




LSC TRANSPORTATION CONSULTANTS, INC.
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The Glen at Widefield Filing No. 9
 Transportation Memorandum
 (LSC #174850)
 January 24, 2018

Add "PCD File No. SF185"

Traffic Engineer's Statement

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


 Jeffrey C. Hodsdon, P.E., #31684 _____ Date 1-25-18



Developer's Statement

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


 _____ Date Jan 25th 2018



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January 24, 2018

Mr. J. Ryan Watson
Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911

RE: The Glen at Widefield Filing No. 9
Transportation Memorandum
El Paso County, Colorado
LSC #174850

Dear Mr. Watson:

In response to your request, LSC Transportation Consultants, Inc. has prepared this transportation memorandum for The Glen at Widefield Filing No. 9. As shown in Figure 1, the site is located northwest of the Marksheffel Road/Mesa Ridge Parkway intersection in El Paso County, Colorado. Filing 9 is planned to contain 106 lots for single-family homes. This memorandum is a supplement to the overall Glen at Widefield East Preliminary Plan traffic report dated January 18, 2016. Please contact our office to obtain a copy of this report, if needed.

A copy of the plat for the 106 single-family lots is attached for reference. The lot and street layout for this filing matches the Preliminary Plan.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of this development. The report contains the following:

- Traffic count data.
- Projections of short-term (2022) baseline/background traffic volumes at the key area intersections.
- The projected average weekday and peak-hour vehicle-trips to be generated by Filing No. 9.
- The assignment of the Filing No. 9 projected trips to the key area intersections for the short term.
- The short-term level of service at these intersections.
- The short-term level of service and queuing analysis at the intersection of Powers Boulevard/Mesa Ridge Parkway.
- Findings and recommendations.
- Signal escrow analysis tables.

LAND USE AND ACCESS

Since completion of the 2016 Glen at Widefield East Preliminary Plan Traffic Report, 249 of the 577 proposed lots for single-family homes within the preliminary plan area have been platted as The Glen at Widefield Filings 7 and 8 and Mesa Ridge Parkway has been extended east to Marksheffel Road. Primary access for these filings is via the new intersection of Spring Glen Drive and the recently completed section of Mesa Ridge Parkway. A secondary access to Marksheffel Road is currently under construction that will align with Peaceful Valley Road.

The currently proposed Glen at Widefield Filing No. 9 is planned to contain 106 lots for single-family homes. Figure 2 shows the location of The Glen at Widefield Filings Nos. 7, 8, and 9. No additional access is proposed with this filing.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

Figure 1 shows the roadways in the vicinity of the site. The major roadways are identified below, followed by a brief description of each.

Powers Boulevard is a four-lane Expressway extending north from Mesa Ridge Parkway. In the future, Powers Boulevard is planned to be extended south to connect to Interstate 25, potentially at Exit 122. In the vicinity of the site, Powers Boulevard has two through lanes in each direction and a posted speed limit of 55 miles per hour (mph). The Colorado Department of Transportation has been collecting escrow funds from the previous Glen at Widefield filings as participation toward the recently installed traffic signal at the intersection of Mesa Ridge/Powers.

Marksheffel Road extends north from the Link Road/C&S Road intersection in Fountain, Colorado to north of Woodmen Road. Marksheffel has recently been upgraded to an interim three-lane facility between Mesa Ridge Parkway and Bradley Road as part of a PPRTA project. Marksheffel Road is shown as a future four-lane Expressway on the El Paso County *Major Transportation Corridors Plan (MTCP)*. The posted speed limit on Marksheffel Road is 55 mph north of Mesa Ridge Parkway and 45 mph south of Mesa Ridge Parkway.

Mesa Ridge Parkway is a four-lane median-divided Principal Arterial extending east from I-25 to Powers Boulevard. A half-section of Marksheffel Road with one through lane in each direction has been constructed east from Powers Boulevard to Marksheffel Road. The posted speed limit in the vicinity of the site is 45 mph.

Peaceful Valley Road is a two-lane City of Fountain street that extends east from Marksheffel Road about two-and-a-half miles to the location of a future extension of Meridian Road. The posted speed limit on Peaceful Valley Road is 30 mph. Most of Peaceful Valley Road is located within the City of Fountain.

Expand the Mesa Ridge Parkway narrative to provide background information for the trigger to convert this to a 4-lane and what responsibilities (if any) the Glen at Widefield has.

Notable Recent Area Roadway System Improvements

The Marksheffel South project has been completed, a traffic signal has been installed at the intersection of Mesa Ridge Parkway and Powers, and it is our understanding that this signal has only been fully operational since early January. The temporary Roanfield Drive street connection to Powers Boulevard has been closed. Also, the southbound left-turn lane at the Mesa Ridge/ Powers intersection has been lengthened as required with The Glen at Widefield Filing No. 7. The Marksheffel painted center median at the intersection of Peaceful Valley Road/ Marksheffel Road has been striped as a channelized T-configuration (with southbound left-turn deceleration and left-turn acceleration lanes). The configuration may need to change through restriping of the center painted median with the addition of the fourth/west leg of this intersection with The Glen at Widefield Filing No. 8.

EXISTING TRAFFIC VOLUMES

Figure 3 shows the existing peak-hour traffic controls. The traffic volumes were based on traffic counts conducted by LSC in November and December 2017. Please note that the traffic counts at the intersection of Powers Boulevard and Mesa Ridge Parkway were conducted prior to installation of the traffic signal. The traffic count reports are attached.

Obtain new traffic counts at all locations and update the analysis to reflect the fully operational condition of the traffic signal so the TIS analysis is representative of current conditions.

LEVEL OF SERVICE

Level of service (LOS) is a quantitative measure of the level of delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1			
Intersection Levels of Service Delay Ranges			
Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C⁽¹⁾	Average Control Delay (seconds per vehicle)⁽²⁾
A	10.0 sec or less	less than 0.60	10.0 sec or less
B	10.1-20.0 sec	0.60-0.69	10.1-15.0 sec
C	20.1-35.0 sec	0.70-0.79	15.1-25.0 sec
D	35.1-55.0 sec	0.80-0.89	25.1-35.0 sec
E	55.1-80.0 sec	0.90-0.99	35.1-50.0 sec
F	80.1 sec or more	1.00 and greater	50.1 sec or more

(1) Source: *Transportation Research Circular 212*
 (2) 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 intersections of Powers/Mesa Ridge, Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed to determine the existing levels of service. The intersection of Powers/Mesa Ridge was analyzed using Synchro. The intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed using the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board.

The intersection of Powers/Mesa Ridge was recently signalized and as such, the intersection has been analyzed as a signalized intersection. The current signal timing has been estimated by LSC and the pre-signal volumes have been used in the analyzed. It is currently operating at an overall LOS B or better during the peak hours. The westbound left-turn movement at this intersection is operating at LOS D during the peak hours.

All movements at the stop-sign-controlled intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley are currently operating at LOS C or better during the peak hours. The analysis of these intersections has been completed using the 2017 traffic count data.

SHORT-TERM (YEAR 2022) BACKGROUND TRAFFIC

Figure 4a shows the short-term background traffic volumes at the key area intersections. Background traffic is the traffic estimated to be on the roadways without the Glen at Widefield Filing No. 9 traffic.

Background traffic includes the existing traffic volume (from Figure 3) plus increases in through traffic due to regional growth plus traffic estimated to be generated by buildout of existing and currently proposed subdivisions in the vicinity of the site. These estimates include traffic projected to be generated by the development of the 249 single-family homes within The Glen

at Widefield Filing Nos. 7 and 8 and traffic projected to be generated by buildout of all the existing and currently proposed developments within the Lorson Ranch development located east of the intersection of Marksheffel/Fontaine.

Increases in the through traffic volumes on Powers Boulevard were estimated based on the growth rate calculated from the Colorado Department of Transportation 20-year growth factor for this section of Powers Boulevard. Short-term estimates have been based on late 2017 counts prior to signalization of the Powers/Mesa Ridge intersection. LSC has estimated the potential change in traffic patterns and due to the change to signal control – notably additional westbound left-turn volume with the installation of the signal.

Figure 4b shows the lane geometry, traffic control, and level of service at the key area intersections of based on the short-term background volumes.

TRIP GENERATION

The Filing No. 9 site-generated vehicle-trips have been estimated using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates for this filing.

Filing 9 is expected to generate 1,001 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 20 vehicles would enter and 59 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 66 vehicles would enter and 39 vehicles would exit the site.

