultants, Inc. has prepared this Transportation Memorandum for Sterling Ranch Filing 2 and Sterling Ranch Phase 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 filings.

## REPORT CONTENTS

The preparation of this report included the following:

- 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 (2020) 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; and
- Recommended roadway improvements

## **RECENT TRAFFIC REPORTS**

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
- Sterling Ranch Phase 2, dated December 20, 2018
- Copper Chase at Sterling Ranch, dated December 20, 2018
- Homestead at Sterling Ranch Filing No. 2, dated March 3, 2020
- Branding Iron at Sterling Ranch Filing No. 2, dated March 31, 2020 (revised May 6, 2020)

## **STUDY AREA**

The study area for the June 2008 master traffic impact report was best shown on Figure 3 from that report, which has been attached for reference. The study area for this report includes the area bound by Vollmer Road, Marksheffel Road, the wetlands area just east of Dines Boulevard, and Briargate Boulevard. Only those intersections within that study area which exist today or are needed to accommodate the site traffic were analyzed for this report. The study area for the future traffic studies of later phases of the Sterling Ranch development will reflect the appropriate existing conditions at that time and any additional roadway connections/intersections needed to accommodate those specific phases.

### **Study Area Land Use**

#### **Sketch Plan**

Figure 2 shows the location of the Sterling Ranch developments within the study area that are either approved, currently under review, currently proposed, or anticipated to be developed in the intermediate future. These parcels were included as traffic analysis zones (TAZs) 2 through 7 in the 2008 master traffic impact report. Table 1 shows the land uses assumed for these TAZs in the 2008 report and the land uses assumed in this report. A copy of the TAZ map from the 2008 report has been attached. As shown in Table 1, the 2008 report assumed the study area would

be developed with 1,119 single family homes and an elementary school. This same area is now planned to be developed with about 697 single family homes and an elementary school.

### **Other Recent Projects**

Branding Iron at Sterling Ranch Filing No. 1 and Homestead at Sterling Ranch Filing No. 1 have both been approved. At the time traffic counts were conducted at the intersection of Vollmer/Dines, about 83 of the 123 homes had been constructed in these filings. 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 Copper Chase at Sterling Ranch is currently on hold. However, for the purposes of this report, it was assumed that the same number of residential dwelling units as was assumed in the December 2018 report would be constructed on this parcel in the intermediate-term future.

Previously, the future elementary school site located north of Sterling Ranch Road and west of Dines Boulevard was planned to be included as part of Sterling Ranch Phase 2. It is our understanding that the school site was recently included in the Branding Iron at Sterling Ranch Filing No. 2 plat. This report assumes the school site will be developed in the intermediate future.

TAZ 8, located on the southeast corner of Briargate/Vollmer, has been reduced from the 17 acres assumed in the 2008 master plan study to 14.8 acres. TAZ 8 is planned to be developed with commercial uses, however, this report assumes it will not be developed in the intermediate future.

No changes are currently proposed to the land uses assumed in TAZ 1 and TAZs 8 through 20 of the 2008 master traffic study. This report assumes these parcels will not be developed in the intermediate future.

### **Study Area Access Plan**

The access plan for the current study area is generally consistent with the access plan shown in the master traffic report. The following summarizes the minor changes:

- The proposed access to Vollmer Road to TAZ 2 (Alzada Drive) has been shifted to the south and a deviation has been approved for this new location. The June 2008 report showed the Sterling Ranch development sharing the existing Vollmer Road/Lochwinnoch Lane intersection with the adjacent Barbarick Subdivision industrial development. However, it has since been determined that using this existing access point for the Sterling Ranch development is not possible. Therefore, this site access intersection was moved about 885 feet south (approximately halfway between the future locations of Marksheffel Road and Lochwinnoch Lane). A deviation request for this access point has been submitted and approved. A copy of the approved deviation is attached.
- The originally-proposed right-in/right-out access to TAZ 2 is no longer proposed and is not shown on the existing plans.

- The Sterling Ranch access to Briargate Parkway just east of Vollmer Road (Wheatland Drive) was previously shown as a right-in/right-out-only intersection in the Sketch Plan. It is now proposed as a three-quarter-movement (left-in/right-in/right-out-only) access. A deviation request for this access point has been submitted and approved.

These changes to the plan will result in some localized shifts in intersection turning movements shown in the master traffic study long-term traffic projections, but nothing significant requiring an update to the master study.

## **CURRENTLY PROPOSED LAND USE AND ACCESS**

### **Land Use and Vehicle Access**

Sterling Ranch Filing 2 is planned to include 49 lots for single-family homes. A full-movement site access is proposed to Sterling Ranch Road about 660 feet north east of Marksheffel Road. Sterling Ranch Filing No. 2 will also utilize the approved access to Vollmer Road located 875 feet north of Marksheffel Road (Alzada Drive).

Sterling Ranch Phase 2 is planned to include 212 lots for single-family homes (50 homes are planned north of Sterling Ranch Road and 162 homes are planned south of Sterling Ranch Road). Two full-movement access points are proposed to Sterling Ranch Road. Figure 3 shows the proposed spacing of these access points. Sterling Ranch Phase 2 will also have access through the proposed Sterling Ranch Filing No. 2. Approval of Sterling Ranch Phase 2 will be dependent on approval and construction of Sterling Ranch Filing No. 2.

### **Sight Distance Analysis**

Figure 4 shows a sight distance analysis at the future intersections to Sterling Ranch Road. Based on a design speed of 40 miles per hour (mph) and the criteria contained in Table 2-21 of the ECM, the required intersection sight distance at the future intersections is 445 feet. Based on the criteria contained in Table 2-17 of the ECM, the required stopping sight distance approaching this intersection is 305 feet. As shown in Figure 4, all of the future intersections analyzed will meet the criteria.

### **Street Connections**

Figure 5 shows the proposed short- and intermediate-term street connection plan. Dines Boulevard has been 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 as part of the Homestead at Sterling Ranch Filing 2. The section of Sterling Ranch Road between Dines Boulevard and Marksheffel Road and a half section of Marksheffel Road between

Vollmer Road and Sterling Ranch Road are planned to be constructed in the short term with the currently proposed developments. This section will replace an existing emergency only route.

It is also anticipated that Marksheffel Road will be constructed between Sterling Ranch Road and the current terminus just north of Woodmen Road in the intermediate-term future. The section between Sterling Ranch Road and the south boundary of the Sterling Ranch Master Plan area will be the responsibility of Sterling Ranch. The section from the south boundary of the Sterling Ranch Master Plan area to just north of Woodmen Road is anticipated to be constructed in the intermediate-term future as part of the Aspen Meadows development within the City of Colorado Springs.

### **Pedestrian and Bicycle Access**

An elementary school is planned to be located just north and east of Sterling Ranch Phase 2. Pedestrians will be able to utilize sidewalks along the internal subdivision streets to access the school site. School crossings will be needed at either the intersection of Sterling Ranch Road and School House Drive and/or the intersection of Dines Boulevard and Sterling Ranch Road depending on the final layout of the school site.

### **EXISTING ROAD AND TRAFFIC CONDITIONS**

The adjacent streets are shown in Figure 1 and are described below. Copies of the *2016 El Paso County Major Transportation Corridors Plan (MTCP)*, *2040 Roadway Plan*, and *2016 MTCP 2060 Corridor Preservation Plan* with the site location identified on them have been attached to this report.

**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. For this report of short- and intermediate-term conditions, it was assumed that the section of Marksheffel Road between Sterling Ranch Road and Dines Boulevard would be constructed in the short-term future and the section of Marksheffel Road between Sterling Ranch Road and the existing terminus just north of Woodmen Road would be constructed in the intermediate-term future.

**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 ultimately to extend to Towner Drive. For this report of short- and intermediate-term conditions, it was assumed that only the section of Briargate Parkway between Vollmer Road and the first Sterling Ranch access (Wheatland Drive) would be constructed.

**Sterling Ranch Road** is a planned Non-Residential Collector shown extending through the Sterling Ranch development between Marksheffel Road and Briargate Parkway. For this report of short- and intermediate-term conditions, it was assumed that only the section of Sterling Ranch Road between Marksheffel Road and Dines Boulevard would be constructed.

### **Existing Traffic Volumes**

Figure 6 shows the existing (2020) peak-hour traffic volumes at the intersections of Dines/Vollmer and Lochwinnoch/Vollmer. The traffic volumes shown for the intersection of Dines/Vollmer were based on traffic counts conducted by LSC in May 2020. These traffic counts were conducted at a time when pandemic related restrictions were in place. However, traffic counts conducted at the intersection of Black Forest Road/Vollmer Road in December 2019 (pre-pandemic) and repeated during the same week that the Dines/Vollmer counts were conducted indicate only minor impacts to traffic volumes on Vollmer Road due to these restrictions. The turning movements to and from Lochwinnoch Lane are based on counts conducted by LSC in January 2014. The through traffic volumes on Vollmer Road shown at this intersection were based on the counts at Dines Boulevard. The traffic count sheets are attached.

Figure 6 also shows the daily traffic volumes on Vollmer Road in the vicinity of the site. These volumes are estimates by LSC based on the 2020 peak-hour counts and the ratio of peak-hour to daily traffic volumes from 24-hour traffic counts conducted on Vollmer Road just south of Poco Road by LSC in 2017.

### **Existing 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 intersections. LOS F represents control delay of more than 50 seconds for unsignalized 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) <sup>(1)</sup> |
| 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 delay per vehicle.

The intersection of Vollmer/Dines has been analyzed based on the unsignalized intersection analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. All movements at this stop-sign controlled intersection are currently operating at LOS B or better during the peak hours.

**BACKGROUND (BASELINE) CONDITIONS**

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 both Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2.

Figure 7 shows the projected short-term background traffic volumes at the key area intersections. The short-term background volumes assume only the short-term street connections shown in Figure 6. The short-term background traffic includes the existing traffic volumes (from Figure 6) with some changes in traffic patterns due to new street connections, plus 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.

Figure 8 shows the projected intermediate-term background traffic volumes at the key area intersections. These volumes assume Marksheffel Road has been completed from Woodmen Road to Vollmer Road. The intermediate traffic volumes are based on the short-term background traffic volumes shown in Figure 7 with some changes in traffic patterns due to the new street connections, plus traffic estimated to be generated by buildout of the future residential/patio

homes located south of Sterling Ranch Filing No. 2 and the elementary school to be located northwest of the intersection of Sterling Ranch/Dines.

### **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 3 shows the trip generation estimates.

Sterling Ranch Filing No. 2 is projected to generate about 463 new external vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 9 vehicles would enter and 27 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 31 vehicles would enter and 18 vehicles would exit the site.

Sterling Ranch Phase 2 is projected to generate about 2,001 new external vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, about 39 vehicles would enter and 118 vehicles would exit the site. During the afternoon peak hour, about 132 vehicles would enter and 77 vehicles would exit the site.

### **TRIP 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 9. 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 9 assumes:

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

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.

When the distribution percentages (from Figure 9) are applied to the trip generation estimates (from Table 3), the resulting site-generated traffic volumes can be determined. Figures 10 and 11 show the short-term and intermediate-term site-generated traffic volume estimate for Sterling Ranch Filing No. 2 only. Figures 12 and 13 show the short-term and intermediate-term site-generated traffic volume estimate for Sterling Ranch Phase 2 only.

## **TOTAL TRAFFIC**

### **Short-Term Total Traffic Volumes**

Figure 14 shows the projected short-term total traffic volumes at the key area intersections and site access points. The short-term total traffic volumes include short-term background traffic volumes (from Figure 7) plus the short-term Sterling Ranch Filing No. 2-generated traffic volumes (from Figure 10) plus the short-term Sterling Ranch Phase 2-generated traffic volumes (from Figure 12). The short-term total traffic volumes assume only the short-term street connections shown in Figure 5.

### **Intermediate-Term Total Traffic Volumes**

Figure 15 shows the projected intermediate-term total traffic volumes at the key area intersections and site access points. The intermediate-term total traffic volumes include intermediate-term background traffic volumes (from Figure 8) plus the intermediate-term Sterling Ranch Filing No. 2-generated traffic volumes (from Figure 11) plus the intermediate-term Sterling Ranch Phase 2-generated traffic volumes (from Figure 13). The intermediate-term total traffic volumes assume only the intermediate-term street connections shown in Figure 5.

### **Long-Term Total Traffic Volumes**

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. As discussed in the Study Area section above, no significant changes are projected to the results of this study.

## **LEVEL OF SERVICE ANALYSIS**

The key area intersections and site access points have been analyzed to determine the projected intersection levels of service for short- and intermediate-term background and total traffic scenarios for the morning and afternoon peak-hour periods, based on the unsignalized intersection analysis procedures from the *Highway Capacity Manual 6th Edition*. Figures 6, 7, 13 and 14 show the level of service analysis results. The level of service reports are attached.

All of the intersections analyzed are projected to operate at LOS D or better for all movements during the peak hours, based on the projected short-term and intermediate-term total traffic volumes as a stop sign- controlled intersections.

## **SUBDIVISION STREET CLASSIFICATIONS**

Figure 15 shows the recommended street classifications for the streets in the vicinity of the site.

## **AREA MTCP 2040 ROADWAY IMPROVEMENT PROJECTS**

The *El Paso County 2016 Major Transportation Corridors Plan Update* identified the following 2040 roadway improvement projects within the study area:

- C13: Vollmer Road from Marksheffel Road to Stapleton Drive as a Rural 4-Lane Minor Arterial
- N5 Stapleton Drive [Briargate Parkway] from Towner Road to Black Forest Road as a 4-Lane Urban Principal Arterial
- N12: Marksheffel Road from Woodman Road to Research Parkway as a 4-Lane Urban Principal Arterial
- M11: Vollmer Road Bicycle & Primary Regional Trail from Marksheffel Road to Shoup Road

## **ROADWAY IMPROVEMENTS**

### **Marksheffel Road**

The City of Colorado Springs intends to take ownership and maintenance of Marksheffel Road when it is constructed from Black Forest Road to the east and south to where it connects with the current north end of Marksheffel Road in the City. The section of Marksheffel Road adjacent to Sterling Ranch is planned to be constructed on 107 feet of right-of-way to the City's required cross-section(s) and criteria. A copy of the proposed cross section approved by Kathleen Krager of the City of Colorado Springs and Jeff Rice of El Paso County has been attached.

### **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, no later than May 30, 2021. 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 Alzada/Vollmer

intersections. Figure 16 shows the timing of these improvements. The developer will be responsible for funding all road improvements.

### **Sterling Ranch Road**

Based on the projected intermediate-term total traffic volumes, the criteria contained in the El Paso County *Engineering Criteria Manual* and the classification of Sterling Ranch Road as an Urban Non-Residential Collector, northeast-bound left-turn lanes would be required approaching the site access points and Dines Boulevard.

A northeast-bound right-turn deceleration lane would be required on Sterling Ranch Road approaching School House Drive. A northeast-bound right-turn deceleration lane would **not** be required on Sterling Ranch Road approaching Dines Boulevard.

### **DEVIATION REQUESTS**

A deviation request for the proposed full-movement access point for Sterling Ranch Filing No. 2 to Vollmer Road (Alzada Drive) has been submitted and approved. A copy of the approved deviation is attached. No additional deviations to the El Paso County Engineering Criteria Manual are anticipated for Sterling Ranch Filing No. 2.

It is anticipated that deviations will be submitted for the design of knuckles within Sterling Ranch Phase 2.

### **TRANSPORTATION IMPROVEMENT FEE PROGRAM**

The applicant will be required to participate in the Countywide Transportation Improvement Fee Program. These projects will annex into the 10 mil PID, which has a per-lot upfront building permit fee of \$1,221 per dwelling unit. The total building permit fee amount for the 49 lots within Sterling Ranch Filing No. 2 would be \$59,829. The total building permit fee amount for the 49 lots within Sterling Ranch Phase 2 would be \$258,852.

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **Trip Generation**

Sterling Ranch Filing No. 2 is projected to generate about 463 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 9 vehicles would enter and 27 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 31 vehicles would enter and 18 vehicles would exit the site.

Sterling Ranch Phase 2 is projected to generate about 2,001 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, about 39 vehicles would enter and 118 vehicles would exit the site. During the afternoon peak hour, about 132 vehicles would enter and 77 vehicles would exit the site.

### **Level of Service**

All of the intersection analyzed are projected to operate at a satisfactory level of service (LOS D or better) for all movements during the peak hours based on the projected short-term and intermediate-term total traffic volumes as a stop sign-controlled intersection.

### **Recommended Improvements**

A list of all improvements in the vicinity of the site is presented in Table 4.

\* \* \* \* \*

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By \_\_\_\_\_  
Kirstin D. Ferrin, P.E.  
Senior Transportation Engineer

KDF:jas

Enclosures: Tables 1,3 and 4  
Figures 1-15  
TAZ Map  
MTCP Maps  
Approved Deviation for Alzada Drive  
Sterling Ranch Vollmer Road (North) Street Improvement Plans  
Sterling Ranch Vollmer Road (South) Street Improvement Plans  
Proposed Marksheffel Road Deviation  
Traffic Count Reports  
Level of Service Reports

# Tables and Figures

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**Table 1  
Sketch Plan Trip Generation Comparison  
Sterling Ranch Phase 2**

| Traffic Analysis Zone  | Name                                      | Status                         | Land Use Code | Land Use Description           | Trip Generation Units | Trip Generation Rates <sup>(1)</sup> |                   |             |                   |             | Total External Trips Generated |                   |     |                   |     |
|--|---|--------------------------------|---------------|--------------------------------|-----------------------|--------------------------------------|-------------------|-------------|-------------------|-------------|--------------------------------|-------------------|-----|-------------------|-----|
|  |   |                                |               |                                |                       | Average Weekday Traffic              | Morning Peak Hour |             | Evening Peak Hour |             | Average Weekday Traffic        | Morning Peak Hour |     | Evening Peak Hour |     |
|  |   |                                |               |                                |                       |                                      | In                | Out         | In                | Out         |                                | In                | Out | In                | Out |
| <b>Trip Generation Estimate Based on the Approved, Under Review and Currently Proposed Land Uses</b> |   |                                |               |                                |                       |                                      |                   |             |                   |             |                                |                   |     |                   |     |
| 2  | Future Residential/Patio Homes            | Intermediate Future            | 210           | Single-Family Detached Housing | 134 DU <sup>(2)</sup> | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 1,265                          | 25                | 74  | 84                | 49  |
|  | Sterling Ranch Filing No. 2               | Currently Proposed             | 210           | Single-Family Detached Housing | 49 DU                 | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 463                            | 9                 | 27  | 31                | 18  |
|  | Sterling Ranch Phase 2                    | Currently Proposed             | 210           | Single-Family Detached Housing | 50 DU                 | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 472                            | 9                 | 28  | 31                | 18  |
| 3  | Branding Iron at Sterling Ranch Fil No. 2 | Intermediate Future            | 520           | Elementary School              | 500 Students          | 1.89                                 | 0.36              | 0.31        | 0.08              | 0.09        | 945                            | 181               | 154 | 41                | 44  |
| 4  | Sterling Ranch Phase 2                    | Currently Proposed             | ---           | drainage and utilities         | ---                   | ---                                  | ---               | ---         | ---               | ---         | ---                            | ---               | --- | ---               | --- |
| 5&6  |   |                                | 210           | Single-Family Detached Housing | 162 DU                | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 1,529                          | 30                | 90  | 101               | 59  |
| 7  | Branding Iron at Sterling Ranch Fil No. 1 | Approved                       | 210           | Single-Family Detached Housing | 51 DU                 | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 481                            | 9                 | 28  | 32                | 19  |
|  | Homestead at Sterling Ranch Fil No. 1     | Approved                       | 210           | Single-Family Detached Housing | 72 DU                 | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 680                            | 13                | 40  | 45                | 26  |
|  | Branding Iron at Sterling Ranch Fil No. 2 | Under Review                   | 210           | Single-Family Detached Housing | 75 DU                 | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 708                            | 14                | 42  | 47                | 27  |
|  | Homestead at Sterling Ranch Fil No. 2     | Under Review                   | 210           | Single-Family Detached Housing | 104 DU                | 9.44                                 | 0.19              | 0.56        | 0.62              | 0.37        | 982                            | 19                | 58  | 65                | 38  |
| <b>697 DU</b>  |   |                                |               |                                |                       | <b>7,525</b>                         | <b>309</b>        | <b>541</b>  | <b>477</b>        | <b>298</b>  |                                |                   |     |                   |     |
| <b>Trip Generation Estimate From the Sterling Ranch Updated Traffic Impact Analysis June 5, 2008</b> |   |                                |               |                                |                       |                                      |                   |             |                   |             |                                |                   |     |                   |     |
| 2  | 210                                       | Single-Family Detached Housing | 234           | DU                             | 9.57                  | 0.19                                 | 0.56              | 0.64        | 0.37              | 2,239       | 44                             | 132               | 149 | 87                |     |
| 3  | 520                                       | Elementary School              | 500           | Students                       | 1.29                  | 0.23                                 | 0.19              | 0.00        | 0.01              | 645         | 116                            | 95                | 1   | 5                 |     |
| 4  | 210                                       | Single-Family Detached Housing | 89            | DU                             | 9.57                  | 0.19                                 | 0.56              | 0.64        | 0.37              | 852         | 17                             | 50                | 57  | 33                |     |
| 5  | 210                                       | Single-Family Detached Housing | 82            | DU                             | 9.57                  | 0.19                                 | 0.56              | 0.64        | 0.37              | 785         | 15                             | 46                | 52  | 31                |     |
| 6  | 210                                       | Single-Family Detached Housing | 103           | DU                             | 9.57                  | 0.19                                 | 0.56              | 0.64        | 0.37              | 986         | 19                             | 58                | 66  | 38                |     |
| 7  | 210                                       | Single-Family Detached Housing | 611           | DU                             | 9.57                  | 0.19                                 | 0.56              | 0.64        | 0.37              | 5,847       | 115                            | 344               | 388 | 227               |     |
| <b>1,119 DU</b>  |   |                                |               |                                |                       | <b>11,354</b>                        | <b>326</b>        | <b>725</b>  | <b>713</b>        | <b>421</b>  |                                |                   |     |                   |     |
| <b>Change in Trip Generation Estimate</b>  |   |                                |               |                                |                       | <b>-3,829</b>                        | <b>-17</b>        | <b>-184</b> | <b>-236</b>       | <b>-123</b> |                                |                   |     |                   |     |

Notes:

(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

**Table 3  
Trip Generation Estimate  
Sterling Ranch Phase 2 and Sterling Ranch Filing No. 2**

| Land Use Code                      | Land Use Description           | Trip Generation Units | Trip Generation Rates <sup>(1)</sup> |                   |      |                   | Total External Trips Generated |                         |                   |            |                   |           |
|------------------------------------|--------------------------------|-----------------------|--------------------------------------|-------------------|------|-------------------|--------------------------------|-------------------------|-------------------|------------|-------------------|-----------|
|                                    |                                |                       | Average Weekday Traffic              | Morning Peak Hour |      | Evening Peak Hour |                                | Average Weekday Traffic | Morning Peak Hour |            | Evening Peak Hour |           |
|                                    |                                |                       |                                      | In                | Out  | In                | Out                            |                         | In                | Out        |                   |           |
| <b>Sterling Ranch Filing No. 2</b> |                                |                       |                                      |                   |      |                   |                                |                         |                   |            |                   |           |
| 210                                | Single-Family Detached Housing | 49 DU                 | 9.44                                 | 0.19              | 0.56 | 0.62              | 0.37                           | 463                     | 9                 | 27         | 31                | 18        |
| <b>Sterling Ranch Phase 2</b>      |                                |                       |                                      |                   |      |                   |                                |                         |                   |            |                   |           |
| 210                                | Single-Family Detached Housing | 50 DU <sup>(2)</sup>  | 9.44                                 | 0.19              | 0.56 | 0.62              | 0.37                           | 472                     | 9                 | 28         | 31                | 18        |
| 210                                | Single-Family Detached Housing | <u>162 DU</u>         | 9.44                                 | 0.19              | 0.56 | 0.62              | 0.37                           | <u>1,529</u>            | <u>30</u>         | <u>90</u>  | <u>101</u>        | <u>59</u> |
|                                    |                                | <b>212 DU</b>         |                                      |                   |      |                   |                                | <b>2,001</b>            | <b>39</b>         | <b>118</b> | <b>132</b>        | <b>77</b> |

Notes:

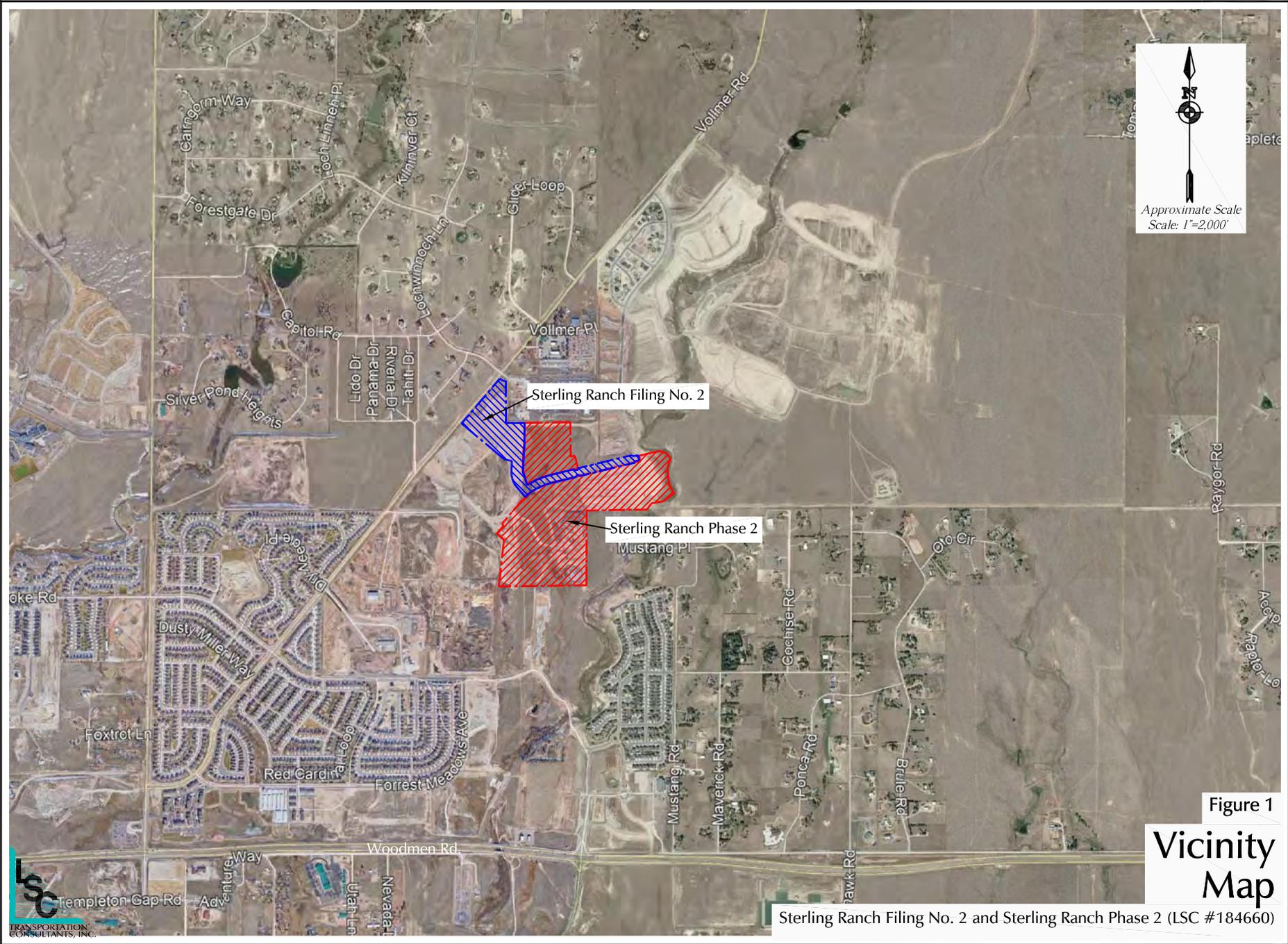
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

May-20

| Table 4  |                 |   |  |                               |
|--|-----------------|---|--|-------------------------------|
| Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 |                 |   |  |                               |
| Roadway Improvements                                   |                 |   |  |                               |
| Item   | Improvement     | Improvement Description   | Timing   | Responsibility <sup>(1)</sup> |
| 1  | Roadway Segment | Construct Sterling Ranch Road as an Urban Non-Residential Collector from Marksheffel Road to Dines Boulevard  | With Sterling Ranch Fil No. 2<br>Or<br>Sterling Ranch Phase 2  | Sterling Ranch                |
| 2  | Roadway Segment | Construct Sterling Ranch Road as an Urban Non-Residential Collector from Dines Boulevard to Briargate Parkway   | Long-Term Future   | Sterling Ranch                |
| 3  | Roadway Segment | Construct a half-section of Marksheffel Road between Vollmer Road and Sterling Ranch Road   | Sterling Ranch Fil No. 2   | Sterling Ranch                |
| 4  | Roadway Segment | Construct Marksheffel Road as an Urban Principal Arterial to City of Colorado Springs standards in 107' of right-of-way between Vollmer Road and Sterling Ranch Road  | Intermediate Term<br>(With construction of Marksheffel between Woodmen Rd and Vollmer Rd)  | Sterling Ranch                |
| 5  | Roadway Segment | Construct Marksheffel Road as an Urban Principal Arterial to City of Colorado Springs standards in 107' of right-of-way between Sterling Ranch Road and the south boundary of the Sterling Ranch Master Plan Area | Intermediate Term  | Sterling Ranch                |
| 6  | Roadway Segment | Construct Marksheffel Road between the south boundary of the Sterling Ranch Master Plan Area and Woodmen Road   | Intermediate Term  | Others                        |
| 7  | Roadway Segment | Construct Marksheffel Road between Black Forest Road and Vollmer Road   | Long-Term Future   | Others                        |
| 8  | Auxiliary Lane  | Construct northbound right-turn deceleration lane on Vollmer approaching Marksheffel 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 no later than May 30, 2021. 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/Vollmer and Alzada/Vollmer intersections. | Sterling Ranch                |
| 9  | Auxiliary Lane  | Construct southbound left-turn lane on Vollmer approaching Marksheffel Road   |  |                               |
| 10   | Auxiliary Lane  | Construct northbound right-turn deceleration lane on Vollmer approaching Alzada Dr  |  |                               |
| 11   | Auxiliary Lane  | Construct southbound left-turn lane on Vollmer approaching Alzada Drive   |  |                               |
| 12   | Auxiliary Lane  | Construct northeastbound left-turn lane Sterling Ranch Road approaching Bynum Drive. This lane should be 255' feet long plus a 160' taper.  | Sterling Ranch Phase 2   | Sterling Ranch                |
| 13   | Auxiliary Lane  | Construct northeastbound left-turn lane Sterling Ranch Road approaching School House Drive. This lane should be 305' feet long plus a 160' taper.   | Sterling Ranch Phase 2   | Sterling Ranch                |
| 14   | Auxiliary Lane  | Construct northeastbound left-turn lane Sterling Ranch Road approaching Dines Boulevard. This lane should be 305' feet long plus a 160' taper.  | Sterling Ranch Phase 2   | Sterling Ranch                |
| 15   | Auxiliary Lane  | Construct northeastbound right-turn deceleration lane Sterling Ranch Road approaching School House Drive. This lane should be 155' feet long plus a 160' taper.   | Sterling Ranch Phase 2   | Sterling Ranch                |



North Arrow  
Approximate Scale  
Scale: 1"=2,000'

Figure 1

# Vicinity Map

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)



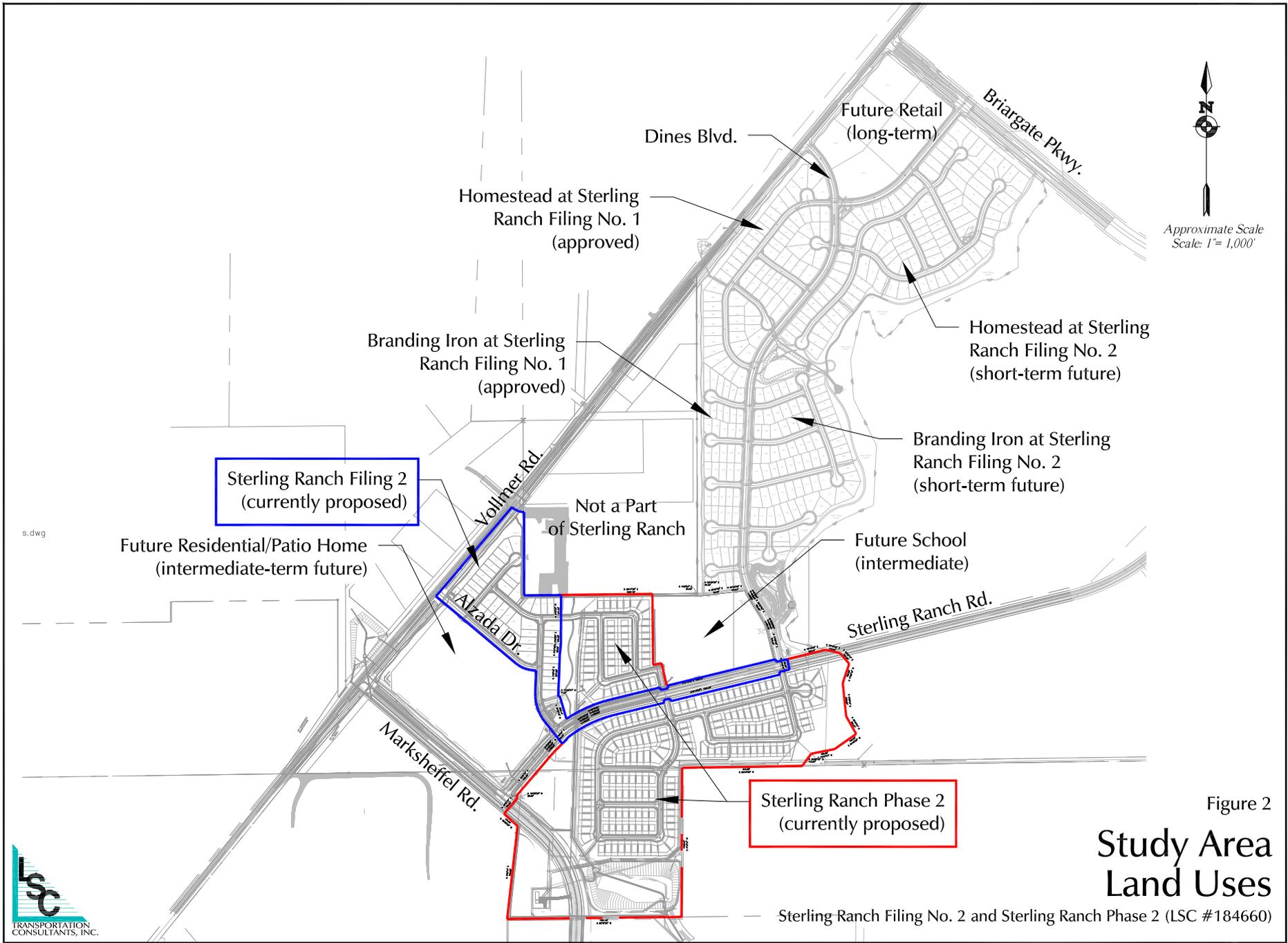


Figure 2  
**Study Area  
 Land Uses**

— Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

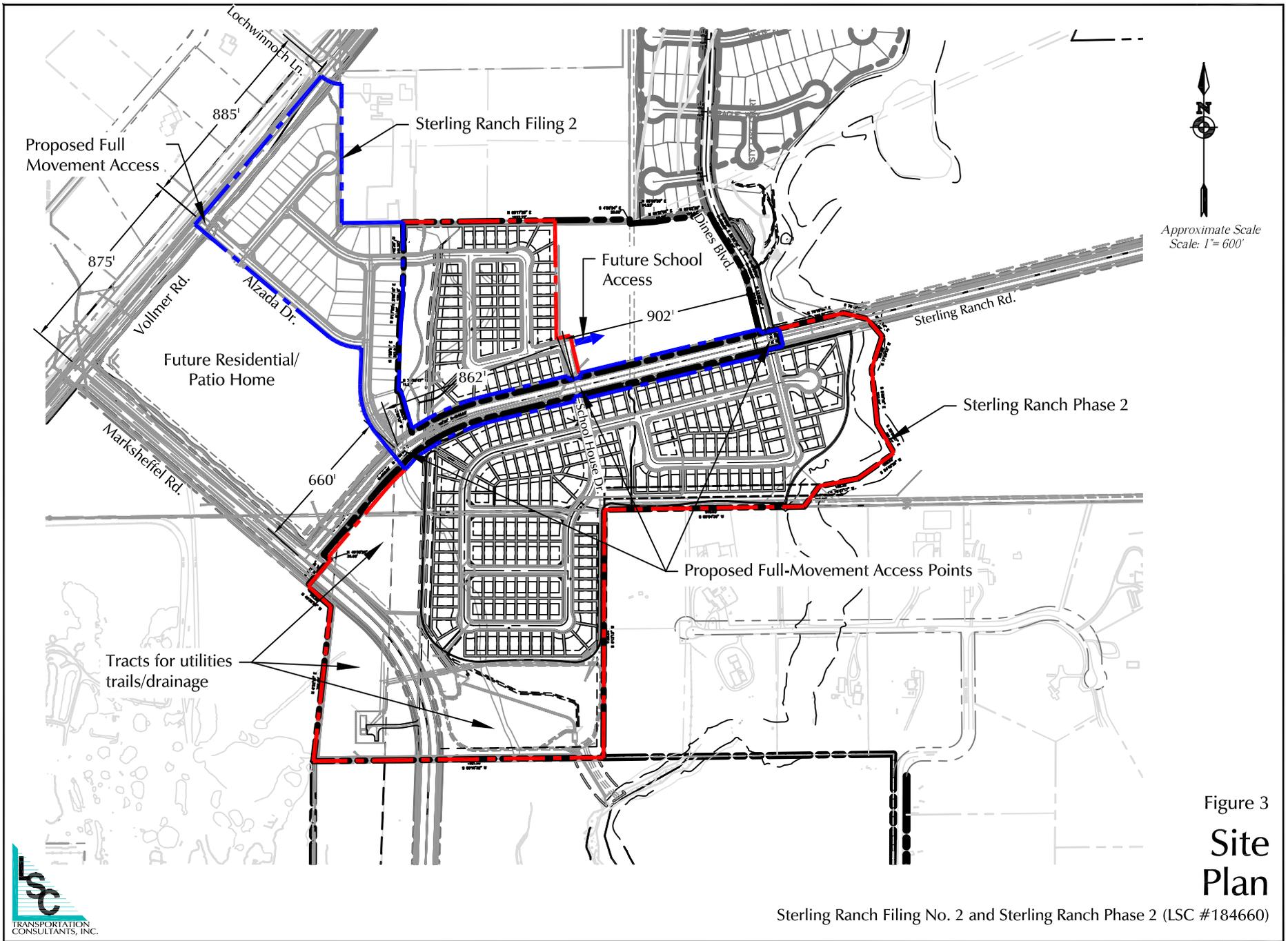
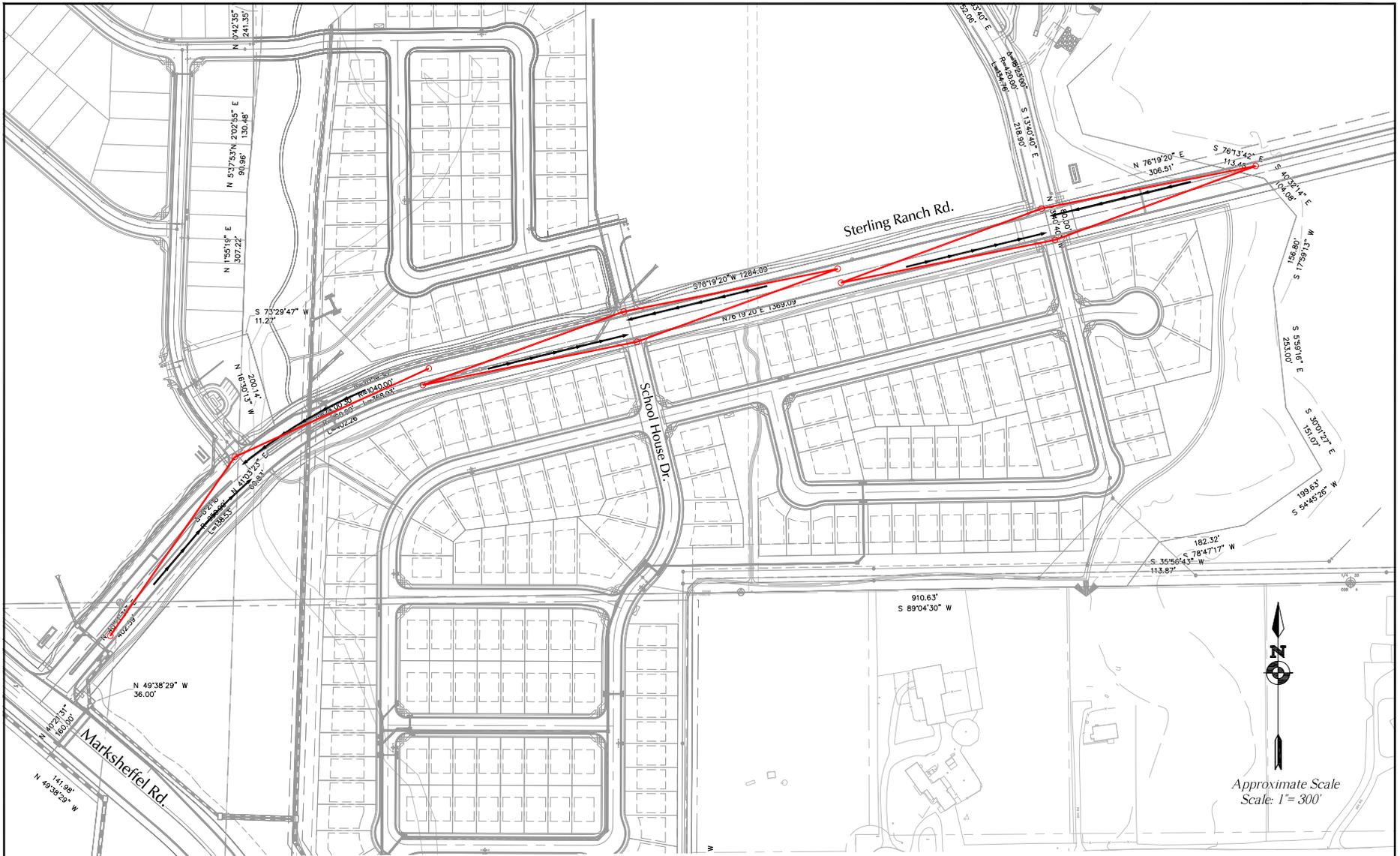


Figure 3  
**Site Plan**

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)





**LEGEND:**

- = ECM Required Intersection Sight Distance (445' from Table 2-21 Based on a Design Speed of 40mph)
- → = ECM Required Stopping Sight Distance (305' from Table 2-17 Based on a Design Speed of 40mph)



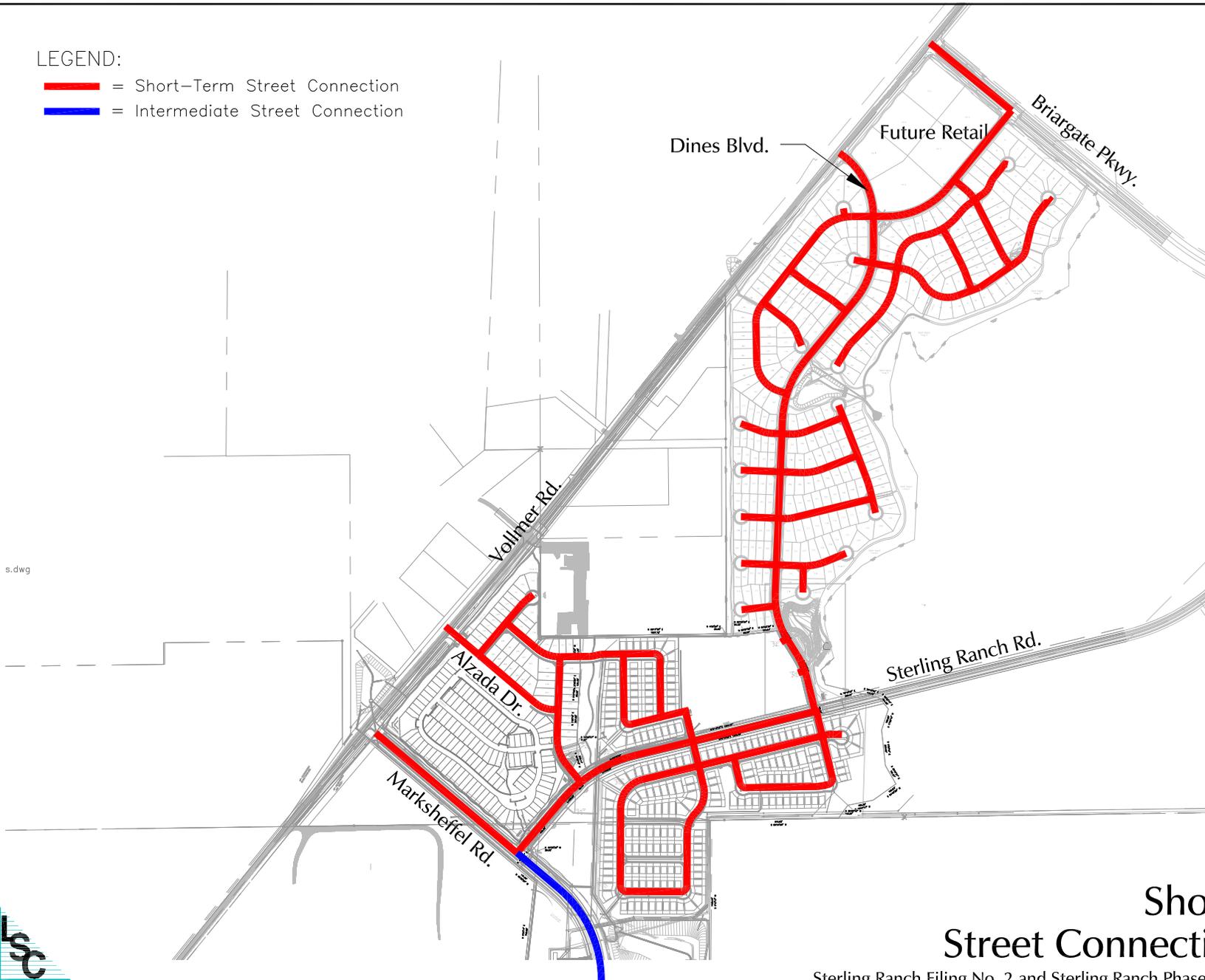
Figure 4

# Sight Distance Analysis

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

LEGEND:

-  = Short-Term Street Connection
-  = Intermediate Street Connection

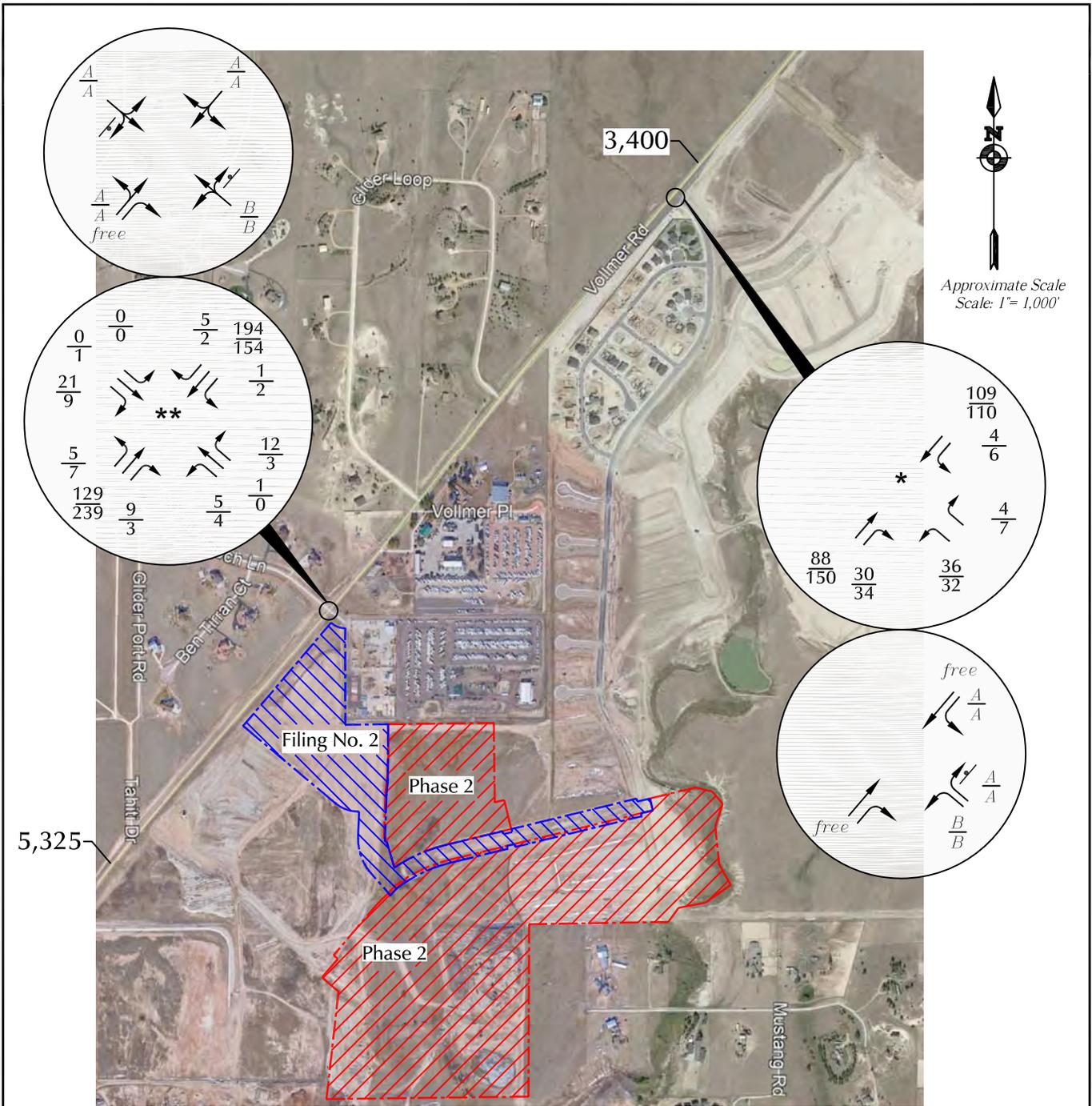


Approximate Scale  
Scale: 1" = 1,000'

Figure 5  
**Short-Term  
Street Connection Plan**

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)





LEGEND:

⊥ = Stop Sign

$\frac{XX}{XX}$  = 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

X,XXX = Average Daily Traffic (vehicles per day)

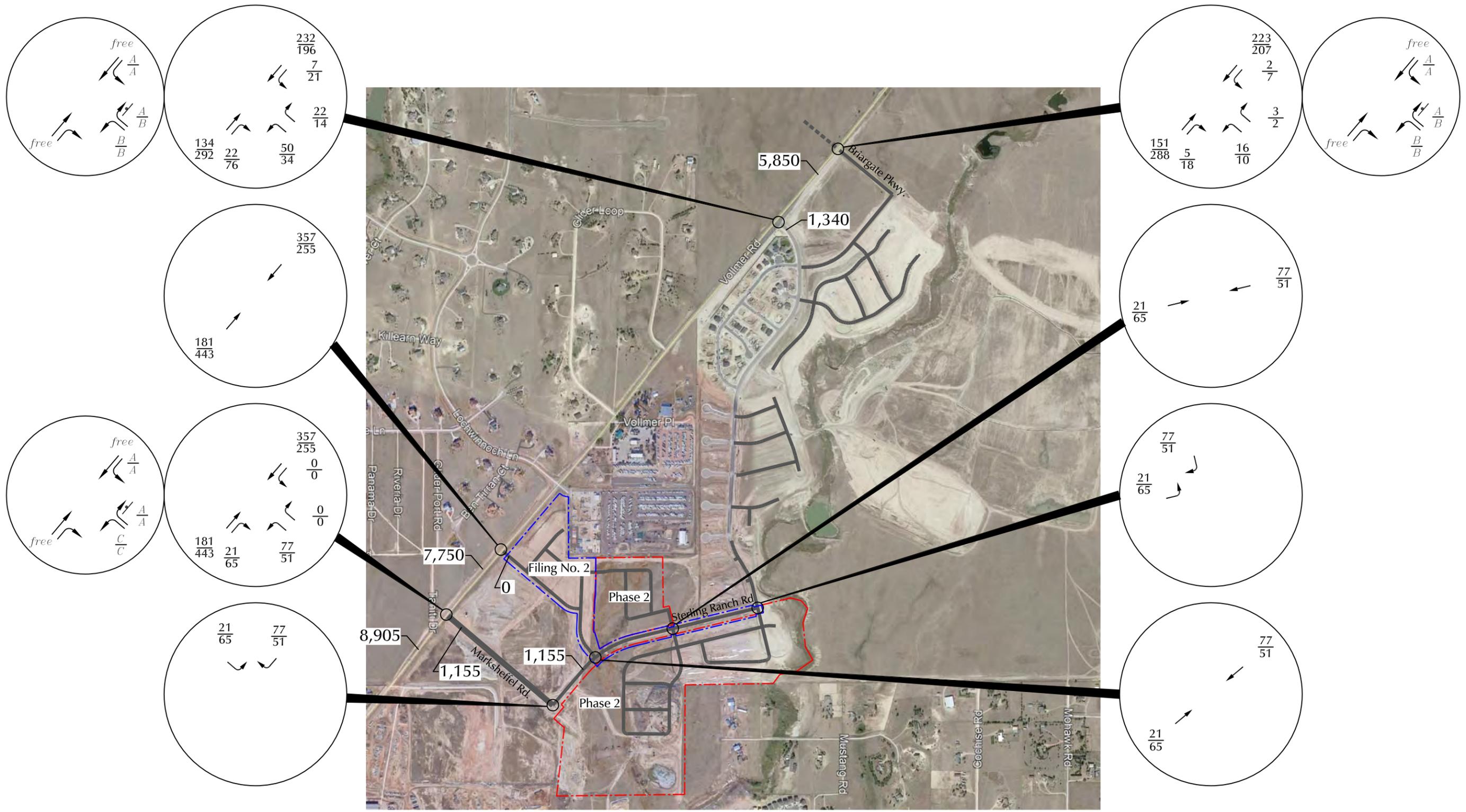
- \* Based on counts by LSC May 2020 (Note: Counts may be impacted by restrictions due to the Covid 19 pandemic).
- \*\* Based on counts conducted by LSC Jan 2014 through traffic volumes on Vollmer Rd. have been adjusted based on more recent counts at Dines Blvd.

Figure 6

# Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)





LEGEND:

⊥ = Stop Sign

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

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

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

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

X,XXX = Average Daily Traffic (vehicles per day)

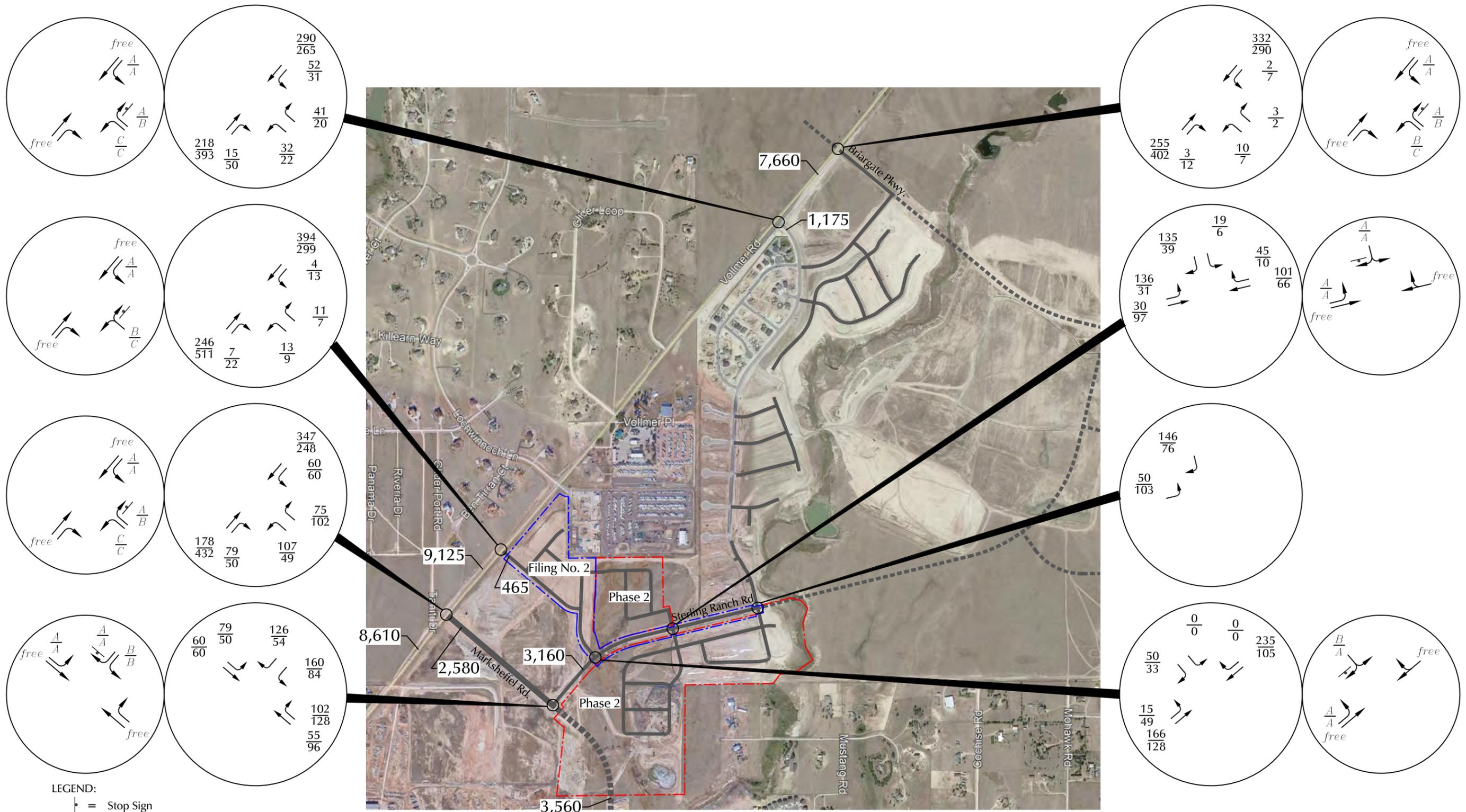


Approximate Scale  
Scale: 1" = 1,000'

Figure 7

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

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)



LEGEND:

⊥ = Stop Sign

⊞ = Traffic Signal

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

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

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

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

$\frac{C}{C}$  = AM Entire Intersection Peak-Hour Level of Service

$\frac{C}{C}$  = PM Entire Intersection Peak-Hour Level of Service

X,XXX = Average Daily Traffic (vehicles per day)



Approximate Scale  
Scale: 1" = 1,000'

Figure 8

# Intermediate Term Background Traffic, Lane Geometry, Traffic Control and Level of Service

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

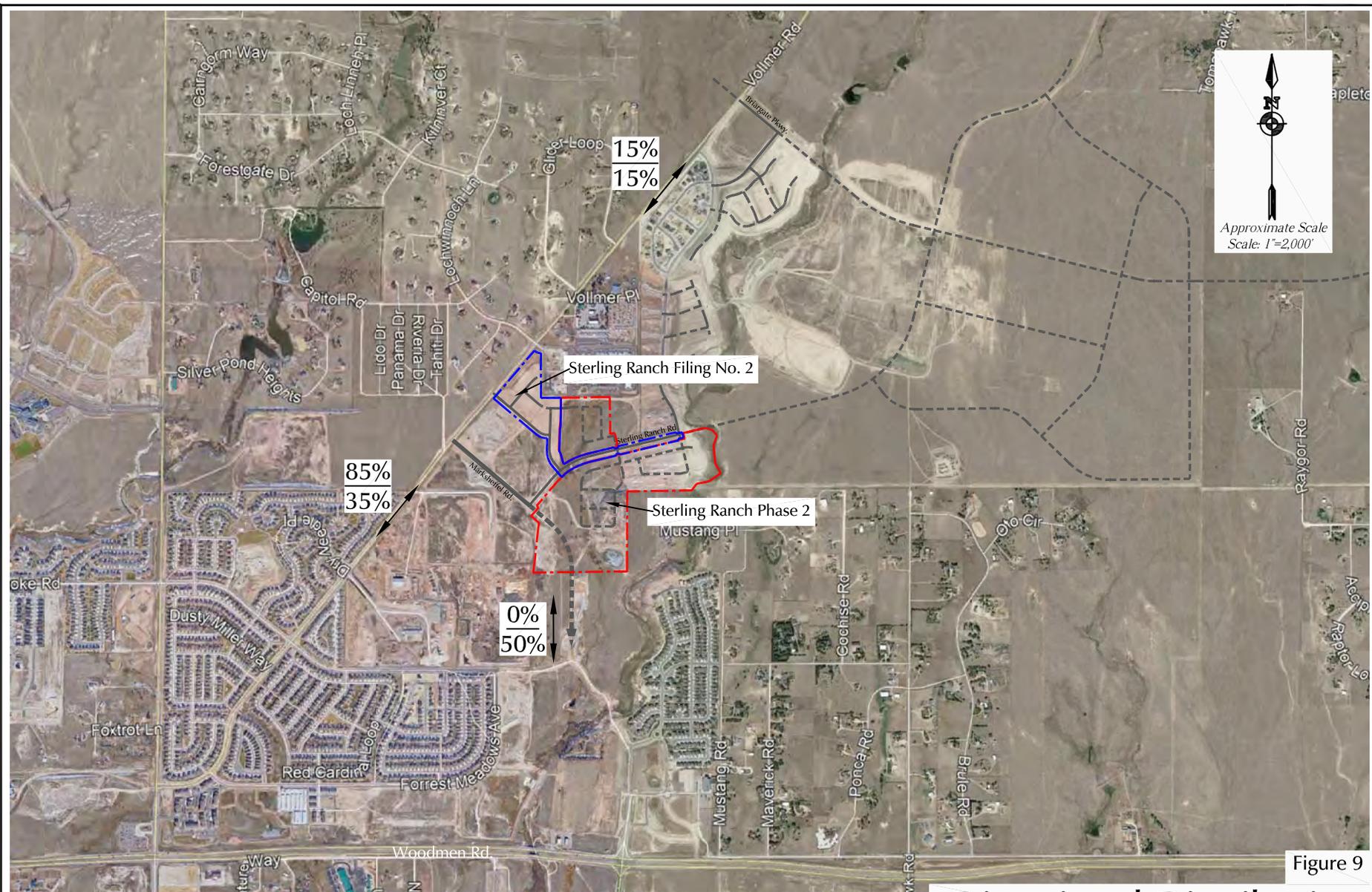


Figure 9

# Directional Distribution of Site-Generated Traffic

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

LEGEND:

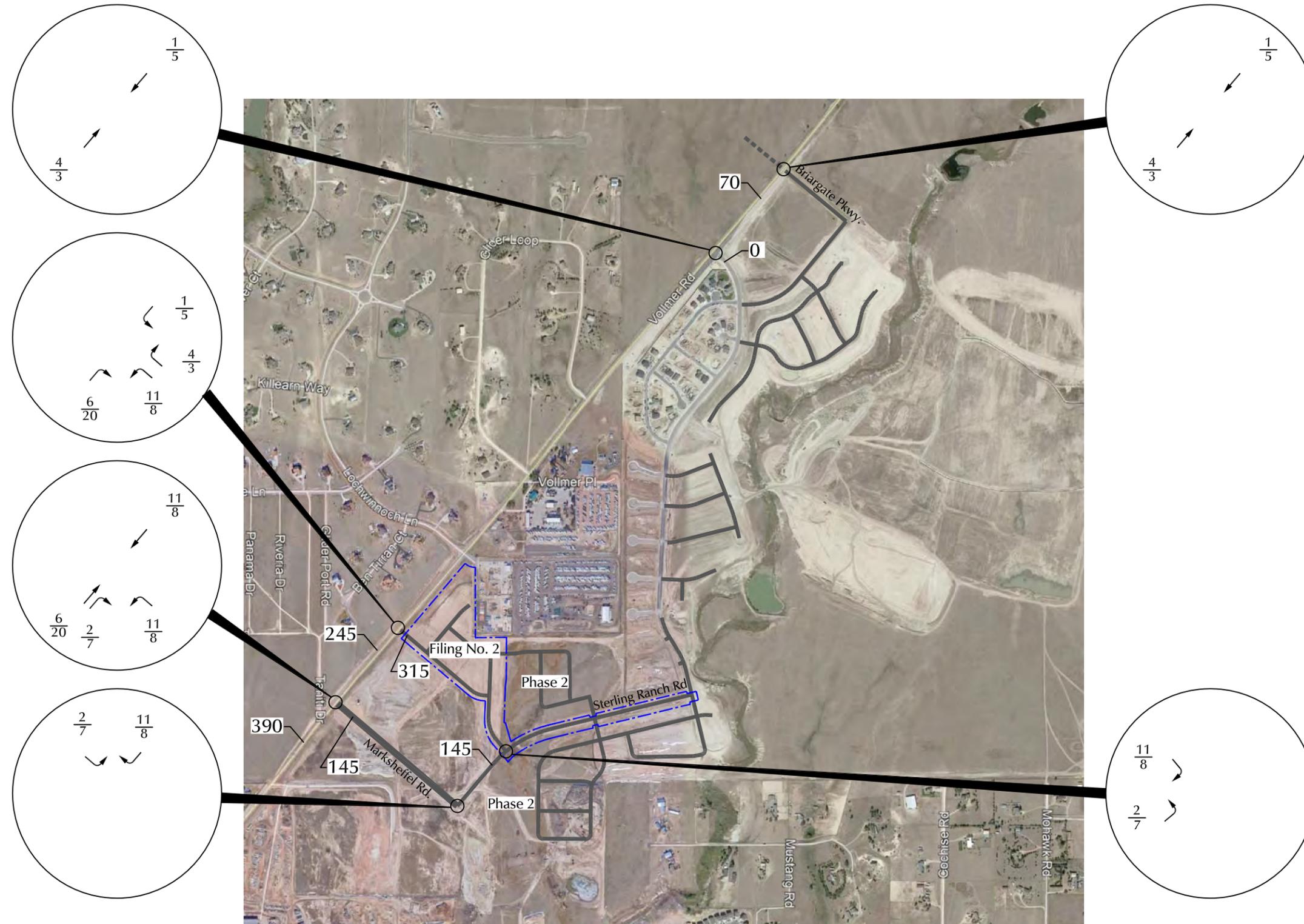


XX%

XX%

= Short-Term Percent Directional Distribution  
 = Intermediate-Term Percent Directional Distribution

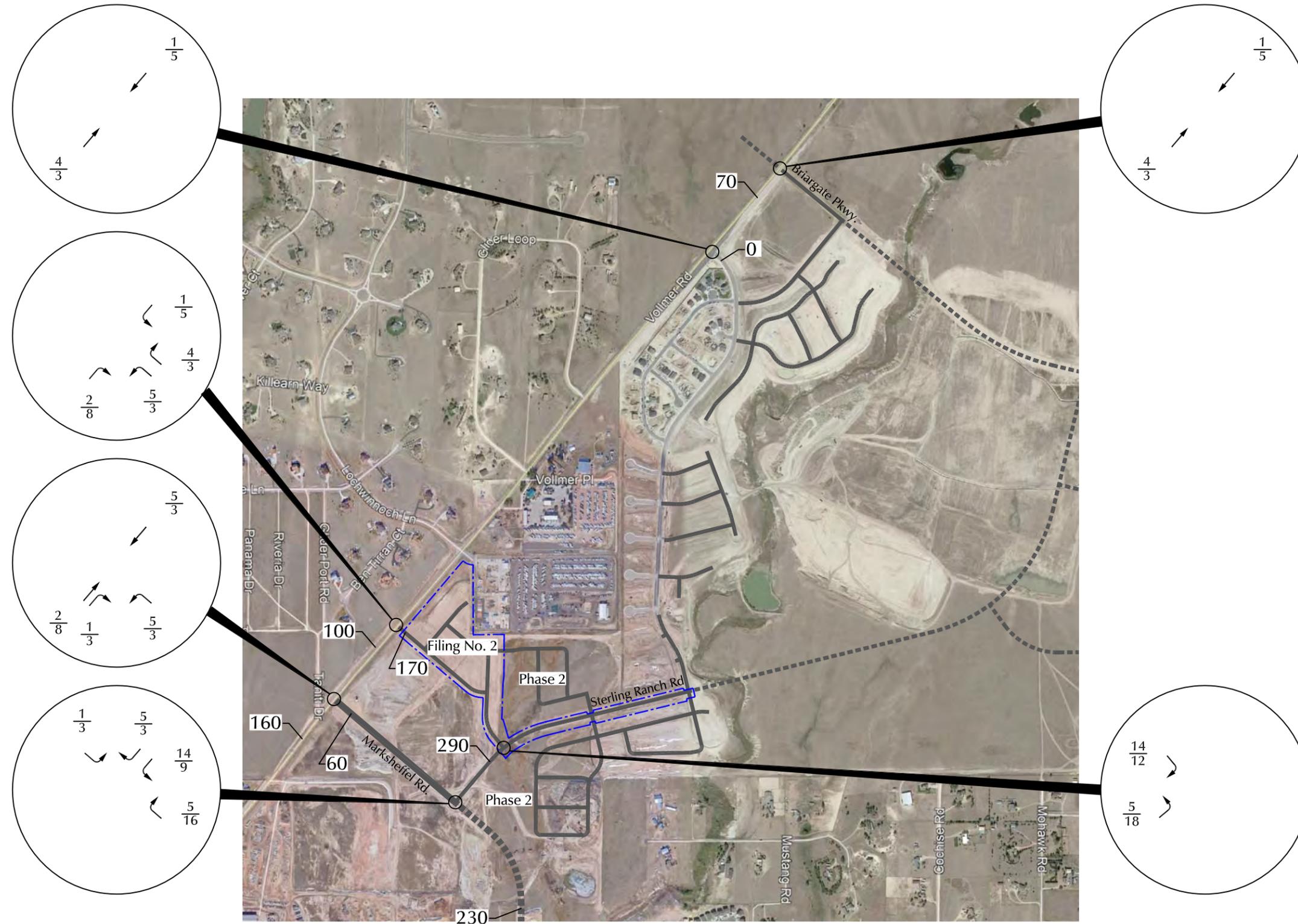





**LEGEND:**  
 $\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 X,XXX = Average Daily Traffic (vehicles per day)

  
 Approximate Scale  
 Scale: 1" = 1,000'

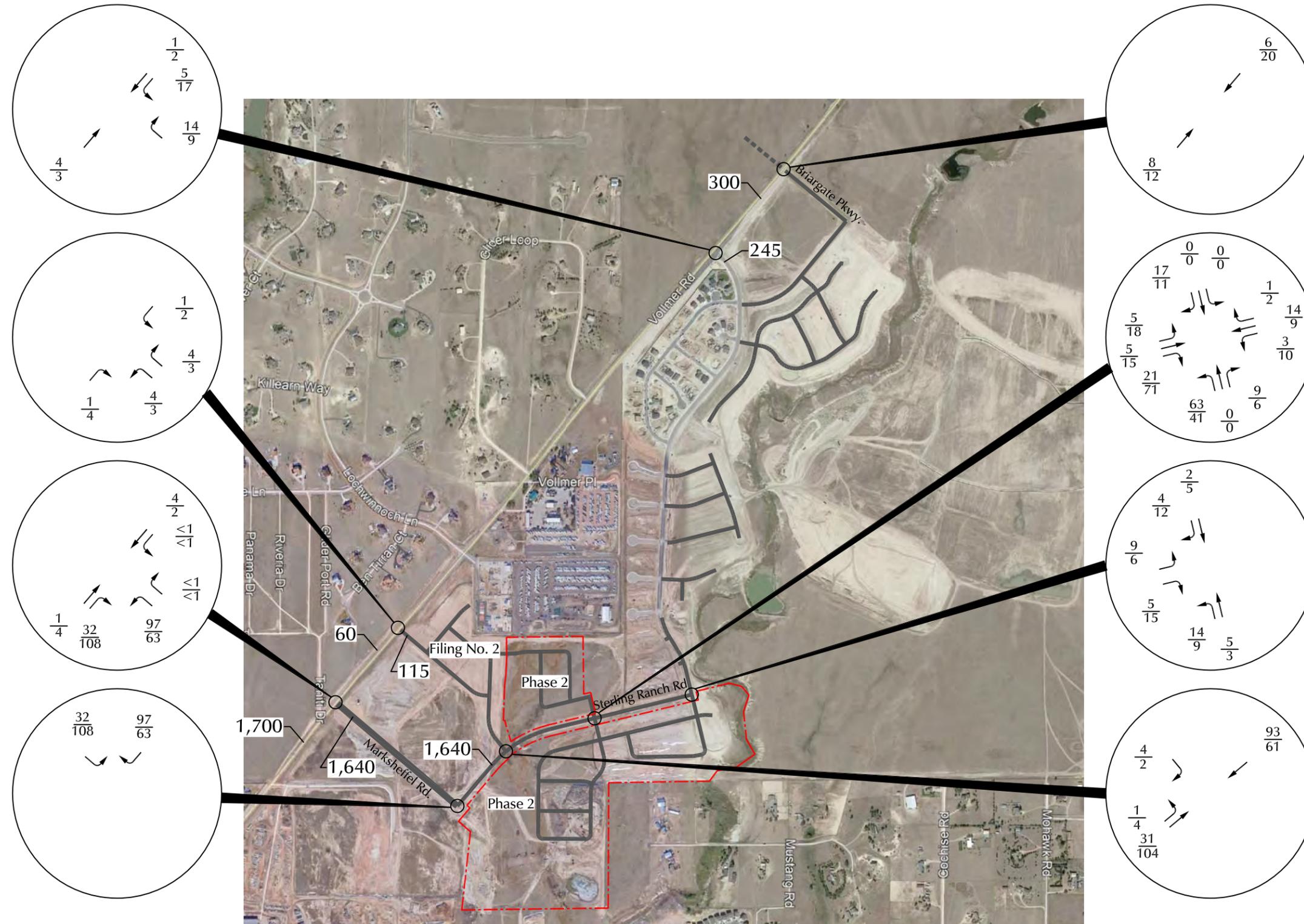
Figure 10  
**Short Term  
 Assignment of  
 Sterling Ranch Filing No. 2 Generated Traffic**  
 Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)




**LEGEND:**  
 $\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 X,XXX = Average Daily Traffic (vehicles per day)

  
 Approximate Scale  
 Scale: 1" = 1,000'

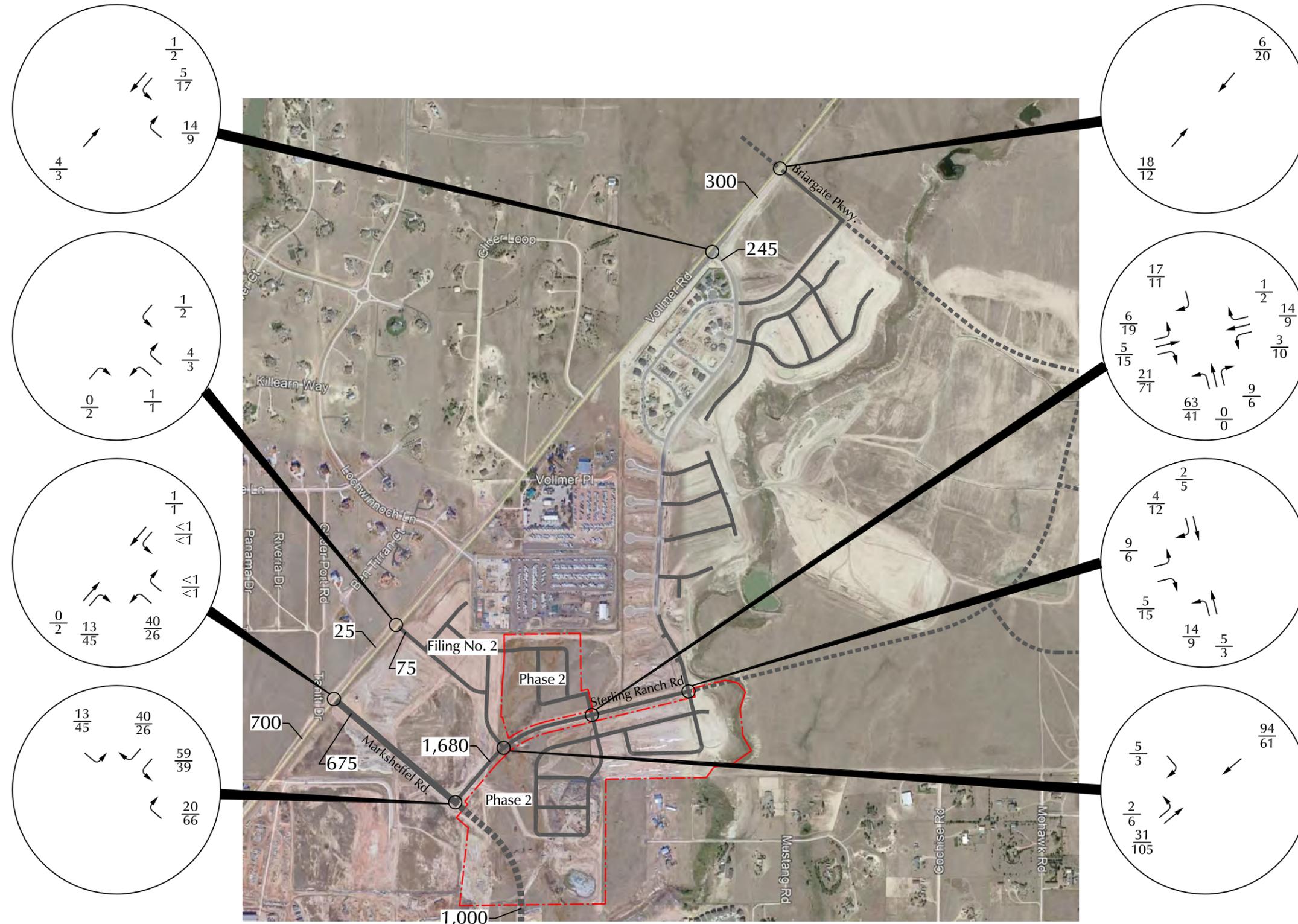
Figure 11  
**Intermediate Term  
 Assignment of  
 Sterling Ranch Filing No. 2 Generated Traffic**  
 Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)




**LEGEND:**  
 $\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 X,XXX = Average Daily Traffic (vehicles per day)

  
 Approximate Scale  
 Scale: 1" = 1,000'

Figure 12  
**Short Term  
 Assignment of  
 Sterling Ranch Phase 2 Generated Traffic**  
 Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

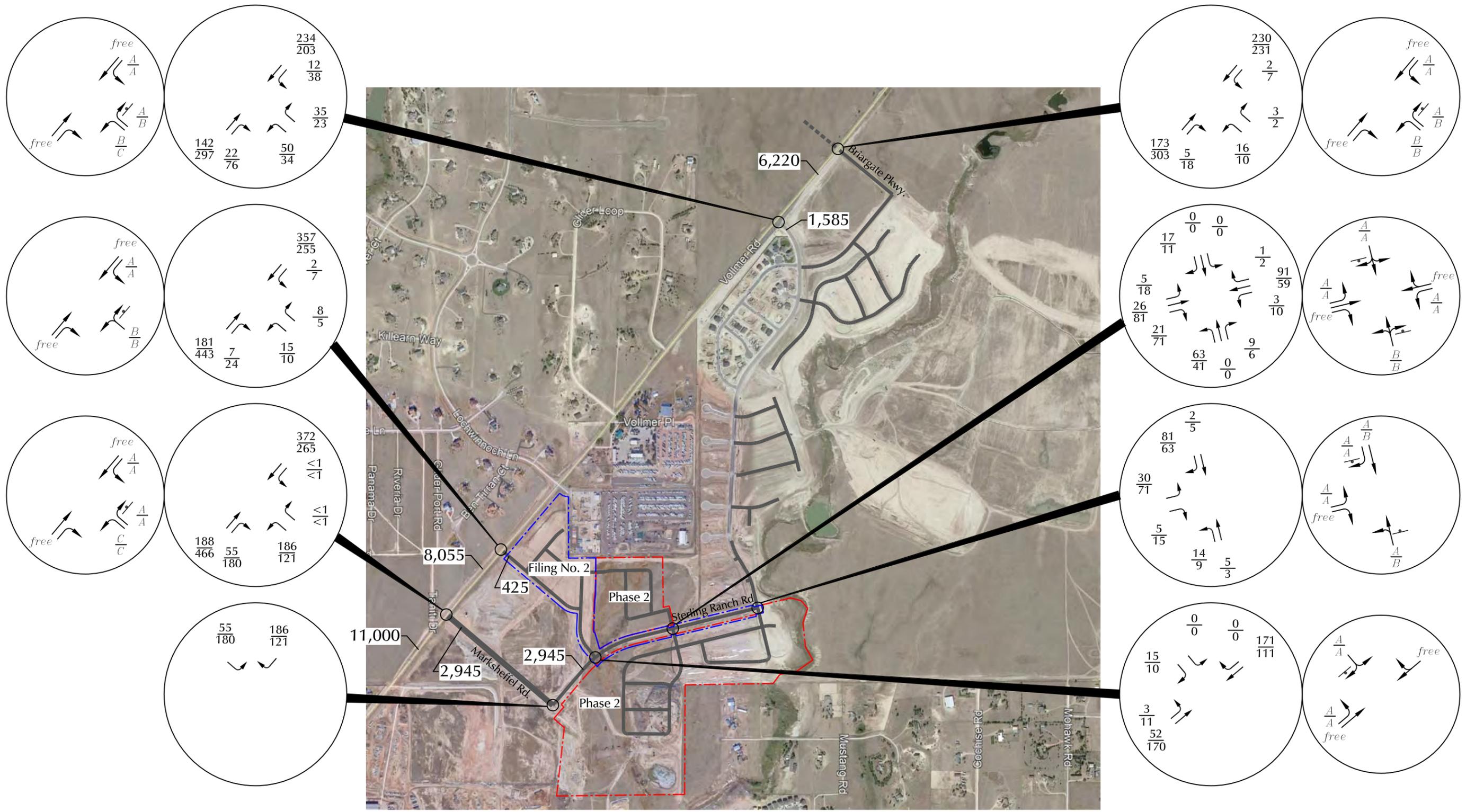


**LSC**  
 TRANSPORTATION  
 CONSULTANTS, INC.

**LEGEND:**  
 $\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 X,XXX = Average Daily Traffic (vehicles per day)

Approximate Scale  
 Scale: 1" = 1,000'

Figure 13  
**Intermediate Term  
 Assignment of  
 Sterling Ranch Phase 2 Generated Traffic**  
 Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)



LEGEND:

⊥ = Stop Sign

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

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

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

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

X,XXX = Average Daily Traffic (vehicles per day)

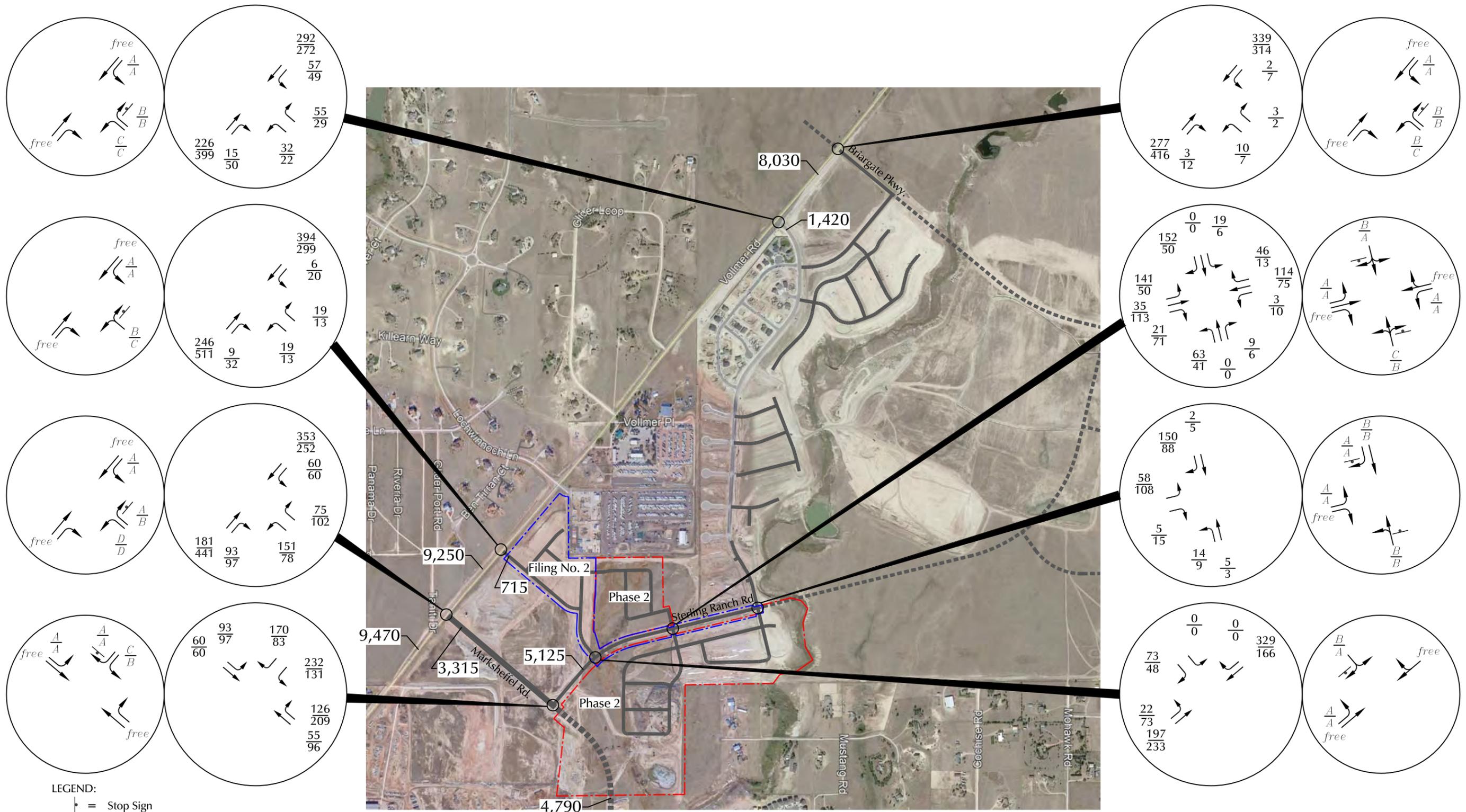


Approximate Scale  
Scale: 1" = 1,000'

Figure 14

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

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

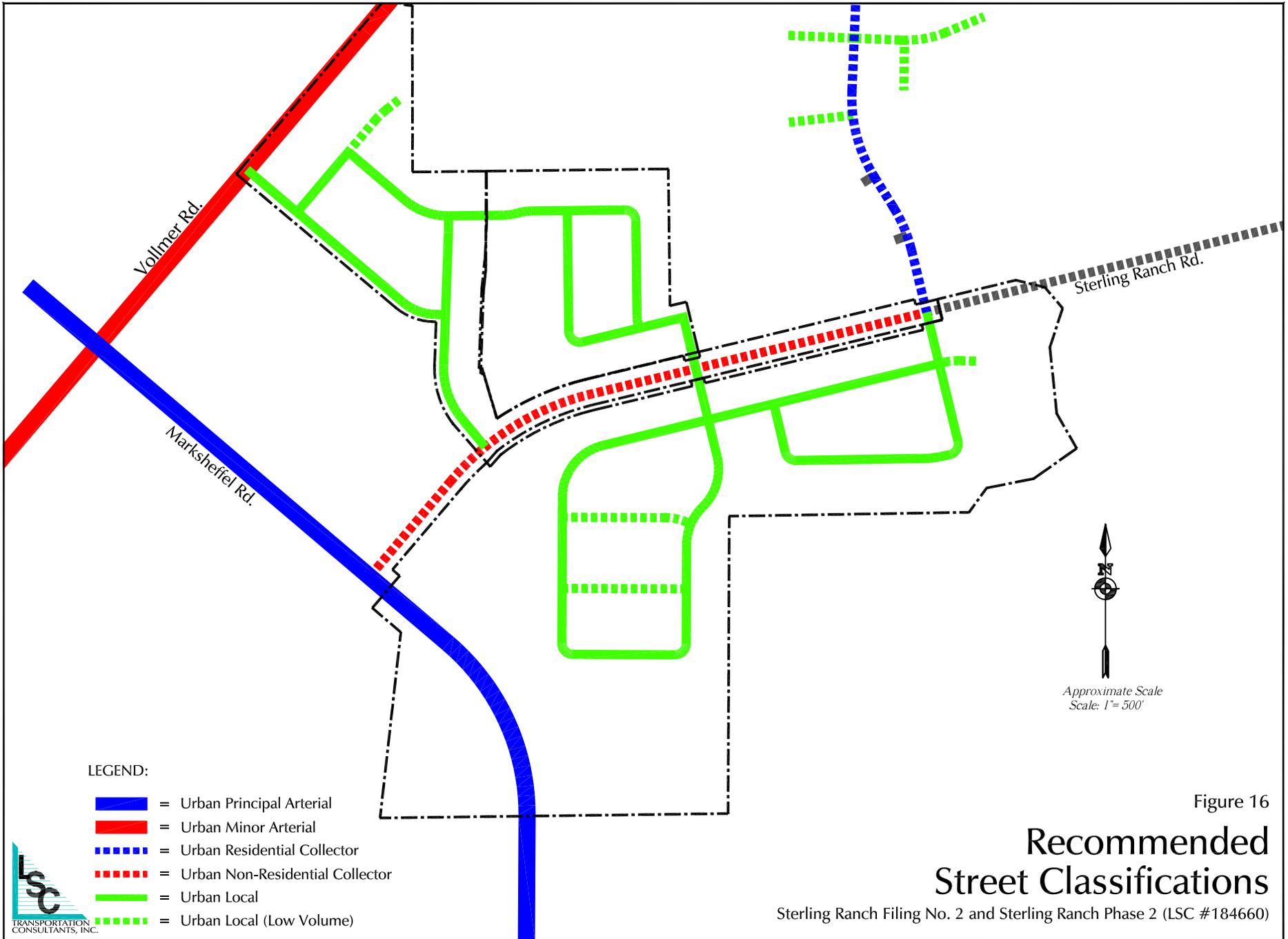


LEGEND:

- ⊥ = Stop Sign
- ⊞ = Traffic Signal
- $\frac{XX}{XX}$  = 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
- $\frac{C}{C}$  = AM Entire Intersection Peak-Hour Level of Service  
PM Entire Intersection Peak-Hour Level of Service
- X,XXX = Average Daily Traffic (vehicles per day)

Approximate Scale  
Scale: 1" = 1,000'

Figure 15  
**Intermediate Term  
 Total Traffic, Lane Geometry,  
 Traffic Control and Level of Service**  
 Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)



LEGEND:

- █ = Urban Principal Arterial
- █ = Urban Minor Arterial
- - - = Urban Residential Collector
- - - = Urban Non-Residential Collector
- █ = Urban Local
- - - = Urban Local (Low Volume)



Figure 16

# Recommended Street Classifications

Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)



**LEGEND:**

- = Existing Cross Section
- = To Be Completed with Homestead at Sterling Ranch Fil 2
- = To Be Completed with Sterling Ranch Filing No. 2
- - - = Completed "Interim" Improvements



Figure 17

# Vollmer "Interim" Improvements

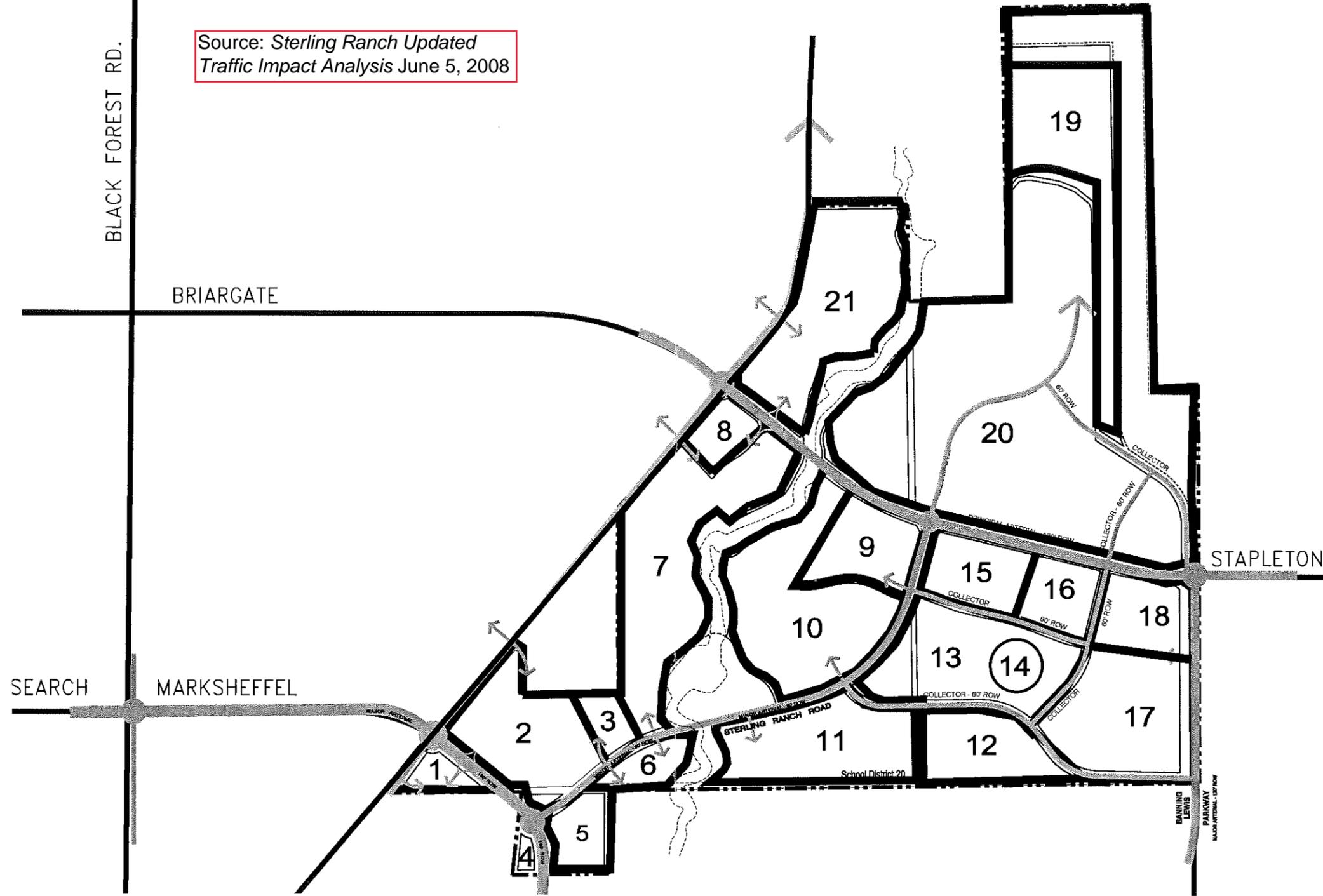
Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (LSC #184660)