SITE-GENERATED TRAFFIC

Figure 5 shows the projected short-term site-generated traffic volumes for Filing No. 9. These volumes are based on the distribution and short-term roadway system assumptions contained in The Glen at Widefield East Preliminary Plan report (please refer to this report for additional detail) and the access plan for The Glen at Widefield Filing 9 only, as described above.

SHORT-TERM TOTAL TRAFFIC

Figure 6a shows the projected short-term total traffic volumes at the key areas. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 4) plus the Filing No. 9 short-term site-generated traffic volumes (from Figure 5).

Figure 6b shows the lane geometry, traffic control, and level of service at the key area intersections of based on the short-term total volumes.

LEVEL OF SERVICE

The intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed to determine the projected levels of service based on the short-term background and total traffic volumes using the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The signalized intersection of Powers/Mesa Ridge was analyzed using Synchro. The results of the analysis are shown in Figures 4b and 6b.

All movement at the intersection of Powers/Mesa Ridge is projected to continue to operate at a LOS D or better during the peak hours based on the projected short-term background and total peak-hour traffic volumes.

All movements at the stop-sign-controlled intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley are projected to operate at LOS C or better during the peak hours.

Please refer to the Glen at Widefield East Preliminary Plan traffic report for the long-term analysis of the key area intersections.

QUEUING ANALYSIS

A queuing analysis has been performed for the southbound and westbound left turn at Powers/Mesa Ridge. The analysis has been completed based on dual left-turn lanes with existing length for the westbound Mesa Ridge left-turn lane, the recently extended southbound left-turn lane, and projected short-term total traffic.

The maximum southbound left-turn queue on Powers Boulevard approaching Mesa Ridge Parkway is projected to be about 163 feet long based on the projected short-term total traffic volumes. The southbound left-turn lane has recently been lengthened to 1,108 feet plus a 222-foot taper.

The maximum westbound left-turn queue on Mesa Ridge Parkway approaching Powers Boulevard is projected to be about 331 feet long based on the projected short-term total traffic volumes assuming dual westbound left-turn lanes.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Filing 9 is expected to generate 1,001 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 20 vehicles would enter and 59 vehicles would exit the site. During the afternoon peak hour about 66 vehicles would enter and 39 vehicles would exit the site.

Level of Service

- The signalized intersection of Mesa Ridge Parkway/Powers Boulevard is projected to continue to operate at a satisfactory level of service based on the projected short-term background and total peak-hour traffic volumes.
- The intersections of Marksheffel/Peaceful Valley Road and Mesa Ridge Parkway/Spring Glen Drive (the two access points to Filing No. 9) and the intersection of Marksheffel/Mesa Ridge would operate at satisfactory levels of service as stop-sign-controlled intersections based on the projected short-term background and total peak-hour traffic volumes.

Intersection Lane Configurations

- A 475-foot left-turn lane approaching Spring Glen Drive has been installed with the construction of Mesa Ridge Parkway.
- Mesa Ridge Parkway has been constructed and striped with 10-foot paved shoulders in the vicinity of Spring Glen Drive. Once the full future westbound right-turn acceleration lane as the half-section to be built with the initial This has been shown on the Mesa Ridge Pa
Contact and coordinate with EPC DPW and/or CDOT regarding these two proposed improvements to determine any additional requirements they may have, and update the narrative to summarize the outcome of the coordination. Submit construction plans for review (if required by DPW and/or CDOT).
- The addition of Filing No. 9 site-generated right-turn deceleration lane on Mesa Ridge
With regards to Mesa Ridge Parkway dual WBLT, verify any CDOT access permit requirements. Update narrative to summarize the outcome of the coordination.
- Marksheffel Road may need to be restriped to remove the southbound left-turn acceleration lane at the intersection of Peaceful Valley Drive and replaced with a northbound left-turn lane once the secondary site access is opened. This intersection is controlled by El Paso County and it would be an El Paso County Public Works decision to restripe/reconfigure the center median.
- The southbound left-turn lane on Powers Boulevard approaching Mesa Ridge Parkway has recently been lengthened as part of the Glen at Widefield Filing 7 access permit. The level of service analysis and queueing analysis for the short-term total traffic volumes indicates acceptable operations with the current single-lane configuration. The late 2017 (pre-signal) traffic volumes are lower than prior projections. Granted, volumes may change somewhat with the recent traffic signal installation, however the background traffic estimates in this report anticipate the signal installation (and associated shift in area traffic patterns) will have more of an affect on the the minor street left-turn (westbound) volumes than the major street (southbound) left-turn volumes.
- Based on the projected short-term and total traffic volumes, Mesa Ridge Parkway should be widened approaching Powers Boulevard to provide dual westbound left-turn lanes. Based on

the queuing analysis, the existing 350-foot turn lane length would be adequate to accommodate the projected queues.

Proposed Subdivision Street Classifications

- Figure 7 shows the recommended street classifications for the entire Preliminary Plan, including Filing 9.

Mesa Ridge Parkway/Powers Boulevard Intersection

- CDOT has agreed to a signal escrow amount of \$107,018 for all of Glen at Widefield East. The number of total lots in the Preliminary Plan has been reduced to 578 and therefore the corresponding escrow amount would be \$103,960 for all of Glen at Widefield East. For purposes of the Filing 9 access permit, the amount would be \$19,065. Table 3 presents the signal escrow analysis including the previously identified amount for Filings 7 and 8 and the remaining amount for future filings.

Mesa Ridge Parkway/Spring Glen Drive Signal Escrow

- The Glen East Preliminary Plan traffic report contains an estimated signal escrow amount for the entire Preliminary Plan and states that the developer's percentage contribution toward this signal will be calculated and a proportional contribution made toward the signal construction with each filing. The estimated proportional contribution for Filing 9 is \$6,189. Table 4 presents the signal escrow analysis for this intersection including the previously identified amount for Filings 7 and 8 and the remaining amount for future filings.

Marksheffel Road/Peaceful Valley Road

- The Glen at Widefield East Preliminary Plan traffic report contains an estimated escrow amount for the Preliminary Plan and states that the developer's percentage contribution toward this signal will be calculated and a proportional contribution made toward the signal construction with each filing. The estimated proportional contribution for Filing 9 is \$6,648. Table 5 presents the signal escrow analysis for this intersection including the previously identified amount for Filings 7 and 8 and the remaining amount for future filings.

ROADWAY IMPROVEMENT FEE PROGRAM

- This project will be required to participate in the El Paso County Road Improvement Fee Program. The Glen at Widefield Filing No. 9 will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is \$923 per single-family dwelling unit. Based on 101 lots, the total building permit fee would be \$97,838.

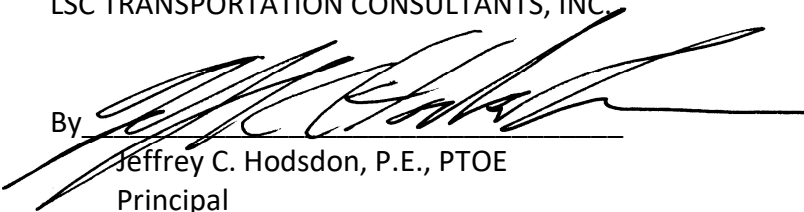
* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By



Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:KDF:bjwb

Enclosures: Tables 2-5
Figures 1-7
Filing No. 9 Plat
Traffic Count Reports
Level of Service Reports
Queuing Reports

**Table 2
Trip Generation Estimate
The Glen at Widefield Filing No. 9**

Filing	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾				Total Trips Generated					
				Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
					In	Out	In	Out		In	Out	In	Out
Approved Filings													
7	210	Single-Family Detached Housing	148 DU ⁽²⁾	9.44	0.19	0.56	0.62	0.37	1,397	27	82	92	54
8	210	Single-Family Detached Housing	101 DU	9.44	0.19	0.56	0.62	0.37	953	19	56	63	37
			249 DU						2,351	46	138	155	91
Currently Proposed Filing													
9	210	Single-Family Detached Housing	106 DU ⁽²⁾	9.44	0.19	0.56	0.62	0.37	1,001	20	59	66	39
		Total Filings 7-9	355 DU						3,351	66	197	221	130
Future Filings													
11	210	Single-Family Detached Housing	40 DU ⁽²⁾	9.44	0.19	0.56	0.62	0.37	378	7	22	25	15
12	210	Single-Family Detached Housing	103 DU	9.44	0.19	0.56	0.62	0.37	972	19	57	64	38
13	210	Single-Family Detached Housing	79 DU	9.44	0.19	0.56	0.62	0.37	746	15	44	49	29
			222 DU						2,096	41	123	138	81
		Total Filings 7-13	577 DU						1,123	22	66	74	44

Notes:

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

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Change to Filing 9

Table 3
Glen East Preliminary Plan CDOT Access Permit and Escrow Analysis
Mesa Ridge & Powers (SH 21)
Filings 7, 8, 9 and Future Filings

Shown in TIS	Subdivisions Currently Proposed			Currently Proposed Separate Access Permits and Escrow Amounts per Access Permit			
Number of Lots	Subdivision Name	Number of Lots	Status	Portion of total Escrow of \$103,960	Access Permits	Access Permit Escrow Amt.	Escrow to be deposited in account with CDOT
148	Filing 7	148	Platted	\$26,648	Approved	\$26,648	NTP Issued; Turn Lane Extended
101	Filing 8	101	Plat Approved - not recorded	\$18,166	Application pending	\$18,166	Prior to issuance of NTP
106	Remaining Filings	106	Pending	\$19,065	Application to be submitted soon	\$19,065	Prior to issuance of NTP
223	Remaining Filings	223	Future	\$40,081	Application(s) not submitted	TBD	

Source: LSC Transportation Consultants, Inc.