# TAZ Map

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Source: Sterling Ranch Updated  
Traffic Impact Analysis June 5, 2008



Traffic Analysis Zones  
Sterling Ranch



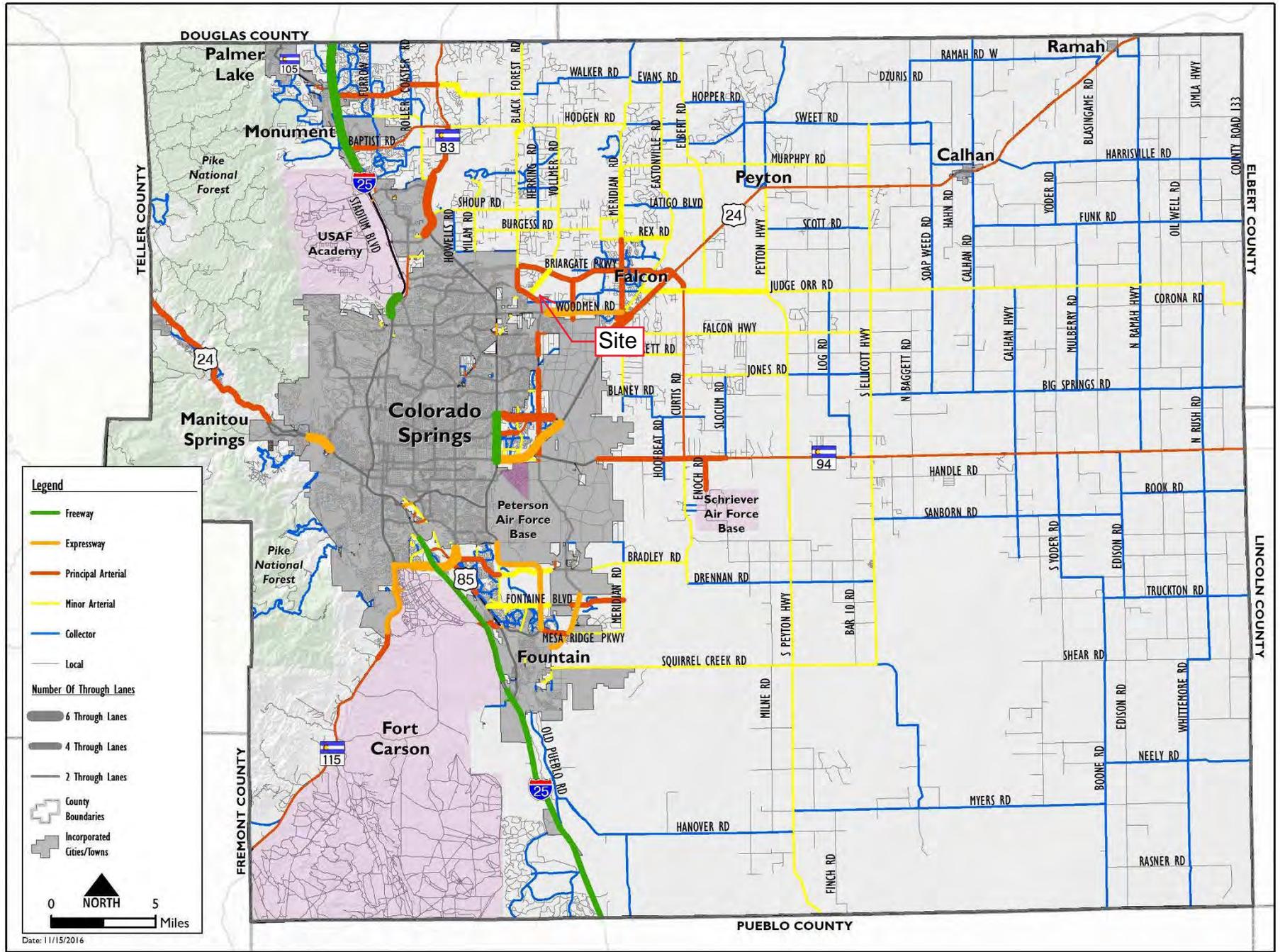
Figure 3  
LSC # 074230



# MTCP Maps

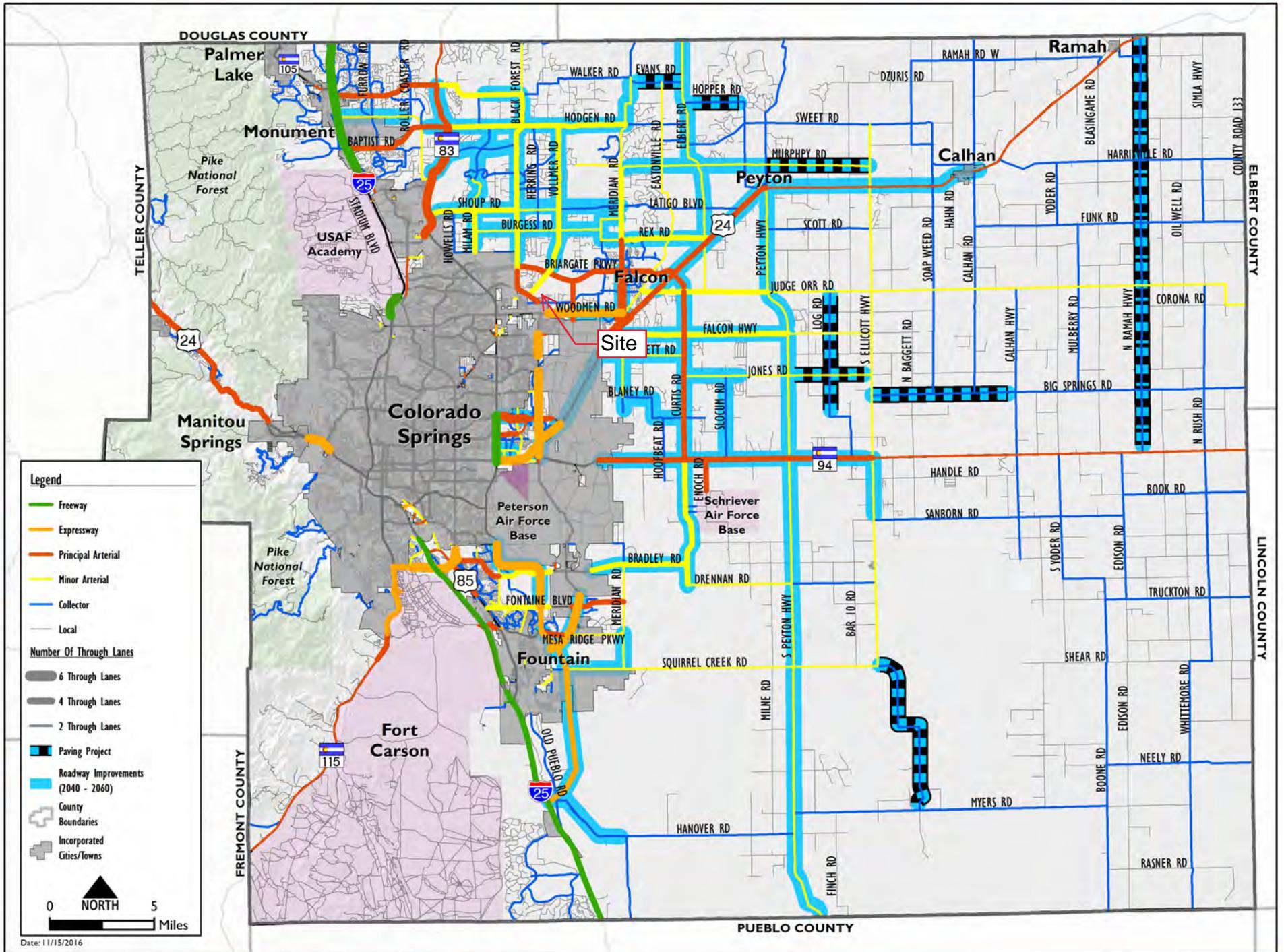
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Map 14: 2040 Roadway Plan (Classification and Lanes)

# Map 17: 2060 Corridor Preservation



# Approved Deviation for Alzada Drive

---





Development Services Department  
 2880 International Circle  
 Colorado Springs, Colorado 80910

Phone: 719.520.6300  
 Fax: 719.520.6695  
 Website www.elpasoco.com

**DEVIATION REVIEW  
 AND DECISION FORM**

Procedure # R-FM-051-07  
 Issue Date: 12/31/07  
 Revision Issued: 00/00/00

DSD FILE NO.:

|   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|--|
| S | P | 0 | 9 | 0 | 0 | 5 |  |
|---|---|---|---|---|---|---|--|

**General Property Information:**

Address of Subject Property (Street Number/Name): 8715 Vollmer Road  
 Tax Schedule ID(s) #: 5200000364; 365; 231

Legal Description of Property: PT SE4SE4 LY South of Vollmer Road EX RD W/MR Section 32-12-65

Subdivision or Project Name: Sterling Ranch Phases 1-3

Section of ECM from Which Deviation is Sought: 2.3.2 & 2.2.5.C Urban Minor Arterial Access Criteria

Specific Criteria from Which a Deviation is Sought: One-quarter-mile access spacing on Minor Arterials

Proposed Nature and Extent of Deviation: Allow site access on Vollmer Road about 875 feet north of the planned Marksheffel Road and about 885 feet south of Lochwinnoch Lane

**Applicant Information:**

Applicant: Morley-Bentley Investments, LLC - Jim Morley      Email Address: jmorley3870@aol.com  
 Applicant is:  Owner       Consultant       Contractor  
 Mailing Address: 20 Boulder Crescent, 1st Floor, Colorado Springs      State: CO      Postal Code: 80903  
 Telephone Number: 719-471-1742      Fax Number: \_\_\_\_\_

**Engineer Information:**

Engineer: Jeffrey C. Hodsdon, P.E., PTOE      Email Address: Jeff@LSCTrans.com  
 Company Name: LSC Transportation Consultants, Inc.  
 Mailing Address: 516 North Tejon Street, Colorado Springs      State: CO      Postal Code: 80903  
 Registration Number: 31684      State of Registration: CO  
 Telephone Number: 719-633-2868      Fax Number: 719-633-5430

**Explanation of Request (Attached diagrams, figures and other documentation to clarify request):**

Section of ECM from Which Deviation is Sought: 2.3.2 & 2.2.5.C Urban Minor Arterial Access Criteria

Specific Criteria from Which a Deviation is Sought: One-quarter-mile access spacing on Minor Arterials

Proposed Nature and Extent of Deviation: Allow site access on Vollmer Road about 875 feet north of the planned Marksheffel Road and about 885 feet south of Lochwinnoch Lane

Reason for the Requested Deviation: See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

Comparison of Proposed Deviation to ECM Standard: ECM Standard: One-quarter-mile access spacing on Minor Arterials

Proposed Deviation: 875-foot access spacing on Vollmer Road between the site access and Marksheffel Road and 885-foot access spacing on Vollmer Road between the site access and Lochwinnoch Lane

Applicable Regional or National Standards used as Basis:

El Paso County Procedures Manual  
 Procedure # R-FM-051-07  
 Issue Date: 12/31/07  
 Revision Issued: 00/00/00

**Application Consideration:**

**CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION**

**JUSTIFICATION**

The ECM standard is inapplicable to a particular situation.

\_\_\_\_\_  
\_\_\_\_\_

Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.

See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**If at least one of the criteria listed above is not met, this application for deviation cannot be considered.**

**Criteria for Approval:**

**PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST**

The request for a deviation is not based exclusively on financial considerations.

See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

The deviation will achieve the intended result with a comparable or superior design and quality of improvement.

See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

The deviation will not adversely affect safety or operations.

See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

The deviation will not adversely affect maintenance and its associated cost.

See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

The deviation will not adversely affect aesthetic appearance.

See attached "Sterling Ranch Phases 1-3 South Vollmer Road Deviation Request Memorandum" dated July 2, 2014 by LSC

**Owner, Applicant and Engineer Declaration:**

To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

El Paso County Procedures Manual

Procedure # R-FM-051-07

Issue Date: 12/31/07

Revision Issued: 00/00/00

DSD File No. \_\_\_\_\_

Jim Morley  
Signature of owner (or authorized representative)

7/23/14  
Date

Signature of applicant (if different from owner)

Date

Jeffrey C. Hodsdon, P.E., PTOE  
Signature of Engineer

7/2/14  
Date

Engineer's Seal



Review and Recommendation:  
APPROVED by the ECM Administrator

[Signature]

Date 7-29-14

This request has been determined to have met the criteria for approval. A deviation from Section \_\_\_\_\_ of ECM is hereby granted based on the justification provided. Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_ Additional comments or information are attached.

DENIED by the ECM Administrator

Date \_\_\_\_\_

This request has been determined not to have met criteria for approval. A deviation from Section \_\_\_\_\_ of ECM is hereby denied. Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_ Additional comments or information are attached.

# Sterling Ranch Vollmer Road (North)

Street Improvement Plans





**GENERAL CONSTRUCTION NOTES:**

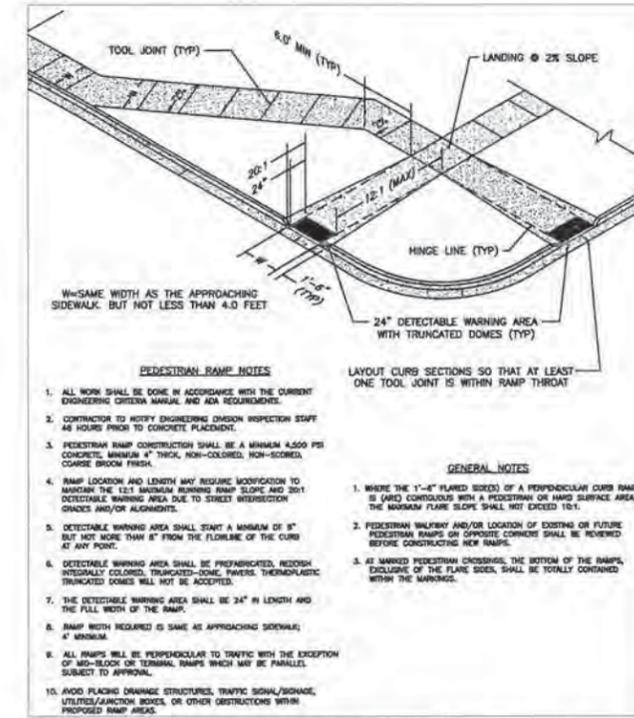
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 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.
- ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K - 1.2C.
- ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES EXCEPT BRAIRGATE PARKWAY AND VOLLMER ROAD WHICH ARE ARTERIALS AND A 50 FOOT SIGHT VISIBILITY TRIANGLE IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.
- ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDFE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 - CULVERTS.
- 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 PLANNING AND COMMUNITY DEVELOPMENT DIVISION PRIOR TO CONSTRUCTION.

**SIGNING AND STRIPING NOTES:**

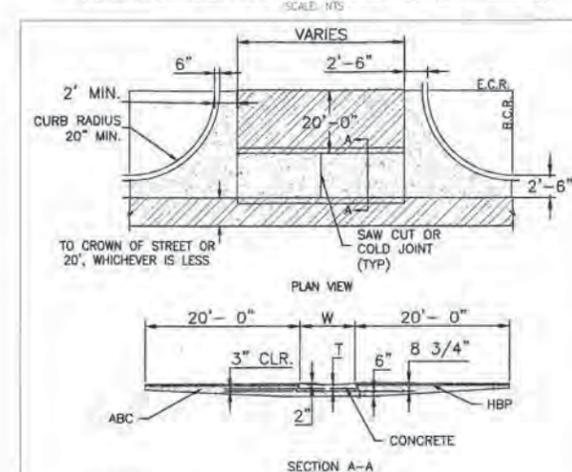
- ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION.
- ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
- STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON B" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PERFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY, INCLUDING SIGNAGE OR STRIPING.

**STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS**

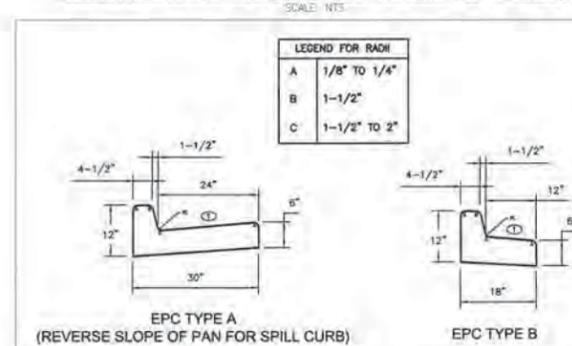
- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION 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).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
  - CDOT M & S STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DEPARTMENT OF PUBLIC WORKS. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES VERTICAL ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.



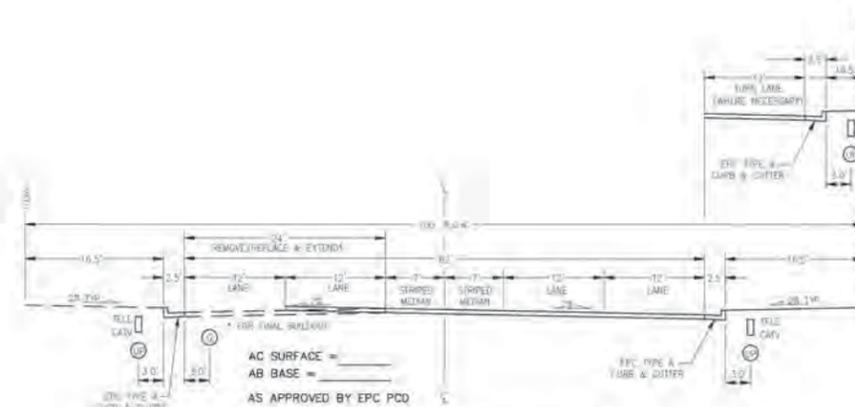
**PEDESTRIAN INTERSECTION RAMP (SD 2-41)**



**TYPICAL CROSS PAN LAYOUT DETAIL (SD 2-26)**



**TYPICAL CURB & GUTTER DETAILS (SD 2-20)**



**ULTIMATE VOLLMER ROAD (MODIFIED) URBAN MINOR ARTERIAL CROSS SECTION**

DESIGN SPEED = 50 MPH  
POSTED SPEED = 45 MPH

FOR BURIED UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

STERLING RANCH - VOLLMER ROAD (NORTH)

NOTES & DETAILS SHEET

DATE: 01/03/2018

PROJECT NO: 09-002

SCALE: HORIZONTAL N/A VERTICAL N/A

DESIGNED BY: WAS

DRAWN BY: ELY

CHECKED BY: CW

SHEET 2 OF 7

SI02

20 BOULDER CREEK, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.593.8345

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF THE CLIENT, CIVIL CONSULTANTS, INC.

APPROVED: [Signature]

REVISIONS:

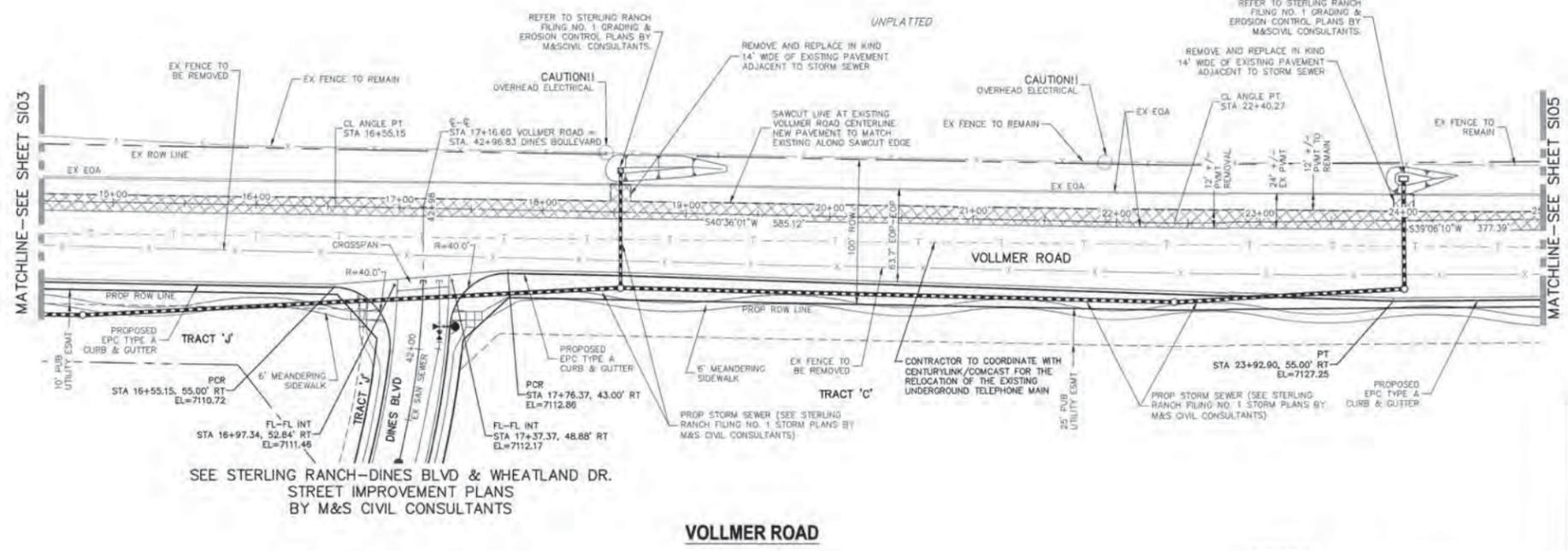
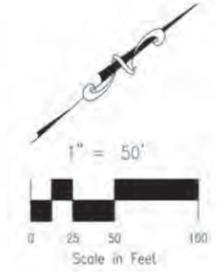
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THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND SHALL BE RESPONSIBLE FOR ANY UNANNOUNCED CHANGES TO OR DAMAGE TO UTILITIES. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER.

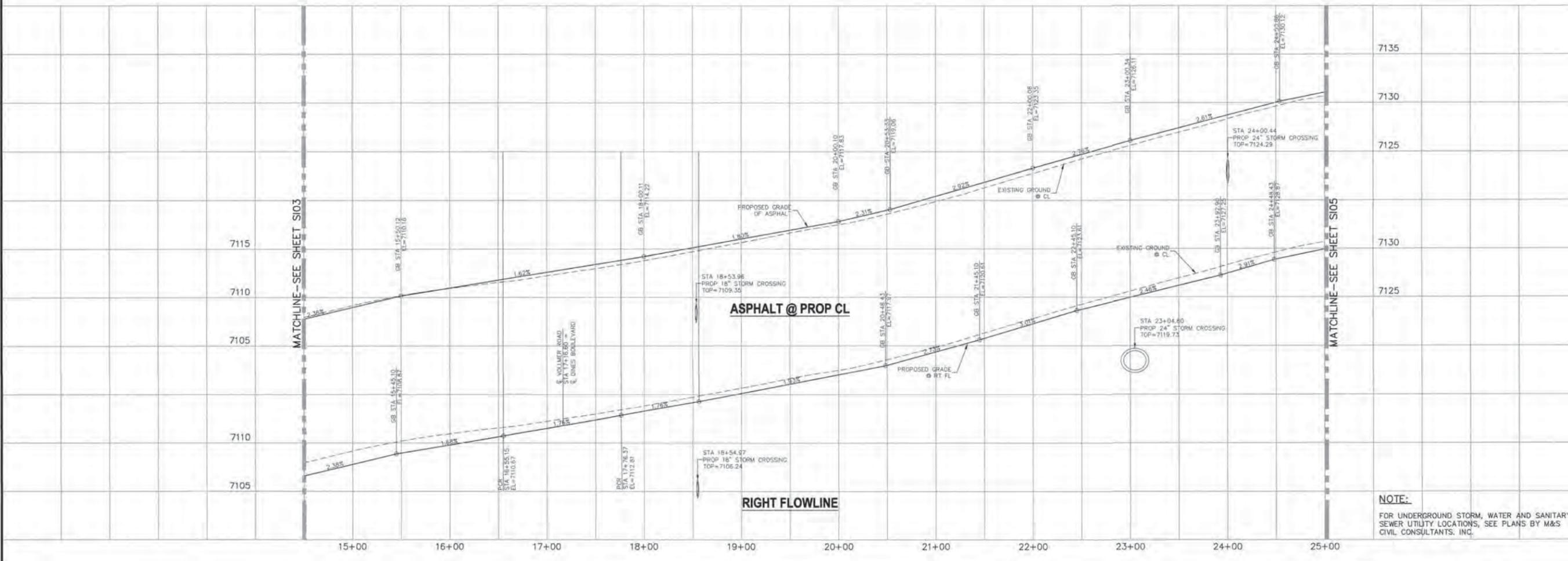
CAUTION



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



**NOTE:**  
 CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES LOCATION AND ELEVATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



**NOTE:**  
 FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

STERLING RANCH - VOLLMER ROAD (NORTH)  
 P&P - STA 14+50 TO STA 25+00  
 PROJECT NO. 09-002  
 SCALE: HORIZONTAL 1"=50'  
 VERTICAL 1"=5'  
 DATE: 01/03/2018  
 DESIGNED BY: WLS  
 DRAWN BY: ELY  
 CHECKED BY: GW  
 SHEET 4 OF 7  
 S104

20 BOULDER CREEK SUITE 110  
 COLORADO SPRINGS CO 80903  
 PHONE 719.553.5465

**M&S CIVIL CONSULTANTS, INC.**

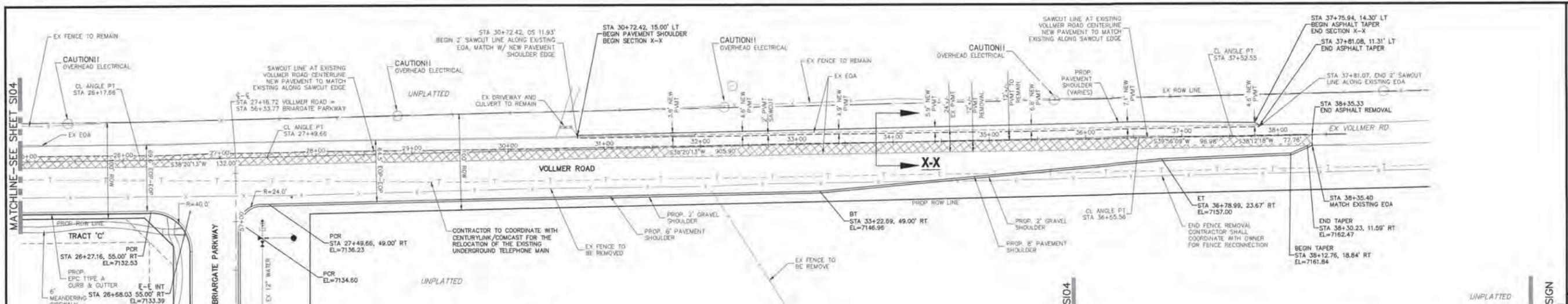
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

Virgil A. Sanchez, Colorado P.E. No. 37160

| REVISIONS: | NO. | DATE | DESCRIPTION |
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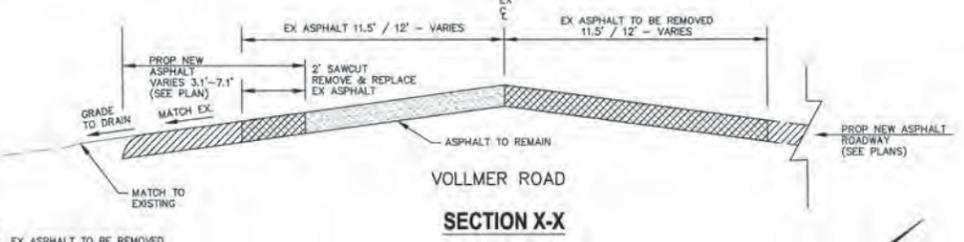
THE ENGINEER PREPARING THESE PLANS SHALL NOT BE RESPONSIBLE FOR UNAUTHORIZED CHANGES TO OR DEVIATIONS FROM THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARED OF THESE PLANS.

CAUTION



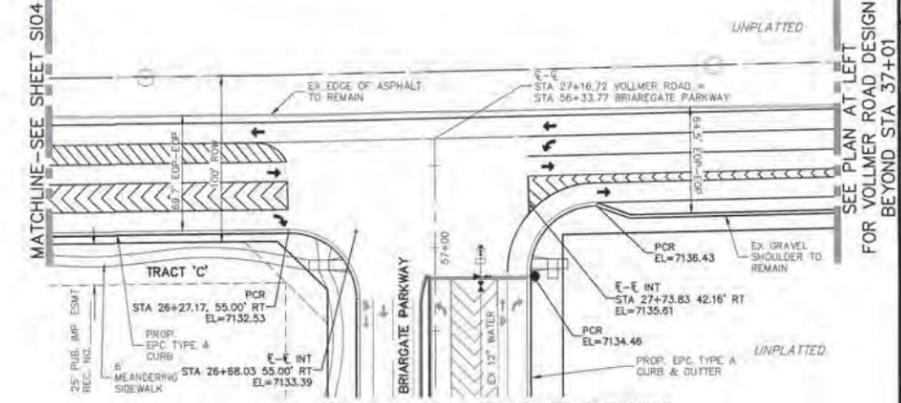
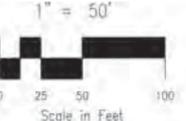
SEE STERLING RANCH-BRIARGATE PARKWAY STREET IMPROVEMENT PLANS BY M&S CIVIL CONSULTANTS

**"INTERIM" VOLLMER ROAD-BRIARGATE PARKWAY INTERSECTION**



**VOLLMER ROAD SECTION X-X**

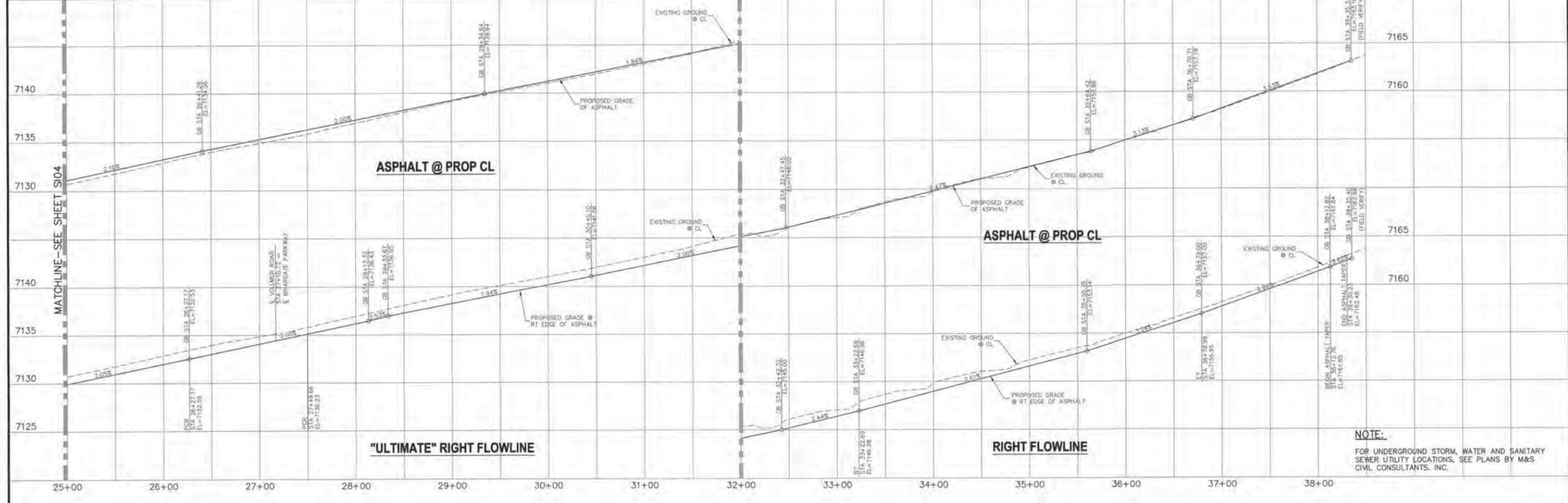
**NOTE:**  
CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES LOCATION AND ELEVATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



**"ULTIMATE" VOLLMER ROAD-BRIARGATE PARKWAY INTERSECTION**

SEE STERLING RANCH-BRIARGATE PARKWAY STREET IMPROVEMENT PLANS BY M&S CIVIL CONSULTANTS

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



**NOTE:**  
FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

STERLING RANCH - VOLLMER ROAD (NORTH)

|                    |                          |
|--------------------|--------------------------|
| PROJECT NO. 09-002 | DATE: 01/03/2018         |
| DESIGNED BY: MS    | SCALE: HORIZONTAL 1"=50' |
| DRAWN BY: ELY      | VERTICAL 1"=5'           |
| CHECKED BY: GW     |                          |

SHEET 5 OF 7

28 BOULDER CREEK, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

M&S CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

Virgil A. Sanchez, Colorado, P.E. No. 37160

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
|     |      |             |
|     |      |             |
|     |      |             |

REVISIONS:

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

CAUTION

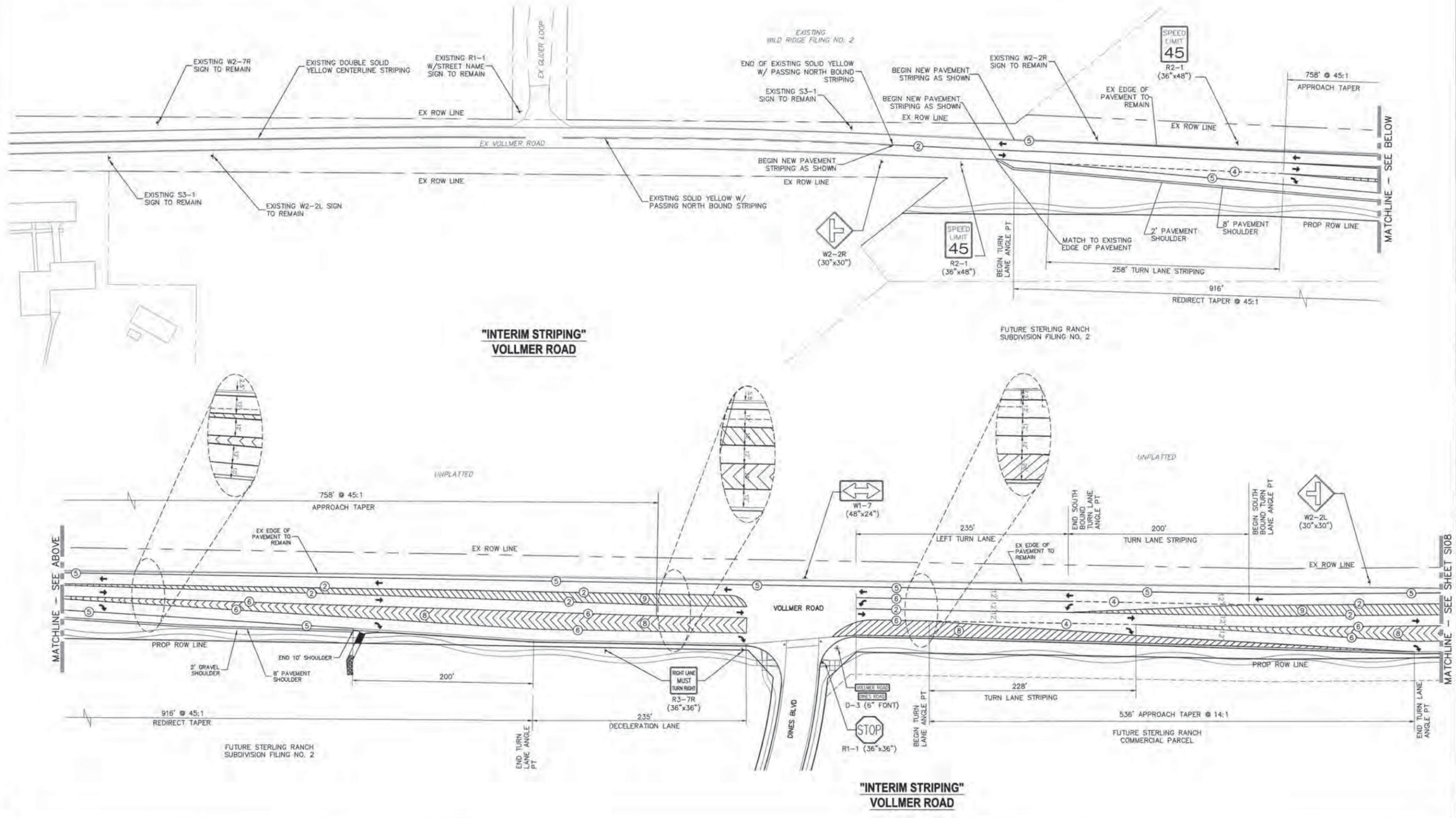
| STRIPING LEGEND |  |  |
|-----------------|--|--|
| STRIPE          | PAVEMENT MARKINGS                      | MARKING DESCRIPTION  |
| 1               | 2-WAY LEFT TURN LANE MARKINGS (EPOXY)  | OUTSIDE: SOLID YELLOW, 4" WIDE, INSIDE: BROKEN YELLOW, 4" WIDE, 10' SEGMENTS WITH 30" GAPS |
| 2               | 2-WAY CENTERLINE LANE MARKINGS (EPOXY) | PARALLEL SOLID YELLOW, 4" WIDE, 12" APART  |
| 3               | LANE LINES (EPOXY)                     | BROKEN YELLOW, 4" WIDE, 10' SEGMENTS WITH 30" GAPS   |
| 4               | BROKEN EDGE/BIKE LANE LINES (EPOXY)    | BROKEN WHITE, 4" WIDE, 5' SEGMENTS WITH 15" GAPS   |
| 5               | EDGE/BIKE LANE LINES (EPOXY)           | SOLID WHITE, 4" WIDE   |
| 6               | CHANNELIZING LINES (EPOXY)             | SOLID WHITE, 8" WIDE   |
| 7               | STOP LINES (THERMO PLASTIC)            | SOLID WHITE, 24" WIDE  |
| 8               | CROSS HATCHING LINES (EPOXY)           | SOLID WHITE, 8" WIDE   |
| 9               | CROSS HATCHING LINES (EPOXY)           | SOLID YELLOW, 8" WIDE  |

- NOTE TO CONTRACTOR:**
- ALL 4" AND 8" SOLID OR SKIP PAVEMENT MARKINGS ARE TO BE EPOXY.
  - SIGNS AND POLES SHALL BE PER CDOT STANDARDS S-614-8, S-1614-2, AND S-614-3, LATEST REVISION.
  - ALL SIGNAGE INSTALLATION IS TO BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

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



NOTE: ALL STRIPING INSTALLATION SHALL BE PER COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "M&S STANDARDS" STANDARD PLAN NO. S-627-1.



STERLING RANCH - VOLLMER ROAD (NORTH)  
 SIGNAGE AND STRIPING PLAN  
 PROJECT NO. 09-002  
 DATE: 01/03/2018  
 SCALE: HORIZONTAL: 1"=50' VERTICAL: N/A  
 DESIGNED BY: VAS  
 DRAWN BY: ELY  
 CHECKED BY: GW  
 SHEET 6 OF 7  
 S106

2830 LAUREL CREEK DRIVE, SUITE 110  
 COLO SPRINGS, CO 80908  
 PHONE 719.555.5485  
  
 CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF THE ENGINEER  
 M&S CIVIL CONSULTANTS, INC.  
  
 MARIO A. SANCHEZ, COLORADO P.E. NO. 37160

| NO. | DATE | DESCRIPTION |
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THE ENGINEER PREPARING THESE PLANS SHALL NOT BE RESPONSIBLE FOR UNAUTHORIZED CHANGES TO THE USE OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MADE BY THE PREPARER OF THESE PLANS.

CAUTION

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**GENERAL CONSTRUCTION NOTES:**

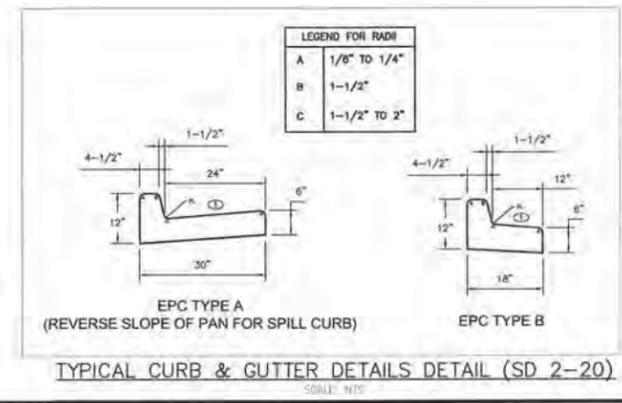
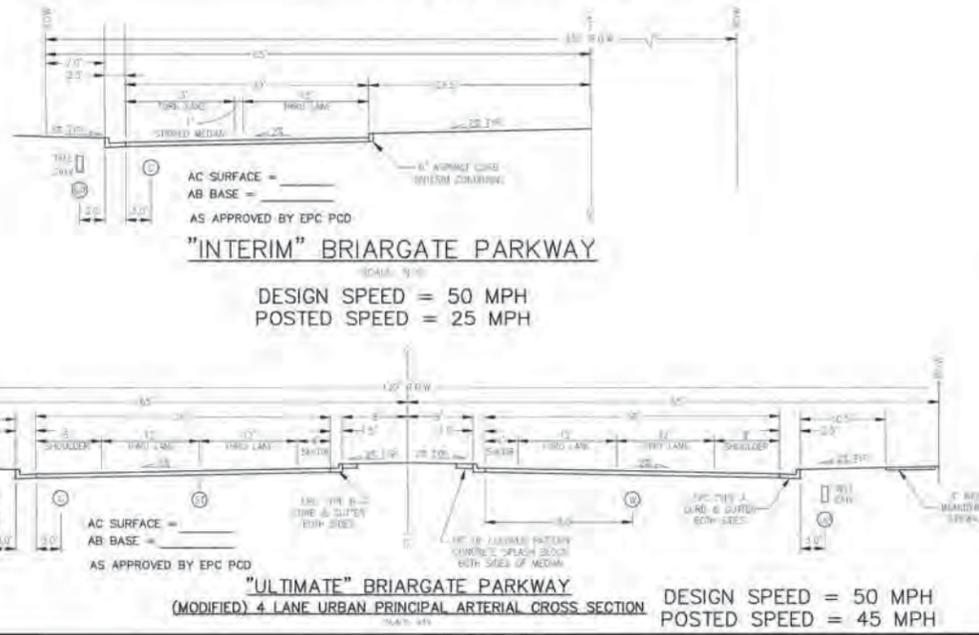
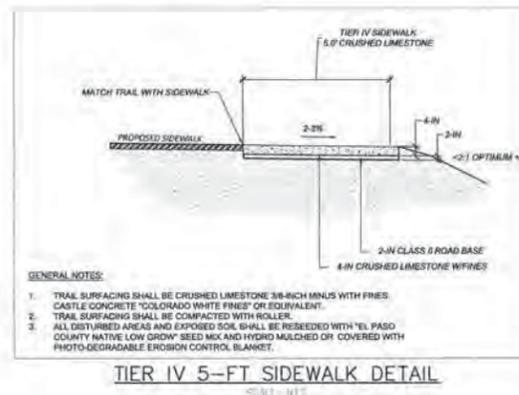
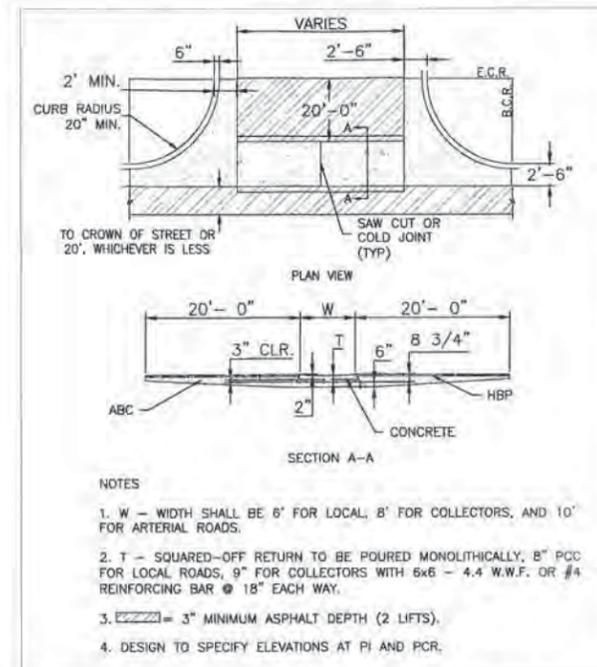
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- ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-B REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY, INCLUDING SIGNAGE OR STRIPING.

**STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS**

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- 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).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
  - CDOT M & S STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DEPARTMENT OF PUBLIC WORKS. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES VERTICAL ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.



FOR BURIED UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

STERLING RANCH - BRIARGATE PARKWAY

NOTES & DETAILS SHEET

DATE: 1/3/2018

SCALE: N/A

DESIGNED BY: DLM

DRAWN BY: N/A

CHECKED BY: WAS

PROJECT NO: 09-002

SHEET 2 OF 5

S102

20 BOULDER CREEK SUITE 110  
COLORADO SPRINGS CO 80909  
PHONE: 719-553-3483

CIVIL CONSULTANTS, INC.

FOR 48HR OF  
NOTICE OF  
CONSTRUCTION

REVISIONS:

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
|     |      |             |

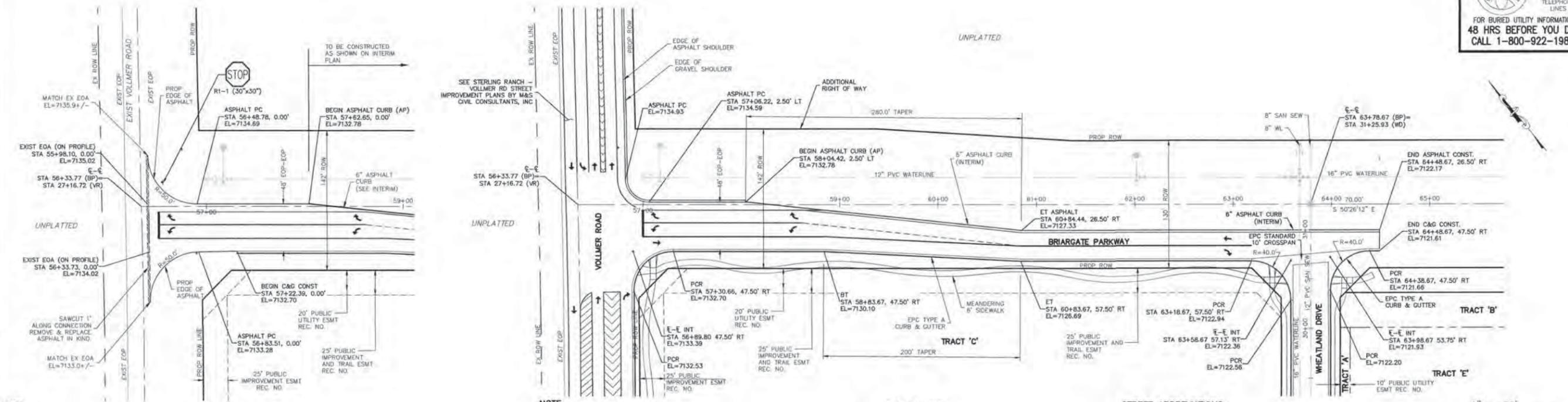
THE INVENTOR'S PROGRAMING FRESH PLANS WILL NOT BE RESPONSIBLE FOR LABEL #18. UNAUTHORIZED CHANGE TO 3D  
ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE INVENTOR  
OR THEIR REPRESENTATIVE

CAUTION



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

STERLING RANCH - BRIARGATE PARKWAY  
 "INTERIM" STREET IMPROVEMENT PLANS  
 PROJECT NO. 09-002  
 SCALE: HORIZONTAL: 1"=50'  
 VERTICAL: 1"=5'  
 DATE: 1/3/2018  
 DESIGNED BY: DLM  
 DRAWN BY: ELY  
 CHECKED BY: VAS  
 SHEET 4 OF 5  
 S104



**NOTE:**  
 ALL STATION/ELEVATION LABELS REFERENCE TEMPORARY EOA STATIONING.

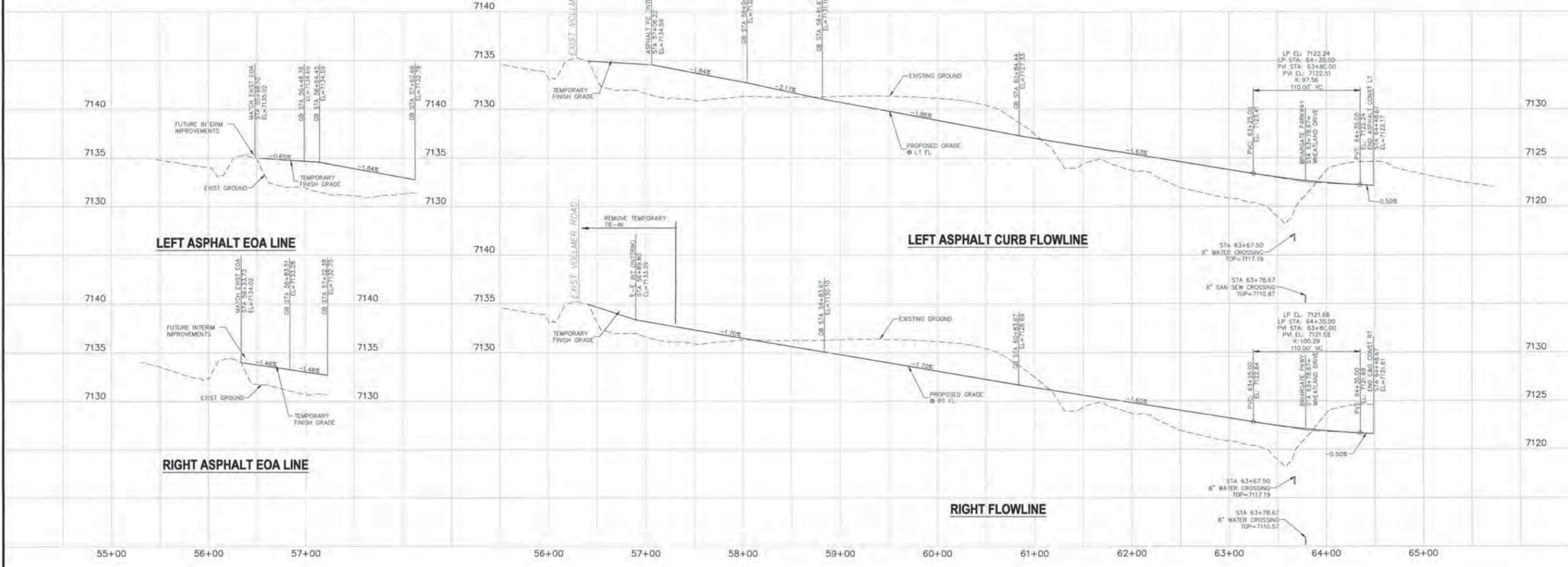
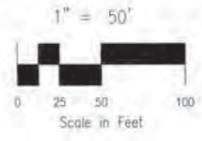
**"TEMPORARY" BRIARGATE PARKWAY W/SIGNAGE & STRIPING \***

\* REMAINDER OF ROAD (TO EAST) TO BE SIGNED AND STRIPED AS SHOWN ON INTERIM PLAN ON PAGE S105.

**NOTE:**  
 ALL STATION/ELEVATION LABELS REFERENCE ULTIMATE CENTERLINE STATIONING.

**"INTERIM" BRIARGATE PARKWAY**

**STREET ABBREVIATIONS**  
 (VR) VOLLERMER ROAD  
 (BP) BRIARGATE PARKWAY  
 (WD) WHEATLAND DRIVE



FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.  
*Virgil A. Sanchez*  
 VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

| NO. | DATE | DESCRIPTION |
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THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR ALTERATIONS OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

**CAUTION**



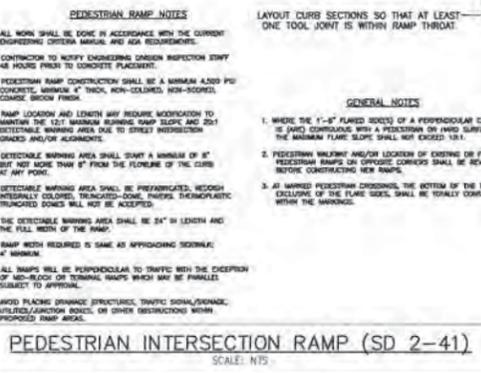
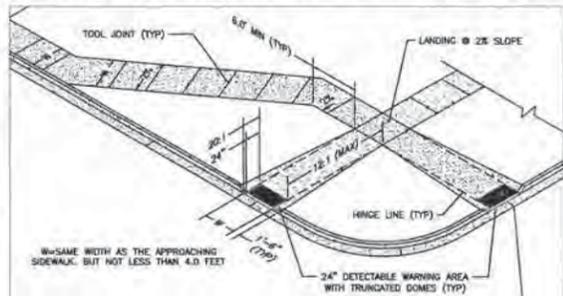


**GENERAL CONSTRUCTION NOTES:**

- 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.
- 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.
- ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BENCH OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K - 1.2C.
- ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES EXCEPT BRAIRGATE PARKWAY AND VOLLMER ROAD WHICH ARE ARTERIALS AND A 50 FOOT SIGHT VISIBILITY TRIANGLE IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.
- ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 - CULVERTS.
- 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 PLANNING AND COMMUNITY DEVELOPMENT DIVISION PRIOR TO CONSTRUCTION.

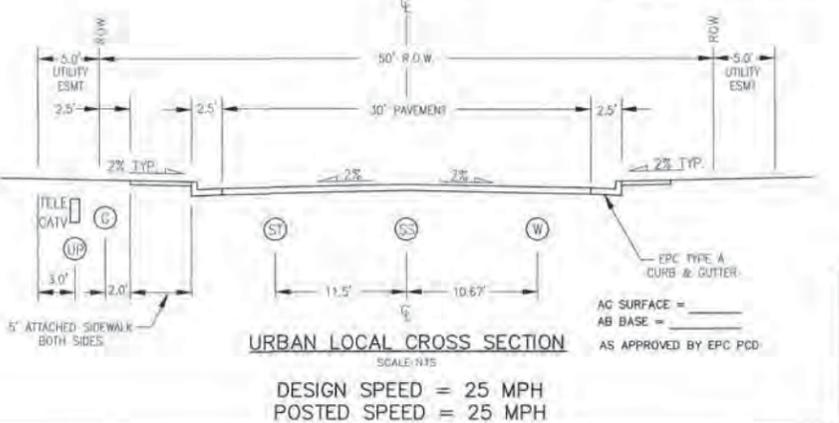
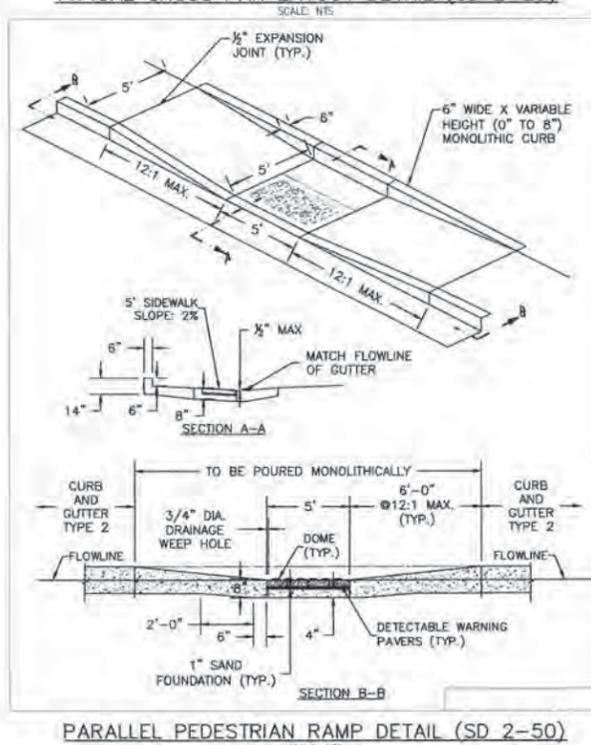
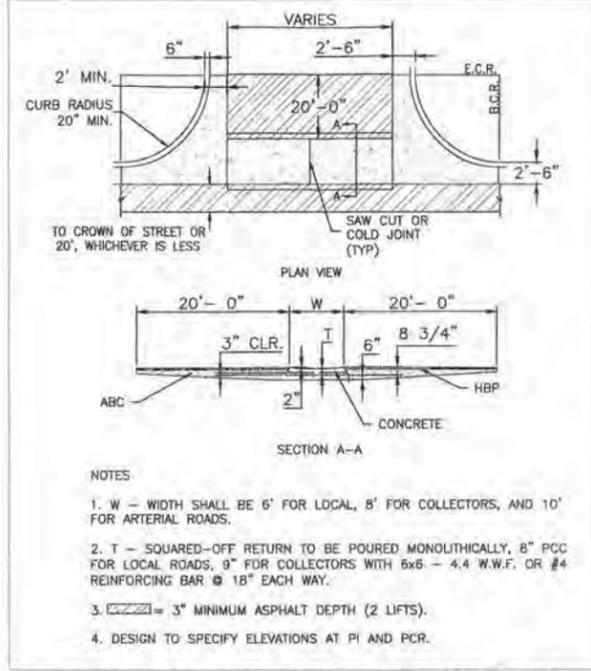
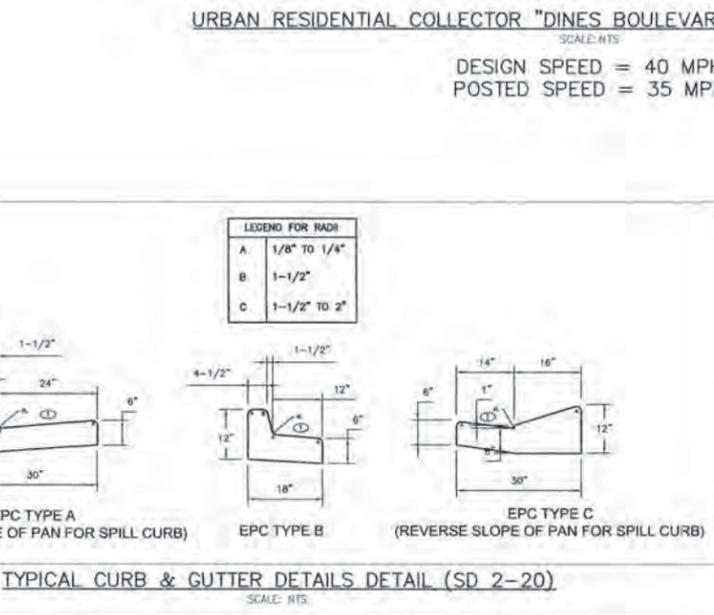
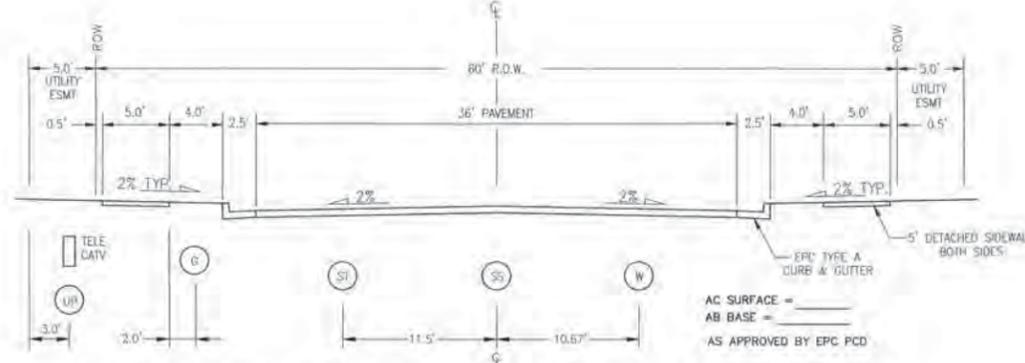
**SIGNING AND STRIPING NOTES:**

- ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DIVISION.
- ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
- STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SUBBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PERFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW WAY. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY, INCLUDING SIGNAGE OR STRIPING.



**STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS**

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- 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).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
  - CDOT M & S STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ON-SITE AND OFF-SITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DEPARTMENT OF PUBLIC WORKS. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES VERTICAL ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.



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

STERLING RANCH-DINES BLVD & WHEATLAND DR.

NOTES & DETAIL SHEET

PROJECT NO. 09-006 FILE: 0:\0909\0909\Draw\09-006\Draw\09-006.dwg DATE: 04/17/2017

DESIGNED BY: DM SCALE: N/A

DRAWN BY: BB HORIZ: N/A

CHECKED BY: VAS VERT: N/A

20 BENDER CRESOCHI SUITE 110 COLORADO SPRINGS CO 80903 PHONE: 719.553.5463

FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.

PROFESSIONAL SEAL

VIRIL A. SANDOZ, COLORADO P.E. NO. 37160

DATE: \_\_\_\_\_

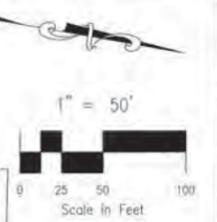
APPROVED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

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

CAUTION

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



STERLING RANCH—DINES BLVD & WHEATLAND DR.  
 STREET IMPROVEMENT PLANS  
 PROJECT NO. 09-006  
 DATE: 04/17/2017  
 DESIGNED BY: DM  
 DRAWN BY: BB  
 CHECKED BY: VAS  
 SCALE: 1"=50'  
 HORIZ: 1"=50'  
 VERT: 1"=5'  
 SHEET 3 OF 10  
 S103

20 BOULDER CASCENT SITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.535.5468

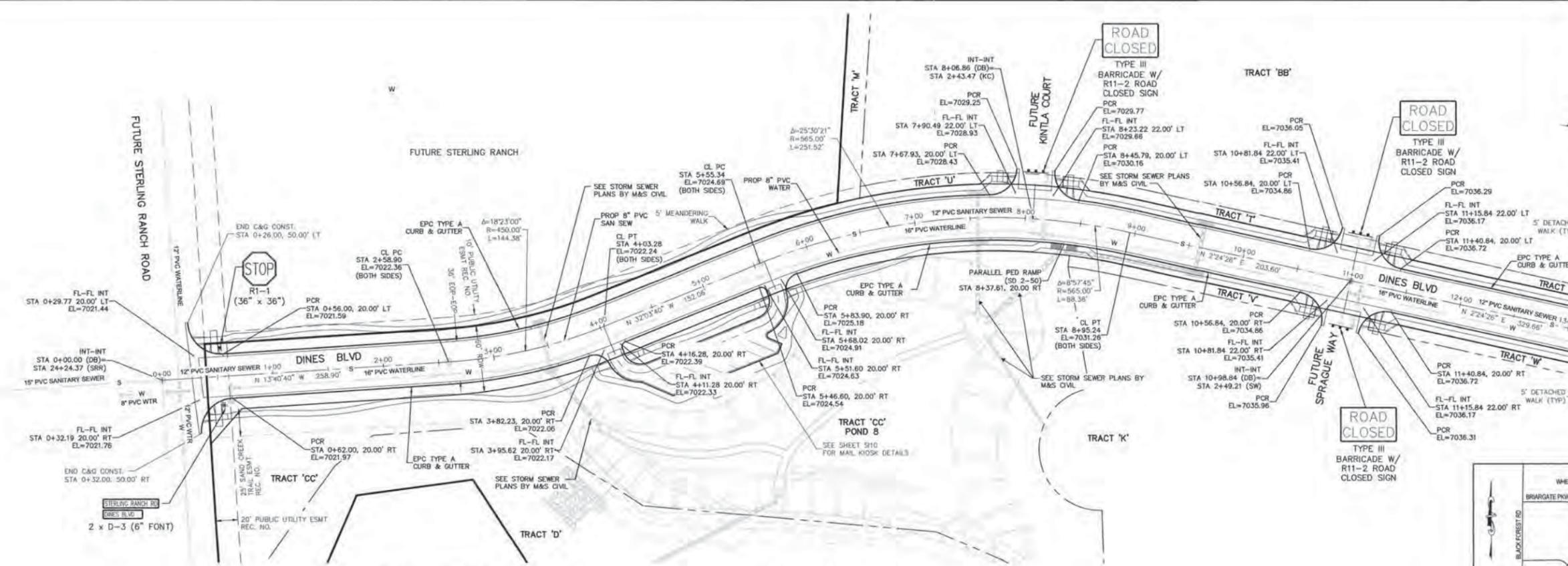


FOR AND ON BEHALF OF  
 CIVIL CONSULTANTS, INC.  
 V. SANDOZ, COLORADO P.E. NO. 37160

| NO. | DATE | DESCRIPTION |
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THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR UNAUTHORIZED CHANGES TO OR THE OMISSION OF ANY PARTS OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION



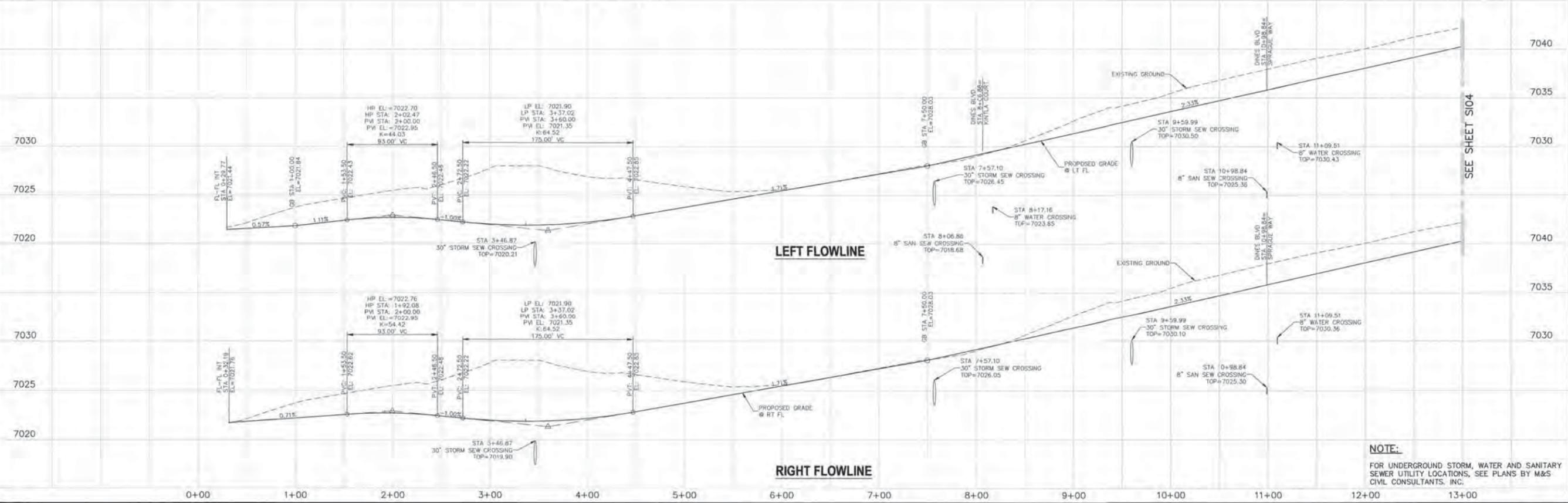
- NOTES:**
1. ALL CURB RETURN RADIUS SHALL BE 25.00' UNLESS OTHERWISE NOTED.
  2. ALL SIDEWALKS SHALL BE 5' WIDE AND DETACHED UNLESS OTHERWISE STATED.
  3. ALL CROSS PANS SHALL BE EL PASO COUNTY STD SD 2-26.
  4. ALL PED RAMPS LOCATED AT INTERSECTIONS SHALL BE EL PASO COUNTY STD SD 2-41 AND ALL MID STREET PED RAMPS SHALL BE EL PASO COUNTY STD SD 2-50.

**STREET ABBREVIATIONS**

(DB) DINES BOULEVARD  
 (SRR) STERLING RANCH ROAD  
 (KC) KINTLA COURT  
 (SW) SPRAGUE WAY

- NOTE:**
1. STREET SIGNS FOR (FUTURE) ROADWAYS SHALL BE INSTALLED WITH ADJACENT SUBDIVISION STREET PLANS. ALL SIGNAGE SHOWN ON THIS SET OF PLANS SHALL BE INSTALLED.
  2. ALL PROPOSED SIGN LOCATIONS ARE CONCEPTUAL APPROVAL OF THE CONSTRUCTION DRAWINGS DOES NOT INCLUDE SIGN LOCATIONS.

**DINES BOULEVARD**

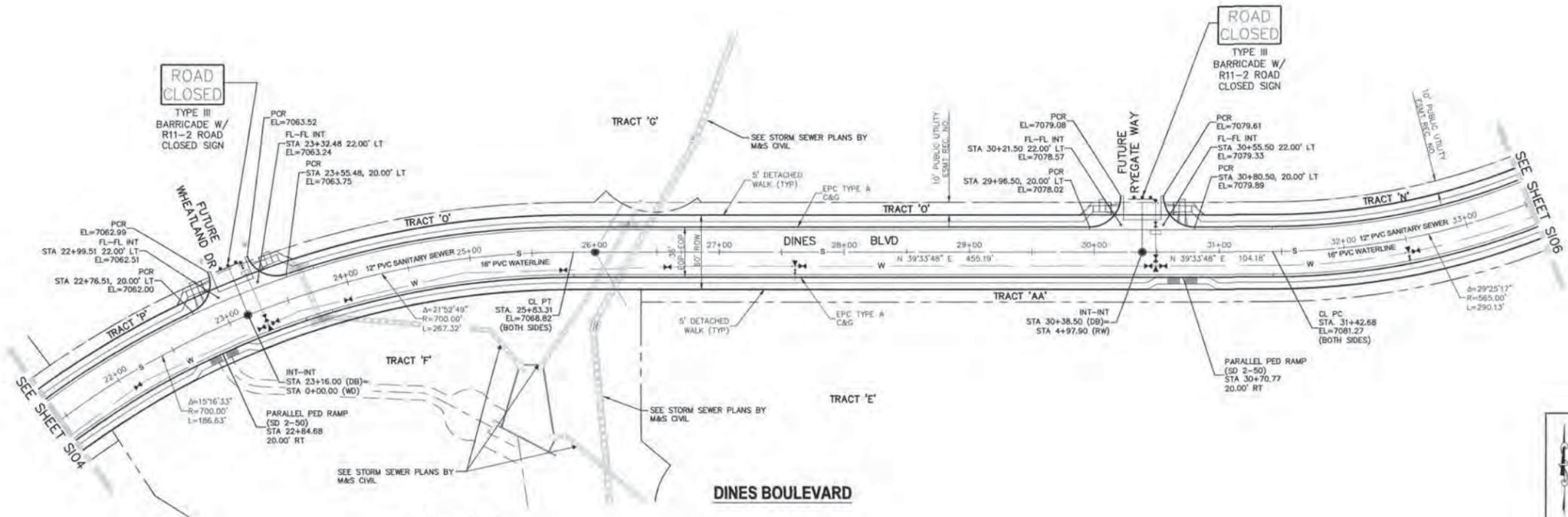
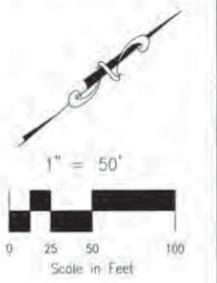


**NOTE:**  
 FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

File: D:\projects\sterling ranch no. 3\view\coord.dwg (Sheet) From: [Name] Date: 2/9/2017 10:51 AM



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



**NOTES:**

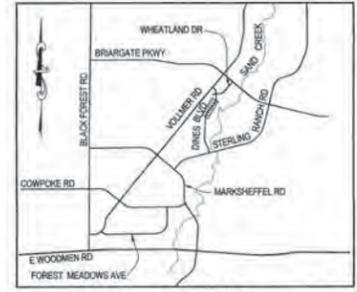
1. ALL CURB RETURN RADIUS SHALL BE 25.00' UNLESS OTHERWISE NOTED.
2. ALL SIDEWALKS SHALL BE 4' WIDE AND DETACHED UNLESS OTHERWISE STATED.
3. ALL CROSS PANS SHALL BE EL PASO COUNTY STD SD 2-26.
4. ALL PED RAMP LOCATIONS SHALL BE EL PASO COUNTY STD SD 2-41 AND ALL MID STREET PED RAMP SHALL BE EL PASO COUNTY STD SD 2-50.

**STREET ABBREVIATIONS**

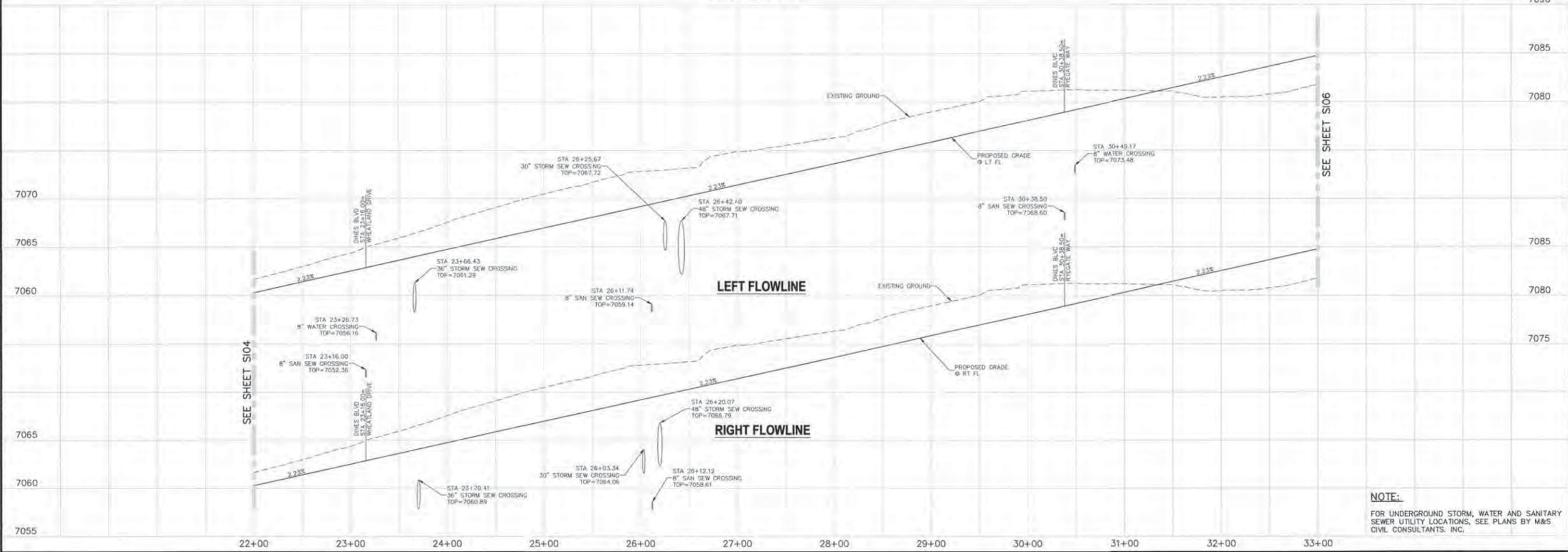
- (DB) DINES BOULEVARD
- (RW) RYEGATE WAY
- (WD) WHEATLAND DRIVE

**NOTE:**

1. STREET SIGNS FOR (FUTURE) ROADWAYS SHALL BE INSTALLED WITH ADJACENT SUBDIVISION STREET PLANS. ALL SIGNAGE SHOWN ON THIS SET OF PLANS SHALL BE INSTALLED.
2. ALL PROPOSED SIGN LOCATIONS ARE CONCEPTUAL. APPROVAL OF THE CONSTRUCTION DRAWINGS DOES NOT INCLUDE SIGN LOCATIONS.



**KEY MAP**  
N.T.S.



**NOTE:**

FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

STERLING RANCH-DINES BLVD & WHEATLAND DR.  
 STREET IMPROVEMENT PLANS  
 PROJECT NO. 09-006  
 DATE: 04/17/2017  
 DESIGNED BY: DM  
 DRAWN BY: BB  
 CHECKED BY: WAS  
 SCALE: 1"=50'  
 SHEET 5 OF 10  
 S105

20 BOULDER CREST, SUITE 110  
 COLORADO SPRINGS CO 80903  
 PHONE 719.555.5485

M&S CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

VIRELL A. SANCHEZ, COLORADO P.E. NO. 37160

| NO. | DATE | BY | DESCRIPTION |
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|     |      |    |             |

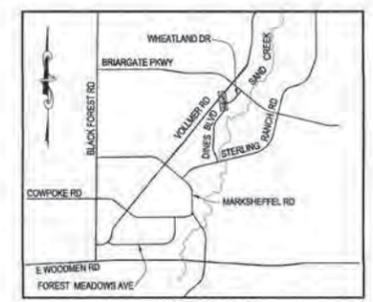
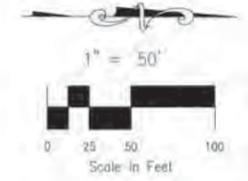
REVISIONS:

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

CAUTION

File: D:\090056\Sterling Ranch No. 2\Plan\Coord. Draw\Sheet Plans\Drawn: Blvd-Wheatland Dr-SIO5.dwg PlotDate: 2/9/2017 10:53 AM

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

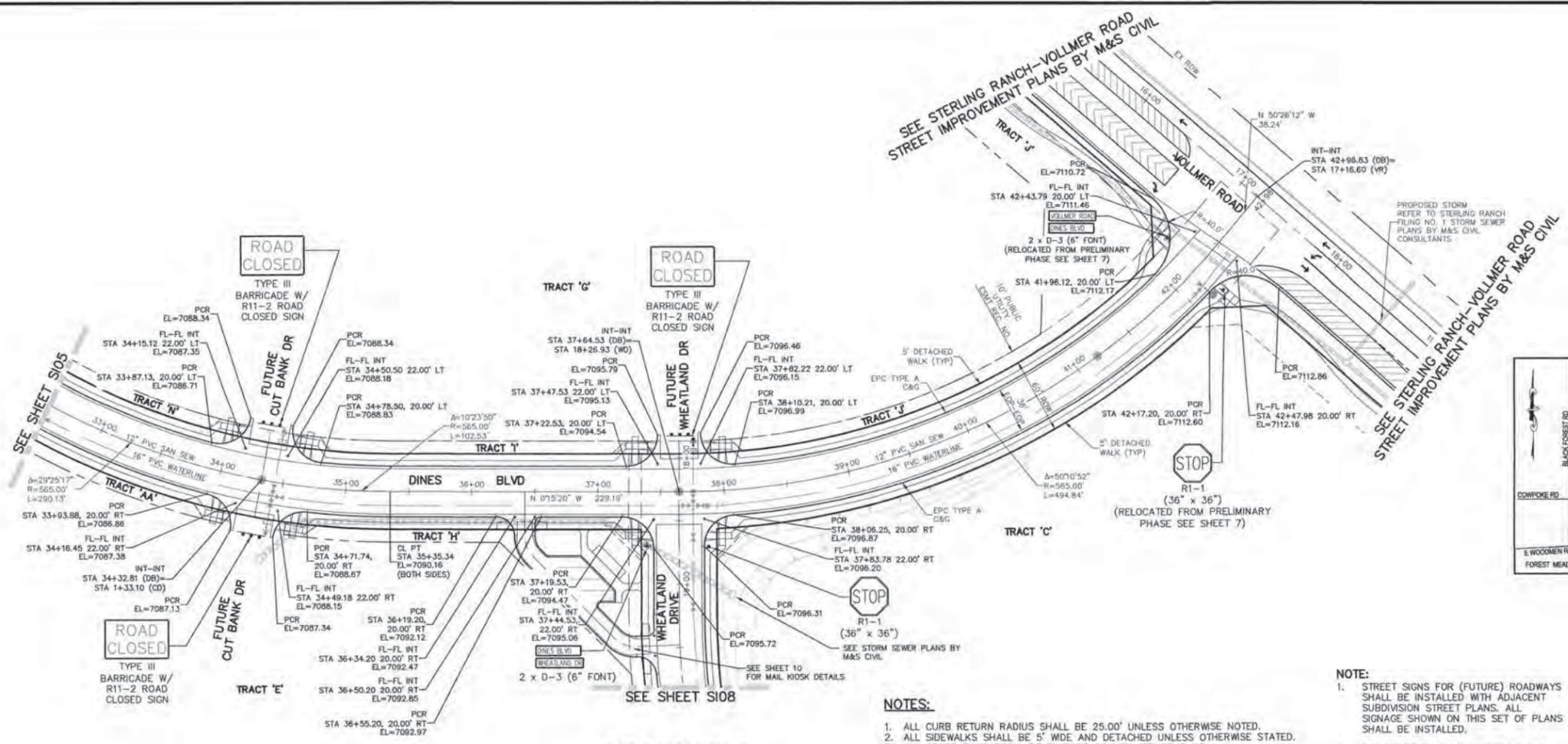


STERLING RANCH-DINES BLVD & WHEATLAND DR  
 STREET IMPROVEMENT PLANS  
 PROJECT NO. 09-006  
 SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'  
 DATE: 4/14/2017  
 SHEET 6 OF 10  
 S106

20 BOULDER CREEK, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.455.5485  
 CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
 VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37150

| NO. | DATE | DESCRIPTION |
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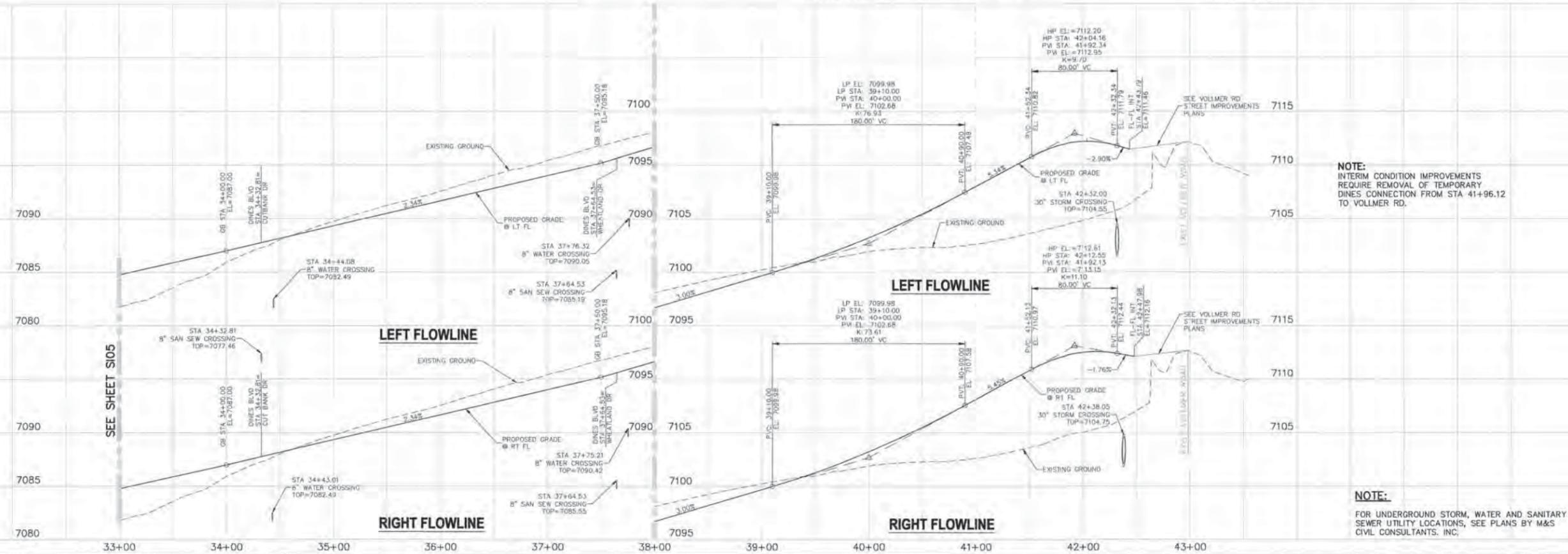


- NOTES:**
- ALL CURB RETURN RADIUS SHALL BE 25.00' UNLESS OTHERWISE NOTED.
  - ALL SIDEWALKS SHALL BE 5' WIDE AND DETACHED UNLESS OTHERWISE STATED.
  - ALL CROSS PANS SHALL BE EL PASO COUNTY STD SD 2-26.
  - ALL PED RAMPS LOCATED AT INTERSECTIONS SHALL BE EL PASO COUNTY STD SD 2-41 AND ALL MID STREET PED RAMPS SHALL BE EL PASO COUNTY STD SD 2-50.

- NOTE:**
- STREET SIGNS FOR (FUTURE) ROADWAYS SHALL BE INSTALLED WITH ADJACENT SUBDIVISION STREET PLANS. ALL SIGNAGE SHOWN ON THIS SET OF PLANS SHALL BE INSTALLED.
  - ALL PROPOSED SIGN LOCATIONS ARE CONCEPTUAL APPROVAL OF THE CONSTRUCTION DRAWINGS DOES NOT INCLUDE SIGN LOCATIONS.

**STREET ABBREVIATIONS**

|       |                     |
|-------|---------------------|
| (DB)  | DINES BOULEVARD     |
| (SRR) | STERLING RANCH ROAD |
| (BD)  | BYNUM DRIVE         |
| (RW)  | RYEGATE WAY         |
| (WD)  | WHEATLAND DRIVE     |
| (CD)  | CUT BANK DR         |
| (VR)  | VOLLMER ROAD        |



**NOTE:**  
 INTERIM CONDITION IMPROVEMENTS REQUIRE REMOVAL OF TEMPORARY DINES CONNECTION FROM STA 41+96.12 TO VOLLMER RD.

**NOTE:**  
 FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

CAUTION

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

STERLING RANCH-DINES BLVD & WHEATLAND DR  
 STREET IMPROVEMENT PLANS  
 PROJECT NO. 09-006  
 DATE: 4/14/2017  
 SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'  
 DESIGNED BY: DLM  
 DRAWN BY: ELY  
 CHECKED BY: VAS  
 SHEET 7 OF 10  
 S107

20 BOULDER CREEK, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5485

M&S CIVIL CONSULTANTS, INC.

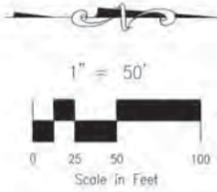
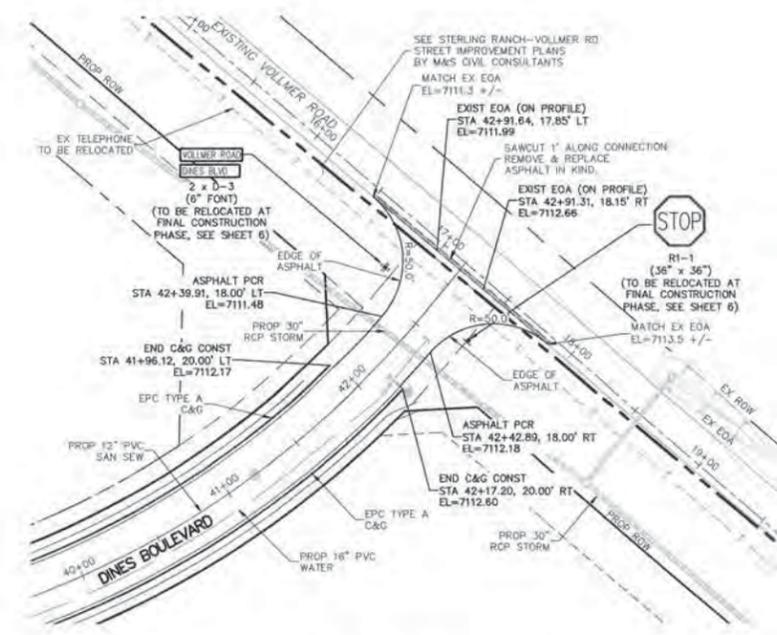
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

Virgil A. Sanchez, Colorado P.E. No. 37160

| NO. | DATE | BY | DESCRIPTION | APPROV. 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



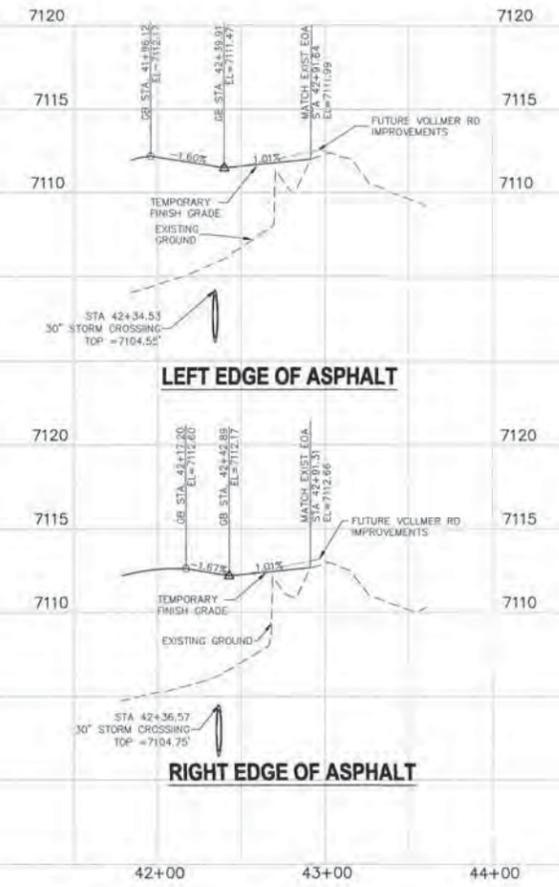
**"TEMPORARY"  
 DINES BOULEVARD**

**NOTES:**

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2. ALL SIDEWALKS SHALL BE 5' WIDE AND DETACHED UNLESS OTHERWISE STATED.
3. ALL CROSS PANS SHALL BE EL PASO COUNTY STD SD 2-26.
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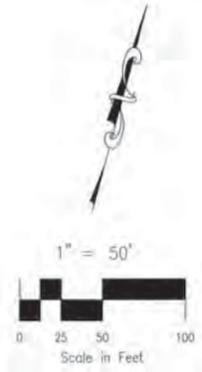
**LEFT EDGE OF ASPHALT**

**RIGHT EDGE OF ASPHALT**

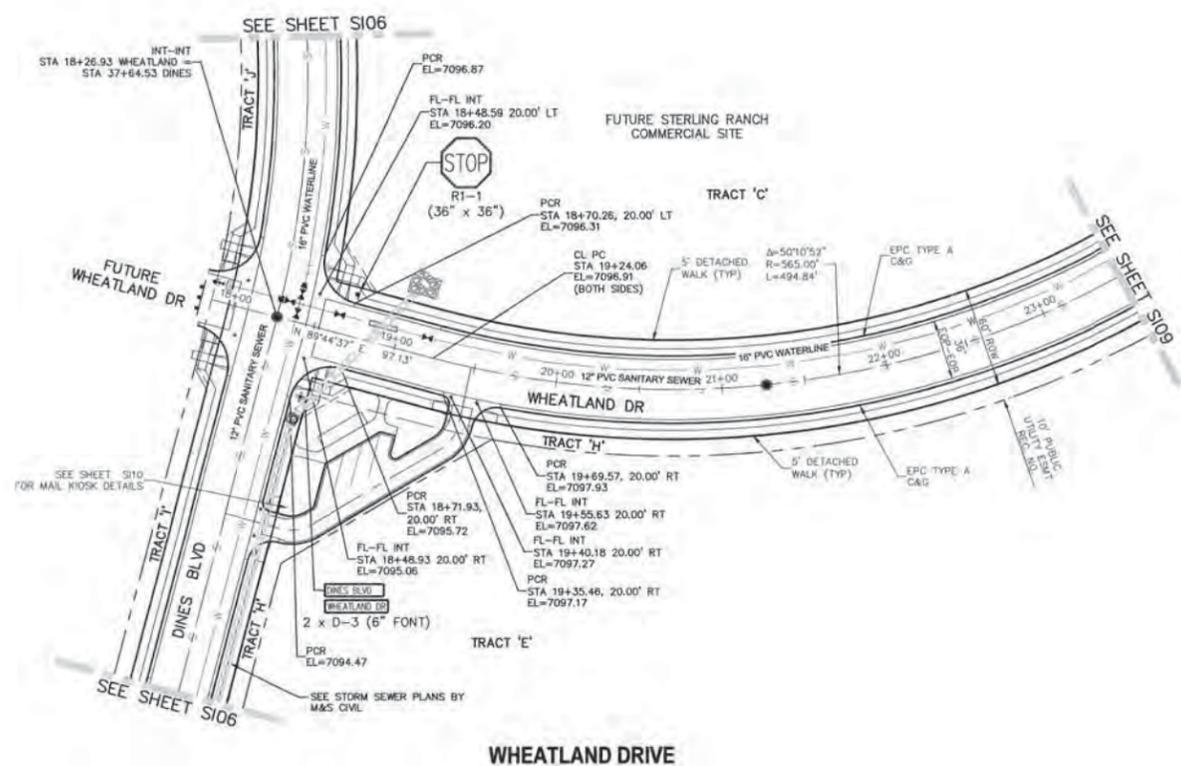
**NOTE:**

FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

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



STERLING RANCH-DINES BLVD & WHEATLAND DR.  
 STREET IMPROVEMENT PLANS  
 PROJECT NO. 08-006  
 DATE: 04/17/2017  
 DESIGNED BY: DM  
 DRAWN BY: BB  
 CHECKED BY: VAS  
 SCALE: 1"=50'  
 SHEET 8 OF 10  
 S108

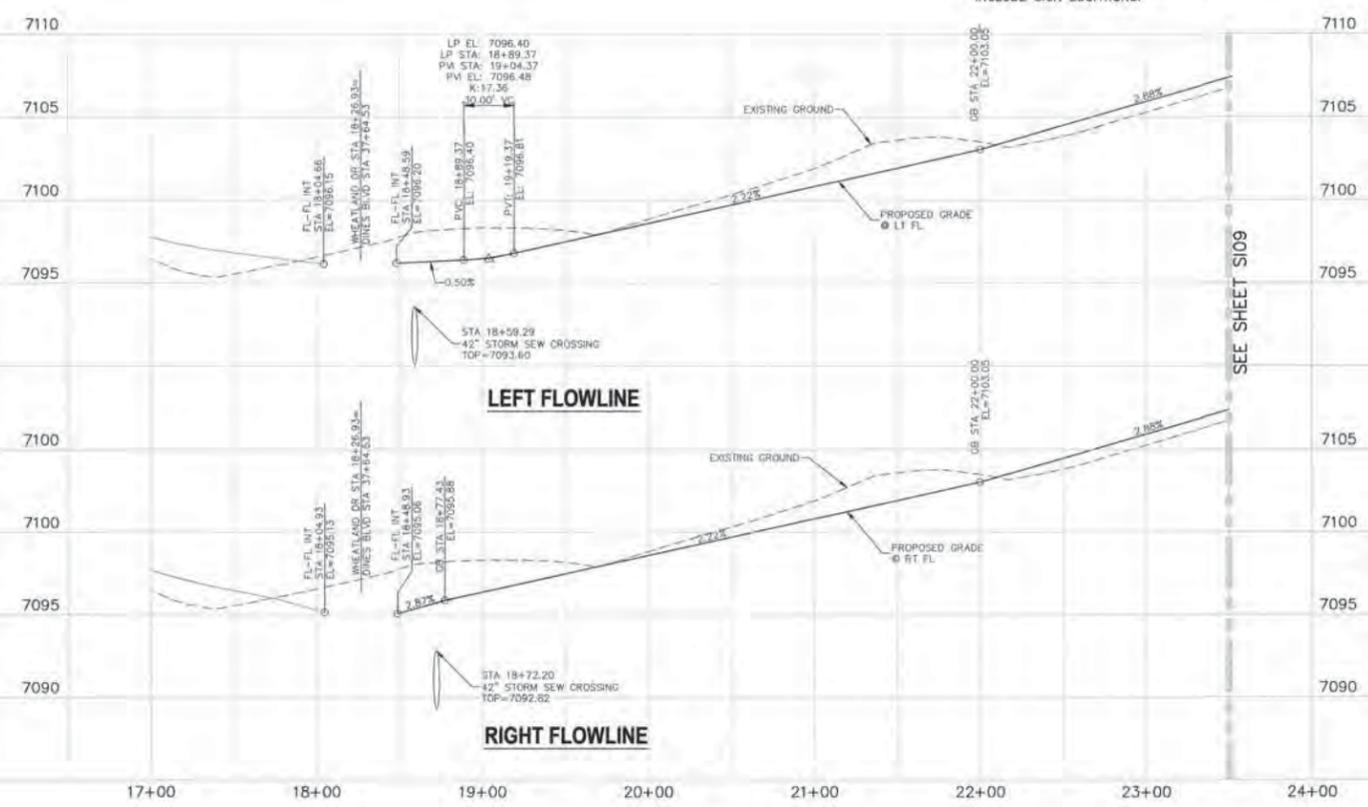


**STREET ABBREVIATIONS**  
 (DB) DINES BOULEVARD  
 (WD) WHEATLAND DRIVE

**NOTE:**  
 1. STREET SIGNS FOR (FUTURE) ROADWAYS SHALL BE INSTALLED WITH ADJACENT SUBDIVISION STREET PLANS. ALL SIGNAGE SHOWN ON THIS SET OF PLANS SHALL BE INSTALLED.  
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**NOTE:**  
 FOR UNDERGROUND STORM, WATER AND SANITARY SEWER UTILITY LOCATIONS, SEE PLANS BY M&S CIVIL CONSULTANTS, INC.