Table 4
Glen East Preliminary Plan County Intersection Escrow Analysis
Mesa Ridge Parkway & Spring Glen Drive Intersection
Filings 7, 8, 9, and Future Filings

Shown in TIA	Subdivisions Currently Proposed			Signal Escrow Amounts
Number of Lots	Subdivision Name	Number of Lots	Status	Portion of Total Escrow of \$33,750
148	Filing 7	148	Platted	\$8,875
101	Filing 8	101	Plat Approved - not recorded	\$6,057
106	Filing 9	106	Pending	\$6,189
223	Remaining Filings	223	Future	\$12,629

Source: LSC Transportation Consultants, Inc. August 24, 2016

Table 5
Glen East Preliminary Plan County Intersection Signal Escrow Analysis
Peaceful Valley Road & Marksheffel Road Intersection
Filings 7, 8, 9, and Future Filings

Shown in TIS	Subdivisions Currently Proposed			Signal Escrow Amounts
Number of Lots	Subdivision Name	Number of Lots	Status	Portion of total Escrow of \$36,250
148	Filing 7	148	Platted	Deferred to Fil 8
101	Filing 8	101	Plat Approved - not recorded	\$15,615
106	Filing 9	106	Pending	\$6,648
223	Remaining Filings	223	Future	\$13,987

Note: The escrow amount for Filing 8 includes the deferred amount for Filing 7

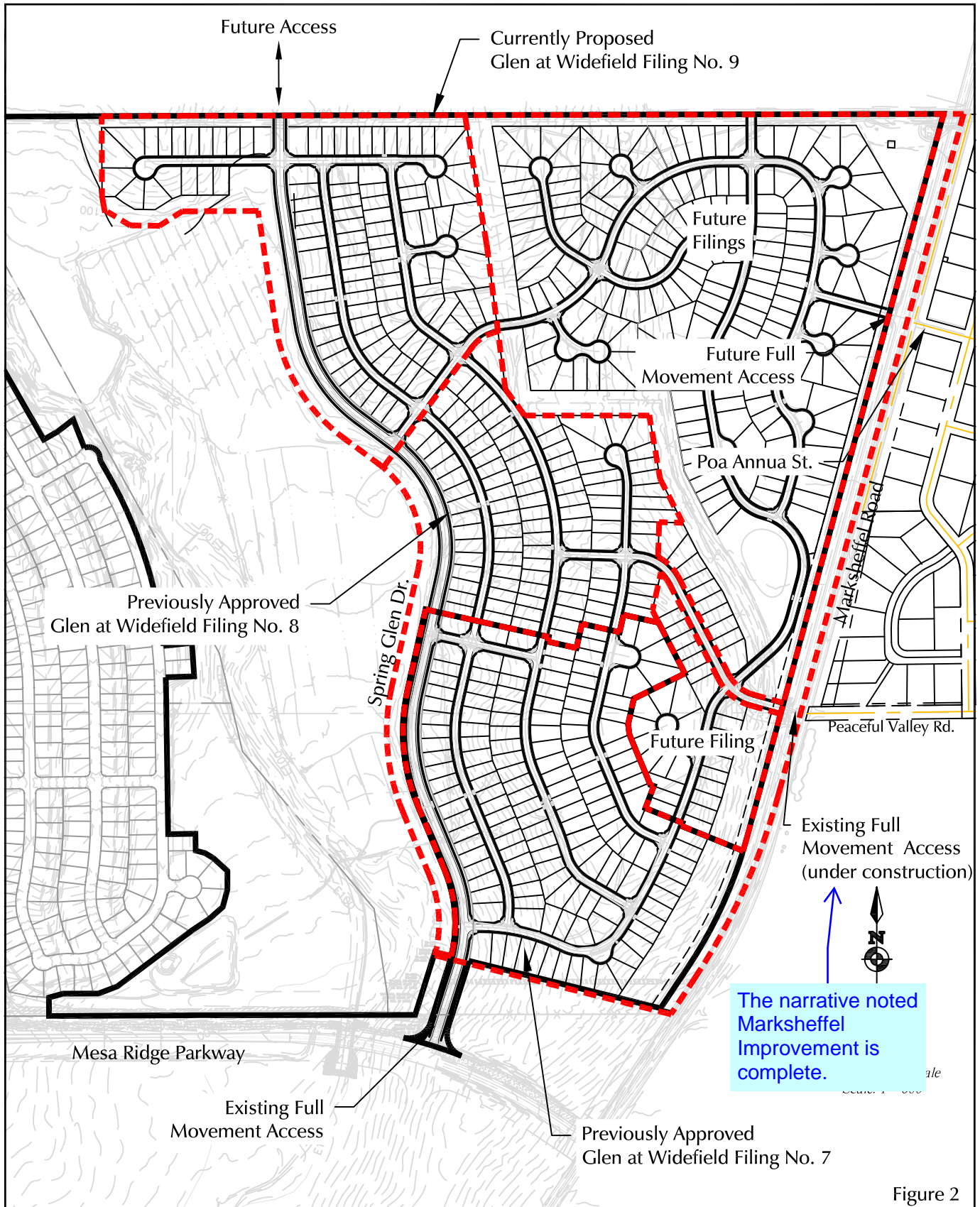
Source: LSC Transportation Consultants, Inc. August 24, 2016



Vicinity Map

Figure 1

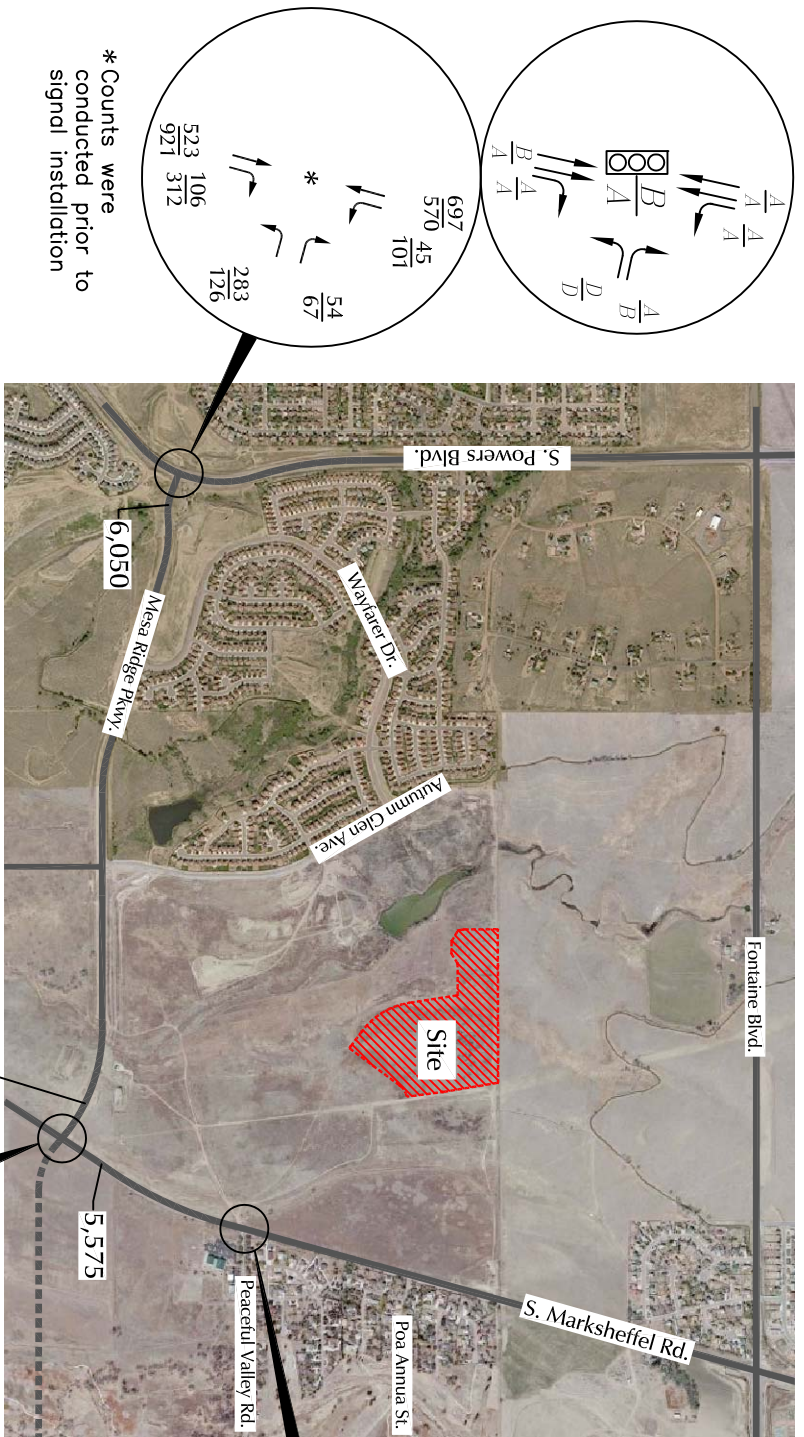
The Glen at Widefield Fil. 9 (LSC #174850)