20 BOULDER CRESTVIEW BLVD #10  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.553.5363



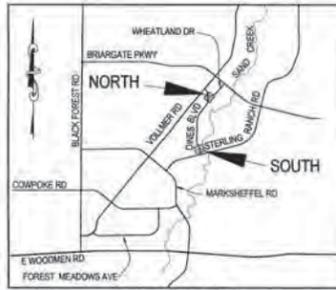
FOR AND ON BEHALF OF  
 M&S CIVIL CONSULTANTS, INC.  
 VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

| NO. | DATE | DESCRIPTION | APP'D. BY | DATE |
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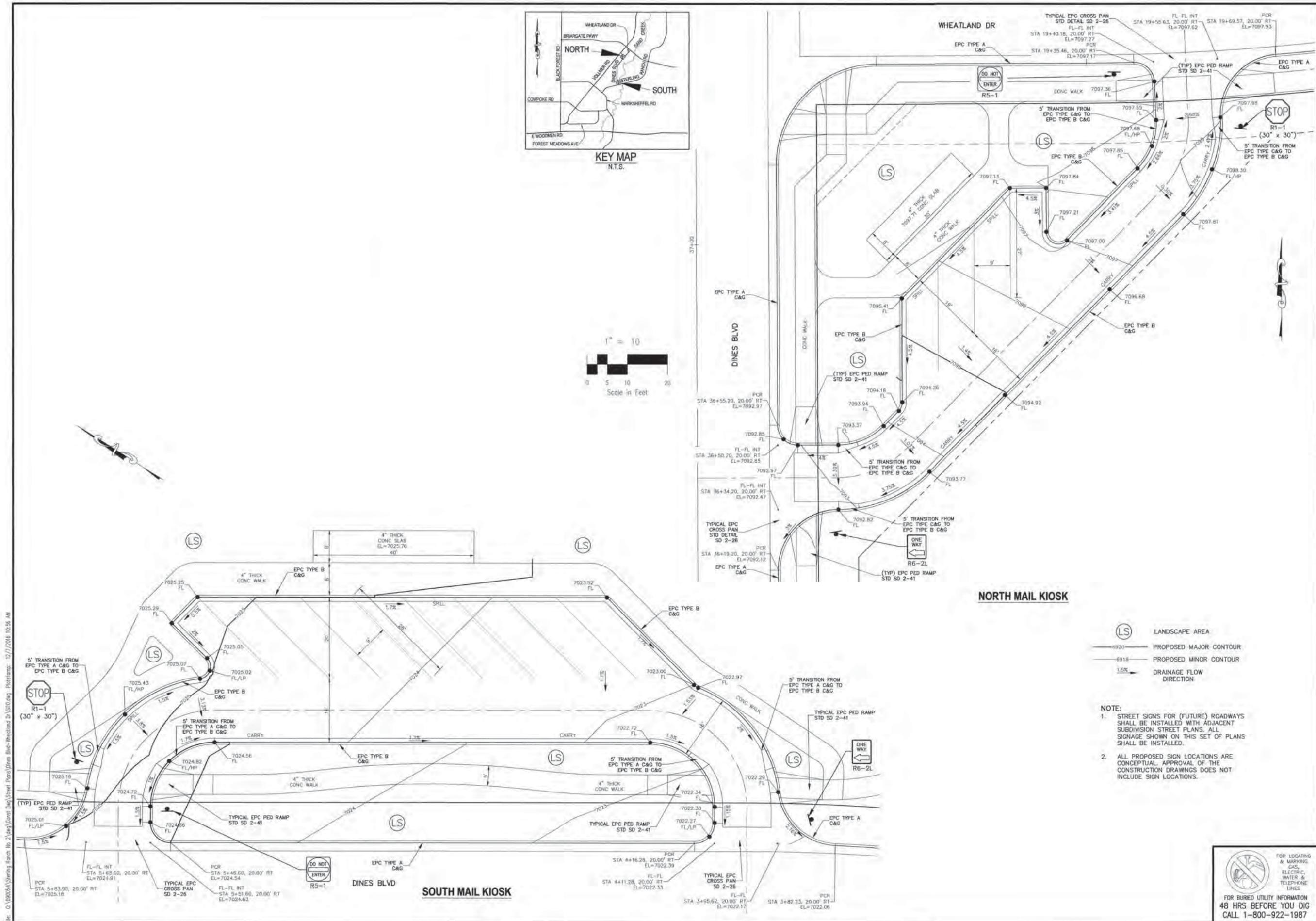
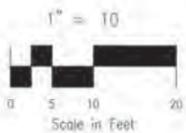
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR ALTERATIONS OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARED BY OF THESE PLANS.

CAUTION





KEY MAP  
N.T.S.



**NORTH MAIL KIOSK**

- (LS) LANDSCAPE AREA
- 6920— PROPOSED MAJOR CONTOUR
- 6918— PROPOSED MINOR CONTOUR
- 1.5% DRAINAGE FLOW DIRECTION

**NOTE:**

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

STERLING RANCH-DINES BLVD & WHEATLAND DR.  
**MAIL KIOSK DETAIL SHEET**  
 PROJECT NO. 09-006  
 DATE: 04/17/2017  
 SCALE: 1"=10'  
 SHEET 10 OF 10  
 S110

20 SOUTH CRESCENT SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE 719.553.5463



FOR AND ON BEHALF OF  
 CIVIL CONSULTANTS, INC.



| NO. | DATE | DESCRIPTION | APPROVED BY |
|-----|------|-------------|-------------|
|     |      |             |             |
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File: G:\090054\Sterling Ranch No. 2\Views\Coord Draw\Sheet Plans\Kiosk Mail-Kiosks.dwg Plot Date: 02/17/2016 10:26 AM

# Sterling Ranch Vollmer Road (South)

Street Improvement Plans



# STERLING RANCH - VOLLMER ROAD

## STA 10+00.00 - STA 45+34.37

### COUNTY OF EL PASO, STATE OF COLORADO

# STREET IMPROVEMENT PLANS

## INCLUDING SIGNAGE & STRIPING

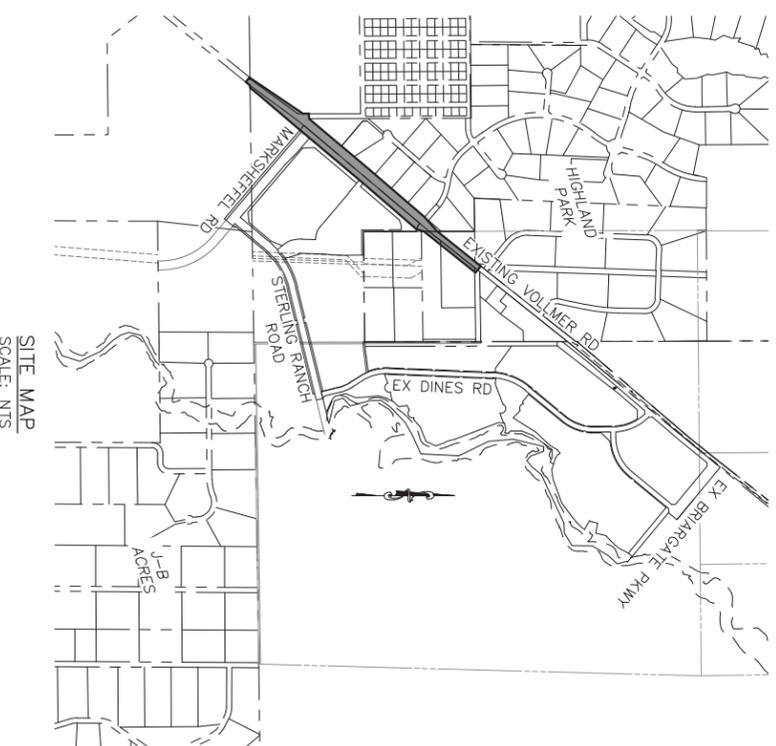
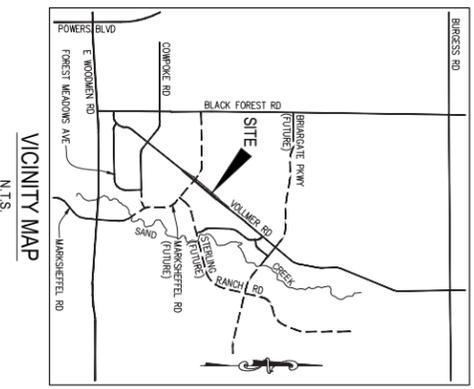
FEBRUARY 2018

- AGENCIES**  
 OWNER/DEVELOPER: SR LAND, LLC  
 20 BOULDER CRESCENT, SUITE 201  
 COLORADO SPRINGS, CO 80903  
 JAMES F. MORLEY (719) 471-1742
- CIVIL ENGINEER:**  
 M & S CIVIL CONSULTANTS, INC.  
 20 BOULDER CRESCENT, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 VIRGIL A. SANCHEZ P.E. (719) 955-5485
- COUNTY ENGINEERING:**  
 EL PASO COUNTY PLANNING  
 AND COMMUNITY DEVELOPMENT  
 280 W. WASHINGTON  
 COLORADO SPRINGS, CO 80910  
 JEFF RICE, P.E. (719) 520-6300
- TRAFFIC ENGINEERING:**  
 EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS  
 3275 AKERS DRIVE  
 COLORADO SPRINGS, CO 80922  
 JENNIFER IRVINE, P.E. (719) 520-6460
- WATER RESOURCES:**  
 STERLING RANCH METRO DISTRICT ENGINEERS  
 JUDY HENNING CONSULTANTS  
 545 E. PIKES PEAK AVE., SUITE 300  
 COLORADO SPRINGS, CO 80903  
 JOHN MCGINN (719) 688-6789
- FIRE DISTRICT:**  
 BLACK FOREST FIRE PROTECTION DISTRICT  
 11445 TEACHOUT ROAD  
 COLORADO SPRINGS, CO 80908  
 CHEF BRIAN JACK (719) 495-4300  
 COLORADO SPRINGS UTILITIES  
 7710 DURANT DR.  
 COLORADO SPRINGS, CO 80947  
 TIM WENDT (719) 688-3566
- ELECTRIC DEPARTMENT:**  
 MOUNTAIN VIEW ELECTRIC  
 11140 E. WOODMEN ROAD  
 FALCON, CO 80831  
 (719) 499-2283
- COMMUNICATIONS:**  
 ONEST COMMUNICATIONS  
 (UNL.C.C. LOCATIONS) (800) 922-1987  
 AT&T (LOCATIONS) (719) 635-3674

- BENCHMARKS**
1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED 98633, LOCATED AT THE SOUTHEAST CORNER OF LOT 4, BARBARICK SUBDIVISION NORTHING = 410095.404 EASTING = 235167.071 ELEVATION = 7023.42
  2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, LOCATED AT THE NORTHWEST CORNER OF LOT 13, PANWEE RANCHEROS SUBDIVISION FILING NO. 2 NORTHING = 410095.404 EASTING = 235167.071 ELEVATION = 7000.49
  3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", LOCATED AT THE SOUTHWEST CORNER OF LOT 2, BARBARICK SUBDIVISION NORTHING = 411399.962 EASTING = 235849.817 ELEVATION = 7030.82

**ABBREVIATIONS**

|     |                            |         |                           |
|-----|----------------------------|---------|---------------------------|
| ACT | ACTUAL                     | FL      | FLOW LINE                 |
| BRK | BACK OF CURB RETURN        | FT      | FEET, FOOT                |
| BRK | BREAK                      | GRD     | GRADE                     |
| BTU | BEGINNING OF TRANSITION    | HPT     | HIGH POINT                |
| CL  | CLASS, CENTERLINE          | INT     | INTERSECTION              |
| CLR | CLEARANCE                  | LT      | LEFT SIDE ELEVATION       |
| CSU | COLORADO SPRINGS UTILITIES | LOC     | LOCATION                  |
| END | END OF CURB RETURN         | N.S.E.W | NORTH-SOUTH/EAST-WEST     |
| ERA | EDGE OF ASPHALT            | PC      | POINT OF CURVATURE        |
| ESC | EL PASO COUNTY             | PCE     | POINT OF CURVATURE        |
| EX  | EXISTING                   | PI      | POINT OF INTERSECTION     |
| EX  | EXISTING                   | PIB     | POINT OF INTERSECTION     |
| EX  | EXISTING                   | PVT     | POINT OF VERTICAL TANGENT |
| GB  | GRADE BREAK                |         |                           |



**APPROVALS:**

**ENGINEER'S STATEMENT:**  
 DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT.  
 THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN, SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS.

VIRGIL A. SANCHEZ, COLORADO P.E., NO. 37160  
 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC. \_\_\_\_\_ DATE \_\_\_\_\_

**OWNER/DEVELOPER STATEMENT:**  
 THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE DRAINAGE REPORT AND PLAN AND THIS SET OF CONSTRUCTION DOCUMENTS. THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

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

**EL PASO COUNTY:**  
 COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

JENNIFER IRVINE, P.E.  
 COUNTY ENGINEER / EOM ADMINISTRATOR \_\_\_\_\_ DATE \_\_\_\_\_

**STERLING RANCH METROPOLITAN DISTRICT:**  
 THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT \_\_\_\_\_ DATE \_\_\_\_\_

**BLACK FOREST FIRE PROTECTION DISTRICT:**  
 ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO THE BLACK FOREST FIRE PROTECTION DISTRICT SPECIFICATIONS. THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THE WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE BLACK FOREST FIRE PROTECTION DISTRICT.

FOR AND ON BEHALF OF THE STERLING RANCH FIRE PROTECTION DISTRICT \_\_\_\_\_ DATE \_\_\_\_\_

**SHEET INDEX**

|          |                       |
|----------|-----------------------|
| SHEET 1  | TITLE SHEET           |
| SHEET 2  | NOTES & DETAILS SHEET |
| SHEET 3  | PLAN & PROFILE        |
| SHEET 4  | PLAN & PROFILE        |
| SHEET 5  | PLAN & PROFILE        |
| SHEET 6  | SIGNAGE & STRIPING    |
| SHEET 7  | SIGNAGE & STRIPING    |
| SHEET 8  | PLAN & PROFILE        |
| SHEET 9  | PLAN & PROFILE        |
| SHEET 10 | PLAN & PROFILE        |

FOR LOCATING  
 & MARKING  
 GAS,  
 ELECTRIC,  
 TELEPHONE  
 LINES

FOR BARRIED UTILITY INFORMATION  
 48 HRS BEFORE YOU DIG  
 CALL 1-800-922-1987

| NO. | DATE: | BY: | DESCRIPTION: | APPR'D. BY: | DATE: |
|-----|-------|-----|--------------|-------------|-------|
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|     |       |     |              |             |       |

CAUTION: 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.

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF  
 M&S CIVIL CONSULTANTS,  
 INC.

**M&S**  
 CIVIL CONSULTANTS, INC.

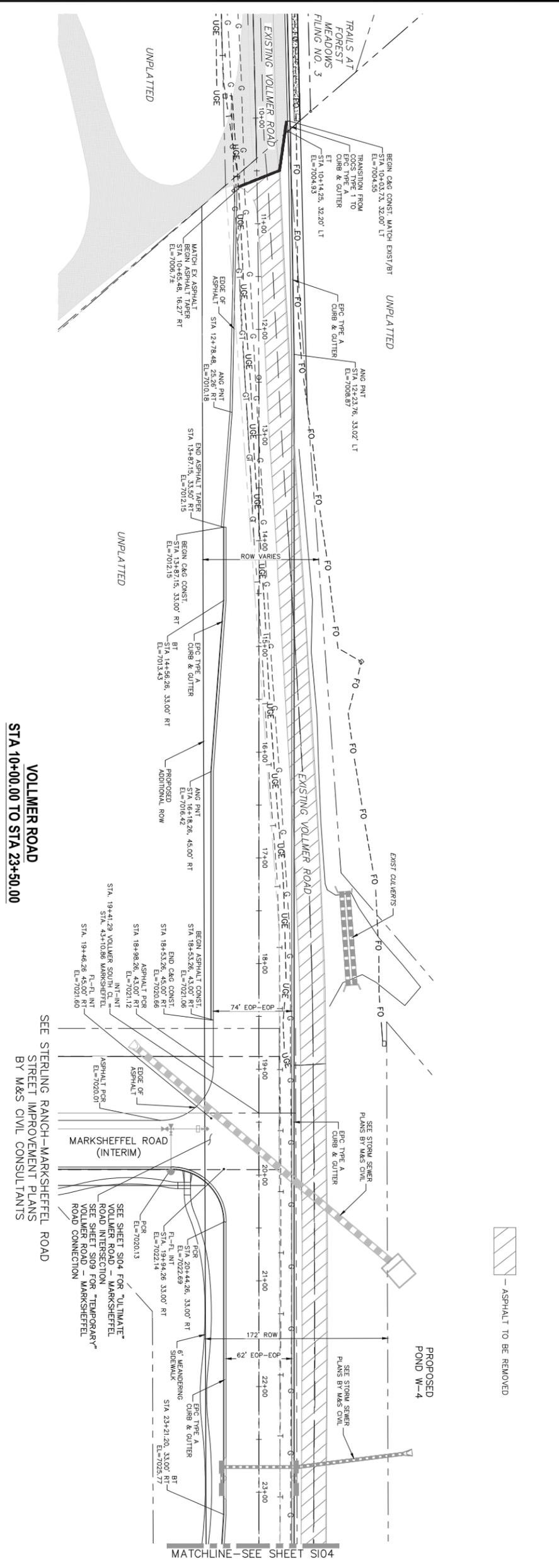
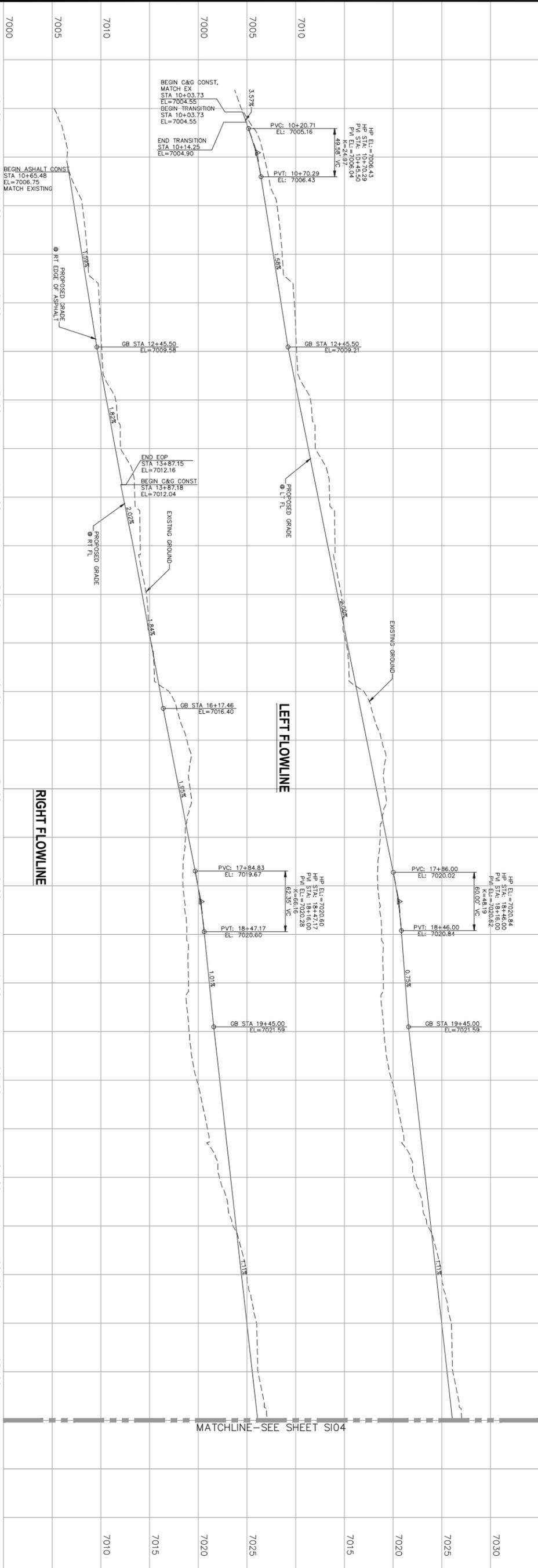
20 BOULDER CRESCENT, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.955.5485

**STERLING RANCH - VOLLMER ROAD**

**STREET IMPROVEMENT PLANS**

|                    |   |                 |             |
|--------------------|---|-----------------|-------------|
| PROJECT NO. 09-002 | SCALE: HORIZONTAL: N/A<br>VERTICAL: N/A | DATE: 2/26/2018 | <b>SI01</b> |
| DESIGNED BY: DLM   | DRAWN BY: JWP                           | SHEET 1 OF 10   |             |
| CHECKED BY: VAS    |   |                 |             |





**VOLLMER ROAD**  
 STA 10+00.00 TO STA 23+50.00

FOR LOOKING & MARKING ELECTRICAL, WATER & TELEPHONE LINES

FOR BIDDING UTILITY INFORMATION CALL 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

1" = 50'  
 Scale in Feet

| NO. | DATE | BY | DESCRIPTION | APPR'D. BY | DATE |
|-----|------|----|-------------|------------|------|
|     |      |    |             |            |      |
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VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

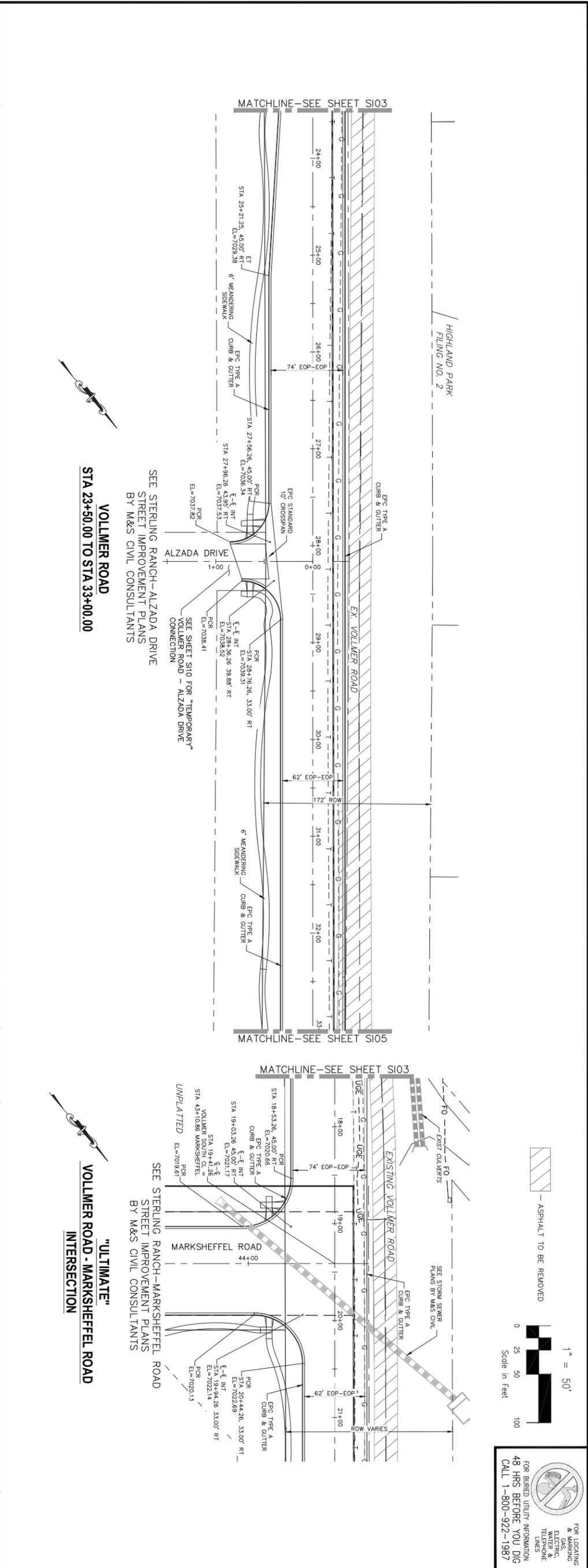
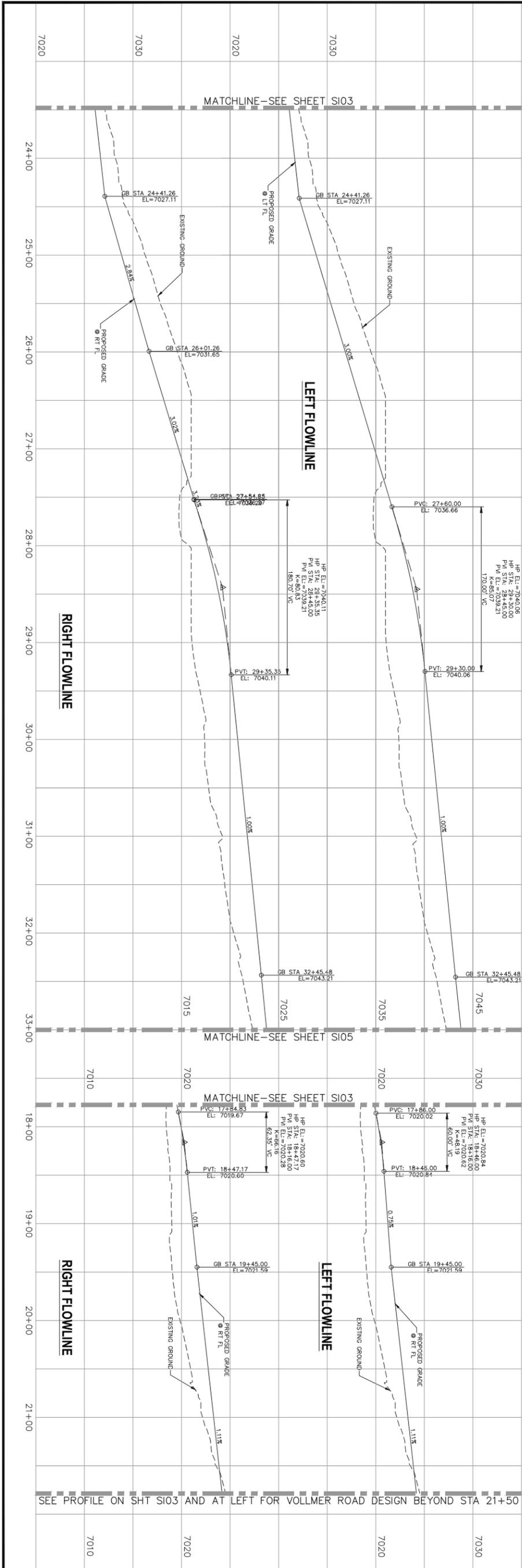
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

**M&S CIVIL CONSULTANTS, INC.**

20 BOULDER CRESCENT, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.955.5485

**STERLING RANCH - VOLLMER ROAD**  
 STREET IMPROVEMENT PLANS

PROJECT NO. 09-002  
 SCALE: HORIZONTAL: 1"=50'  
 VERTICAL: 1"=5'  
 DATE: 2/26/2018  
 SHEET 3 OF 10  
**SI03**



| NO. | DATE | DESCRIPTION | APPR'D. BY: | DATE: |
|-----|------|-------------|-------------|-------|
|     |      |             |             |       |
|     |      |             |             |       |
|     |      |             |             |       |

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

20 BOULDER CRESCENT, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.955.5485

**STERLING RANCH - VOLLMER ROAD**

**STREET IMPROVEMENT PLANS**

PROJECT NO. 09-002

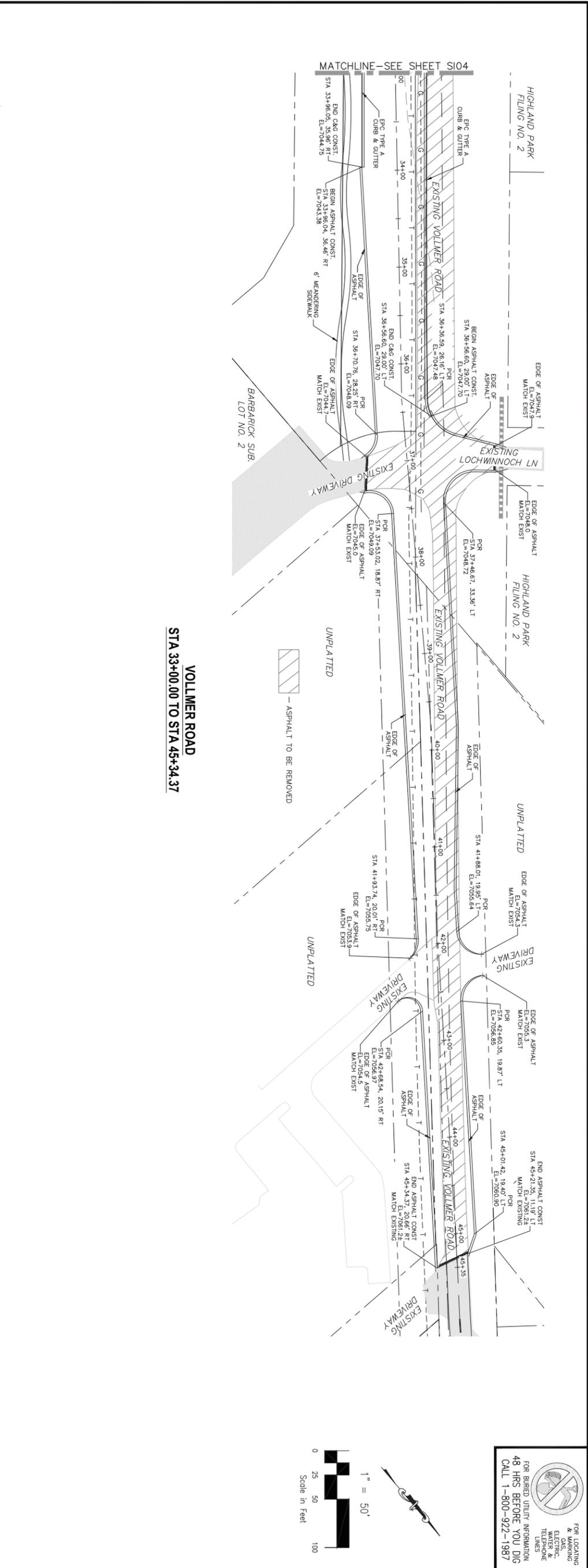
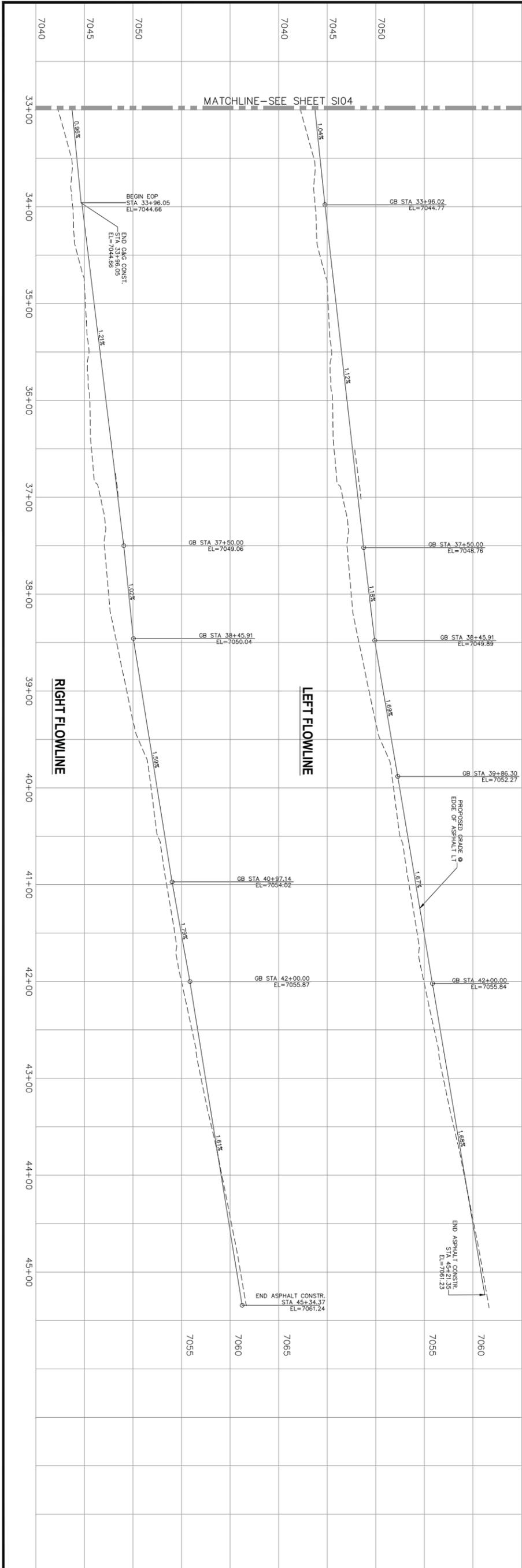
SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

DATE: 2/26/2018

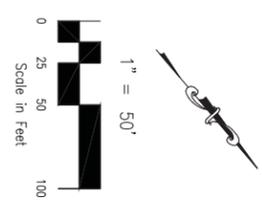
DESIGNED BY: DLM  
 DRAWN BY: JWP  
 CHECKED BY: VAS

SHEET 4 OF 10

**S104**



VOLLMER ROAD  
STA 33+00.00 TO STA 45+34.37



FOR LOOKING & MARKING WATER & UTILITY LINES  
FOR BIDDING UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

| NO. | DATE | BY | DESCRIPTION | APPR'D. BY | DATE |
|-----|------|----|-------------|------------|------|
|     |      |    |             |            |      |
|     |      |    |             |            |      |
|     |      |    |             |            |      |

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF  
M&S CIVIL CONSULTANTS, INC.



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

STERLING RANCH - VOLLMER ROAD  
STREET IMPROVEMENT PLANS

|                    |   |                 |
|--------------------|---|-----------------|
| PROJECT NO. 09-002 | SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5' | DATE: 2/26/2018 |
| DESIGNED BY: DLM   | DRAWN BY: JWP                             | CHECKED BY: VAS |
| SHEET 5 OF 10      |   | SIO5            |

FOR LOCATING  
& MARKING  
ELECTRIC,  
WATER &  
TELEPHONE  
LINES

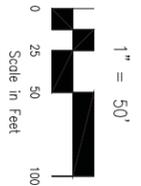
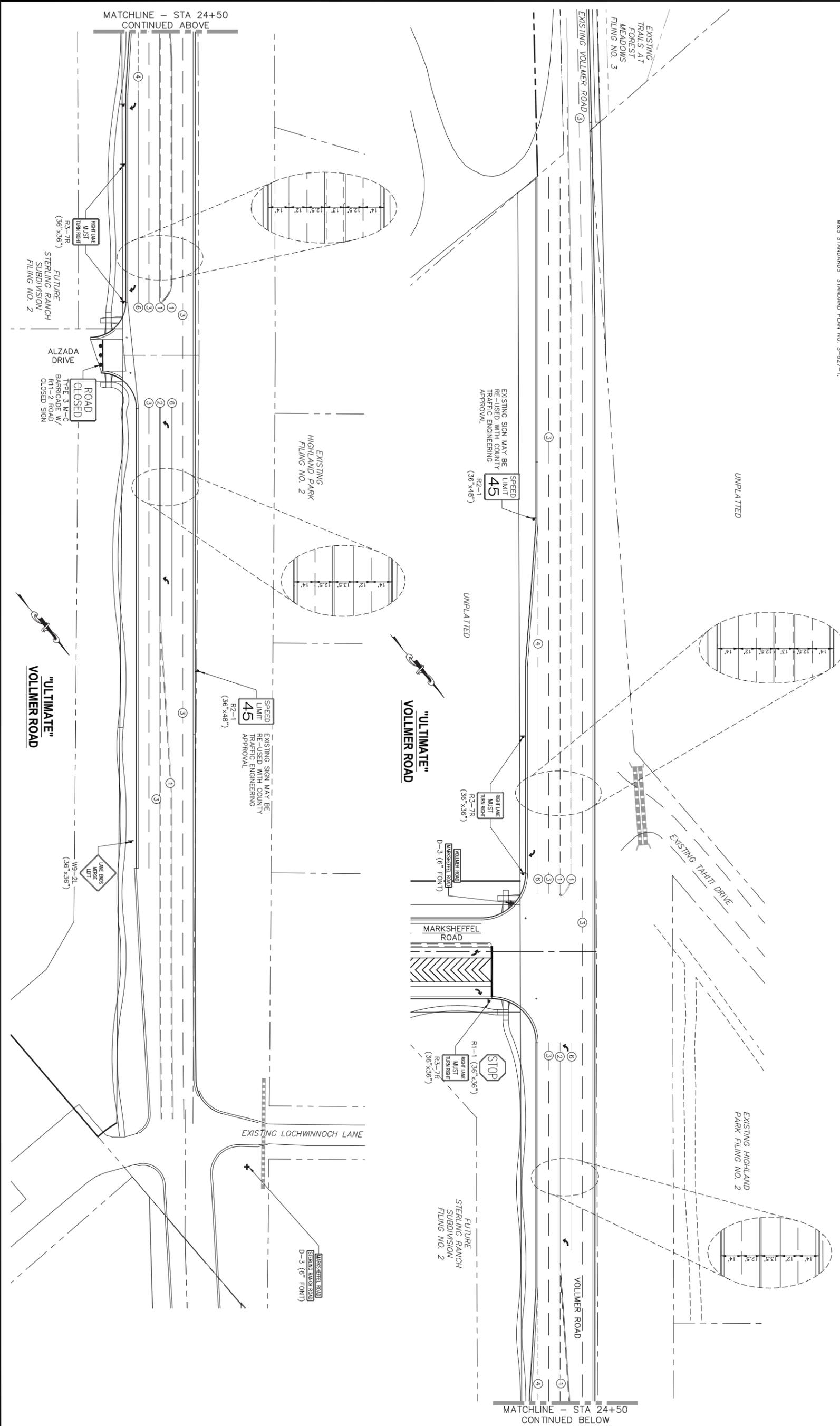
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

| STRIPES | PAVEMENT MARKINGS                      | MARKING DESCRIPTION  |
|---------|--|--|
| ①       | 2-WAY LEFT TURN LANE MARKINGS (EPOXY)  | OUTSIDE: SOLID YELLOW, 4" WIDE; INSIDE: BROKEN YELLOW, 4" WIDE, 10' SEGMENTS WITH 30" GAPS |
| ②       | 2-WAY CENTERLINE LANE MARKINGS (EPOXY) | PARALLEL SOLID YELLOW, 4" WIDE, 12" APART  |
| ③       | LANE LINES (EPOXY)                     | BROKEN WHITE, 4" WIDE, 10' SEGMENTS WITH 30" GAPS  |
| ④       | BROKEN EDGE/BIKE LANE LINES (EPOXY)    | BROKEN WHITE, 4" WIDE, 5' SEGMENTS WITH 15" GAPS   |
| ⑤       | EDGE/BIKE LANE LINES (EPOXY)           | SOLID WHITE, 4" WIDE   |
| ⑥       | CHANNELIZING LINES (EPOXY)             | SOLID WHITE, 8" WIDE   |
| ⑦       | STOP LINES (THERMO PLASTIC)            | SOLID WHITE, 24" WIDE  |

NOTE: ALL STRIPING INSTALLATION SHALL BE PER COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "M&S STANDARDS" STANDARD PLAN NO. S-627-1.

NOTE TO CONTRACTOR:

- ALL 4" AND 8" SOLID OR SKIP PAVEMENT MARKINGS ARE TO BE EPOXY.
- SIGNS AND POLES SHALL BE PER CDOT STANDARDS S-614-8, S-1614-2, AND S-614-3, LATEST REVISION.
- ALL SIGNAGE INSTALLATION IS TO BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



| NO. | DATE | BY | DESCRIPTION | APPR'D. BY | DATE |
|-----|------|----|-------------|------------|------|
|     |      |    |             |            |      |
|     |      |    |             |            |      |

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF  
M&S CIVIL CONSULTANTS, INC.



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

STERLING RANCH - VOLLMER ROAD  
SIGNAGE & STRIPING PLANS

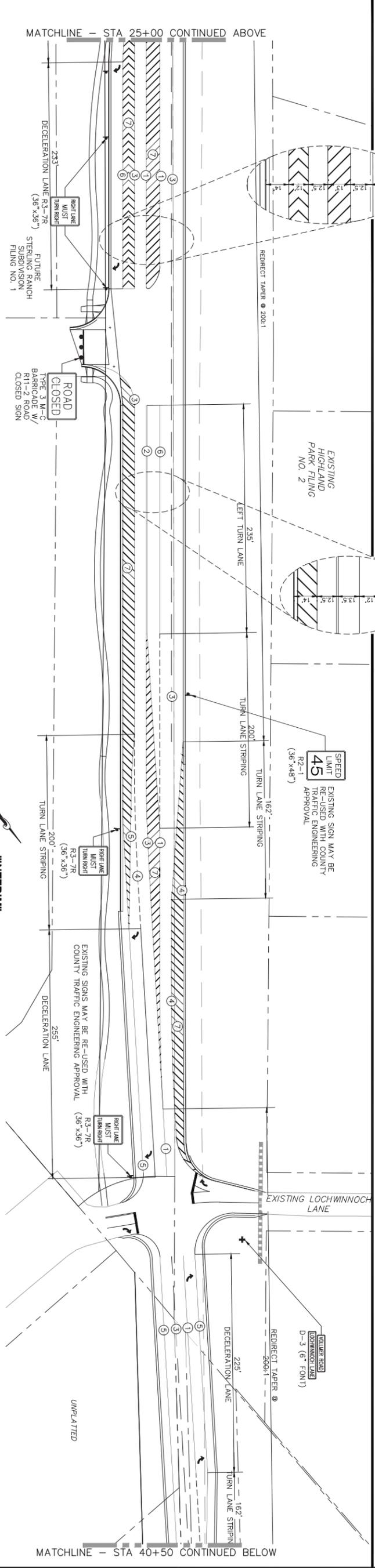
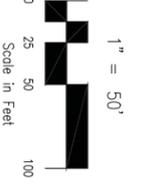
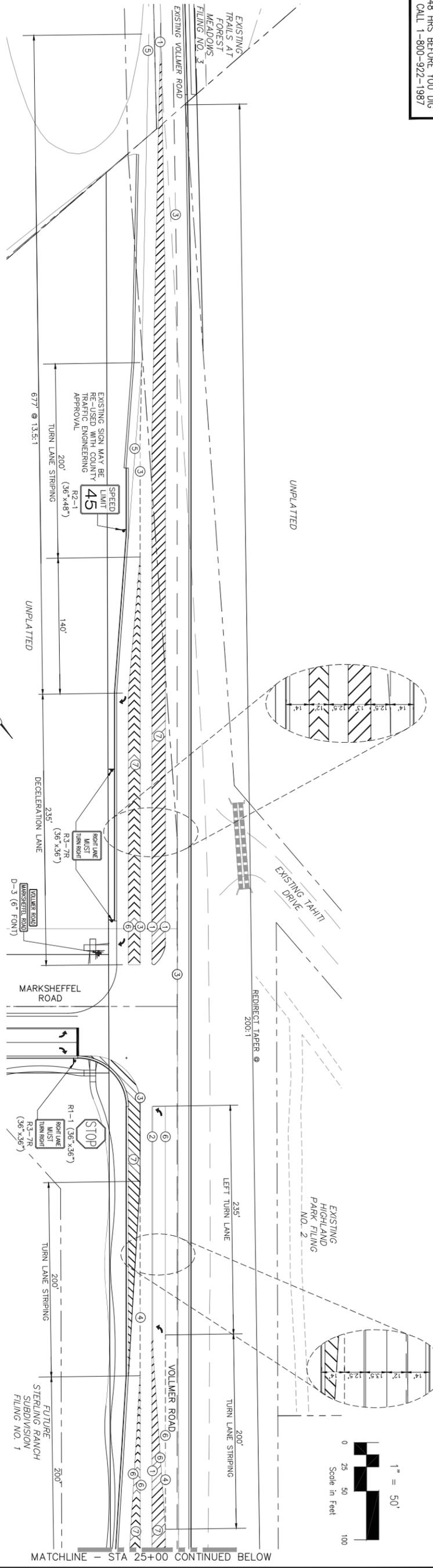
|                    |   |                 |                              |
|--------------------|---|-----------------|------------------------------|
| PROJECT NO. 09-002 | SCALE: HORIZONTAL: 1"=50' VERTICAL: N/A | DATE: 2/26/2018 | SHEET 6 OF 10<br><b>SI06</b> |
| DESIGNED BY: DLM   | DRAWN BY: JWP                           | CHECKED BY: VAS |                              |

CAUTION: 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.



FOR LOCATING  
& MARKING  
EXISTING  
ELECTRIC,  
WATER &  
TELEPHONE  
LINES

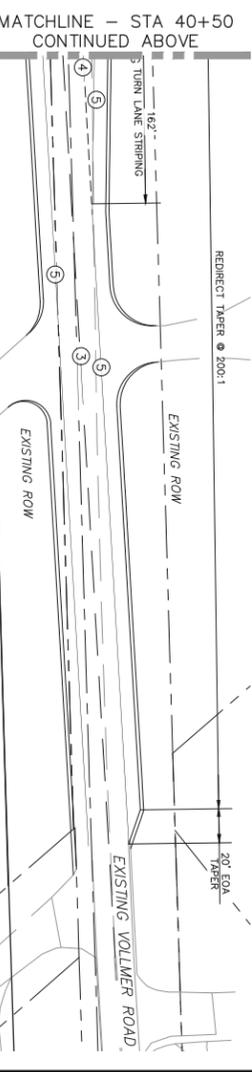
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987



| STRIPING | PAVEMENT MARKINGS                      | MARKING DESCRIPTION  |
|----------|--|--|
| ①        | 2-WAY LEFT TURN LANE MARKINGS (EPOXY)  | OUTSIDE: SOLID YELLOW, 4" WIDE. INSIDE: BROKEN YELLOW, 4" WIDE, 10' SEGMENTS WITH 30" GAPS |
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| ③        | LANE LINES (EPOXY)                     | BROKEN WHITE, 4" WIDE, 10' SEGMENTS WITH 30" GAPS  |
| ④        | BROKEN EDGE/BIKE LANE LINES (EPOXY)    | BROKEN WHITE, 4" WIDE, 5' SEGMENTS WITH 15" GAPS   |
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| ⑥        | CHANNELIZING LINES (EPOXY)             | SOLID WHITE, 8" WIDE   |
| ⑦        | STOP LINES (THERMO PLASTIC)            | SOLID WHITE, 24" WIDE  |

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3. ALL SIGNAGE INSTALLATION IS TO BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



| REVISIONS: |      |    |             | APPR'D. BY: |  | DATE: |  |
|------------|------|----|-------------|-------------|--|-------|--|
| NO.        | DATE | BY | DESCRIPTION |             |  |       |  |
|            |      |    |             |             |  |       |  |

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF  
M&S CIVIL CONSULTANTS,  
INC.

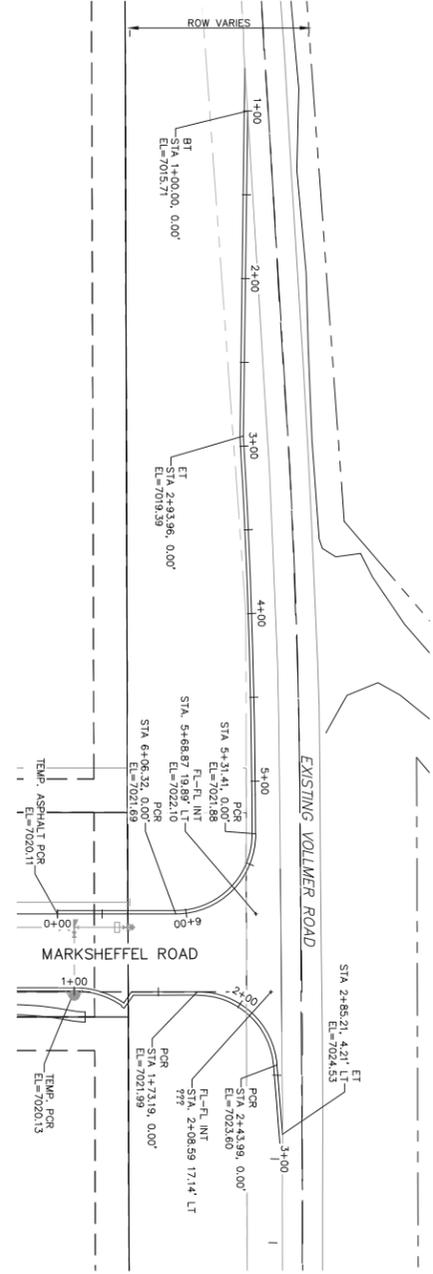


20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

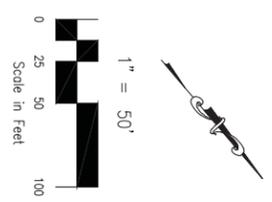
| STERLING RANCH - VOLLMER ROAD |                           |                 |               |
|-------------------------------|---------------------------|-----------------|---------------|
| SIGNAGE & STRIPING PLANS      |                           |                 |               |
| PROJECT NO. 09-002            | SCALE: HORIZONTAL: 1"=50' | DATE: 2/26/2018 | SHEET 8 OF 10 |
| DESIGNED BY: DLM              | VERTICAL: N/A             | SHEET 8 OF 10   |               |
| DRAWN BY: JWP                 | CHECKED BY: VAS           |                 |               |

CAUTION

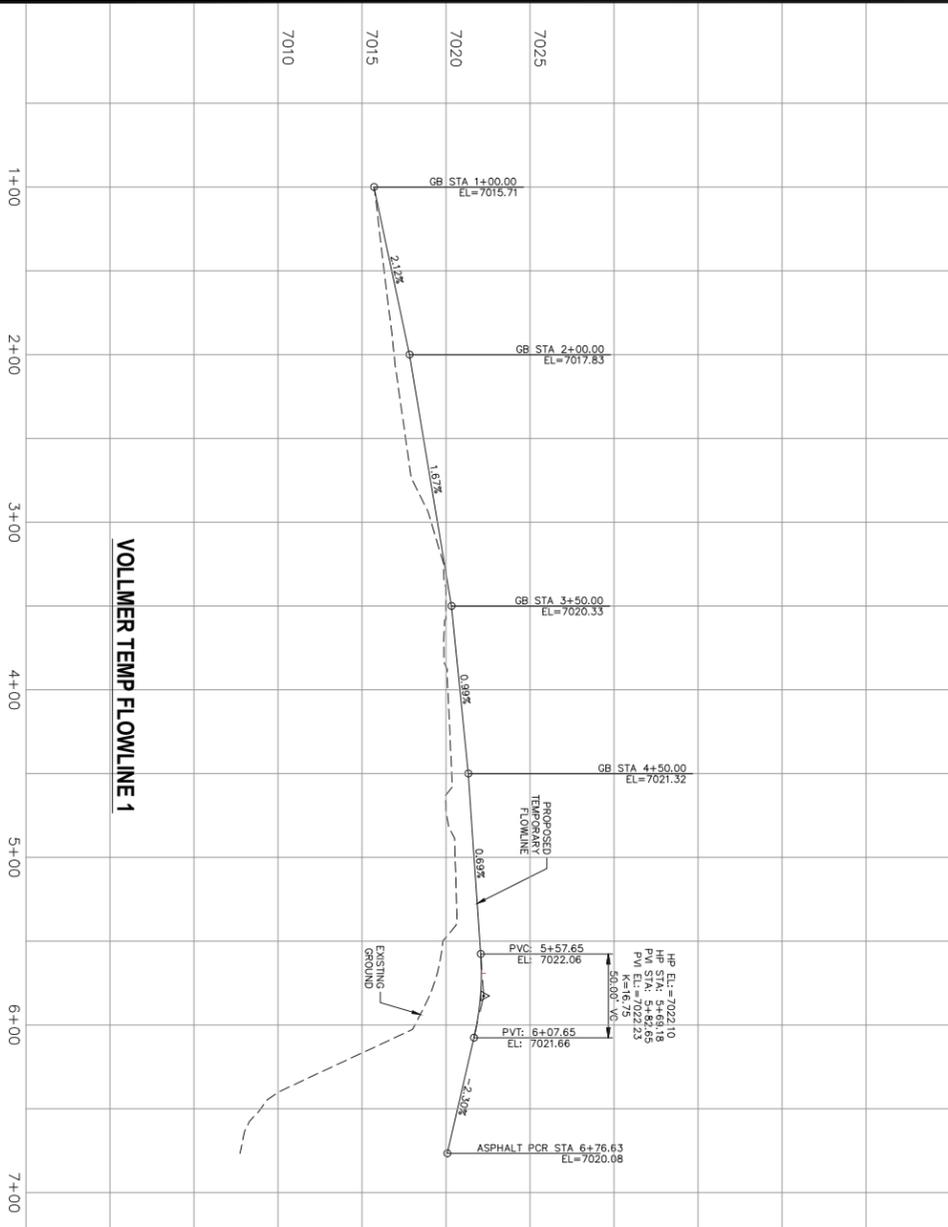
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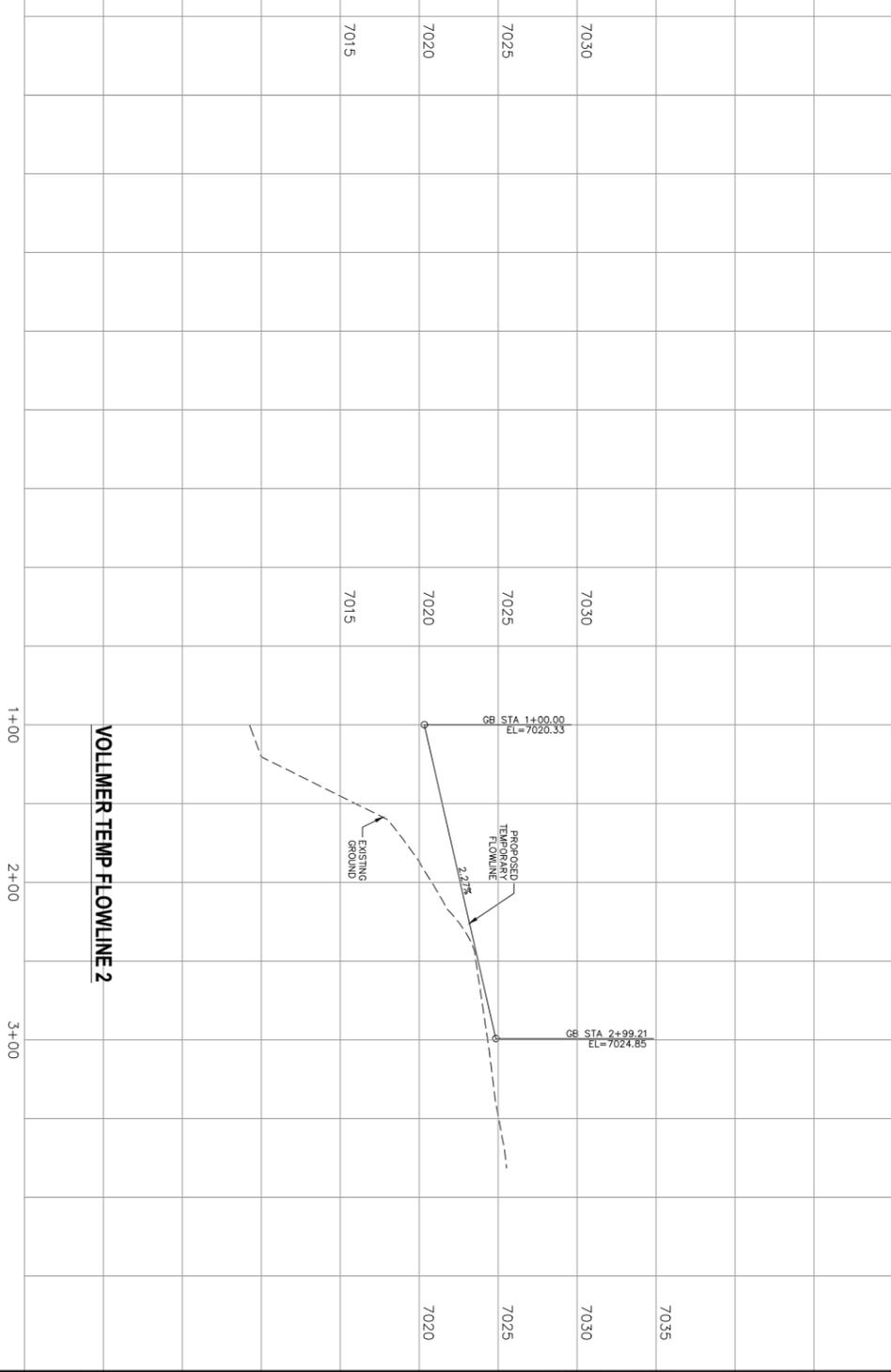
**VOLLMER ROAD - TEMPORARY CONNECTION  
AT MARKSHEFFEL ROAD**



FOR LOOKING & MARKING ELECTRIC, WATER & TELEPHONE LINES  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987



**VOLLMER TEMP FLOWLINE 1**



**VOLLMER TEMP FLOWLINE 2**

| REVISIONS: |       |     |              | APPR'D. BY: | DATE: |
|------------|-------|-----|--------------|-------------|-------|
| NO.        | DATE: | BY: | DESCRIPTION: |             |       |
|            |       |     |              |             |       |
|            |       |     |              |             |       |
|            |       |     |              |             |       |
|            |       |     |              |             |       |

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M&S CIVIL CONSULTANTS, INC.



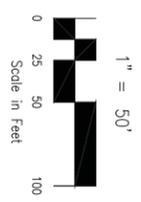
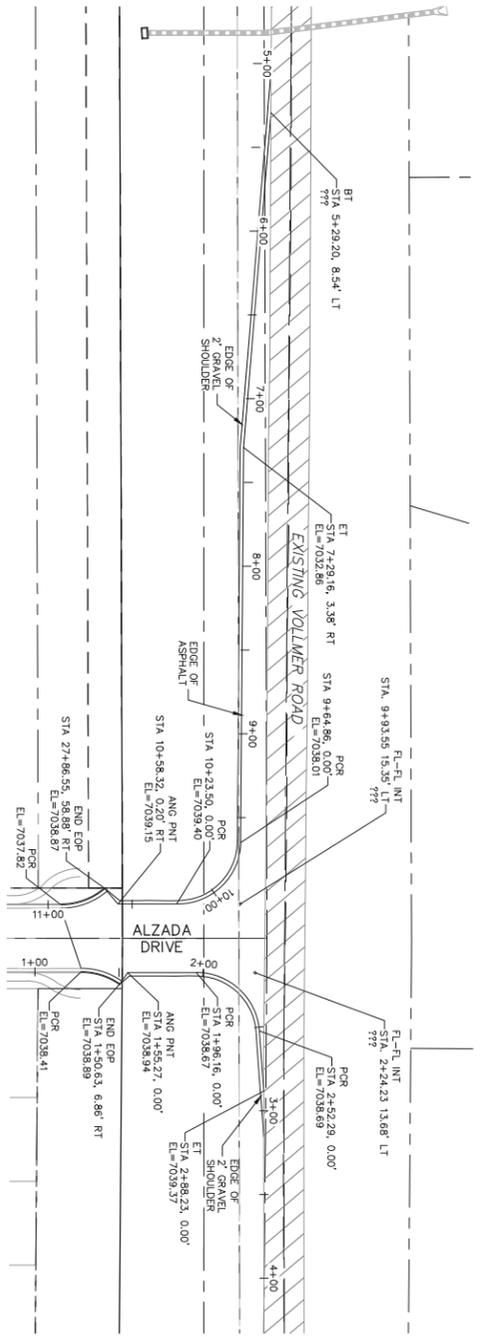
20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

**STERLING RANCH - VOLLMER ROAD**

**STREET IMPROVEMENT PLANS**

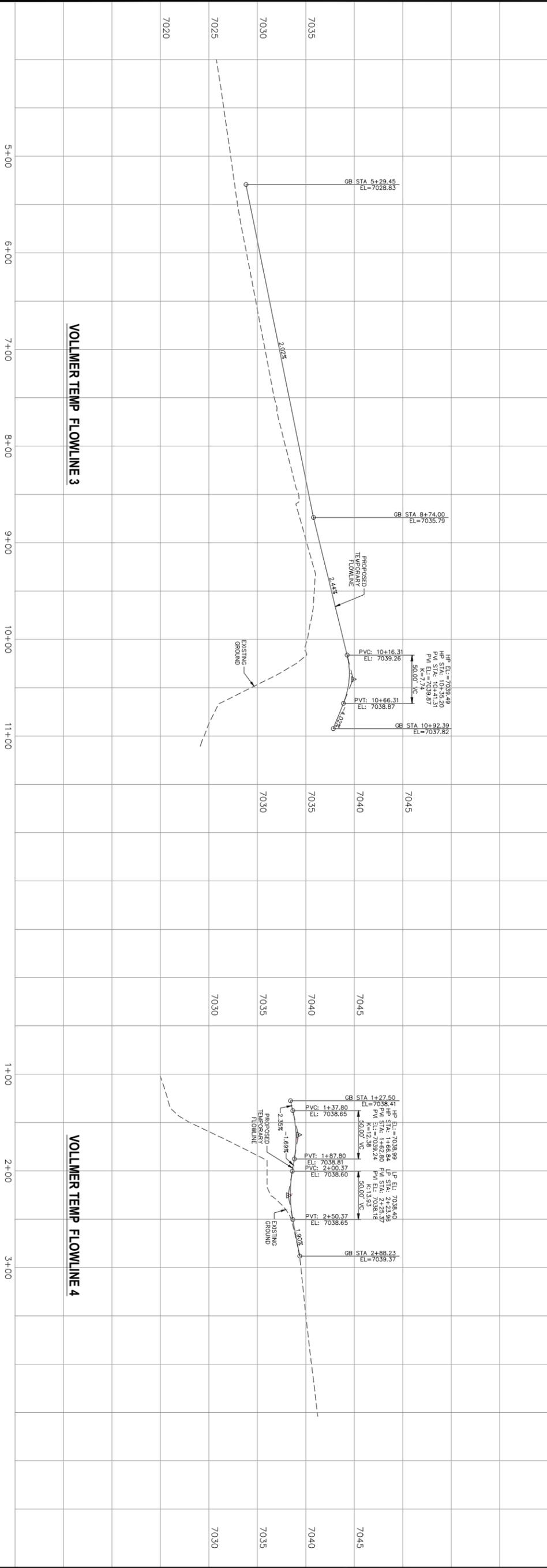
|                    |                    |                 |
|--------------------|--------------------|-----------------|
| PROJECT NO. 09-002 | SCALE:             | DATE: 2/26/2018 |
| DESIGNED BY: DLM   | HORIZONTAL: 1"=50' | SHEET 9 OF 10   |
| DRAWN BY: JWP      | VERTICAL: 1"=5'    |                 |
| CHECKED BY: VAS    |                    | <b>S109</b>     |

CAUTION 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.



FOR LOOKING & MARKING ELECTRIC, WATER & TELEPHONE LINES

FOR BARRIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987



| NO. | DATE | BY | DESCRIPTION | APPR'D. BY | DATE |
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FOR AND ON BEHALF OF  
M&S CIVIL CONSULTANTS, INC.

**M&S CIVIL CONSULTANTS, INC.**

20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485

**STERLING RANCH - VOLLMER ROAD**

**STREET IMPROVEMENT PLANS**

PROJECT NO. 09-002      SCALE: HORIZONTAL: 1"=50'      DATE: 2/26/2018

DESIGNED BY: DLM      VERTICAL: 1"=5'      SHEET 10 OF 10

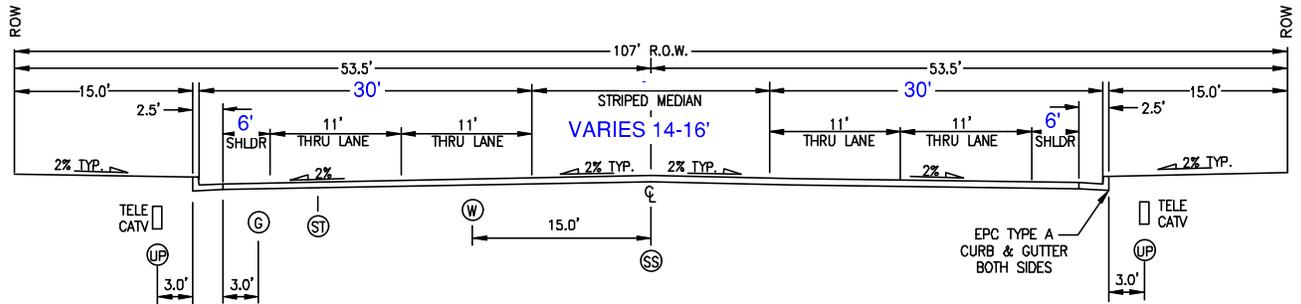
DRAWN BY: JWP      **SI10**

CHECKED BY: VAS

# Proposed Marksheffel Road Deviation

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NOTE:  
MEANDERING SIDEWALK TO BE PROVIDED  
WITHIN TRACTS IMMEDIATELY ADJACENT  
TO ROADWAY (NOT SHOWN)

MARKSHEFFEL ROAD (107' ROW)  
(MODIFIED) 4 LANE URBAN MINOR ARTERIAL CROSS SECTION  
SCALE: NTS

## PROPOSED SECTION (DEVIATION)

Cross section above is as agreed to by Kathleen Krager and Jeff Rice on November 29, 2018.

### Conditions of deviation approval:

1. El Paso County will not maintain Marksheffel Road with the proposed design, and will only facilitate approvals and coordinate transfer of the road, upon completion of construction, to the City of Colorado Springs. Ultimate plan approval, notice to proceed, and MS4/stormwater enforcement remains under the County's jurisdiction until such time that the road is actually annexed into the City.
2. Construction of the approved cross-section (above) is at the developer's risk as the County cannot guarantee City acceptance of the road and associated deeds. Any revisions necessary to meet County requirements due to a change in City commitments will be the developer's responsibility.
3. The City may require construction of the full four-lane cross-section from Vollmer Road southeast along platted areas (Sterling Ranch Filing No. 2).
4. The City may require a 25% escrow contribution to the traffic signal at Vollmer Road.
5. The intersection at Vollmer Road shall be designed and constructed to allow for realignment of Tahiti Drive from the northwest at an appropriate location entering the new intersection.
6. Any additional easements necessary for drainage, slope easements and other public improvements shall be shown on plans as "public improvements easements." If these easements are required, they shall be provided by separate recorded document (non-exclusive public easements) approved by El Paso County and referenced on the plans prior to plan approval.
7. A 25-foot non-exclusive County trail corridor easement is required along the northeast side of Marksheffel Road and shall be shown on all plans. It is assumed that this corridor will remain under County Jurisdiction.

# Traffic Counts

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# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Black Forest Rd - Vollmer Rd PM 12-19

Site Code : 00194990

Start Date : 12/5/2019

Page No : 1

## Groups Printed- Unshifted

| Start Time  | Black Forest Rd Southbound |         |       |      |            | Vollmer Rd Westbound |         |       |      |            | Black Forest Rd Northbound |         |       |      |            | Eastbound |         |       |      |            | Int. Total |
|-------------|----------------------------|---------|-------|------|------------|----------------------|---------|-------|------|------------|----------------------------|---------|-------|------|------------|-----------|---------|-------|------|------------|------------|
|             | Left                       | Through | Right | Peds | App. Total | Left                 | Through | Right | Peds | App. Total | Left                       | Through | Right | Peds | App. Total | Left      | Through | Right | Peds | App. Total |            |
| 04:00 PM    | 3                          | 100     | 0     | 0    | 103        | 95                   | 0       | 2     | 0    | 97         | 0                          | 81      | 119   | 0    | 200        | 0         | 0       | 0     | 0    | 0          | 400        |
| 04:15 PM    | 2                          | 73      | 0     | 0    | 75         | 82                   | 0       | 4     | 0    | 86         | 0                          | 98      | 145   | 0    | 243        | 0         | 0       | 0     | 0    | 0          | 404        |
| 04:30 PM    | 1                          | 94      | 0     | 0    | 95         | 92                   | 0       | 0     | 0    | 92         | 0                          | 74      | 125   | 0    | 199        | 0         | 0       | 0     | 0    | 0          | 386        |
| 04:45 PM    | 2                          | 81      | 0     | 0    | 83         | 84                   | 0       | 7     | 0    | 91         | 0                          | 123     | 130   | 0    | 253        | 0         | 0       | 0     | 0    | 0          | 427        |
| Total       | 8                          | 348     | 0     | 0    | 356        | 353                  | 0       | 13    | 0    | 366        | 0                          | 376     | 519   | 0    | 895        | 0         | 0       | 0     | 0    | 0          | 1617       |
| 05:00 PM    | 2                          | 95      | 0     | 0    | 97         | 97                   | 0       | 2     | 0    | 99         | 0                          | 90      | 121   | 0    | 211        | 0         | 0       | 0     | 0    | 0          | 407        |
| 05:15 PM    | 1                          | 93      | 0     | 0    | 94         | 87                   | 0       | 3     | 0    | 90         | 0                          | 70      | 102   | 0    | 172        | 0         | 0       | 0     | 0    | 0          | 356        |
| 05:30 PM    | 2                          | 69      | 0     | 0    | 71         | 82                   | 0       | 1     | 0    | 83         | 0                          | 88      | 130   | 0    | 218        | 0         | 0       | 0     | 0    | 0          | 372        |
| 05:45 PM    | 1                          | 67      | 0     | 0    | 68         | 79                   | 0       | 2     | 0    | 81         | 0                          | 72      | 121   | 0    | 193        | 0         | 0       | 0     | 0    | 0          | 342        |
| Total       | 6                          | 324     | 0     | 0    | 330        | 345                  | 0       | 8     | 0    | 353        | 0                          | 320     | 474   | 0    | 794        | 0         | 0       | 0     | 0    | 0          | 1477       |
| Grand Total | 14                         | 672     | 0     | 0    | 686        | 698                  | 0       | 21    | 0    | 719        | 0                          | 696     | 993   | 0    | 1689       | 0         | 0       | 0     | 0    | 0          | 3094       |
| Apprch %    | 2                          | 98      | 0     | 0    |            | 97.1                 | 0       | 2.9   | 0    |            | 0                          | 41.2    | 58.8  | 0    |            | 0         | 0       | 0     | 0    |            |            |
| Total %     | 0.5                        | 21.7    | 0     | 0    | 22.2       | 22.6                 | 0       | 0.7   | 0    | 23.2       | 0                          | 22.5    | 32.1  | 0    | 54.6       | 0         | 0       | 0     | 0    | 0          |            |

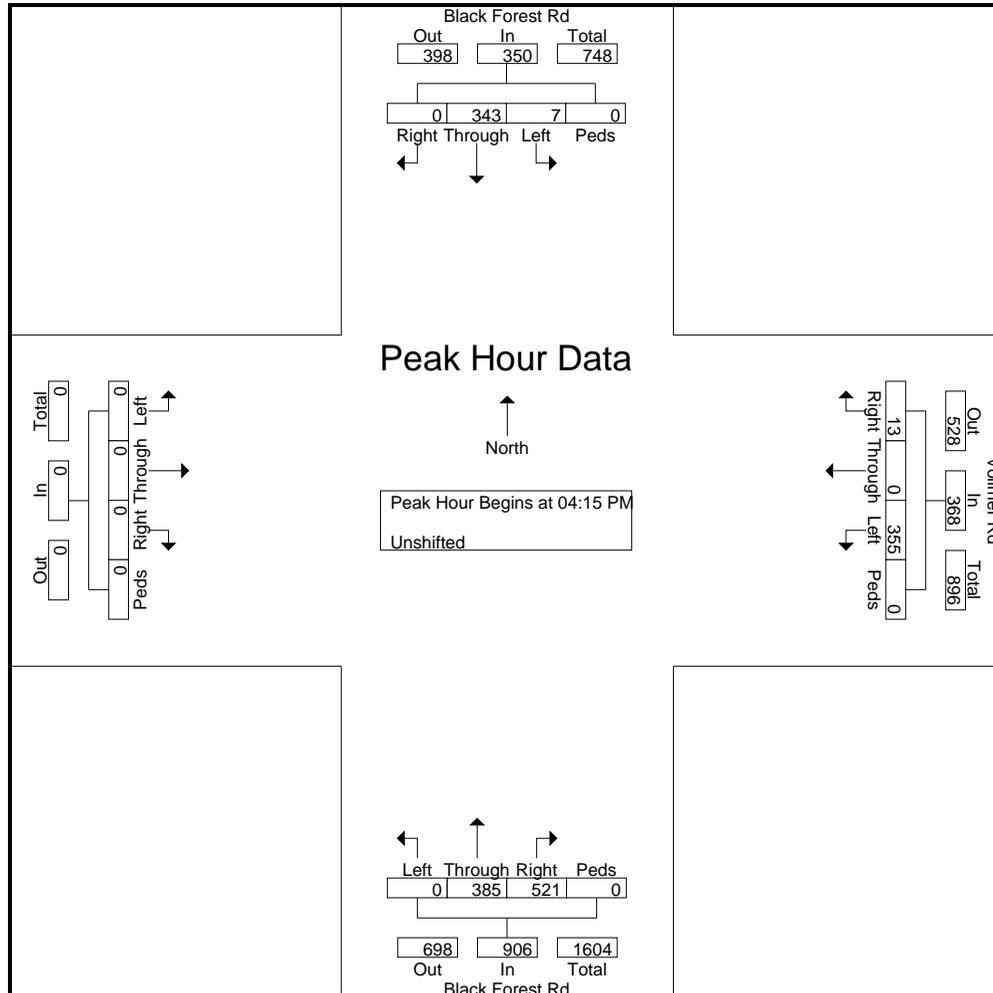


# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Black Forest Rd - Vollmer Rd PM 12-19  
 Site Code : 00194990  
 Start Date : 12/5/2019  
 Page No : 2

| Start Time  | Black Forest Rd Southbound |         |       |      |            | Vollmer Rd Westbound |         |       |      |            | Black Forest Rd Northbound |         |       |      |            | Eastbound |         |       |      |            | Int. Total |
|---|----------------------------|---------|-------|------|------------|----------------------|---------|-------|------|------------|----------------------------|---------|-------|------|------------|-----------|---------|-------|------|------------|------------|
|   | Left                       | Through | Right | Peds | App. Total | Left                 | Through | Right | Peds | App. Total | Left                       | Through | Right | Peds | App. Total | Left      | Through | Right | Peds | App. Total |            |
| <b>Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1</b> |                            |         |       |      |            |                      |         |       |      |            |                            |         |       |      |            |           |         |       |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:15 PM              |                            |         |       |      |            |                      |         |       |      |            |                            |         |       |      |            |           |         |       |      |            |            |
| 04:15 PM  | 2                          | 73      | 0     | 0    | 75         | 82                   | 0       | 4     | 0    | 86         | 0                          | 98      | 145   | 0    | 243        | 0         | 0       | 0     | 0    | 0          | 404        |
| 04:30 PM  | 1                          | 94      | 0     | 0    | 95         | 92                   | 0       | 0     | 0    | 92         | 0                          | 74      | 125   | 0    | 199        | 0         | 0       | 0     | 0    | 0          | 386        |
| 04:45 PM  | 2                          | 81      | 0     | 0    | 83         | 84                   | 0       | 7     | 0    | 91         | 0                          | 123     | 130   | 0    | 253        | 0         | 0       | 0     | 0    | 0          | 427        |
| 05:00 PM  | 2                          | 95      | 0     | 0    | 97         | 97                   | 0       | 2     | 0    | 99         | 0                          | 90      | 121   | 0    | 211        | 0         | 0       | 0     | 0    | 0          | 407        |
| Total Volume  | 7                          | 343     | 0     | 0    | 350        | 355                  | 0       | 13    | 0    | 368        | 0                          | 385     | 521   | 0    | 906        | 0         | 0       | 0     | 0    | 0          | 1624       |
| % App. Total  | 2                          | 98      | 0     | 0    |            | 96.5                 | 0       | 3.5   | 0    |            | 0                          | 42.5    | 57.5  | 0    |            | 0         | 0       | 0     | 0    |            |            |
| PHF   | .875                       | .903    | .000  | .000 | .902       | .915                 | .000    | .464  | .000 | .929       | .000                       | .783    | .898  | .000 | .895       | .000      | .000    | .000  | .000 | .000       | .951       |



# LSC Transportation Consultants, Inc.

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 Colorado Springs, CO 80905  
 719-633-2868

File Name : Black Forest Rd - Vollmer Rd PM  
 Site Code : 00204380  
 Start Date : 5/26/2020  
 Page No : 1

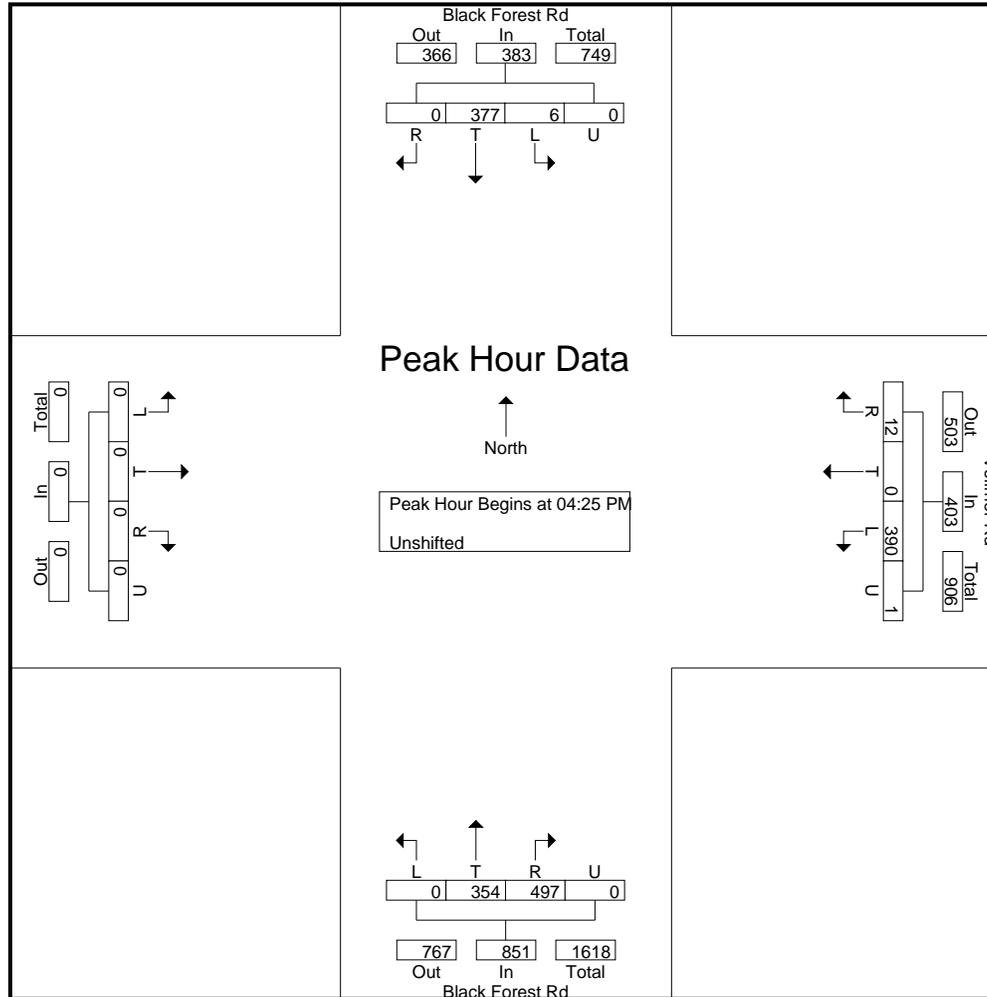
### Groups Printed- Unshifted

| Start Time  | Black Forest Rd Southbound |      |   |   |            | Vollmer Rd Westbound |   |     |     |            | Black Forest Rd Northbound |      |      |   |            | Eastbound |   |   |   |            | Int. Total |
|-------------|----------------------------|------|---|---|------------|----------------------|---|-----|-----|------------|----------------------------|------|------|---|------------|-----------|---|---|---|------------|------------|
|             | L                          | T    | R | U | App. Total | L                    | T | R   | U   | App. Total | L                          | T    | R    | U | App. Total | L         | T | R | U | App. Total |            |
| 03:55 PM    | 1                          | 91   | 0 | 0 | 92         | 86                   | 0 | 5   | 0   | 91         | 0                          | 68   | 111  | 0 | 179        | 0         | 0 | 0 | 0 | 0          | 362        |
| 04:10 PM    | 2                          | 89   | 0 | 0 | 91         | 89                   | 0 | 3   | 0   | 92         | 0                          | 92   | 119  | 0 | 211        | 0         | 0 | 0 | 0 | 0          | 394        |
| 04:25 PM    | 2                          | 100  | 0 | 0 | 102        | 88                   | 0 | 5   | 1   | 94         | 0                          | 103  | 126  | 0 | 229        | 0         | 0 | 0 | 0 | 0          | 425        |
| 04:40 PM    | 2                          | 78   | 0 | 0 | 80         | 88                   | 0 | 4   | 0   | 92         | 0                          | 65   | 103  | 0 | 168        | 0         | 0 | 0 | 0 | 0          | 340        |
| 04:55 PM    | 0                          | 107  | 0 | 0 | 107        | 116                  | 0 | 1   | 0   | 117        | 0                          | 79   | 128  | 0 | 207        | 0         | 0 | 0 | 0 | 0          | 431        |
| 05:10 PM    | 2                          | 92   | 0 | 0 | 94         | 98                   | 0 | 2   | 0   | 100        | 0                          | 107  | 140  | 0 | 247        | 0         | 0 | 0 | 0 | 0          | 441        |
| 05:25 PM    | 1                          | 84   | 0 | 0 | 85         | 87                   | 0 | 2   | 2   | 91         | 0                          | 77   | 129  | 0 | 206        | 0         | 0 | 0 | 0 | 0          | 382        |
| 05:40 PM    | 3                          | 67   | 0 | 0 | 70         | 75                   | 0 | 3   | 0   | 78         | 0                          | 92   | 141  | 0 | 233        | 0         | 0 | 0 | 0 | 0          | 381        |
| Grand Total | 13                         | 708  | 0 | 0 | 721        | 727                  | 0 | 25  | 3   | 755        | 0                          | 683  | 997  | 0 | 1680       | 0         | 0 | 0 | 0 | 0          | 3156       |
| Apprch %    | 1.8                        | 98.2 | 0 | 0 |            | 96.3                 | 0 | 3.3 | 0.4 |            | 0                          | 40.7 | 59.3 | 0 |            | 0         | 0 | 0 | 0 |            |            |
| Total %     | 0.4                        | 22.4 | 0 | 0 | 22.8       | 23                   | 0 | 0.8 | 0.1 | 23.9       | 0                          | 21.6 | 31.6 | 0 | 53.2       | 0         | 0 | 0 | 0 | 0          |            |

# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Black Forest Rd - Vollmer Rd PM  
 Site Code : 00204380  
 Start Date : 5/26/2020  
 Page No : 3



# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Vollmer Rd - Dines Blvd AM  
 Site Code : 00204380  
 Start Date : 5/27/2020  
 Page No : 1

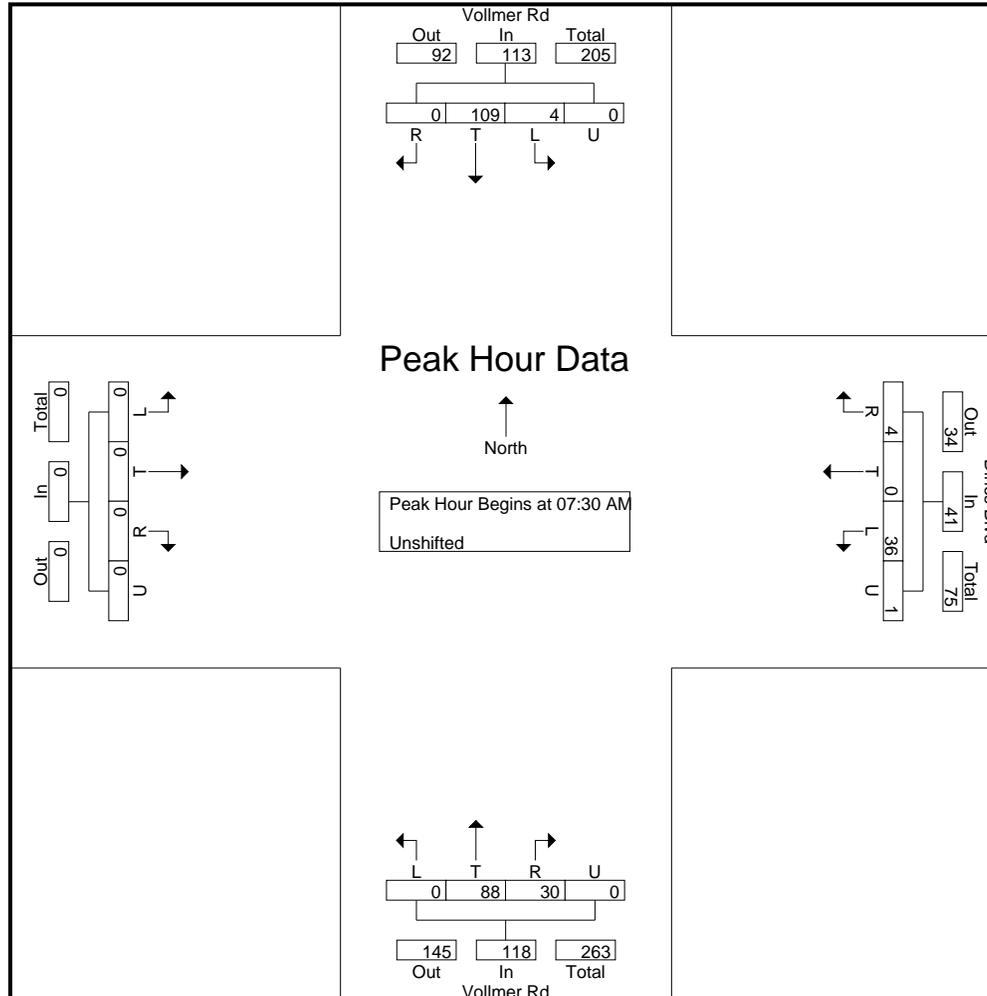
### Groups Printed- Unshifted

| Start Time   | Vollmer Rd Southbound |            |          |          |            | Dines Blvd Westbound |          |          |          |            | Vollmer Rd Northbound |           |           |          |            | Eastbound |          |          |          |            | Int. Total |
|--------------|-----------------------|------------|----------|----------|------------|----------------------|----------|----------|----------|------------|-----------------------|-----------|-----------|----------|------------|-----------|----------|----------|----------|------------|------------|
|              | L                     | T          | R        | U        | App. Total | L                    | T        | R        | U        | App. Total | L                     | T         | R         | U        | App. Total | L         | T        | R        | U        | App. Total |            |
| 06:30 AM     | 1                     | 30         | 0        | 0        | 31         | 2                    | 0        | 1        | 0        | 3          | 0                     | 4         | 3         | 0        | 7          | 0         | 0        | 0        | 0        | 0          | 41         |
| 06:45 AM     | 1                     | 28         | 0        | 0        | 29         | 3                    | 0        | 2        | 0        | 5          | 0                     | 11        | 2         | 0        | 13         | 0         | 0        | 0        | 0        | 0          | 47         |
| <b>Total</b> | <b>2</b>              | <b>58</b>  | <b>0</b> | <b>0</b> | <b>60</b>  | <b>5</b>             | <b>0</b> | <b>3</b> | <b>0</b> | <b>8</b>   | <b>0</b>              | <b>15</b> | <b>5</b>  | <b>0</b> | <b>20</b>  | <b>0</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>88</b>  |
| 07:00 AM     | 1                     | 24         | 0        | 0        | 25         | 8                    | 0        | 3        | 0        | 11         | 0                     | 19        | 3         | 0        | 22         | 0         | 0        | 0        | 0        | 0          | 58         |
| 07:15 AM     | 1                     | 29         | 0        | 0        | 30         | 4                    | 0        | 0        | 0        | 4          | 0                     | 26        | 5         | 0        | 31         | 0         | 0        | 0        | 0        | 0          | 65         |
| 07:30 AM     | 0                     | 27         | 0        | 0        | 27         | 9                    | 0        | 1        | 0        | 10         | 0                     | 21        | 8         | 0        | 29         | 0         | 0        | 0        | 0        | 0          | 66         |
| 07:45 AM     | 0                     | 33         | 0        | 0        | 33         | 8                    | 0        | 3        | 1        | 12         | 0                     | 21        | 6         | 0        | 27         | 0         | 0        | 0        | 0        | 0          | 72         |
| <b>Total</b> | <b>2</b>              | <b>113</b> | <b>0</b> | <b>0</b> | <b>115</b> | <b>29</b>            | <b>0</b> | <b>7</b> | <b>1</b> | <b>37</b>  | <b>0</b>              | <b>87</b> | <b>22</b> | <b>0</b> | <b>109</b> | <b>0</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>261</b> |
| 08:00 AM     | 1                     | 25         | 0        | 0        | 26         | 7                    | 0        | 0        | 0        | 7          | 0                     | 23        | 6         | 0        | 29         | 0         | 0        | 0        | 0        | 0          | 62         |
| 08:15 AM     | 3                     | 24         | 0        | 0        | 27         | 12                   | 0        | 0        | 0        | 12         | 0                     | 23        | 10        | 0        | 33         | 0         | 0        | 0        | 0        | 0          | 72         |
| Grand Total  | 8                     | 220        | 0        | 0        | 228        | 53                   | 0        | 10       | 1        | 64         | 0                     | 148       | 43        | 0        | 191        | 0         | 0        | 0        | 0        | 0          | 483        |
| Apprch %     | 3.5                   | 96.5       | 0        | 0        |            | 82.8                 | 0        | 15.6     | 1.6      |            | 0                     | 77.5      | 22.5      | 0        |            | 0         | 0        | 0        | 0        |            |            |
| Total %      | 1.7                   | 45.5       | 0        | 0        | 47.2       | 11                   | 0        | 2.1      | 0.2      | 13.3       | 0                     | 30.6      | 8.9       | 0        | 39.5       | 0         | 0        | 0        | 0        | 0          |            |

**LSC Transportation Consultants, Inc.**

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Vollmer Rd - Dines Blvd AM  
 Site Code : 00204380  
 Start Date : 5/27/2020  
 Page No : 3



# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Vollmer Rd - Dines Blvd PM  
 Site Code : 00204380  
 Start Date : 5/27/2020  
 Page No : 1

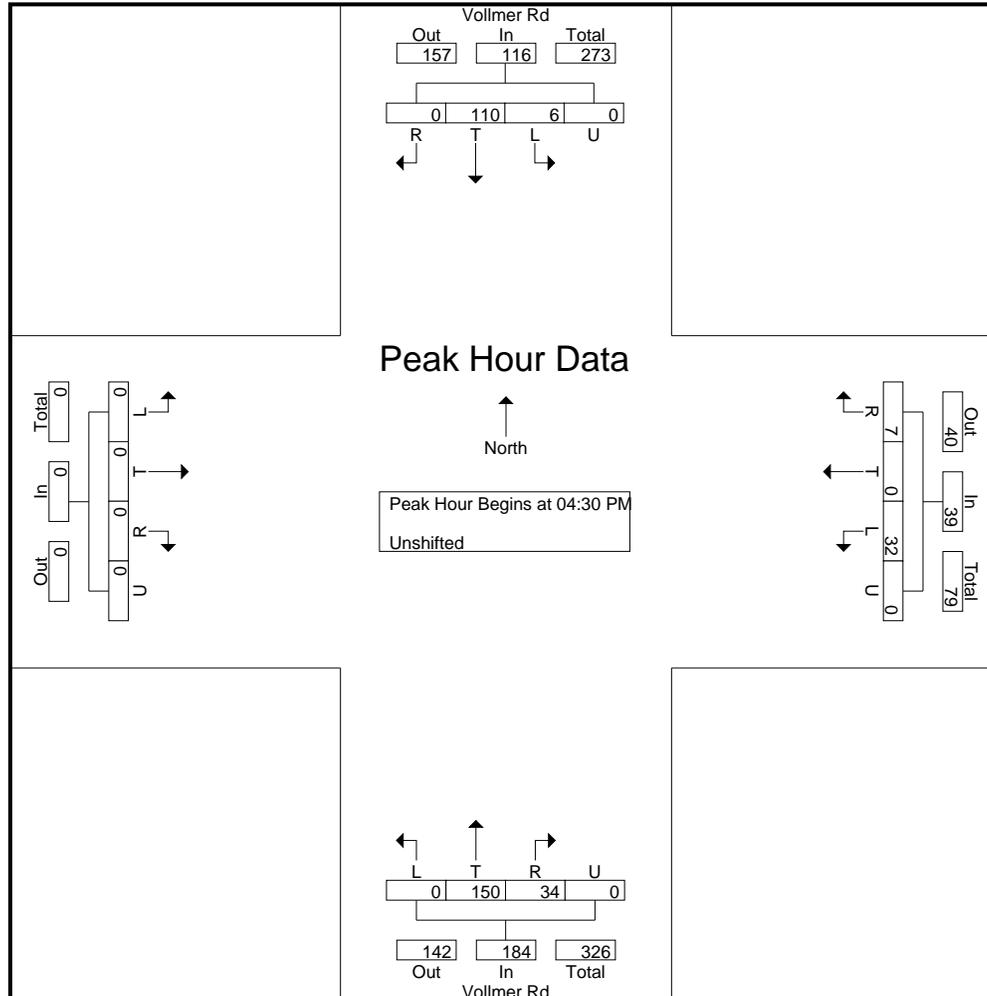
### Groups Printed- Unshifted

| Start Time         | Vollmer Rd Southbound |            |          |          |            | Westbound |          |           |          |            | Vollmer Rd Northbound |            |           |          |            | Eastbound |          |          |          |            | Int. Total |
|--------------------|-----------------------|------------|----------|----------|------------|-----------|----------|-----------|----------|------------|-----------------------|------------|-----------|----------|------------|-----------|----------|----------|----------|------------|------------|
|                    | L                     | T          | R        | U        | App. Total | L         | T        | R         | U        | App. Total | L                     | T          | R         | U        | App. Total | L         | T        | R        | U        | App. Total |            |
| 04:00 PM           | 0                     | 21         | 0        | 0        | 21         | 6         | 0        | 0         | 0        | 6          | 0                     | 39         | 8         | 0        | 47         | 0         | 0        | 0        | 0        | 0          | 74         |
| 04:15 PM           | 1                     | 29         | 0        | 0        | 30         | 9         | 0        | 1         | 1        | 11         | 0                     | 30         | 9         | 0        | 39         | 0         | 0        | 0        | 0        | 0          | 80         |
| 04:30 PM           | 3                     | 28         | 0        | 0        | 31         | 8         | 0        | 3         | 0        | 11         | 0                     | 50         | 11        | 0        | 61         | 0         | 0        | 0        | 0        | 0          | 103        |
| 04:45 PM           | 0                     | 23         | 0        | 0        | 23         | 4         | 0        | 0         | 0        | 4          | 0                     | 35         | 12        | 0        | 47         | 0         | 0        | 0        | 0        | 0          | 74         |
| <b>Total</b>       | <b>4</b>              | <b>101</b> | <b>0</b> | <b>0</b> | <b>105</b> | <b>27</b> | <b>0</b> | <b>4</b>  | <b>1</b> | <b>32</b>  | <b>0</b>              | <b>154</b> | <b>40</b> | <b>0</b> | <b>194</b> | <b>0</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>331</b> |
| 05:00 PM           | 2                     | 26         | 0        | 0        | 28         | 13        | 0        | 0         | 0        | 13         | 0                     | 31         | 4         | 0        | 35         | 0         | 0        | 0        | 0        | 0          | 76         |
| 05:15 PM           | 1                     | 33         | 0        | 0        | 34         | 7         | 0        | 4         | 0        | 11         | 0                     | 34         | 7         | 0        | 41         | 0         | 0        | 0        | 0        | 0          | 86         |
| 05:30 PM           | 1                     | 20         | 0        | 0        | 21         | 7         | 0        | 2         | 0        | 9          | 0                     | 43         | 13        | 0        | 56         | 0         | 0        | 0        | 0        | 0          | 86         |
| 05:45 PM           | 0                     | 13         | 0        | 0        | 13         | 2         | 0        | 2         | 0        | 4          | 0                     | 33         | 8         | 0        | 41         | 0         | 0        | 0        | 0        | 0          | 58         |
| <b>Total</b>       | <b>4</b>              | <b>92</b>  | <b>0</b> | <b>0</b> | <b>96</b>  | <b>29</b> | <b>0</b> | <b>8</b>  | <b>0</b> | <b>37</b>  | <b>0</b>              | <b>141</b> | <b>32</b> | <b>0</b> | <b>173</b> | <b>0</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>306</b> |
| <b>Grand Total</b> | <b>8</b>              | <b>193</b> | <b>0</b> | <b>0</b> | <b>201</b> | <b>56</b> | <b>0</b> | <b>12</b> | <b>1</b> | <b>69</b>  | <b>0</b>              | <b>295</b> | <b>72</b> | <b>0</b> | <b>367</b> | <b>0</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>   | <b>637</b> |
| Apprch %           | 4                     | 96         | 0        | 0        |            | 81.2      | 0        | 17.4      | 1.4      |            | 0                     | 80.4       | 19.6      | 0        |            | 0         | 0        | 0        | 0        | 0          |            |
| Total %            | 1.3                   | 30.3       | 0        | 0        | 31.6       | 8.8       | 0        | 1.9       | 0.2      | 10.8       | 0                     | 46.3       | 11.3      | 0        | 57.6       | 0         | 0        | 0        | 0        | 0          |            |

# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : Vollmer Rd - Dines Blvd PM  
 Site Code : 00204380  
 Start Date : 5/27/2020  
 Page No : 3



LSC Transportation Consultants, Inc.