The narrative noted
Marksheffel
Improvement is
complete.

Figure 2
Site Plan

The Glen at Widefield Fil. 9 (LSC #174850)



Approximate Scale
Scale: 1" = 2,000'

* Counts were conducted prior to signal installation

- LEGEND:**
- ⊥ = Stop Sign
 - ⊙ = Traffic Signal

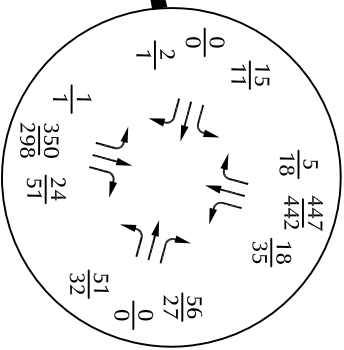
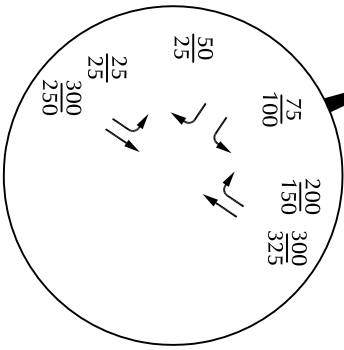
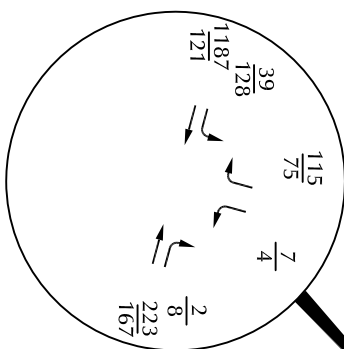
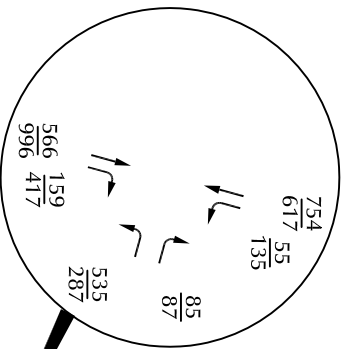
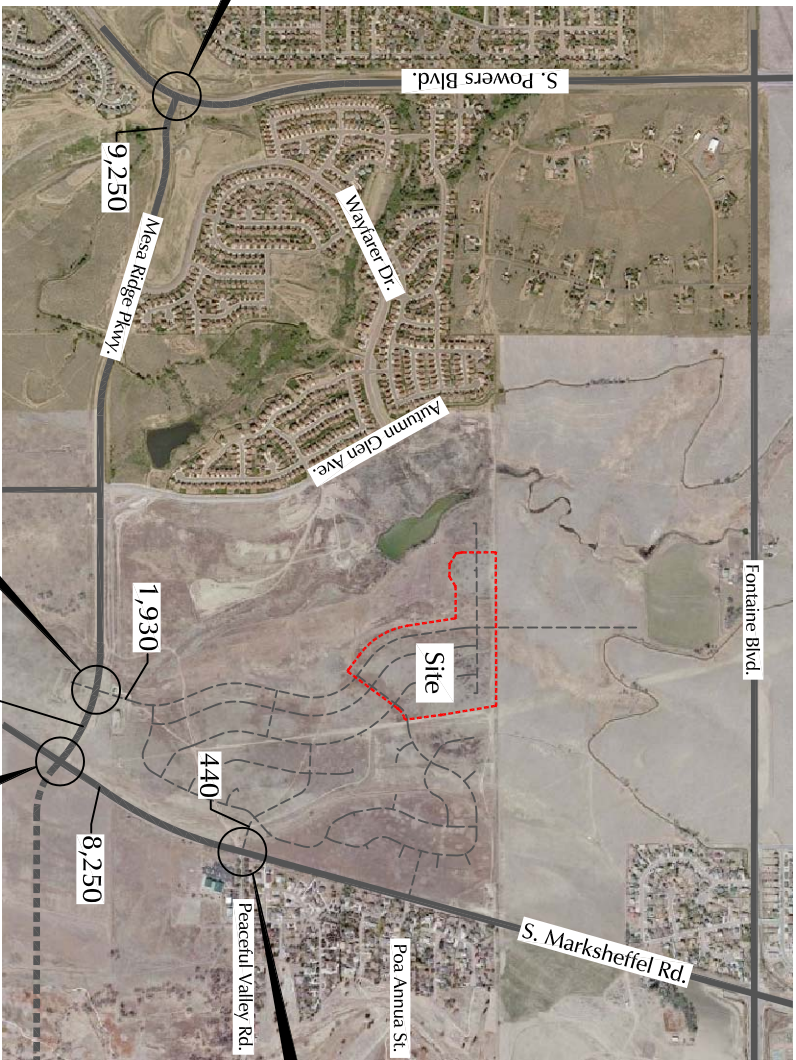
- $\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service Based on counts by
- $\frac{B}{C}$ = PM Individual Movement Peak-Hour Level of Service LSC Nov & Dec 2017
- $\frac{C}{D}$ = AM Entire Intersection Peak-Hour Level of Service
- $\frac{D}{XXX}$ = PM Entire Intersection Peak-Hour Level of Service
- XXX = Average Weekday Traffic (vehicles per day) Estimate by LSC

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

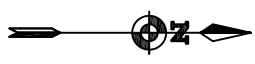
Figure 3



The Glen at Wildfield Fil. 9 (LSC #174850)



Approximate Scale
Scale: 1" = 2,000'



LEGEND:

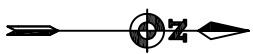
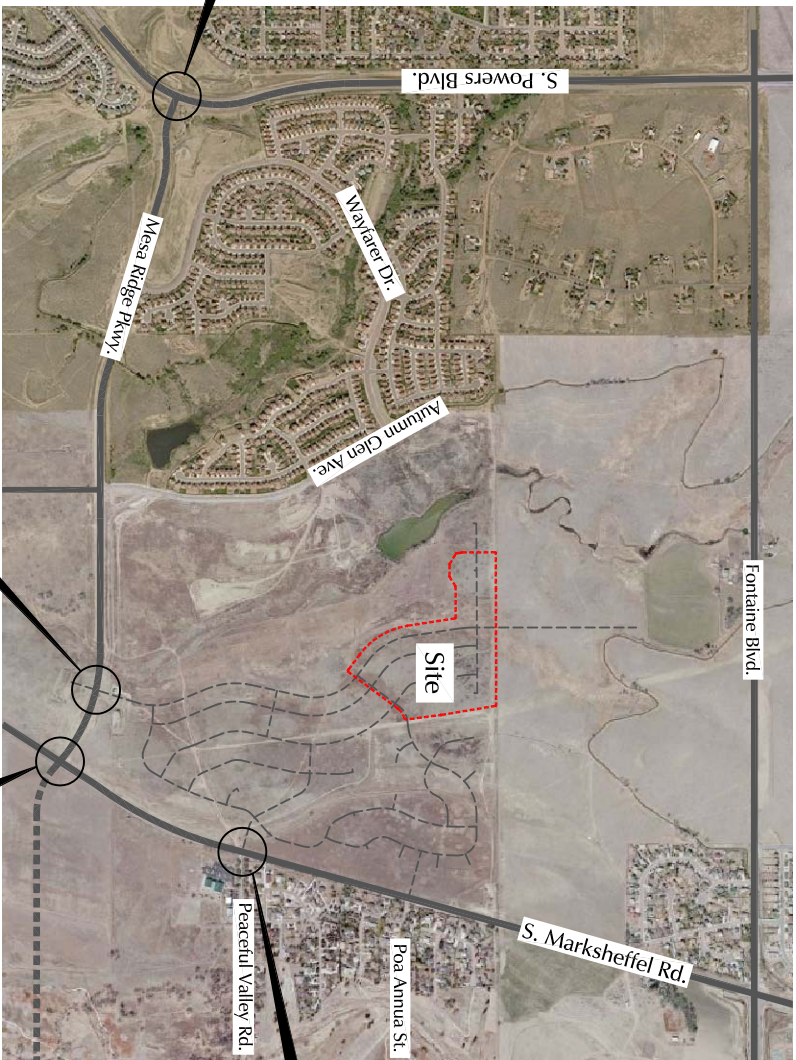
- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