516 N. Tejon St.

LSC Transportation Consultants, Inc.

Colorado Springs, CO  
(719) 633-2868

Site Name : Vollmer Rd-Lochwinnoch Ln AM

Site Code : 00000000

Start Date : 01/09/2014

Page No : 1

Groups Printed- Unshifted

| Start Time  | Vollmer RD<br>From North |      |      |          | Bills Tool Rental Access<br>From East |      |      |          | Vollmer Rd<br>From South |      |      |          | LochwinnochLn<br>From West |      |      |          | Int.<br>Total |
|-------------|--------------------------|------|------|----------|---------------------------------------|------|------|----------|--------------------------|------|------|----------|----------------------------|------|------|----------|---------------|
|             | Righ<br>t                | Thru | Left | Ped<br>s | Righ<br>t                             | Thru | Left | Ped<br>s | Righ<br>t                | Thru | Left | Ped<br>s | Righ<br>t                  | Thru | Left | Ped<br>s |               |
| Factor      | 1.0                      | 1.0  | 1.0  | 1.0      | 1.0                                   | 1.0  | 1.0  | 1.0      | 1.0                      | 1.0  | 1.0  | 1.0      | 1.0                        | 1.0  | 1.0  | 1.0      |               |
| 06:30 AM    | 0                        | 28   | 0    | 0        | 0                                     | 0    | 0    | 0        | 5                        | 6    | 0    | 0        | 1                          | 0    | 0    | 0        | 40            |
| 06:45 AM    | 0                        | 34   | 0    | 0        | 0                                     | 0    | 0    | 0        | 10                       | 2    | 0    | 0        | 3                          | 1    | 0    | 0        | 50            |
| Total       | 0                        | 62   | 0    | 0        | 0                                     | 0    | 0    | 0        | 15                       | 8    | 0    | 0        | 4                          | 1    | 0    | 0        | 90            |
| 07:00 AM    | 1                        | 47   | 0    | 0        | 6                                     | 0    | 1    | 0        | 3                        | 5    | 0    | 0        | 8                          | 0    | 0    | 0        | 71            |
| 07:15 AM    | 4                        | 37   | 1    | 0        | 2                                     | 0    | 3    | 0        | 0                        | 14   | 1    | 0        | 7                          | 0    | 0    | 0        | 69            |
| 07:30 AM    | 0                        | 34   | 0    | 0        | 3                                     | 0    | 1    | 0        | 2                        | 10   | 2    | 0        | 5                          | 0    | 0    | 0        | 57            |
| 07:45 AM    | 0                        | 32   | 0    | 0        | 1                                     | 1    | 0    | 0        | 4                        | 19   | 2    | 0        | 1                          | 0    | 0    | 0        | 60            |
| Total       | 5                        | 150  | 1    | 0        | 12                                    | 1    | 5    | 0        | 9                        | 48   | 5    | 0        | 21                         | 0    | 0    | 0        | 257           |
| 08:00 AM    | 1                        | 23   | 0    | 0        | 1                                     | 0    | 2    | 0        | 1                        | 9    | 1    | 0        | 6                          | 0    | 1    | 0        | 45            |
| 08:15 AM    | 1                        | 43   | 0    | 0        | 0                                     | 0    | 1    | 0        | 1                        | 20   | 1    | 0        | 7                          | 0    | 1    | 0        | 75            |
| Grand Total | 7                        | 278  | 1    | 0        | 13                                    | 1    | 8    | 0        | 26                       | 85   | 7    | 0        | 38                         | 1    | 2    | 0        | 467           |
| Apprch %    | 2.4                      | 97.2 | 0.3  | 0.0      | 59.1                                  | 4.5  | 36.4 | 0.0      | 22.0                     | 72.0 | 5.9  | 0.0      | 92.7                       | 2.4  | 4.9  | 0.0      |               |
| Total %     | 1.5                      | 59.5 | 0.2  | 0.0      | 2.8                                   | 0.2  | 1.7  | 0.0      | 5.6                      | 18.2 | 1.5  | 0.0      | 8.1                        | 0.2  | 0.4  | 0.0      |               |



N:\Counts\Intersec3\Vollmer Rd-Lochwinnoch Ln PM.pwf

Start Date: 01/09/2014      Site Code: 00000000      Number of Intervals: 8  
 Start Time: 04:15 PM      Displayed Group: 1 - Unshifted      Interval Length: 15 Minutes

| Start Time | Vollmer Rd From North |      |      |      | Bills Tool Rental Access From East |      |      |      | Vollmer Rd From South |      |      |      | Lochwinnoch Ln From West |      |      |      |
|------------|-----------------------|------|------|------|------------------------------------|------|------|------|-----------------------|------|------|------|--------------------------|------|------|------|
|            | Right                 | Thru | Left | Peds | Right                              | Thru | Left | Peds | Right                 | Thru | Left | Peds | Right                    | Thru | Left | Peds |
| 04:15 PM   | 0                     | 24   | 0    | 0    | 0                                  | 0    | 1    | 0    | 1                     | 35   | 4    | 0    | 1                        | 0    | 0    | 0    |
| 04:30 PM   | 1                     | 12   | 2    | 0    | 0                                  | 0    | 0    | 0    | 0                     | 48   | 5    | 0    | 1                        | 0    | 0    | 0    |
| 04:45 PM   | 1                     | 19   | 0    | 0    | 2                                  | 0    | 0    | 0    | 2                     | 43   | 2    | 0    | 1                        | 1    | 0    | 0    |
| 05:00 PM   | 0                     | 16   | 0    | 0    | 1                                  | 0    | 4    | 0    | 0                     | 38   | 5    | 0    | 1                        | 0    | 0    | 0    |
| 05:15 PM   | 0                     | 21   | 0    | 0    | 0                                  | 0    | 0    | 0    | 0                     | 44   | 6    | 0    | 4                        | 0    | 0    | 0    |
| 05:30 PM   | 1                     | 21   | 0    | 0    | 0                                  | 0    | 0    | 0    | 1                     | 40   | 4    | 0    | 3                        | 0    | 0    | 0    |
| 05:45 PM   | 0                     | 23   | 1    | 0    | 0                                  | 1    | 0    | 0    | 0                     | 42   | 4    | 0    | 2                        | 0    | 0    | 0    |
| 06:00 PM   | 0                     | 17   | 0    | 0    | 0                                  | 0    | 0    | 0    | 0                     | 36   | 5    | 0    | 3                        | 0    | 1    | 0    |



# Levels of Service

---



HCM 6th TWSC  
3: Vollmer Rd & Lochwinnoch

Existing Traffic  
AM Peak Hour

| 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    | 21   | 5    | 1    | 12   | 5    | 129  | 9    | 1    | 194  | 5    |
| Future Vol, veh/h        | 0    | 0    | 21   | 5    | 1    | 12   | 5    | 129  | 9    | 1    | 194  | 5    |
| 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 |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | 235  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 65   | 65   | 65   | 64   | 64   | 64   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 32   | 8    | 2    | 19   | 6    | 152  | 11   | 1    | 228  | 6    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       |       | Major2 |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 413    | 408   | 231    | 413   | 400    | 152   | 234   | 0      | 0 | 163   | 0 | 0 |
| Stage 1              | 233    | 233   | -      | 164   | 164    | -     | -     | -      | - | -     | - | - |
| Stage 2              | 180    | 175   | -      | 249   | 236    | -     | -     | -      | - | -     | - | - |
| 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   | 549    | 533   | 808    | 549   | 538    | 894   | 1333  | -      | - | 1416  | - | - |
| Stage 1              | 770    | 712   | -      | 838   | 762    | -     | -     | -      | - | -     | - | - |
| Stage 2              | 822    | 754   | -      | 755   | 710    | -     | -     | -      | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |       | -      | - | -     | - | - |
| Mov Cap-1 Maneuver   | 534    | 530   | 808    | 525   | 535    | 894   | 1333  | -      | - | 1416  | - | - |
| Mov Cap-2 Maneuver   | 534    | 530   | -      | 525   | 535    | -     | -     | -      | - | -     | - | - |
| Stage 1              | 766    | 711   | -      | 834   | 758    | -     | -     | -      | - | -     | - | - |
| Stage 2              | 799    | 750   | -      | 724   | 709    | -     | -     | -      | - | -     | - | - |

| Approach             | EB  |  | WB   |  | NB  |  | SB |  |
|----------------------|-----|--|------|--|-----|--|----|--|
| HCM Control Delay, s | 9.6 |  | 10.2 |  | 0.3 |  | 0  |  |
| HCM LOS              | A   |  | B    |  |     |  |    |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 1333  | -   | -   | 808        | 725   | 1416  | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   | 0.04       | 0.039 | 0.001 | -   |
| HCM Control Delay (s) | 7.7   | 0   | -   | 9.6        | 10.2  | 7.5   | 0   |
| HCM Lane LOS          | A     | A   | -   | A          | B     | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1        | 0.1   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.6  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 36   | 4    | 88   | 30   | 4    | 109  |
| Future Vol, veh/h        | 36   | 4    | 88   | 30   | 4    | 109  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 42   | 5    | 104  | 35   | 5    | 128  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 242    | 104    | 0      | 0 | 139   | 0 |
| Stage 1              | 104    | -      | -      | - | -     | - |
| Stage 2              | 138    | -      | -      | - | -     | - |
| 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   | 746    | 951    | -      | - | 1445  | - |
| Stage 1              | 920    | -      | -      | - | -     | - |
| Stage 2              | 889    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - | -     | - |
| Mov Cap-1 Maneuver   | 744    | 951    | -      | - | 1445  | - |
| Mov Cap-2 Maneuver   | 744    | -      | -      | - | -     | - |
| Stage 1              | 917    | -      | -      | - | -     | - |
| Stage 2              | 889    | -      | -      | - | -     | - |

| Approach             | WB | NB | SB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 10 | 0  | 0.3 |
| HCM LOS              | B  |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 744   | 951   | 1445  | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.057 | 0.005 | 0.003 | -   |
| HCM Control Delay (s) | -   | -   | 10.1  | 8.8   | 7.5   | -   |
| HCM Lane LOS          | -   | -   | B     | A     | A     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.2   | 0     | 0     | -   |

HCM 6th TWSC  
3: Vollmer Rd & Lochwinnoch

Existing Traffic  
PM Peak Hour

| 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    | 1    | 9    | 4    | 0    | 3    | 7    | 239  | 3    | 2    | 154  | 2    |
| Future Vol, veh/h        | 0    | 1    | 9    | 4    | 0    | 3    | 7    | 239  | 3    | 2    | 154  | 2    |
| 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 |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | 235  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 63   | 63   | 63   | 63   | 63   | 63   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 2    | 14   | 6    | 0    | 5    | 8    | 281  | 4    | 2    | 181  | 2    |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 488    | 487   | 182    | 491   | 484    | 281   | 183    | 0 | 0 | 285   | 0 | 0 |
| Stage 1              | 186    | 186   | -      | 297   | 297    | -     | -      | - | - | -     | - | - |
| Stage 2              | 302    | 301   | -      | 194   | 187    | -     | -      | - | - | -     | - | - |
| 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   | 490    | 481   | 861    | 488   | 483    | 758   | 1392   | - | - | 1277  | - | - |
| Stage 1              | 816    | 746   | -      | 712   | 668    | -     | -      | - | - | -     | - | - |
| Stage 2              | 707    | 665   | -      | 808   | 745    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 484    | 477   | 861    | 475   | 479    | 758   | 1392   | - | - | 1277  | - | - |
| Mov Cap-2 Maneuver   | 484    | 477   | -      | 475   | 479    | -     | -      | - | - | -     | - | - |
| Stage 1              | 810    | 745   | -      | 707   | 663    | -     | -      | - | - | -     | - | - |
| Stage 2              | 698    | 660   | -      | 791   | 744    | -     | -      | - | - | -     | - | - |

| Approach             | EB  |  | WB   |  | NB  |  | SB  |  |
|----------------------|-----|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 9.6 |  | 11.5 |  | 0.2 |  | 0.1 |  |
| HCM LOS              | A   |  | B    |  |     |  |     |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL   | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h)      | 1392  | -   | -   | 797   | 565   | 1277  | -   | -   |
| HCM Lane V/C Ratio    | 0.006 | -   | -   | 0.02  | 0.02  | 0.002 | -   | -   |
| HCM Control Delay (s) | 7.6   | 0   | -   | 9.6   | 11.5  | 7.8   | 0   | -   |
| HCM Lane LOS          | A     | A   | -   | A     | B     | A     | A   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.1   | 0.1   | 0     | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 32   | 7    | 150  | 34   | 6    | 110  |
| Future Vol, veh/h        | 32   | 7    | 150  | 34   | 6    | 110  |
| 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         | 89   | 89   | 75   | 75   | 83   | 83   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 36   | 8    | 200  | 45   | 7    | 133  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 347    | 200    | 0      | 0 | 245   |
| Stage 1              | 200    | -      | -      | - | -     |
| Stage 2              | 147    | -      | -      | - | -     |
| 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   | 650    | 841    | -      | - | 1321  |
| Stage 1              | 834    | -      | -      | - | -     |
| Stage 2              | 880    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 647    | 841    | -      | - | 1321  |
| Mov Cap-2 Maneuver   | 647    | -      | -      | - | -     |
| Stage 1              | 830    | -      | -      | - | -     |
| Stage 2              | 880    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.6 | 0  | 0.4 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 647   | 841   | 1321  |
| HCM Lane V/C Ratio    | -   | -        | 0.056 | 0.009 | 0.005 |
| HCM Control Delay (s) | -   | -        | 10.9  | 9.3   | 7.7   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.2   | 0     | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 77   | 0    | 181  | 21   | 0    | 357  |
| Future Vol, veh/h        | 77   | 0    | 181  | 21   | 0    | 357  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 91   | 0    | 213  | 25   | 0    | 420  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 633    | 213    | 0      | 0 | 238   |
| Stage 1              | 213    | -      | -      | - | -     |
| Stage 2              | 420    | -      | -      | - | -     |
| 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   | 444    | 827    | -      | - | 1329  |
| Stage 1              | 823    | -      | -      | - | -     |
| Stage 2              | 663    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 444    | 827    | -      | - | 1329  |
| Mov Cap-2 Maneuver   | 444    | -      | -      | - | -     |
| Stage 1              | 823    | -      | -      | - | -     |
| Stage 2              | 663    | -      | -      | - | -     |

| Approach             | WB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 15.2 | 0  | 0  |
| HCM LOS              | C    |    |    |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1WBLn2 | SBL    | SBT |
|-----------------------|-----|---------------|--------|-----|
| Capacity (veh/h)      | -   | - 444         | - 1329 | -   |
| HCM Lane V/C Ratio    | -   | - 0.204       | -      | -   |
| HCM Control Delay (s) | -   | - 15.2        | 0      | 0   |
| HCM Lane LOS          | -   | - C           | A      | A   |
| HCM 95th %tile Q(veh) | -   | - 0.8         | -      | 0   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 50   | 22   | 134  | 22   | 7    | 232  |
| Future Vol, veh/h        | 50   | 22   | 134  | 22   | 7    | 232  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 59   | 26   | 158  | 26   | 8    | 273  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 447    | 158    | 0      | 0 | 184   |
| Stage 1              | 158    | -      | -      | - | -     |
| Stage 2              | 289    | -      | -      | - | -     |
| 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   | 569    | 887    | -      | - | 1391  |
| Stage 1              | 871    | -      | -      | - | -     |
| Stage 2              | 760    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 566    | 887    | -      | - | 1391  |
| Mov Cap-2 Maneuver   | 566    | -      | -      | - | -     |
| Stage 1              | 866    | -      | -      | - | -     |
| Stage 2              | 760    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 11.2 | 0  | 0.2 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 566   | 887   | 1391  |
| HCM Lane V/C Ratio    | -   | -        | 0.104 | 0.029 | 0.006 |
| HCM Control Delay (s) | -   | -        | 12.1  | 9.2   | 7.6   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0.1   | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 16   | 3    | 151  | 5    | 2    | 223  |
| Future Vol, veh/h        | 16   | 3    | 151  | 5    | 2    | 223  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 19   | 4    | 178  | 6    | 2    | 262  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 444    | 178    | 0      | 0 | 184   |
| Stage 1              | 178    | -      | -      | - | -     |
| Stage 2              | 266    | -      | -      | - | -     |
| 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   | 571    | 865    | -      | - | 1391  |
| Stage 1              | 853    | -      | -      | - | -     |
| Stage 2              | 779    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 570    | 865    | -      | - | 1391  |
| Mov Cap-2 Maneuver   | 570    | -      | -      | - | -     |
| Stage 1              | 852    | -      | -      | - | -     |
| Stage 2              | 779    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 11.1 | 0  | 0.1 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 570   | 865   | 1391  |
| HCM Lane V/C Ratio    | -   | -        | 0.033 | 0.004 | 0.002 |
| HCM Control Delay (s) | -   | -        | 11.5  | 9.2   | 7.6   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↖    | ↗    | ↖    | ↗    | ↖    | ↗    |
| Traffic Vol, veh/h       | 51   | 0    | 443  | 65   | 0    | 255  |
| Future Vol, veh/h        | 51   | 0    | 443  | 65   | 0    | 255  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 60   | 0    | 521  | 76   | 0    | 300  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 821    | 521    | 0      | 0 | 597   |
| Stage 1              | 521    | -      | -      | - | -     |
| Stage 2              | 300    | -      | -      | - | -     |
| 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   | 344    | 555    | -      | - | 980   |
| Stage 1              | 596    | -      | -      | - | -     |
| Stage 2              | 752    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 344    | 555    | -      | - | 980   |
| Mov Cap-2 Maneuver   | 344    | -      | -      | - | -     |
| Stage 1              | 596    | -      | -      | - | -     |
| Stage 2              | 752    | -      | -      | - | -     |

| Approach             | WB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 17.7 | 0  | 0  |
| HCM LOS              | C    |    |    |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1WBLn2 | SBL   | SBT |
|-----------------------|-----|---------------|-------|-----|
| Capacity (veh/h)      | -   | - 344         | - 980 | -   |
| HCM Lane V/C Ratio    | -   | - 0.174       | -     | -   |
| HCM Control Delay (s) | -   | - 17.7        | 0     | 0   |
| HCM Lane LOS          | -   | - C           | A     | A   |
| HCM 95th %tile Q(veh) | -   | - 0.6         | - 0   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.3  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↙    | ↗    | ↑    | ↗    | ↙    | ↑    |
| Traffic Vol, veh/h       | 34   | 14   | 292  | 76   | 21   | 196  |
| Future Vol, veh/h        | 34   | 14   | 292  | 76   | 21   | 196  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 40   | 16   | 344  | 89   | 25   | 231  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 625    | 344    | 0      | 0 | 433   | 0 |
| Stage 1              | 344    | -      | -      | - | -     | - |
| Stage 2              | 281    | -      | -      | - | -     | - |
| 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   | 449    | 699    | -      | - | 1127  | - |
| Stage 1              | 718    | -      | -      | - | -     | - |
| Stage 2              | 767    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       |   |
| Mov Cap-1 Maneuver   | 439    | 699    | -      | - | 1127  | - |
| Mov Cap-2 Maneuver   | 439    | -      | -      | - | -     | - |
| Stage 1              | 702    | -      | -      | - | -     | - |
| Stage 2              | 767    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.9 | 0  | 0.8 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |   |
|-----------------------|-----|----------|-------|-------|-------|---|
| Capacity (veh/h)      | -   | -        | 439   | 699   | 1127  | - |
| HCM Lane V/C Ratio    | -   | -        | 0.091 | 0.024 | 0.022 | - |
| HCM Control Delay (s) | -   | -        | 14    | 10.3  | 8.3   | - |
| HCM Lane LOS          | -   | -        | B     | B     | A     | - |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0.1   | 0.1   | - |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 10   | 2    | 288  | 18   | 7    | 207  |
| Future Vol, veh/h        | 10   | 2    | 288  | 18   | 7    | 207  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 12   | 2    | 339  | 21   | 8    | 244  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 599    | 339    | 0      | 0 | 360   |
| Stage 1              | 339    | -      | -      | - | -     |
| Stage 2              | 260    | -      | -      | - | -     |
| 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   | 465    | 703    | -      | - | 1199  |
| Stage 1              | 722    | -      | -      | - | -     |
| Stage 2              | 783    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 462    | 703    | -      | - | 1199  |
| Mov Cap-2 Maneuver   | 462    | -      | -      | - | -     |
| Stage 1              | 717    | -      | -      | - | -     |
| Stage 2              | 783    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.5 | 0  | 0.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 462   | 703   | 1199  |
| HCM Lane V/C Ratio    | -   | -        | 0.025 | 0.003 | 0.007 |
| HCM Control Delay (s) | -   | -        | 13    | 10.1  | 8     |
| HCM Lane LOS          | -   | -        | B     | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.1  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 107  | 75   | 178  | 79   | 60   | 347  |
| Future Vol, veh/h        | 107  | 75   | 178  | 79   | 60   | 347  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 126  | 88   | 209  | 93   | 71   | 408  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 759    | 209    | 0      | 0 | 302   | 0 |
| Stage 1              | 209    | -      | -      | - | -     | - |
| Stage 2              | 550    | -      | -      | - | -     | - |
| 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   | 374    | 831    | -      | - | 1259  | - |
| Stage 1              | 826    | -      | -      | - | -     | - |
| Stage 2              | 578    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       |   |
| Mov Cap-1 Maneuver   | 353    | 831    | -      | - | 1259  | - |
| Mov Cap-2 Maneuver   | 353    | -      | -      | - | -     | - |
| Stage 1              | 780    | -      | -      | - | -     | - |
| Stage 2              | 578    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 16.2 | 0  | 1.2 |
| HCM LOS              | C    |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 353   | 831   | 1259  | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.357 | 0.106 | 0.056 | -   |
| HCM Control Delay (s) | -   | -   | 20.7  | 9.8   | 8     | -   |
| HCM Lane LOS          | -   | -   | C     | A     | A     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 1.6   | 0.4   | 0.2   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↔    |      | ↑    | ↗    | ↖    | ↑    |
| Traffic Vol, veh/h       | 13   | 11   | 246  | 7    | 4    | 394  |
| Future Vol, veh/h        | 13   | 11   | 246  | 7    | 4    | 394  |
| 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    | -    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 15   | 13   | 289  | 8    | 5    | 464  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 763    | 289    | 0      | 0 | 297   | 0 |
| Stage 1              | 289    | -      | -      | - | -     | - |
| Stage 2              | 474    | -      | -      | - | -     | - |
| 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   | 372    | 750    | -      | - | 1264  | - |
| Stage 1              | 760    | -      | -      | - | -     | - |
| Stage 2              | 626    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       | - |
| Mov Cap-1 Maneuver   | 371    | 750    | -      | - | 1264  | - |
| Mov Cap-2 Maneuver   | 371    | -      | -      | - | -     | - |
| Stage 1              | 757    | -      | -      | - | -     | - |
| Stage 2              | 626    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.9 | 0  | 0.1 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 483   | 1264  |
| HCM Lane V/C Ratio    | -   | -        | 0.058 | 0.004 |
| HCM Control Delay (s) | -   | -        | 12.9  | 7.9   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.2   | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 32   | 41   | 218  | 15   | 52   | 290  |
| Future Vol, veh/h        | 32   | 41   | 218  | 15   | 52   | 290  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 38   | 48   | 256  | 18   | 61   | 341  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 719    | 256    | 0      | 0 | 274   |
| Stage 1              | 256    | -      | -      | - | -     |
| Stage 2              | 463    | -      | -      | - | -     |
| 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   | 395    | 783    | -      | - | 1289  |
| Stage 1              | 787    | -      | -      | - | -     |
| Stage 2              | 634    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 376    | 783    | -      | - | 1289  |
| Mov Cap-2 Maneuver   | 376    | -      | -      | - | -     |
| Stage 1              | 750    | -      | -      | - | -     |
| Stage 2              | 634    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.4 | 0  | 1.2 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 376   | 783   | 1289  |
| HCM Lane V/C Ratio    | -   | -        | 0.1   | 0.062 | 0.047 |
| HCM Control Delay (s) | -   | -        | 15.6  | 9.9   | 7.9   |
| HCM Lane LOS          | -   | -        | C     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0.2   | 0.1   |

**Intersection**

Int Delay, s/veh 0.3

| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 10   | 3    | 255  | 3    | 2    | 332  |
| Future Vol, veh/h        | 10   | 3    | 255  | 3    | 2    | 332  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 12   | 4    | 300  | 4    | 2    | 391  |

**Major/Minor**

|                      | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 695    | 300    | 0      | 0 | 304   |
| Stage 1              | 300    | -      | -      | - | -     |
| Stage 2              | 395    | -      | -      | - | -     |
| 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   | 408    | 740    | -      | - | 1257  |
| Stage 1              | 752    | -      | -      | - | -     |
| Stage 2              | 681    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 407    | 740    | -      | - | 1257  |
| Mov Cap-2 Maneuver   | 407    | -      | -      | - | -     |
| Stage 1              | 750    | -      | -      | - | -     |
| Stage 2              | 681    | -      | -      | - | -     |

**Approach**

|                      | WB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.1 | 0  | 0  |
| HCM LOS              | B    |    |    |

**Minor Lane/Major Mvmt**

|                       | NBT | NBR | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 407   | 740   | 1257  | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.029 | 0.005 | 0.002 | -   |
| HCM Control Delay (s) | -   | -   | 14.1  | 9.9   | 7.9   | -   |
| HCM Lane LOS          | -   | -   | B     | A     | A     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 0     | 0     | -   |

**Intersection**

Int Delay, s/veh 6.7

| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      | ↖    | ↗    | ↗    | ↖    | ↖    | ↖    |
| Traffic Vol, veh/h       | 79   | 60   | 55   | 102  | 160  | 126  |
| Future Vol, veh/h        | 79   | 60   | 55   | 102  | 160  | 126  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 235  | -    | -    | 0    | 235  | 0    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 93   | 71   | 65   | 120  | 188  | 148  |

**Major/Minor**

|                      | Major1 | Major2 | Minor2 |       |       |
|----------------------|--------|--------|--------|-------|-------|
| Conflicting Flow All | 185    | 0      | 0      | 322   | 65    |
| Stage 1              | -      | -      | -      | 65    | -     |
| Stage 2              | -      | -      | -      | 257   | -     |
| Critical Hdwy        | 4.12   | -      | -      | 6.42  | 6.22  |
| Critical Hdwy Stg 1  | -      | -      | -      | 5.42  | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | 5.42  | -     |
| Follow-up Hdwy       | 2.218  | -      | -      | 3.518 | 3.318 |
| Pot Cap-1 Maneuver   | 1390   | -      | -      | 672   | 999   |
| Stage 1              | -      | -      | -      | 958   | -     |
| Stage 2              | -      | -      | -      | 786   | -     |
| Platoon blocked, %   | -      | -      | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1390   | -      | -      | 627   | 999   |
| Mov Cap-2 Maneuver   | -      | -      | -      | 627   | -     |
| Stage 1              | -      | -      | -      | 894   | -     |
| Stage 2              | -      | -      | -      | 786   | -     |

**Approach**

|                      | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 4.4 | 0  | 11.4 |
| HCM LOS              |     |    | B    |

**Minor Lane/Major Mvmt**

|                       | EBL   | EBT | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-----|-----|-----|-------|-------|
| Capacity (veh/h)      | 1390  | -   | -   | -   | 627   | 999   |
| HCM Lane V/C Ratio    | 0.067 | -   | -   | -   | 0.3   | 0.148 |
| HCM Control Delay (s) | 7.8   | -   | -   | -   | 13.2  | 9.2   |
| HCM Lane LOS          | A     | -   | -   | -   | B     | A     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 1.3   | 0.5   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.3  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 15   | 166  | 235  | 0    | 0    | 50   |
| Future Vol, veh/h        | 15   | 166  | 235  | 0    | 0    | 50   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 18   | 195  | 276  | 0    | 0    | 59   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 276    | 0      | -      | 0 | 507 276     |
| Stage 1              | -      | -      | -      | - | 276 -       |
| Stage 2              | -      | -      | -      | - | 231 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1287   | -      | -      | - | 525 763     |
| Stage 1              | -      | -      | -      | - | 771 -       |
| Stage 2              | -      | -      | -      | - | 807 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1287   | -      | -      | - | 518 763     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 518 -       |
| Stage 1              | -      | -      | -      | - | 760 -       |
| Stage 2              | -      | -      | -      | - | 807 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.6 | 0  | 10.1 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1287  | -   | -   | -   | 763   |
| HCM Lane V/C Ratio    | 0.014 | -   | -   | -   | 0.077 |
| HCM Control Delay (s) | 7.8   | -   | -   | -   | 10.1  |
| HCM Lane LOS          | A     | -   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.2   |

**Intersection**

Int Delay, s/veh 5.9

| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 136  | 30   | 101  | 45   | 19   | 135  |
| Future Vol, veh/h        | 136  | 30   | 101  | 45   | 19   | 135  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 160  | 35   | 119  | 53   | 22   | 159  |

**Major/Minor**

|                      | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 172    | 0      | -      | 0 | 501 146     |
| Stage 1              | -      | -      | -      | - | 146 -       |
| Stage 2              | -      | -      | -      | - | 355 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1405   | -      | -      | - | 530 901     |
| Stage 1              | -      | -      | -      | - | 881 -       |
| Stage 2              | -      | -      | -      | - | 710 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1405   | -      | -      | - | 470 901     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 470 -       |
| Stage 1              | -      | -      | -      | - | 781 -       |
| Stage 2              | -      | -      | -      | - | 710 -       |

**Approach**

|                      | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 6.5 | 0  | 10.7 |
| HCM LOS              |     |    | B    |

**Minor Lane/Major Mvmt**

|                       | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1405  | -   | -   | -   | 809   |
| HCM Lane V/C Ratio    | 0.114 | -   | -   | -   | 0.224 |
| HCM Control Delay (s) | 7.9   | -   | -   | -   | 10.7  |
| HCM Lane LOS          | A     | -   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.4   | -   | -   | -   | 0.9   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.1  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 49   | 102  | 432  | 50   | 60   | 248  |
| Future Vol, veh/h        | 49   | 102  | 432  | 50   | 60   | 248  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 58   | 120  | 508  | 59   | 71   | 292  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 942    | 508    | 0      | 0 | 567   | 0 |
| Stage 1              | 508    | -      | -      | - | -     | - |
| Stage 2              | 434    | -      | -      | - | -     | - |
| 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   | 292    | 565    | -      | - | 1005  | - |
| Stage 1              | 604    | -      | -      | - | -     | - |
| Stage 2              | 653    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - | -     | - |
| Mov Cap-1 Maneuver   | 271    | 565    | -      | - | 1005  | - |
| Mov Cap-2 Maneuver   | 271    | -      | -      | - | -     | - |
| Stage 1              | 561    | -      | -      | - | -     | - |
| Stage 2              | 653    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 15.9 | 0  | 1.7 |
| HCM LOS              | C    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT  |
|-----------------------|-----|----------|-------|-------|------|
| Capacity (veh/h)      | -   | -        | 271   | 565   | 1005 |
| HCM Lane V/C Ratio    | -   | -        | 0.213 | 0.212 | 0.07 |
| HCM Control Delay (s) | -   | -        | 21.8  | 13.1  | 8.9  |
| HCM Lane LOS          | -   | -        | C     | B     | A    |
| HCM 95th %tile Q(veh) | -   | -        | 0.8   | 0.8   | 0.2  |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    |      | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 9    | 7    | 511  | 22   | 13   | 299  |
| Future Vol, veh/h        | 9    | 7    | 511  | 22   | 13   | 299  |
| 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    | -    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 11   | 8    | 601  | 26   | 15   | 352  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 983    | 601    | 0      | 0 | 627   | 0 |
| Stage 1              | 601    | -      | -      | - | -     | - |
| Stage 2              | 382    | -      | -      | - | -     | - |
| 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   | 276    | 500    | -      | - | 955   | - |
| Stage 1              | 547    | -      | -      | - | -     | - |
| Stage 2              | 690    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - | -     | - |
| Mov Cap-1 Maneuver   | 272    | 500    | -      | - | 955   | - |
| Mov Cap-2 Maneuver   | 272    | -      | -      | - | -     | - |
| Stage 1              | 538    | -      | -      | - | -     | - |
| Stage 2              | 690    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 16.2 | 0  | 0.4 |
| HCM LOS              | C    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 340   | 955   |
| HCM Lane V/C Ratio    | -   | -        | 0.055 | 0.016 |
| HCM Control Delay (s) | -   | -        | 16.2  | 8.8   |
| HCM Lane LOS          | -   | -        | C     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.2   | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 22   | 20   | 393  | 50   | 31   | 265  |
| Future Vol, veh/h        | 22   | 20   | 393  | 50   | 31   | 265  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 26   | 24   | 462  | 59   | 36   | 312  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 846    | 462    | 0      | 0 | 521   | 0 |
| Stage 1              | 462    | -      | -      | - | -     | - |
| Stage 2              | 384    | -      | -      | - | -     | - |
| 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   | 333    | 600    | -      | - | 1045  | - |
| Stage 1              | 634    | -      | -      | - | -     | - |
| Stage 2              | 688    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       |   |
| Mov Cap-1 Maneuver   | 322    | 600    | -      | - | 1045  | - |
| Mov Cap-2 Maneuver   | 322    | -      | -      | - | -     | - |
| Stage 1              | 612    | -      | -      | - | -     | - |
| Stage 2              | 688    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 14.3 | 0  | 0.9 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 322   | 600   | 1045  |
| HCM Lane V/C Ratio    | -   | -        | 0.08  | 0.039 | 0.035 |
| HCM Control Delay (s) | -   | -        | 17.2  | 11.2  | 8.6   |
| HCM Lane LOS          | -   | -        | C     | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0.1   | 0.1   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.3  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 7    | 2    | 402  | 12   | 7    | 290  |
| Future Vol, veh/h        | 7    | 2    | 402  | 12   | 7    | 290  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 8    | 2    | 473  | 14   | 8    | 341  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 830    | 473    | 0      | 0 | 487   |
| Stage 1              | 473    | -      | -      | - | -     |
| Stage 2              | 357    | -      | -      | - | -     |
| 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   | 340    | 591    | -      | - | 1076  |
| Stage 1              | 627    | -      | -      | - | -     |
| Stage 2              | 708    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 338    | 591    | -      | - | 1076  |
| Mov Cap-2 Maneuver   | 338    | -      | -      | - | -     |
| Stage 1              | 623    | -      | -      | - | -     |
| Stage 2              | 708    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 14.8 | 0  | 0.2 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 338   | 591   | 1076  |
| HCM Lane V/C Ratio    | -   | -        | 0.024 | 0.004 | 0.008 |
| HCM Control Delay (s) | -   | -        | 15.9  | 11.1  | 8.4   |
| HCM Lane LOS          | -   | -        | C     | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     | 0     |

**Intersection**

Int Delay, s/veh 3.9

| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      | ↘    | ↗    | ↗    | ↘    | ↘    | ↘    |
| Traffic Vol, veh/h       | 50   | 60   | 96   | 128  | 84   | 54   |
| Future Vol, veh/h        | 50   | 60   | 96   | 128  | 84   | 54   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 235  | -    | -    | 0    | 235  | 0    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 59   | 71   | 113  | 151  | 99   | 64   |

**Major/Minor**

|                      | Major1 | Major2 | Minor2 |       |       |
|----------------------|--------|--------|--------|-------|-------|
| Conflicting Flow All | 264    | 0      | 0      | 302   | 113   |
| Stage 1              | -      | -      | -      | 113   | -     |
| Stage 2              | -      | -      | -      | 189   | -     |
| Critical Hdwy        | 4.12   | -      | -      | 6.42  | 6.22  |
| Critical Hdwy Stg 1  | -      | -      | -      | 5.42  | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | 5.42  | -     |
| Follow-up Hdwy       | 2.218  | -      | -      | 3.518 | 3.318 |
| Pot Cap-1 Maneuver   | 1300   | -      | -      | 690   | 940   |
| Stage 1              | -      | -      | -      | 912   | -     |
| Stage 2              | -      | -      | -      | 843   | -     |
| Platoon blocked, %   | -      | -      | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1300   | -      | -      | 659   | 940   |
| Mov Cap-2 Maneuver   | -      | -      | -      | 659   | -     |
| Stage 1              | -      | -      | -      | 871   | -     |
| Stage 2              | -      | -      | -      | 843   | -     |

**Approach**

|                      | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 3.6 | 0  | 10.5 |
| HCM LOS              |     |    | B    |

**Minor Lane/Major Mvmt**

|                       | EBL   | EBT | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-----|-----|-----|-------|-------|
| Capacity (veh/h)      | 1300  | -   | -   | -   | 659   | 940   |
| HCM Lane V/C Ratio    | 0.045 | -   | -   | -   | 0.15  | 0.068 |
| HCM Control Delay (s) | 7.9   | -   | -   | -   | 11.4  | 9.1   |
| HCM Lane LOS          | A     | -   | -   | -   | B     | A     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.5   | 0.2   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.1  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 49   | 128  | 105  | 0    | 0    | 33   |
| Future Vol, veh/h        | 49   | 128  | 105  | 0    | 0    | 33   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 58   | 151  | 124  | 0    | 0    | 39   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 124    | 0      | -      | 0 | 391 124     |
| Stage 1              | -      | -      | -      | - | 124 -       |
| Stage 2              | -      | -      | -      | - | 267 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1463   | -      | -      | - | 613 927     |
| Stage 1              | -      | -      | -      | - | 902 -       |
| Stage 2              | -      | -      | -      | - | 778 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1463   | -      | -      | - | 588 927     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 588 -       |
| Stage 1              | -      | -      | -      | - | 866 -       |
| Stage 2              | -      | -      | -      | - | 778 -       |

| Approach             | EB  | WB | SB  |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 2.1 | 0  | 9.1 |
| HCM LOS              |     |    | A   |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1463  | -   | -   | -   | 927   |
| HCM Lane V/C Ratio    | 0.039 | -   | -   | -   | 0.042 |
| HCM Control Delay (s) | 7.6   | -   | -   | -   | 9.1   |
| HCM Lane LOS          | A     | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.1   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.6  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 31   | 97   | 66   | 10   | 6    | 39   |
| Future Vol, veh/h        | 31   | 97   | 66   | 10   | 6    | 39   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 36   | 114  | 78   | 12   | 7    | 46   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 90     | 0      | -      | 0 | 270 84      |
| Stage 1              | -      | -      | -      | - | 84 -        |
| Stage 2              | -      | -      | -      | - | 186 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1505   | -      | -      | - | 719 975     |
| Stage 1              | -      | -      | -      | - | 939 -       |
| Stage 2              | -      | -      | -      | - | 846 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1505   | -      | -      | - | 702 975     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 702 -       |
| Stage 1              | -      | -      | -      | - | 916 -       |
| Stage 2              | -      | -      | -      | - | 846 -       |

| Approach             | EB  | WB | SB  |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 1.8 | 0  | 9.1 |
| HCM LOS              |     |    | A   |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1505  | -   | -   | -   | 927   |
| HCM Lane V/C Ratio    | 0.024 | -   | -   | -   | 0.057 |
| HCM Control Delay (s) | 7.5   | -   | -   | -   | 9.1   |
| HCM Lane LOS          | A     | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.2   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.1  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 186  | 0    | 188  | 55   | 0    | 372  |
| Future Vol, veh/h        | 186  | 0    | 188  | 55   | 0    | 372  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 219  | 0    | 221  | 65   | 0    | 438  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 659    | 221    | 0      | 0 | 286   |
| Stage 1              | 221    | -      | -      | - | -     |
| Stage 2              | 438    | -      | -      | - | -     |
| 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   | 429    | 819    | -      | - | 1276  |
| Stage 1              | 816    | -      | -      | - | -     |
| Stage 2              | 651    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 429    | 819    | -      | - | 1276  |
| Mov Cap-2 Maneuver   | 429    | -      | -      | - | -     |
| Stage 1              | 816    | -      | -      | - | -     |
| Stage 2              | 651    | -      | -      | - | -     |

| Approach             | WB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 21.8 | 0  | 0  |
| HCM LOS              | C    |    |    |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL | SBT  |
|-----------------------|-----|----------|-------|-----|------|
| Capacity (veh/h)      | -   | -        | 429   | -   | 1276 |
| HCM Lane V/C Ratio    | -   | -        | 0.51  | -   | -    |
| HCM Control Delay (s) | -   | -        | 21.8  | 0   | 0    |
| HCM Lane LOS          | -   | -        | C     | A   | A    |
| HCM 95th %tile Q(veh) | -   | -        | 2.8   | -   | 0    |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘↗   |      | ↑    | ↗↘   | ↘↗   | ↑    |
| Traffic Vol, veh/h       | 15   | 8    | 181  | 7    | 2    | 357  |
| Future Vol, veh/h        | 15   | 8    | 181  | 7    | 2    | 357  |
| 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    | -    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 18   | 9    | 213  | 8    | 2    | 420  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 637    | 213    | 0      | 0 | 221   |
| Stage 1              | 213    | -      | -      | - | -     |
| Stage 2              | 424    | -      | -      | - | -     |
| 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   | 441    | 827    | -      | - | 1348  |
| Stage 1              | 823    | -      | -      | - | -     |
| Stage 2              | 660    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 441    | 827    | -      | - | 1348  |
| Mov Cap-2 Maneuver   | 441    | -      | -      | - | -     |
| Stage 1              | 822    | -      | -      | - | -     |
| Stage 2              | 660    | -      | -      | - | -     |