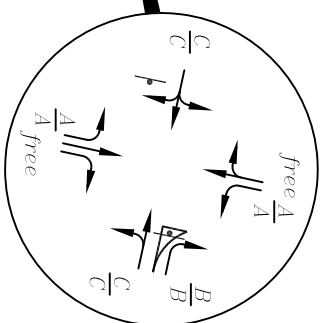
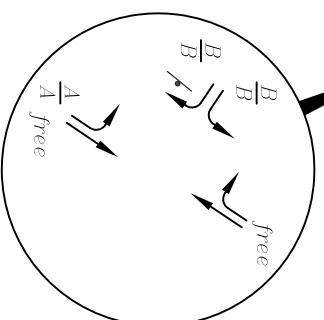
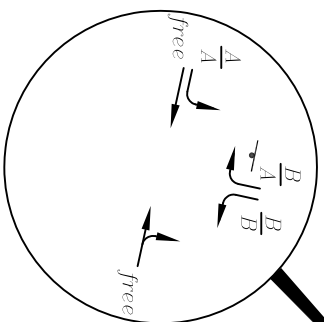
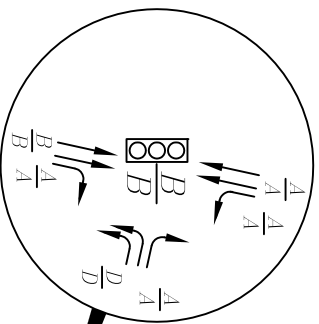
Figure 4a

Short-Term Background Traffic

The Glen at Widefield Fil. 9 (LSC #174850)



Approximate Scale
Scale: 1" = 2,000'



LEGEND:

⊥ = Stop Sign

= Traffic Signal

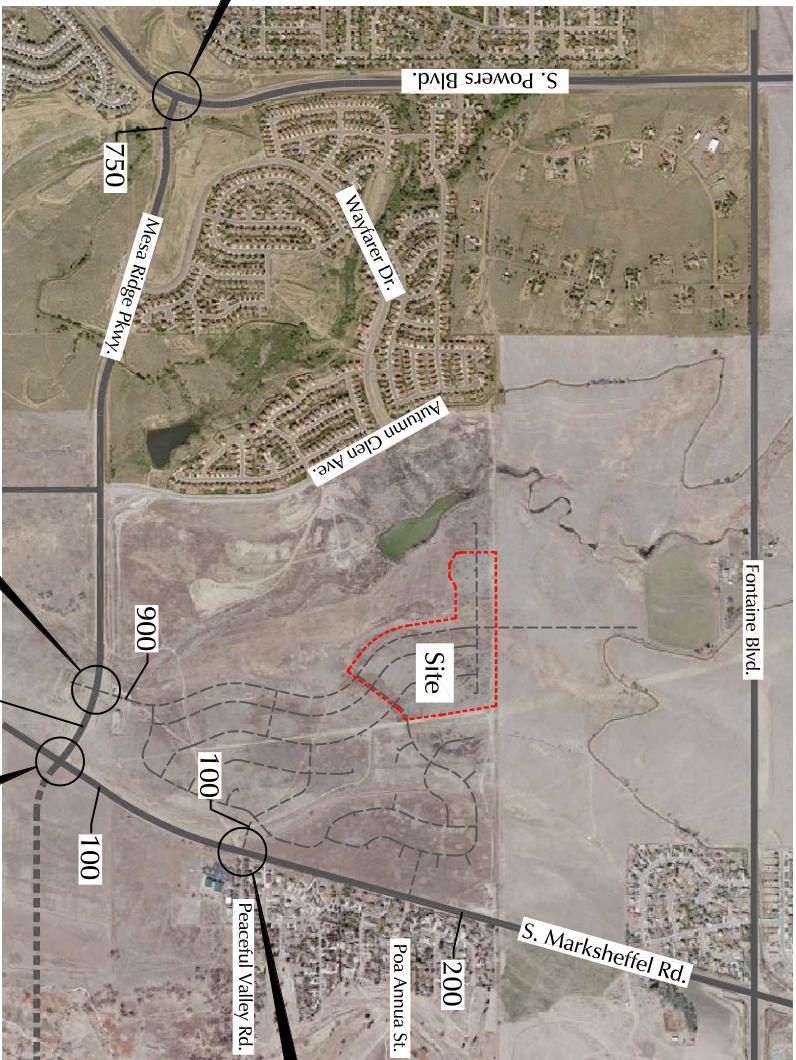
- $\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service
- $\frac{A}{B}$ = PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{D}$ = AM Entire Intersection Peak-Hour Level of Service
- $\frac{C}{D}$ = PM Entire Intersection Peak-Hour Level of Service

Figure 4b

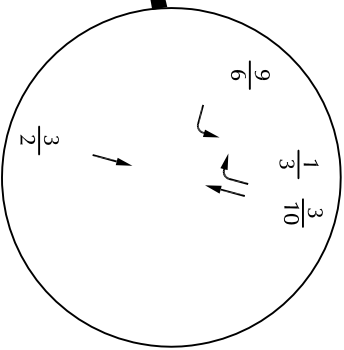
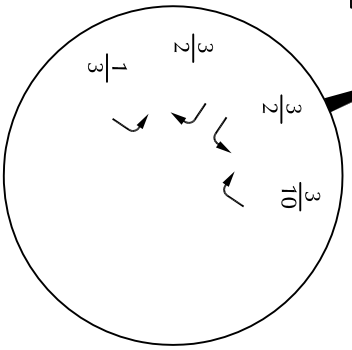
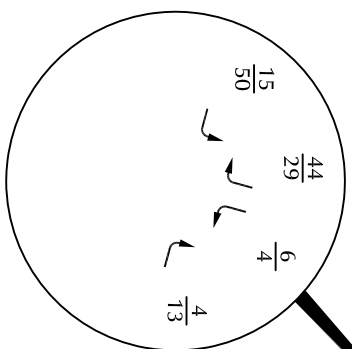
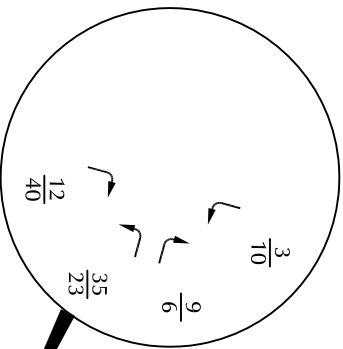
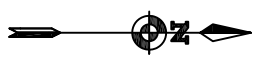
Short-Term Background Lane Geometry, Traffic Control and Level of Service

The Glen at Wildfield Fil. 9 (LSC #174850)





Approximate Scale
Scale: 1" = 2000'



LEGEND:

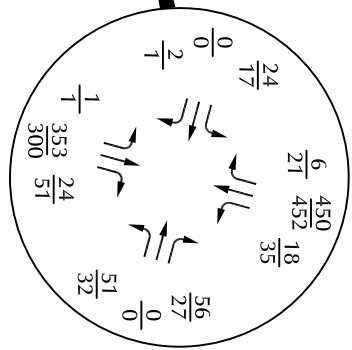
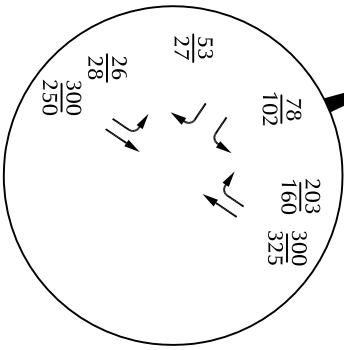
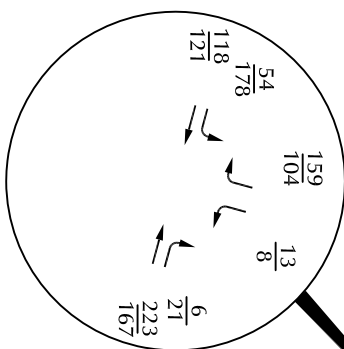
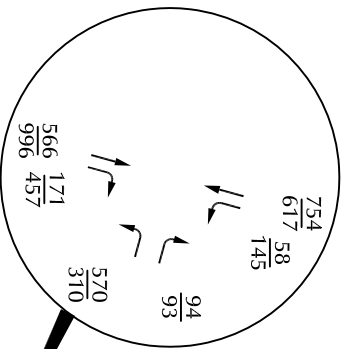
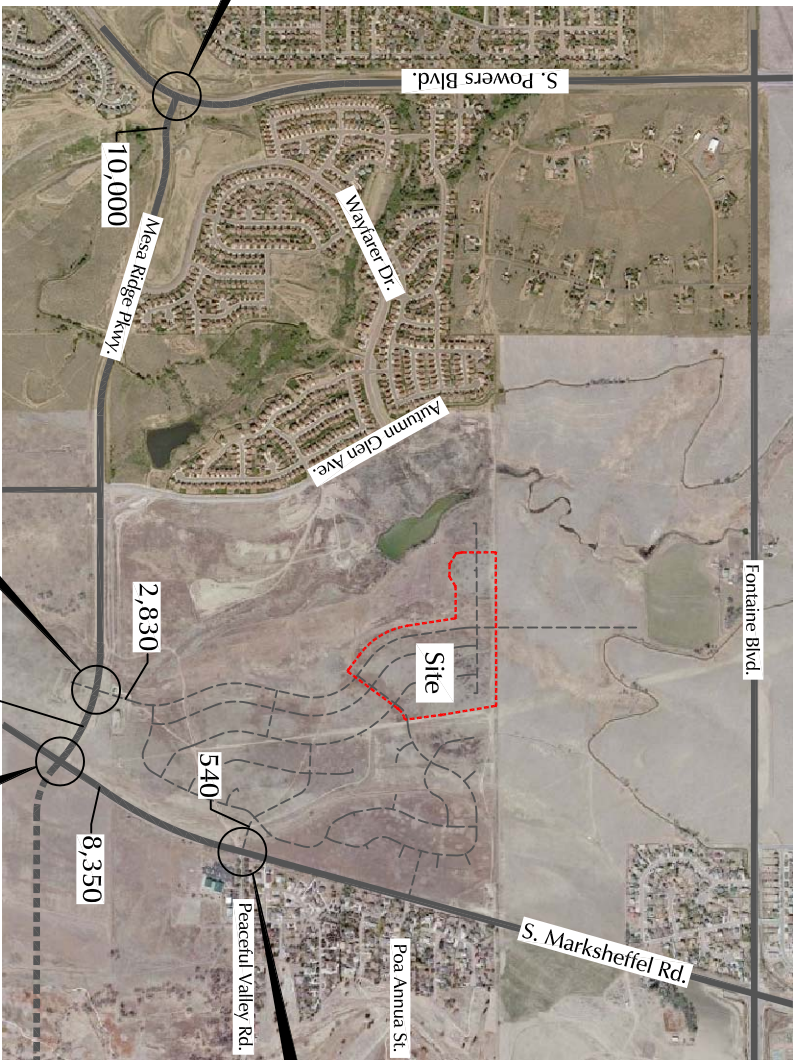
- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)

Figure 5

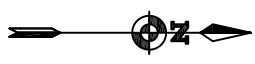
Assignment of Site-Generated Traffic

The Glen at Widefield Fil. 9 (LSC #174850)





Approximate Scale
Scale: 1" = 2,000'



LEGEND:

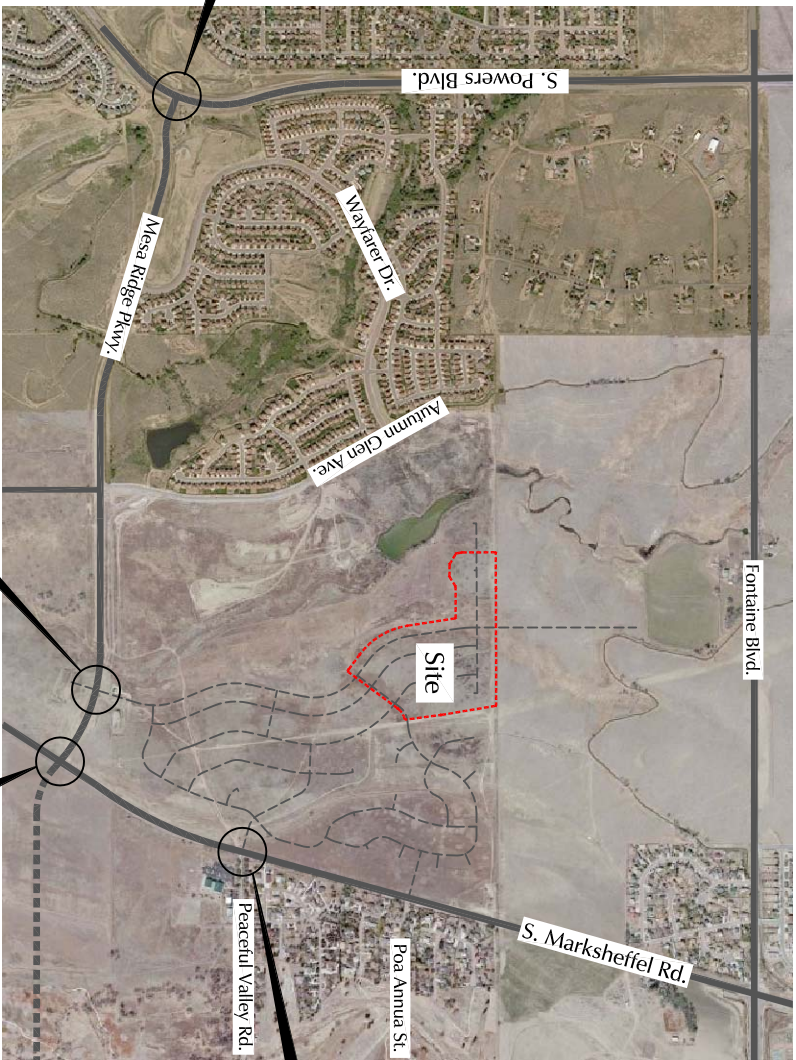
- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)

Short-Term
Total Traffic

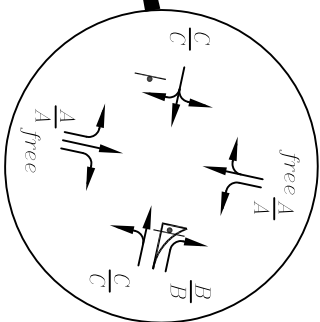
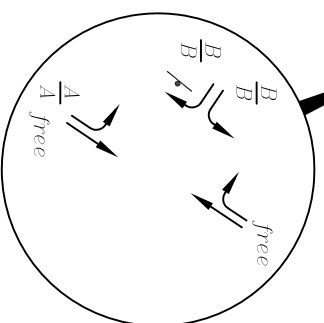
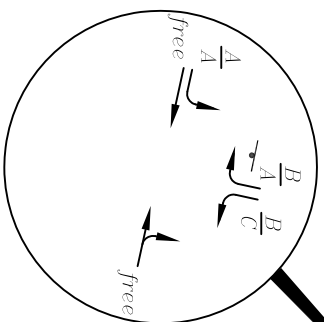
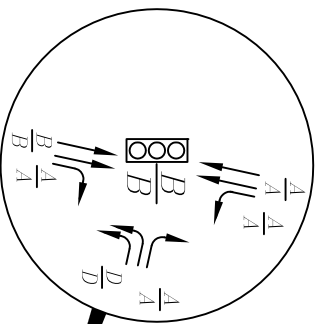
Figure 6a

The Glen at Wildfield Fil. 9 (LSC #174850)





Approximate Scale
Scale: 1" = 2000'



LEGEND:

⊥ = Stop Sign

⊙ = Traffic Signal

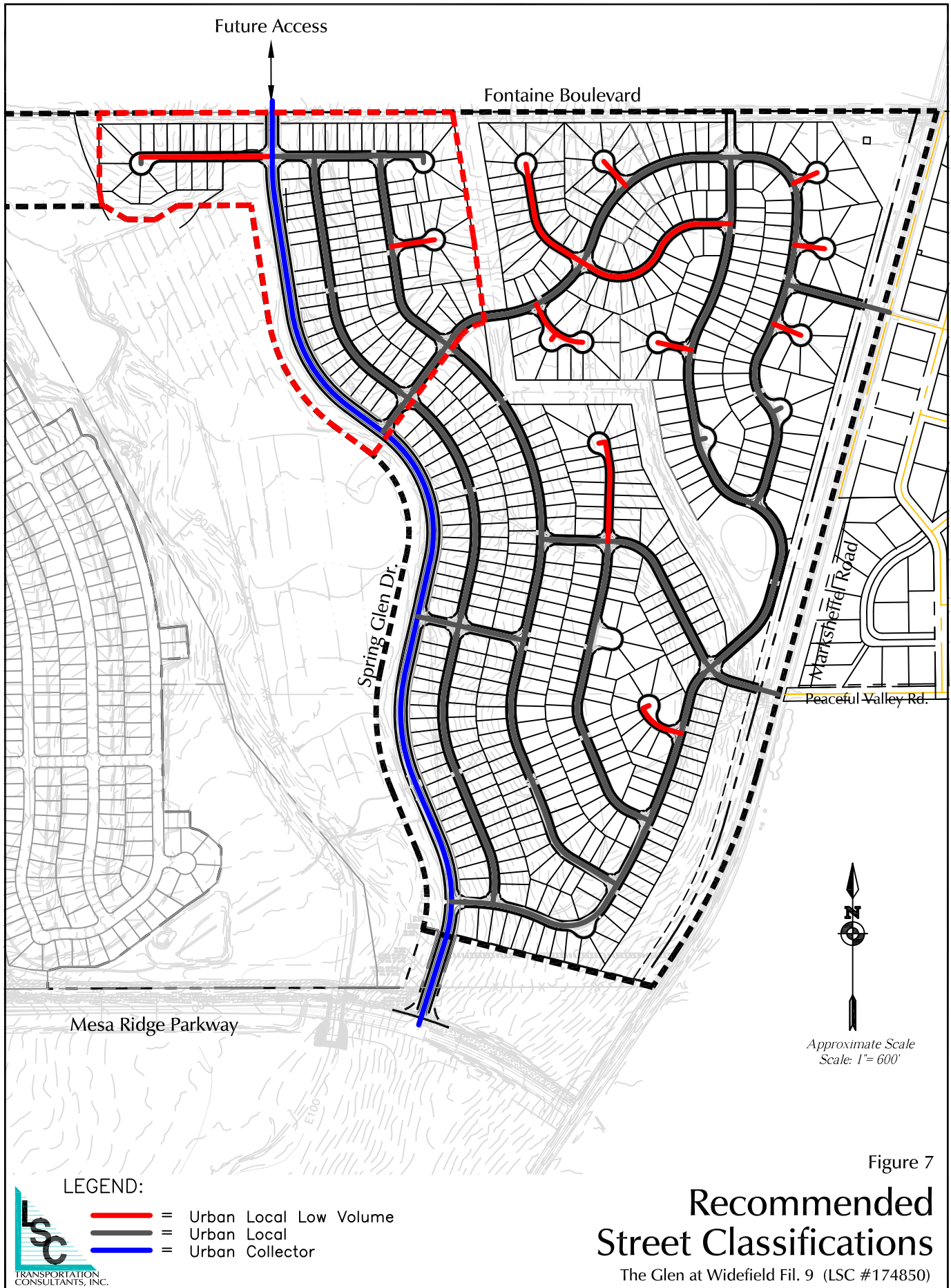
- $\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service
- $\frac{A}{B}$ = PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service
- $\frac{D}{D}$ = PM Entire Intersection Peak-Hour Level of Service

Figure 6b

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

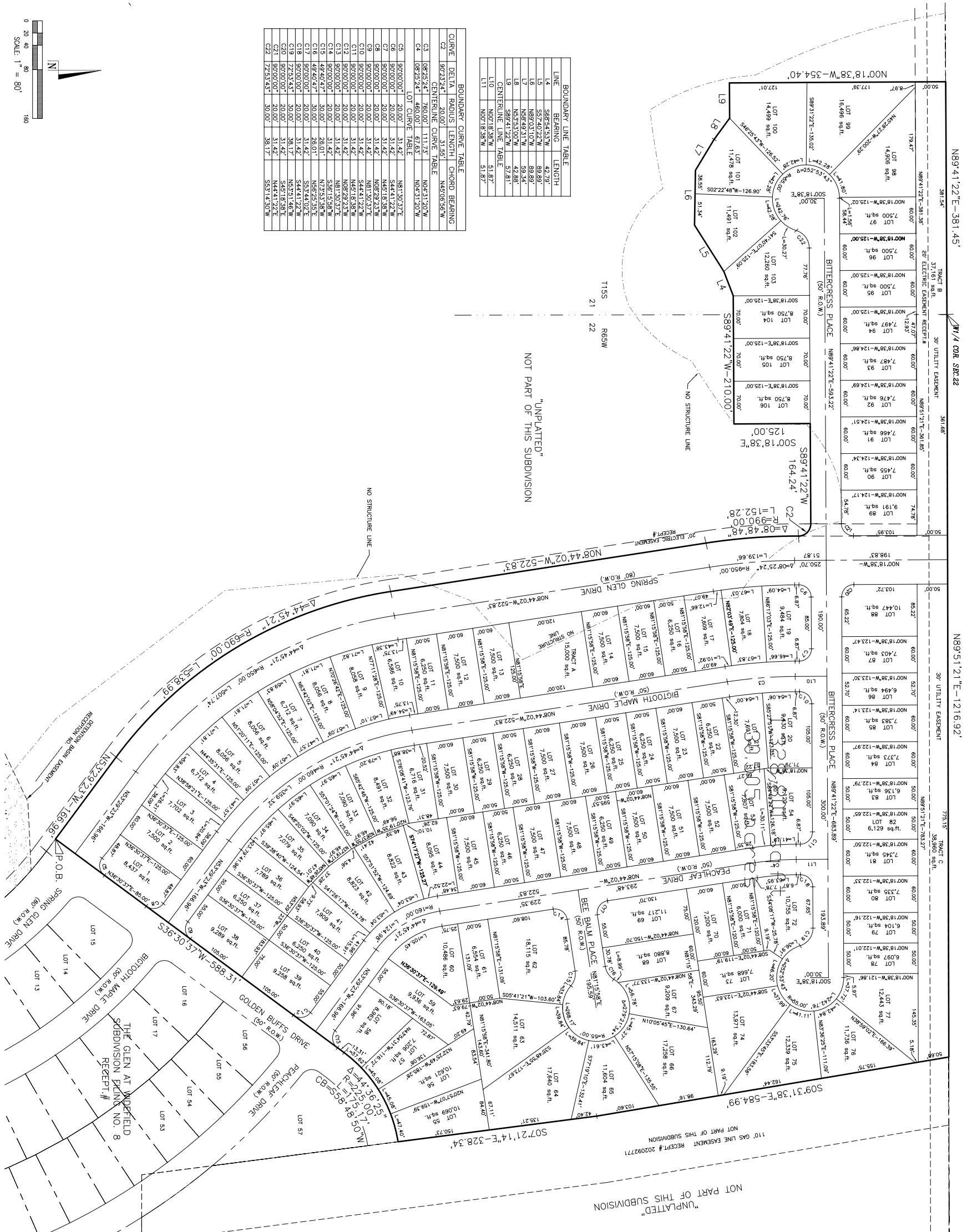
The Glen at Wildfield Fil. 9 (LSC #174850)





THE GLEN AT WIDEFIELD SUBDIVISION FILING NO. 9

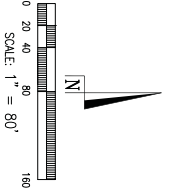
A portion of the Southeast One-quarter (SE1/4), Section 21 and the Southwest One-quarter (SW1/4) of Section 22 Township 15 South (T15S), Range 65 West (R65W) of the 6TH P.M. County of El Paso, State of Colorado



LINE	BEARING	LENGTH
L1	S89°41'22"W	51.87'
L2	N07°18'38"W	51.87'
L3	N07°18'38"W	51.87'
L4	S89°41'22"W	51.87'
L5	S82°45'32"W	13.21'
L6	S82°45'32"W	88.88'
L7	N86°03'10"W	89.89'
L8	N86°49'31"W	59.34'
L9	N85°53'00"W	42.88'