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

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 526   | 1348  |
| HCM Lane V/C Ratio    | -   | -        | 0.051 | 0.002 |
| HCM Control Delay (s) | -   | -        | 12.2  | 7.7   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.2   | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.1  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 50   | 35   | 142  | 22   | 12   | 234  |
| Future Vol, veh/h        | 50   | 35   | 142  | 22   | 12   | 234  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 59   | 41   | 167  | 26   | 14   | 275  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 470    | 167    | 0      | 0 | 193   |
| Stage 1              | 167    | -      | -      | - | -     |
| Stage 2              | 303    | -      | -      | - | -     |
| 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   | 552    | 877    | -      | - | 1380  |
| Stage 1              | 863    | -      | -      | - | -     |
| Stage 2              | 749    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 546    | 877    | -      | - | 1380  |
| Mov Cap-2 Maneuver   | 546    | -      | -      | - | -     |
| Stage 1              | 854    | -      | -      | - | -     |
| Stage 2              | 749    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 11.1 | 0  | 0.4 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT  |
|-----------------------|-----|----------|-------|-------|------|
| Capacity (veh/h)      | -   | -        | 546   | 877   | 1380 |
| HCM Lane V/C Ratio    | -   | -        | 0.108 | 0.047 | 0.01 |
| HCM Control Delay (s) | -   | -        | 12.4  | 9.3   | 7.6  |
| HCM Lane LOS          | -   | -        | B     | A     | A    |
| HCM 95th %tile Q(veh) | -   | -        | 0.4   | 0.1   | 0    |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 16   | 3    | 173  | 5    | 2    | 230  |
| Future Vol, veh/h        | 16   | 3    | 173  | 5    | 2    | 230  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 19   | 4    | 204  | 6    | 2    | 271  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 479    | 204    | 0      | 0 | 210   |
| Stage 1              | 204    | -      | -      | - | -     |
| Stage 2              | 275    | -      | -      | - | -     |
| 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    | 837    | -      | - | 1361  |
| Stage 1              | 830    | -      | -      | - | -     |
| Stage 2              | 771    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 544    | 837    | -      | - | 1361  |
| Mov Cap-2 Maneuver   | 544    | -      | -      | - | -     |
| Stage 1              | 829    | -      | -      | - | -     |
| Stage 2              | 771    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 11.5 | 0  | 0.1 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 544   | 837   | 1361  |
| HCM Lane V/C Ratio    | -   | -        | 0.035 | 0.004 | 0.002 |
| HCM Control Delay (s) | -   | -        | 11.9  | 9.3   | 7.7   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 3    | 52   | 171  | 0    | 0    | 15   |
| Future Vol, veh/h        | 3    | 52   | 171  | 0    | 0    | 15   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 61   | 201  | 0    | 0    | 18   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 201    | 0      | -      | 0 | 270   |
| Stage 1              | -      | -      | -      | - | 201   |
| Stage 2              | -      | -      | -      | - | 69    |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 |
| Pot Cap-1 Maneuver   | 1371   | -      | -      | - | 719   |
| Stage 1              | -      | -      | -      | - | 833   |
| Stage 2              | -      | -      | -      | - | 954   |
| Platoon blocked, %   |        | -      | -      | - |       |
| Mov Cap-1 Maneuver   | 1371   | -      | -      | - | 717   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 717   |
| Stage 1              | -      | -      | -      | - | 831   |
| Stage 2              | -      | -      | -      | - | 954   |

| Approach             | EB  | WB | SB  |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 0.4 | 0  | 9.4 |
| HCM LOS              |     |    | A   |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1371  | -   | -   | -   | 840   |
| HCM Lane V/C Ratio    | 0.003 | -   | -   | -   | 0.021 |
| HCM Control Delay (s) | 7.6   | -   | -   | -   | 9.4   |
| HCM Lane LOS          | A     | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0.1   |

HCM 6th TWSC  
 14: School House Dr & Sterling Ranch Rd

Short-Term Term Total Traffic  
 AM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.9  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↙    | ↑    | ↗    | ↙    | ↗    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 5    | 26   | 21   | 3    | 91   | 1    | 63   | 0    | 9    | 0    | 0    | 17   |
| Future Vol, veh/h        | 5    | 26   | 21   | 3    | 91   | 1    | 63   | 0    | 9    | 0    | 0    | 17   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | 205  | -    | 155  | 205  | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 6    | 31   | 25   | 4    | 107  | 1    | 74   | 0    | 11   | 0    | 0    | 20   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 108    | 0 | 0 | 56     | 0 | 0 | 169    | 159   | 31    | 177    | 184   | 108   |
| Stage 1              | -      | - | - | -      | - | - | 43     | 43    | -     | 116    | 116   | -     |
| Stage 2              | -      | - | - | -      | - | - | 126    | 116   | -     | 61     | 68    | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1483   | - | - | 1549   | - | - | 795    | 733   | 1043  | 785    | 710   | 946   |
| Stage 1              | -      | - | - | -      | - | - | 971    | 859   | -     | 889    | 800   | -     |
| Stage 2              | -      | - | - | -      | - | - | 878    | 800   | -     | 950    | 838   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1483   | - | - | 1549   | - | - | 774    | 728   | 1043  | 773    | 705   | 946   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 774    | 728   | -     | 773    | 705   | -     |
| Stage 1              | -      | - | - | -      | - | - | 967    | 856   | -     | 885    | 798   | -     |
| Stage 2              | -      | - | - | -      | - | - | 857    | 798   | -     | 937    | 835   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB |  |  | SB  |  |  |
|----------------------|-----|--|--|-----|--|--|----|--|--|-----|--|--|
| HCM Control Delay, s | 0.7 |  |  | 0.2 |  |  | 10 |  |  | 8.9 |  |  |
| HCM LOS              |     |  |  |     |  |  | B  |  |  | A   |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 800   | 1483  | -   | -   | 1549  | -   | -   | 946   |
| HCM Lane V/C Ratio    | 0.106 | 0.004 | -   | -   | 0.002 | -   | -   | 0.021 |
| HCM Control Delay (s) | 10    | 7.4   | -   | -   | 7.3   | -   | -   | 8.9   |
| HCM Lane LOS          | B     | A     | -   | -   | A     | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0.4   | 0     | -   | -   | 0     | -   | -   | 0.1   |

HCM 6th TWSC  
15: Dines Blvd & Sterling Ranch Rd

Short-Term Term Total Traffic  
AM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 8.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    |      | ↖    | ↗    |      |      | ↖    |      |      | ↗    | ↖    |
| Traffic Vol, veh/h       | 30   | 0    | 5    | 0    | 0    | 0    | 14   | 5    | 0    | 0    | 2    | 81   |
| Future Vol, veh/h        | 30   | 0    | 5    | 0    | 0    | 0    | 14   | 5    | 0    | 0    | 2    | 81   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | -    | -    | -    | 0    | -    | -    | -    | -    | -    | -    | -    | 155  |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 35   | 0    | 6    | 0    | 0    | 0    | 16   | 6    | 0    | 0    | 2    | 95   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |   | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|---|--------|-------|-------|
| Conflicting Flow All | 1      | 0 | 0 | 6      | 0 | 0 | 123    | 74    | - | -      | 77    | 1     |
| Stage 1              | -      | - | - | -      | - | - | 73     | 73    | - | -      | 1     | -     |
| Stage 2              | -      | - | - | -      | - | - | 50     | 1     | - | -      | 76    | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | - | -      | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | - | -      | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | - | -      | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | - | -      | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1622   | - | - | 1615   | - | - | 852    | 816   | 0 | 0      | 813   | 1084  |
| Stage 1              | -      | - | - | -      | - | - | 937    | 834   | 0 | 0      | 895   | -     |
| Stage 2              | -      | - | - | -      | - | - | 963    | 895   | 0 | 0      | 832   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | - | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1622   | - | - | 1615   | - | - | 763    | 798   | - | -      | 795   | 1084  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 763    | 798   | - | -      | 795   | -     |
| Stage 1              | -      | - | - | -      | - | - | 916    | 816   | - | -      | 895   | -     |
| Stage 2              | -      | - | - | -      | - | - | 876    | 895   | - | -      | 814   | -     |

| Approach             | EB  | WB | NB  | SB  |
|----------------------|-----|----|-----|-----|
| HCM Control Delay, s | 6.2 | 0  | 9.8 | 8.6 |
| HCM LOS              |     |    | A   | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|-------|
| Capacity (veh/h)      | 772   | 1622  | -   | -   | 1615 | -   | -   | 795   | 1084  |
| HCM Lane V/C Ratio    | 0.029 | 0.022 | -   | -   | -    | -   | -   | 0.003 | 0.088 |
| HCM Control Delay (s) | 9.8   | 7.3   | -   | -   | 0    | -   | -   | 9.5   | 8.6   |
| HCM Lane LOS          | A     | A     | -   | -   | A    | -   | -   | A     | A     |
| HCM 95th %tile Q(veh) | 0.1   | 0.1   | -   | -   | 0    | -   | -   | 0     | 0.3   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 121  | 0    | 466  | 180  | 0    | 265  |
| Future Vol, veh/h        | 121  | 0    | 466  | 180  | 0    | 265  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 142  | 0    | 548  | 212  | 0    | 312  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 860    | 548    | 0      | 0 | 760   |
| Stage 1              | 548    | -      | -      | - | -     |
| Stage 2              | 312    | -      | -      | - | -     |
| 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   | 326    | 536    | -      | - | 852   |
| Stage 1              | 579    | -      | -      | - | -     |
| Stage 2              | 742    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 326    | 536    | -      | - | 852   |
| Mov Cap-2 Maneuver   | 326    | -      | -      | - | -     |
| Stage 1              | 579    | -      | -      | - | -     |
| Stage 2              | 742    | -      | -      | - | -     |

| Approach             | WB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 24.3 | 0  | 0  |
| HCM LOS              | C    |    |    |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1WBLn2 | SBL   | SBT |
|-----------------------|-----|---------------|-------|-----|
| Capacity (veh/h)      | -   | - 326         | - 852 | -   |
| HCM Lane V/C Ratio    | -   | - 0.437       | -     | -   |
| HCM Control Delay (s) | -   | - 24.3        | 0     | 0   |
| HCM Lane LOS          | -   | - C           | A     | A   |
| HCM 95th %tile Q(veh) | -   | - 2.1         | -     | 0   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘↗   |      | ↑    | ↗↘   | ↘↗   | ↑    |
| Traffic Vol, veh/h       | 10   | 5    | 443  | 24   | 7    | 255  |
| Future Vol, veh/h        | 10   | 5    | 443  | 24   | 7    | 255  |
| 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    | -    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 12   | 6    | 521  | 28   | 8    | 300  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 837    | 521    | 0      | 0 | 549   |
| Stage 1              | 521    | -      | -      | - | -     |
| Stage 2              | 316    | -      | -      | - | -     |
| 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   | 337    | 555    | -      | - | 1021  |
| Stage 1              | 596    | -      | -      | - | -     |
| Stage 2              | 739    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 334    | 555    | -      | - | 1021  |
| Mov Cap-2 Maneuver   | 334    | -      | -      | - | -     |
| Stage 1              | 591    | -      | -      | - | -     |
| Stage 2              | 739    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 14.8 | 0  | 0.2 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 385   | 1021  |
| HCM Lane V/C Ratio    | -   | -        | 0.046 | 0.008 |
| HCM Control Delay (s) | -   | -        | 14.8  | 8.6   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.6  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 34   | 23   | 297  | 76   | 38   | 203  |
| Future Vol, veh/h        | 34   | 23   | 297  | 76   | 38   | 203  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 40   | 27   | 349  | 89   | 45   | 239  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 678    | 349    | 0      | 0 | 438   |
| Stage 1              | 349    | -      | -      | - | -     |
| Stage 2              | 329    | -      | -      | - | -     |
| 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   | 418    | 694    | -      | - | 1122  |
| Stage 1              | 714    | -      | -      | - | -     |
| Stage 2              | 729    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 401    | 694    | -      | - | 1122  |
| Mov Cap-2 Maneuver   | 401    | -      | -      | - | -     |
| Stage 1              | 685    | -      | -      | - | -     |
| Stage 2              | 729    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 13.1 | 0  | 1.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT  |
|-----------------------|-----|----------|-------|-------|------|
| Capacity (veh/h)      | -   | -        | 401   | 694   | 1122 |
| HCM Lane V/C Ratio    | -   | -        | 0.1   | 0.039 | 0.04 |
| HCM Control Delay (s) | -   | -        | 15    | 10.4  | 8.3  |
| HCM Lane LOS          | -   | -        | C     | B     | A    |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0.1   | 0.1  |

HCM 6th TWSC  
8: Vollmer Rd & Briargate Pkwy

Short-Term Term Total Traffic  
PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 10   | 2    | 303  | 18   | 7    | 231  |
| Future Vol, veh/h        | 10   | 2    | 303  | 18   | 7    | 231  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 12   | 2    | 356  | 21   | 8    | 272  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 644    | 356    | 0      | 0 | 377   |
| Stage 1              | 356    | -      | -      | - | -     |
| Stage 2              | 288    | -      | -      | - | -     |
| 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   | 437    | 688    | -      | - | 1181  |
| Stage 1              | 709    | -      | -      | - | -     |
| Stage 2              | 761    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 434    | 688    | -      | - | 1181  |
| Mov Cap-2 Maneuver   | 434    | -      | -      | - | -     |
| Stage 1              | 704    | -      | -      | - | -     |
| Stage 2              | 761    | -      | -      | - | -     |

| Approach             | WB | NB | SB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 13 | 0  | 0.2 |
| HCM LOS              | B  |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 434   | 688   | 1181  |
| HCM Lane V/C Ratio    | -   | -        | 0.027 | 0.003 | 0.007 |
| HCM Control Delay (s) | -   | -        | 13.5  | 10.3  | 8.1   |
| HCM Lane LOS          | -   | -        | B     | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     | 0     |

HCM 6th TWSC  
 13: Sterling Ranch Rd & Bynum Dr

Short-Term Term Total Traffic  
 PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 11   | 170  | 111  | 0    | 0    | 10   |
| Future Vol, veh/h        | 11   | 170  | 111  | 0    | 0    | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 13   | 200  | 131  | 0    | 0    | 12   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 131    | 0      | -      | 0 | 357 131     |
| Stage 1              | -      | -      | -      | - | 131 -       |
| Stage 2              | -      | -      | -      | - | 226 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1454   | -      | -      | - | 641 919     |
| Stage 1              | -      | -      | -      | - | 895 -       |
| Stage 2              | -      | -      | -      | - | 812 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1454   | -      | -      | - | 635 919     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 635 -       |
| Stage 1              | -      | -      | -      | - | 887 -       |
| Stage 2              | -      | -      | -      | - | 812 -       |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 0.5 | 0  | 9  |
| HCM LOS              |     |    | A  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1454  | -   | -   | -   | 919   |
| HCM Lane V/C Ratio    | 0.009 | -   | -   | -   | 0.013 |
| HCM Control Delay (s) | 7.5   | -   | -   | -   | 9     |
| HCM Lane LOS          | A     | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 0     |

HCM 6th TWSC  
 14: School House Dr & Sterling Ranch Rd

Short-Term Term Total Traffic  
 PM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.7  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 18   | 81   | 71   | 10   | 59   | 2    | 41   | 0    | 6    | 0    | 0    | 11   |
| Future Vol, veh/h        | 18   | 81   | 71   | 10   | 59   | 2    | 41   | 0    | 6    | 0    | 0    | 11   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | 205  | -    | 155  | 205  | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 21   | 95   | 84   | 12   | 69   | 2    | 48   | 0    | 7    | 0    | 0    | 13   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 71     | 0 | 0 | 179    | 0 | 0 | 238    | 232   | 95    | 277    | 315   | 70    |
| Stage 1              | -      | - | - | -      | - | - | 137    | 137   | -     | 94     | 94    | -     |
| Stage 2              | -      | - | - | -      | - | - | 101    | 95    | -     | 183    | 221   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1529   | - | - | 1397   | - | - | 716    | 668   | 962   | 675    | 601   | 993   |
| Stage 1              | -      | - | - | -      | - | - | 866    | 783   | -     | 913    | 817   | -     |
| Stage 2              | -      | - | - | -      | - | - | 905    | 816   | -     | 819    | 720   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1529   | - | - | 1397   | - | - | 695    | 653   | 962   | 659    | 587   | 993   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 695    | 653   | -     | 659    | 587   | -     |
| Stage 1              | -      | - | - | -      | - | - | 854    | 772   | -     | 900    | 810   | -     |
| Stage 2              | -      | - | - | -      | - | - | 886    | 809   | -     | 802    | 710   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB  |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|-----|--|--|
| HCM Control Delay, s | 0.8 |  |  | 1.1 |  |  | 10.4 |  |  | 8.7 |  |  |
| HCM LOS              |     |  |  |     |  |  | B    |  |  | A   |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 721   | 1529  | -   | -   | 1397  | -   | -   | 993   |
| HCM Lane V/C Ratio    | 0.077 | 0.014 | -   | -   | 0.008 | -   | -   | 0.013 |
| HCM Control Delay (s) | 10.4  | 7.4   | -   | -   | 7.6   | -   | -   | 8.7   |
| HCM Lane LOS          | B     | A     | -   | -   | A     | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0.2   | 0     | -   | -   | 0     | -   | -   | 0     |

HCM 6th TWSC  
15: Dines Blvd & Sterling Ranch Rd

Short-Term Term Total Traffic  
PM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.4  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    |      | ↖    | ↗    |      |      | ↖    |      |      | ↗    | ↖    |
| Traffic Vol, veh/h       | 71   | 0    | 15   | 0    | 0    | 0    | 9    | 3    | 0    | 0    | 5    | 63   |
| Future Vol, veh/h        | 71   | 0    | 15   | 0    | 0    | 0    | 9    | 3    | 0    | 0    | 5    | 63   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | -    | -    | -    | 0    | -    | -    | -    | -    | -    | -    | -    | 155  |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 84   | 0    | 18   | 0    | 0    | 0    | 11   | 4    | 0    | 0    | 6    | 74   |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |   |   |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|---|---|-------|-------|
| Conflicting Flow All | 1      | 0 | 0      | 18    | 0      | 0 | 218    | 178   | - | - | 187   | 1     |
| Stage 1              | -      | - | -      | -     | -      | - | 177    | 177   | - | - | 1     | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 41     | 1     | - | - | 186   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | - | - | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | - | - | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | - | - | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | - | - | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1622   | - | -      | 1599  | -      | - | 738    | 716   | 0 | 0 | 708   | 1084  |
| Stage 1              | -      | - | -      | -     | -      | - | 825    | 753   | 0 | 0 | 895   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 974    | 895   | 0 | 0 | 746   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | - | - | -     | -     |
| Mov Cap-1 Maneuver   | 1622   | - | -      | 1599  | -      | - | 656    | 679   | - | - | 671   | 1084  |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 656    | 679   | - | - | 671   | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 782    | 714   | - | - | 895   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 901    | 895   | - | - | 707   | -     |

| Approach             | EB  | WB | NB   | SB  |
|----------------------|-----|----|------|-----|
| HCM Control Delay, s | 6.1 | 0  | 10.6 | 8.7 |
| HCM LOS              |     |    | B    | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|-------|
| Capacity (veh/h)      | 662   | 1622  | -   | -   | 1599 | -   | -   | 671   | 1084  |
| HCM Lane V/C Ratio    | 0.021 | 0.051 | -   | -   | -    | -   | -   | 0.009 | 0.068 |
| HCM Control Delay (s) | 10.6  | 7.3   | -   | -   | 0    | -   | -   | 10.4  | 8.6   |
| HCM Lane LOS          | B     | A     | -   | -   | A    | -   | -   | B     | A     |
| HCM 95th %tile Q(veh) | 0.1   | 0.2   | -   | -   | 0    | -   | -   | 0     | 0.2   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.6  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 151  | 75   | 181  | 93   | 60   | 353  |
| Future Vol, veh/h        | 151  | 75   | 181  | 93   | 60   | 353  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 178  | 88   | 213  | 109  | 71   | 415  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 770    | 213    | 0      | 0 | 322   |
| Stage 1              | 213    | -      | -      | - | -     |
| Stage 2              | 557    | -      | -      | - | -     |
| 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   | 369    | 827    | -      | - | 1238  |
| Stage 1              | 823    | -      | -      | - | -     |
| Stage 2              | 574    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 348    | 827    | -      | - | 1238  |
| Mov Cap-2 Maneuver   | 348    | -      | -      | - | -     |
| Stage 1              | 776    | -      | -      | - | -     |
| Stage 2              | 574    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 20.5 | 0  | 1.2 |
| HCM LOS              | C    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 348   | 827   | 1238  |
| HCM Lane V/C Ratio    | -   | -        | 0.51  | 0.107 | 0.057 |
| HCM Control Delay (s) | -   | -        | 25.7  | 9.9   | 8.1   |
| HCM Lane LOS          | -   | -        | D     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 2.8   | 0.4   | 0.2   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘↘   |      | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 19   | 19   | 246  | 9    | 6    | 394  |
| Future Vol, veh/h        | 19   | 19   | 246  | 9    | 6    | 394  |
| 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    | -    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 22   | 22   | 289  | 11   | 7    | 464  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 767    | 289    | 0      | 0 | 300   |
| Stage 1              | 289    | -      | -      | - | -     |
| Stage 2              | 478    | -      | -      | - | -     |
| 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   | 370    | 750    | -      | - | 1261  |
| Stage 1              | 760    | -      | -      | - | -     |
| Stage 2              | 624    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 368    | 750    | -      | - | 1261  |
| Mov Cap-2 Maneuver   | 368    | -      | -      | - | -     |
| Stage 1              | 755    | -      | -      | - | -     |
| Stage 2              | 624    | -      | -      | - | -     |

| Approach             | WB | NB | SB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 13 | 0  | 0.1 |
| HCM LOS              | B  |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL  | SBT   |
|-----------------------|-----|----------|------|-------|
| Capacity (veh/h)      | -   | -        | 494  | 1261  |
| HCM Lane V/C Ratio    | -   | -        | 0.09 | 0.006 |
| HCM Control Delay (s) | -   | -        | 13   | 7.9   |
| HCM Lane LOS          | -   | -        | B    | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.3  | 0     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.3  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 32   | 55   | 226  | 15   | 57   | 292  |
| Future Vol, veh/h        | 32   | 55   | 226  | 15   | 57   | 292  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 38   | 65   | 266  | 18   | 67   | 344  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 744    | 266    | 0      | 0 | 284   |
| Stage 1              | 266    | -      | -      | - | -     |
| Stage 2              | 478    | -      | -      | - | -     |
| 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   | 382    | 773    | -      | - | 1278  |
| Stage 1              | 779    | -      | -      | - | -     |
| Stage 2              | 624    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 362    | 773    | -      | - | 1278  |
| Mov Cap-2 Maneuver   | 362    | -      | -      | - | -     |
| Stage 1              | 738    | -      | -      | - | -     |
| Stage 2              | 624    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.3 | 0  | 1.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 362   | 773   | 1278  | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.104 | 0.084 | 0.052 | -   |
| HCM Control Delay (s) | -   | -   | 16.1  | 10.1  | 8     | -   |
| HCM Lane LOS          | -   | -   | C     | B     | A     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.3   | 0.3   | 0.2   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.3  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 10   | 3    | 277  | 3    | 2    | 339  |
| Future Vol, veh/h        | 10   | 3    | 277  | 3    | 2    | 339  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 12   | 4    | 326  | 4    | 2    | 399  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 729    | 326    | 0      | 0 | 330   |
| Stage 1              | 326    | -      | -      | - | -     |
| Stage 2              | 403    | -      | -      | - | -     |
| 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   | 390    | 715    | -      | - | 1229  |
| Stage 1              | 731    | -      | -      | - | -     |
| Stage 2              | 675    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 389    | 715    | -      | - | 1229  |
| Mov Cap-2 Maneuver   | 389    | -      | -      | - | -     |
| Stage 1              | 730    | -      | -      | - | -     |
| Stage 2              | 675    | -      | -      | - | -     |

| Approach             | WB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.5 | 0  | 0  |
| HCM LOS              | B    |    |    |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 389   | 715   | 1229  |
| HCM Lane V/C Ratio    | -   | -        | 0.03  | 0.005 | 0.002 |
| HCM Control Delay (s) | -   | -        | 14.5  | 10.1  | 7.9   |
| HCM Lane LOS          | -   | -        | B     | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     | 0     |

HCM 6th TWSC  
 11: Marksheffel Rd & Sterling Ranch Rd

Intermediate Term Total Traffic  
 AM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 8.3  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↖    | ↗    | ↗    | ↖    | ↖    | ↖    |
| Traffic Vol, veh/h       | 93   | 60   | 55   | 126  | 232  | 170  |
| Future Vol, veh/h        | 93   | 60   | 55   | 126  | 232  | 170  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 235  | -    | -    | 0    | 235  | 0    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 109  | 71   | 65   | 148  | 273  | 200  |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 213    | 0      | -      | 0 | 354 65      |
| Stage 1              | -      | -      | -      | - | 65 -        |
| Stage 2              | -      | -      | -      | - | 289 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1357   | -      | -      | - | 644 999     |
| Stage 1              | -      | -      | -      | - | 958 -       |
| Stage 2              | -      | -      | -      | - | 760 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1357   | -      | -      | - | 592 999     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 592 -       |
| Stage 1              | -      | -      | -      | - | 881 -       |
| Stage 2              | -      | -      | -      | - | 760 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 4.8 | 0  | 13.4 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-----|-----|-----|-------|-------|
| Capacity (veh/h)      | 1357  | -   | -   | -   | 592   | 999   |
| HCM Lane V/C Ratio    | 0.081 | -   | -   | -   | 0.461 | 0.2   |
| HCM Control Delay (s) | 7.9   | -   | -   | -   | 16.2  | 9.5   |
| HCM Lane LOS          | A     | -   | -   | -   | C     | A     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | -   | 2.4   | 0.7   |

HCM 6th TWSC  
 13: Sterling Ranch Rd & Bynum Dr

Intermediate Term Total Traffic  
 AM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.6  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 22   | 197  | 329  | 0    | 0    | 73   |
| Future Vol, veh/h        | 22   | 197  | 329  | 0    | 0    | 73   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 26   | 232  | 387  | 0    | 0    | 86   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 387    | 0      | -      | 0 | 671 387     |
| Stage 1              | -      | -      | -      | - | 387 -       |
| Stage 2              | -      | -      | -      | - | 284 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1171   | -      | -      | - | 422 661     |
| Stage 1              | -      | -      | -      | - | 686 -       |
| Stage 2              | -      | -      | -      | - | 764 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1171   | -      | -      | - | 413 661     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 413 -       |
| Stage 1              | -      | -      | -      | - | 671 -       |
| Stage 2              | -      | -      | -      | - | 764 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.8 | 0  | 11.3 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1171  | -   | -   | -   | 661   |
| HCM Lane V/C Ratio    | 0.022 | -   | -   | -   | 0.13  |
| HCM Control Delay (s) | 8.1   | -   | -   | -   | 11.3  |
| HCM Lane LOS          | A     | -   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   | 0.4   |

HCM 6th TWSC  
 14: School House Dr & Sterling Ranch Rd

Intermediate Term Total Traffic  
 AM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.5  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↑    | ↗    | ↖    | ↗    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 141  | 35   | 21   | 3    | 114  | 46   | 63   | 0    | 9    | 19   | 0    | 152  |
| Future Vol, veh/h        | 141  | 35   | 21   | 3    | 114  | 46   | 63   | 0    | 9    | 19   | 0    | 152  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | 205  | -    | 155  | 205  | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 166  | 41   | 25   | 4    | 134  | 54   | 74   | 0    | 11   | 22   | 0    | 179  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 188    | 0 | 0 | 66     | 0 | 0 | 632    | 569   | 41    | 560    | 567   | 161   |
| Stage 1              | -      | - | - | -      | - | - | 373    | 373   | -     | 169    | 169   | -     |
| Stage 2              | -      | - | - | -      | - | - | 259    | 196   | -     | 391    | 398   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1386   | - | - | 1536   | - | - | 393    | 432   | 1030  | 439    | 433   | 884   |
| Stage 1              | -      | - | - | -      | - | - | 648    | 618   | -     | 833    | 759   | -     |
| Stage 2              | -      | - | - | -      | - | - | 746    | 739   | -     | 633    | 603   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1386   | - | - | 1536   | - | - | 284    | 379   | 1030  | 394    | 380   | 884   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 284    | 379   | -     | 394    | 380   | -     |
| Stage 1              | -      | - | - | -      | - | - | 570    | 544   | -     | 733    | 757   | -     |
| Stage 2              | -      | - | - | -      | - | - | 594    | 737   | -     | 551    | 531   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 5.7 |  |  | 0.1 |  |  | 20.8 |  |  | 11.2 |  |  |
| HCM LOS              |     |  |  |     |  |  | C    |  |  | B    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 312   | 1386 | -   | -   | 1536  | -   | -   | 777   |
| HCM Lane V/C Ratio    | 0.271 | 0.12 | -   | -   | 0.002 | -   | -   | 0.259 |
| HCM Control Delay (s) | 20.8  | 8    | -   | -   | 7.3   | -   | -   | 11.2  |
| HCM Lane LOS          | C     | A    | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 1.1   | 0.4  | -   | -   | 0     | -   | -   | 1     |

HCM 6th TWSC  
15: Dines Blvd & Sterling Ranch Rd

Intermediate Term Total Traffic  
AM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 8.5  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 58   | 0    | 5    | 0    | 0    | 0    | 14   | 5    | 0    | 0    | 2    | 150  |
| Future Vol, veh/h        | 58   | 0    | 5    | 0    | 0    | 0    | 14   | 5    | 0    | 0    | 2    | 150  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | -    | -    | -    | 0    | -    | -    | -    | -    | -    | -    | -    | 155  |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 68   | 0    | 6    | 0    | 0    | 0    | 16   | 6    | 0    | 0    | 2    | 176  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |   | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|---|--------|-------|-------|
| Conflicting Flow All | 1      | 0 | 0 | 6      | 0 | 0 | 229    | 140   | - | -      | 143   | 1     |
| Stage 1              | -      | - | - | -      | - | - | 139    | 139   | - | -      | 1     | -     |
| Stage 2              | -      | - | - | -      | - | - | 90     | 1     | - | -      | 142   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | - | -      | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | - | -      | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | - | -      | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | - | -      | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1622   | - | - | 1615   | - | - | 726    | 751   | 0 | 0      | 748   | 1084  |
| Stage 1              | -      | - | - | -      | - | - | 864    | 782   | 0 | 0      | 895   | -     |
| Stage 2              | -      | - | - | -      | - | - | 917    | 895   | 0 | 0      | 779   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | - | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1622   | - | - | 1615   | - | - | 587    | 719   | - | -      | 717   | 1084  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 587    | 719   | - | -      | 717   | -     |
| Stage 1              | -      | - | - | -      | - | - | 828    | 749   | - | -      | 895   | -     |
| Stage 2              | -      | - | - | -      | - | - | 766    | 895   | - | -      | 746   | -     |

| Approach             | EB  | WB | NB   | SB |
|----------------------|-----|----|------|----|
| HCM Control Delay, s | 6.7 | 0  | 11.1 | 9  |
| HCM LOS              |     |    | B    | A  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|-------|
| Capacity (veh/h)      | 617   | 1622  | -   | -   | 1615 | -   | -   | 717   | 1084  |
| HCM Lane V/C Ratio    | 0.036 | 0.042 | -   | -   | -    | -   | -   | 0.003 | 0.163 |
| HCM Control Delay (s) | 11.1  | 7.3   | -   | -   | 0    | -   | -   | 10    | 9     |
| HCM Lane LOS          | B     | A     | -   | -   | A    | -   | -   | B     | A     |
| HCM 95th %tile Q(veh) | 0.1   | 0.1   | -   | -   | 0    | -   | -   | 0     | 0.6   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 78   | 102  | 441  | 97   | 60   | 252  |
| Future Vol, veh/h        | 78   | 102  | 441  | 97   | 60   | 252  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 500  | 0    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 92   | 120  | 519  | 114  | 71   | 296  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 957    | 519    | 0      | 0 | 633   |
| Stage 1              | 519    | -      | -      | - | -     |
| Stage 2              | 438    | -      | -      | - | -     |
| 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   | 286    | 557    | -      | - | 950   |
| Stage 1              | 597    | -      | -      | - | -     |
| Stage 2              | 651    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 265    | 557    | -      | - | 950   |
| Mov Cap-2 Maneuver   | 265    | -      | -      | - | -     |
| Stage 1              | 552    | -      | -      | - | -     |
| Stage 2              | 651    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 18.6 | 0  | 1.7 |
| HCM LOS              | C    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 265   | 557   | 950   |
| HCM Lane V/C Ratio    | -   | -        | 0.346 | 0.215 | 0.074 |
| HCM Control Delay (s) | -   | -        | 25.6  | 13.2  | 9.1   |
| HCM Lane LOS          | -   | -        | D     | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 1.5   | 0.8   | 0.2   |

**Intersection**

Int Delay, s/veh 0.7

| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      | ↘↗   |      | ↑    | ↗↘   | ↘↗   | ↑    |
| Traffic Vol, veh/h       | 13   | 13   | 511  | 32   | 20   | 299  |
| Future Vol, veh/h        | 13   | 13   | 511  | 32   | 20   | 299  |
| 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    | -    | -    | 235  | 235  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 15   | 15   | 601  | 38   | 24   | 352  |

**Major/Minor**

|                      | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 1001   | 601    | 0      | 0 | 639   |
| Stage 1              | 601    | -      | -      | - | -     |
| Stage 2              | 400    | -      | -      | - | -     |
| 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   | 269    | 500    | -      | - | 945   |
| Stage 1              | 547    | -      | -      | - | -     |
| Stage 2              | 677    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 262    | 500    | -      | - | 945   |
| Mov Cap-2 Maneuver   | 262    | -      | -      | - | -     |
| Stage 1              | 533    | -      | -      | - | -     |
| Stage 2              | 677    | -      | -      | - | -     |

**Approach**

|                      | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 16.5 | 0  | 0.6 |
| HCM LOS              | C    |    |     |

**Minor Lane/Major Mvmt**

|                       | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 344   | 945   |
| HCM Lane V/C Ratio    | -   | -        | 0.089 | 0.025 |
| HCM Control Delay (s) | -   | -        | 16.5  | 8.9   |
| HCM Lane LOS          | -   | -        | C     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0.1   |

**Intersection**

Int Delay, s/veh 1.4

**Movement** WBL WBR NBT NBR SBL SBT

|                          |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 22   | 29   | 399  | 50   | 49   | 272  |
| Future Vol, veh/h        | 22   | 29   | 399  | 50   | 49   | 272  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 26   | 34   | 469  | 59   | 58   | 320  |

**Major/Minor** Minor1 Major1 Major2

|                      |       |       |   |   |       |   |
|----------------------|-------|-------|---|---|-------|---|
| Conflicting Flow All | 905   | 469   | 0 | 0 | 528   | 0 |
| Stage 1              | 469   | -     | - | - | -     | - |
| Stage 2              | 436   | -     | - | - | -     | - |
| 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   | 307   | 594   | - | - | 1039  | - |
| Stage 1              | 630   | -     | - | - | -     | - |
| Stage 2              | 652   | -     | - | - | -     | - |
| Platoon blocked, %   |       |       | - | - |       |   |
| Mov Cap-1 Maneuver   | 290   | 594   | - | - | 1039  | - |
| Mov Cap-2 Maneuver   | 290   | -     | - | - | -     | - |
| Stage 1              | 595   | -     | - | - | -     | - |
| Stage 2              | 652   | -     | - | - | -     | - |

**Approach** WB NB SB

|                      |      |   |     |
|----------------------|------|---|-----|
| HCM Control Delay, s | 14.5 | 0 | 1.3 |
| HCM LOS              | B    |   |     |

**Minor Lane/Major Mvmt** NBT NBRWBLn1WBLn2 SBL SBT

|                       |   |   |       |       |       |   |
|-----------------------|---|---|-------|-------|-------|---|
| Capacity (veh/h)      | - | - | 290   | 594   | 1039  | - |
| HCM Lane V/C Ratio    | - | - | 0.089 | 0.057 | 0.055 | - |
| HCM Control Delay (s) | - | - | 18.6  | 11.4  | 8.7   | - |
| HCM Lane LOS          | - | - | C     | B     | A     | - |
| HCM 95th %tile Q(veh) | - | - | 0.3   | 0.2   | 0.2   | - |

**Intersection**

Int Delay, s/veh 0.3

**Movement** WBL WBR NBT NBR SBL SBT

|                          |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      | ↘    | ↗    | ↑    | ↗    | ↘    | ↑    |
| Traffic Vol, veh/h       | 7    | 2    | 416  | 12   | 7    | 314  |
| Future Vol, veh/h        | 7    | 2    | 416  | 12   | 7    | 314  |
| 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 8    | 2    | 489  | 14   | 8    | 369  |

**Major/Minor** Minor1 Major1 Major2

|                      |       |       |   |   |       |   |
|----------------------|-------|-------|---|---|-------|---|
| Conflicting Flow All | 874   | 489   | 0 | 0 | 503   | 0 |
| Stage 1              | 489   | -     | - | - | -     | - |
| Stage 2              | 385   | -     | - | - | -     | - |
| 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   | 320   | 579   | - | - | 1061  | - |
| Stage 1              | 616   | -     | - | - | -     | - |
| Stage 2              | 688   | -     | - | - | -     | - |
| Platoon blocked, %   |       |       | - | - |       |   |
| Mov Cap-1 Maneuver   | 317   | 579   | - | - | 1061  | - |
| Mov Cap-2 Maneuver   | 317   | -     | - | - | -     | - |
| Stage 1              | 611   | -     | - | - | -     | - |
| Stage 2              | 688   | -     | - | - | -     | - |

**Approach** WB NB SB

|                      |      |   |     |
|----------------------|------|---|-----|
| HCM Control Delay, s | 15.5 | 0 | 0.2 |
| HCM LOS              | C    |   |     |

**Minor Lane/Major Mvmt** NBT NBRWBLn1WBLn2 SBL SBT

|                       |   |   |       |       |       |   |
|-----------------------|---|---|-------|-------|-------|---|
| Capacity (veh/h)      | - | - | 317   | 579   | 1061  | - |
| HCM Lane V/C Ratio    | - | - | 0.026 | 0.004 | 0.008 | - |
| HCM Control Delay (s) | - | - | 16.7  | 11.2  | 8.4   | - |
| HCM Lane LOS          | - | - | C     | B     | A     | - |
| HCM 95th %tile Q(veh) | - | - | 0.1   | 0     | 0     | - |

HCM 6th TWSC  
 11: Marksheffel Rd & Sterling Ranch Rd

Intermediate Term Total Traffic  
 PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.1  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      | ↘    | ↗    | ↗    | ↘    | ↘    | ↘    |
| Traffic Vol, veh/h       | 97   | 60   | 96   | 209  | 131  | 83   |
| Future Vol, veh/h        | 97   | 60   | 96   | 209  | 131  | 83   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 235  | -    | -    | 0    | 235  | 0    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 114  | 71   | 113  | 246  | 154  | 98   |

| Major/Minor          | Major1 | Major2 | Minor2 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 359    | 0      | -      | 0 | 412 113     |
| Stage 1              | -      | -      | -      | - | 113 -       |
| Stage 2              | -      | -      | -      | - | 299 -       |
| Critical Hdwy        | 4.12   | -      | -      | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | 2.218  | -      | -      | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | 1200   | -      | -      | - | 596 940     |
| Stage 1              | -      | -      | -      | - | 912 -       |
| Stage 2              | -      | -      | -      | - | 752 -       |
| Platoon blocked, %   |        | -      | -      | - |             |
| Mov Cap-1 Maneuver   | 1200   | -      | -      | - | 539 940     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 539 -       |
| Stage 1              | -      | -      | -      | - | 825 -       |
| Stage 2              | -      | -      | -      | - | 752 -       |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 5.1 | 0  | 12.4 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-----|-----|-----|-------|-------|
| Capacity (veh/h)      | 1200  | -   | -   | -   | 539   | 940   |
| HCM Lane V/C Ratio    | 0.095 | -   | -   | -   | 0.286 | 0.104 |
| HCM Control Delay (s) | 8.3   | -   | -   | -   | 14.3  | 9.3   |
| HCM Lane LOS          | A     | -   | -   | -   | B     | A     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | -   | 1.2   | 0.3   |

HCM 6th TWSC  
 13: Sterling Ranch Rd & Bynum Dr

Intermediate Term Total Traffic  
 PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 73   | 233  | 166  | 0    | 0    | 48   |
| Future Vol, veh/h        | 73   | 233  | 166  | 0    | 0    | 48   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 205  | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 0    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 86   | 274  | 195  | 0    | 0    | 56   |

| Major/Minor          | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 195    | 0      | 0      |
| Stage 1              | -      | -      | 195    |
| Stage 2              | -      | -      | 446    |
| Critical Hdwy        | 4.12   | -      | 6.42   |
| Critical Hdwy Stg 1  | -      | -      | 5.42   |
| Critical Hdwy Stg 2  | -      | -      | 5.42   |
| Follow-up Hdwy       | 2.218  | -      | 3.518  |
| Pot Cap-1 Maneuver   | 1378   | -      | 439    |
| Stage 1              | -      | -      | 838    |
| Stage 2              | -      | -      | 645    |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1378   | -      | 412    |
| Mov Cap-2 Maneuver   | -      | -      | 412    |
| Stage 1              | -      | -      | 786    |
| Stage 2              | -      | -      | 645    |

| Approach             | EB  | WB | SB  |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 1.9 | 0  | 9.6 |
| HCM LOS              |     |    | A   |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1378  | -   | -   | -   | 846   |
| HCM Lane V/C Ratio    | 0.062 | -   | -   | -   | 0.067 |
| HCM Control Delay (s) | 7.8   | -   | -   | -   | 9.6   |
| HCM Lane LOS          | A     | -   | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   | 0.2   |

HCM 6th TWSC  
 14: School House Dr & Sterling Ranch Rd

Intermediate Term Total Traffic  
 PM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.6  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↙    | ↑    | ↗    | ↙    | ↑    | ↗    |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 50   | 113  | 71   | 10   | 75   | 13   | 41   | 0    | 6    | 6    | 0    | 50   |
| Future Vol, veh/h        | 50   | 113  | 71   | 10   | 75   | 13   | 41   | 0    | 6    | 6    | 0    | 50   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | 205  | -    | 155  | 205  | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 59   | 133  | 84   | 12   | 88   | 15   | 48   | 0    | 7    | 7    | 0    | 59   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 103    | 0 | 0 | 217    | 0 | 0 | 400    | 378   | 133   | 417    | 455   | 96    |
| Stage 1              | -      | - | - | -      | - | - | 251    | 251   | -     | 120    | 120   | -     |
| Stage 2              | -      | - | - | -      | - | - | 149    | 127   | -     | 297    | 335   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1489   | - | - | 1353   | - | - | 560    | 554   | 916   | 546    | 501   | 960   |
| Stage 1              | -      | - | - | -      | - | - | 753    | 699   | -     | 884    | 796   | -     |
| Stage 2              | -      | - | - | -      | - | - | 854    | 791   | -     | 712    | 643   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1489   | - | - | 1353   | - | - | 506    | 527   | 916   | 522    | 476   | 960   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 506    | 527   | -     | 522    | 476   | -     |
| Stage 1              | -      | - | - | -      | - | - | 723    | 671   | -     | 849    | 789   | -     |
| Stage 2              | -      | - | - | -      | - | - | 795    | 784   | -     | 679    | 617   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB  |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|-----|--|--|
| HCM Control Delay, s | 1.6 |  |  | 0.8 |  |  | 12.5 |  |  | 9.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | B    |  |  | A   |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 537   | 1489 | -   | -   | 1353  | -   | -   | 881   |
| HCM Lane V/C Ratio    | 0.103 | 0.04 | -   | -   | 0.009 | -   | -   | 0.075 |
| HCM Control Delay (s) | 12.5  | 7.5  | -   | -   | 7.7   | -   | -   | 9.4   |
| HCM Lane LOS          | B     | A    | -   | -   | A     | -   | -   | A     |
| HCM 95th %tile Q(veh) | 0.3   | 0.1  | -   | -   | 0     | -   | -   | 0.2   |

HCM 6th TWSC  
15: Dines Blvd & Sterling Ranch Rd

Intermediate Term Total Traffic  
PM Peak Hour

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.7  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    |      | ↖    | ↗    |      |      | ↖    |      |      | ↗    | ↖    |
| Traffic Vol, veh/h       | 108  | 0    | 15   | 0    | 0    | 0    | 9    | 3    | 0    | 0    | 5    | 88   |
| Future Vol, veh/h        | 108  | 0    | 15   | 0    | 0    | 0    | 9    | 3    | 0    | 0    | 5    | 88   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None |
| Storage Length           | -    | -    | -    | 0    | -    | -    | -    | -    | -    | -    | -    | 155  |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 127  | 0    | 18   | 0    | 0    | 0    | 11   | 4    | 0    | 0    | 6    | 104  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |   | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|---|--------|-------|-------|
| Conflicting Flow All | 1      | 0 | 0 | 18     | 0 | 0 | 319    | 264   | - | -      | 273   | 1     |
| Stage 1              | -      | - | - | -      | - | - | 263    | 263   | - | -      | 1     | -     |
| Stage 2              | -      | - | - | -      | - | - | 56     | 1     | - | -      | 272   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | - | -      | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | - | -      | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | - | -      | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | - | -      | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1622   | - | - | 1599   | - | - | 634    | 641   | 0 | 0      | 634   | 1084  |
| Stage 1              | -      | - | - | -      | - | - | 742    | 691   | 0 | 0      | 895   | -     |
| Stage 2              | -      | - | - | -      | - | - | 956    | 895   | 0 | 0      | 685   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | - | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1622   | - | - | 1599   | - | - | 535    | 591   | - | -      | 585   | 1084  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 535    | 591   | - | -      | 585   | -     |
| Stage 1              | -      | - | - | -      | - | - | 684    | 637   | - | -      | 895   | -     |
| Stage 2              | -      | - | - | -      | - | - | 859    | 895   | - | -      | 632   | -     |

| Approach             | EB  |  |  | WB |  |  | NB   |  |  | SB  |  |  |
|----------------------|-----|--|--|----|--|--|------|--|--|-----|--|--|
| HCM Control Delay, s | 6.5 |  |  | 0  |  |  | 11.7 |  |  | 8.8 |  |  |
| HCM LOS              |     |  |  |    |  |  | B    |  |  | A   |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-------|-------|
| Capacity (veh/h)      | 548   | 1622  | -   | -   | 1599 | -   | -   | 585   | 1084  |
| HCM Lane V/C Ratio    | 0.026 | 0.078 | -   | -   | -    | -   | -   | 0.01  | 0.096 |
| HCM Control Delay (s) | 11.7  | 7.4   | -   | -   | 0    | -   | -   | 11.2  | 8.7   |
| HCM Lane LOS          | B     | A     | -   | -   | A    | -   | -   | B     | A     |
| HCM 95th %tile Q(veh) | 0.1   | 0.3   | -   | -   | 0    | -   | -   | 0     | 0.3   |