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING
C2	90°23'24"	20.00'	31.95'	N45°05'56"W
C3	N08°28'24"	480.00'	111.73'	N04°31'29"W
C4	N08°28'24"	480.00'	111.73'	N04°31'29"W

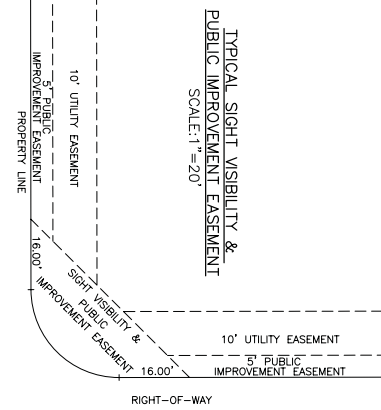
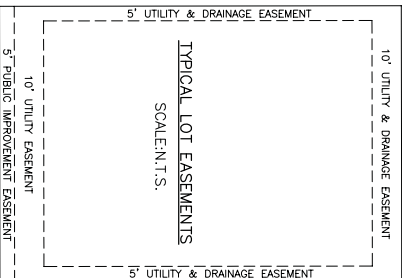
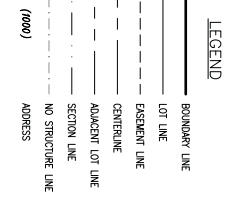
LOT	BEARING	LENGTH
1	S89°41'22"W	51.87'
2	N07°18'38"W	51.87'
3	N07°18'38"W	51.87'
4	S89°41'22"W	51.87'
5	S82°45'32"W	13.21'
6	S82°45'32"W	88.88'
7	N86°03'10"W	89.89'
8	N86°49'31"W	59.34'
9	N85°53'00"W	42.88'



PINNACLE LAND SURVEYING COMPANY, INC.
121 COUNTY ROAD 5, DIVIDE, CO 687-7360

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS BASED UPON FIRST DEFECT. SUITS MUST BE FILED IN THE COUNTY AND JUDICIAL DISTRICT WHERE THE DEFECT ORIGINATED. THIS NOTICE IS VALID FOR A PERIOD OF TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

THE GLEN AT WIDEFIELD SUBDIVISION FILING NO.9
DRAWN BY:MMW
JOB NO.:17003700
DATE:09/12/17
CHECKED BY:JMT
DWG:17003700DF.DWG
SHEET 2 OF 2



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Mesa Ridge Pkwy AM
 Site Code : 00174850
 Start Date : 11/29/2017
 Page No : 1

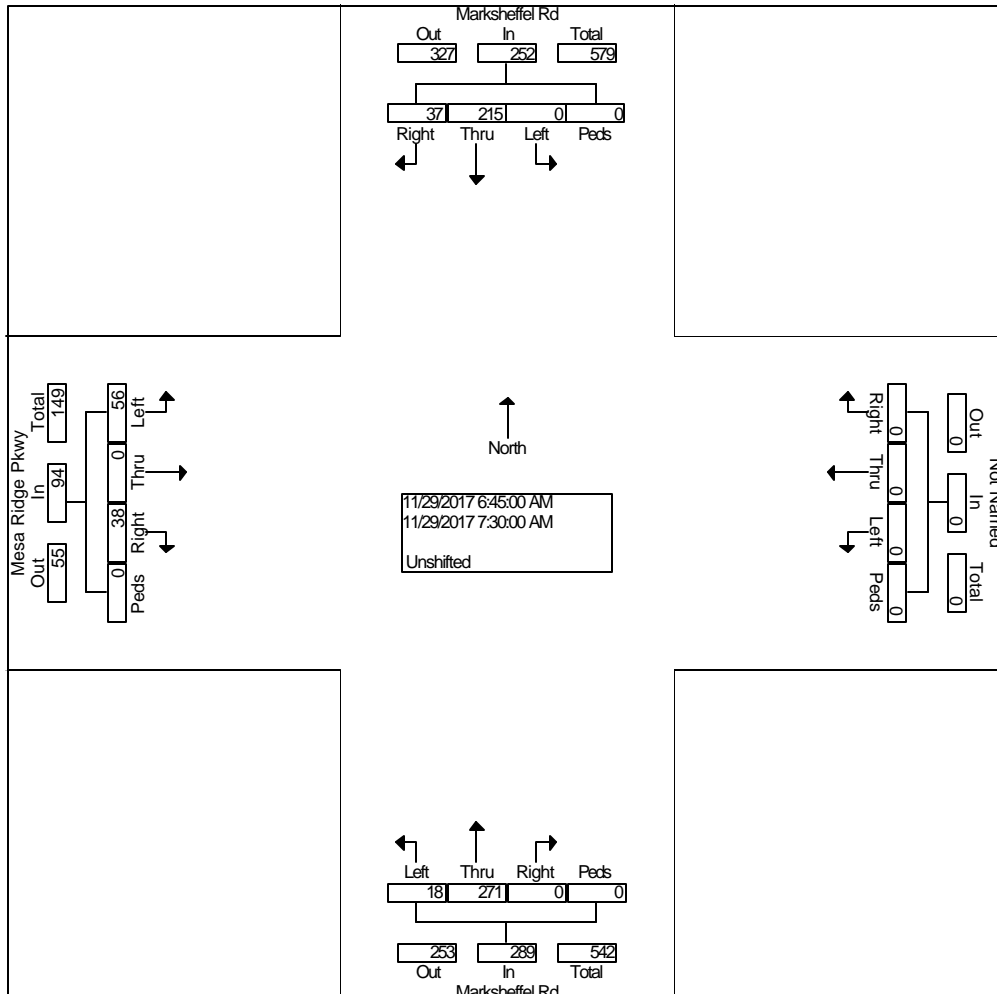
Groups Printed- Unshifted

Start Time	Marksheffel Rd From North				From East				Marksheffel Rd From South				Mesa Ridge Pkwy From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	13	39	0	0	0	0	0	0	0	59	3	0	7	0	16	0	137
06:45 AM	10	68	0	0	0	0	0	0	0	61	2	0	11	0	7	0	159
Total	23	107	0	0	0	0	0	0	0	120	5	0	18	0	23	0	296
07:00 AM	10	60	0	0	0	0	0	0	0	63	4	0	18	0	19	0	174
07:15 AM	11	51	0	0	0	0	0	0	0	67	3	0	3	0	14	0	149
07:30 AM	6	36	0	0	0	0	0	0	0	80	9	0	6	0	16	0	153
07:45 AM	10	41	0	0	0	0	0	0	0	69	3	0	8	0	12	0	143
Total	37	188	0	0	0	0	0	0	0	279	19	0	35	0	61	0	619
08:00 AM	17	38	0	0	0	0	0	0	0	32	6	0	2	0	16	0	111
08:15 AM	22	39	0	0	0	0	0	0	0	53	5	0	1	0	18	0	138
Grand Total	99	372	0	0	0	0	0	0	0	484	35	0	56	0	118	0	1164
Apprch %	21.0	79.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.3	6.7	0.0	32.2	0.0	67.8	0.0	
Total %	8.5	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.6	3.0	0.0	4.8	0.0	10.1	0.0	

Counts by LSC

File Name : Marksheffel Rd - Mesa Ridge Pkwy AM
 Site Code : 00174850
 Start Date : 11/29/2017
 Page No : 2

Start Time	Marksheffel Rd From North					From East					Marksheffel Rd From South					Mesa Ridge Pkwy From West					Int. Total
	Rig ht	Thru	Lef t	Pe ds	App. Total	Rig ht	Thru	Lef t	Pe ds	App. Total	Rig ht	Thru	Lef t	Pe ds	App. Total	Rig ht	Thru	Lef t	Pe ds	App. Total	
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	37	215	0	0	252	0	0	0	0	0	0	271	18	0	289	38	0	56	0	94	635
Percent	14.7	85.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	93.8	6.2	0.0		40.4	0.0	59.6	0.0		
07:00 Volume	10	60	0	0	70	0	0	0	0	0	0	63	4	0	67	18	0	19	0	37	174
Peak Factor	0.912																				
High Int.	06:45 AM																				
Volume	10	68	0	0	78	6:15:00 AM					07:30 AM					07:00 AM					
Peak Factor	0.80										0.81					0.63					5



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Mesa Ridge Pkwy PM

Site Code : 00174850

Start Date : 11/28/2017

Page No : 1

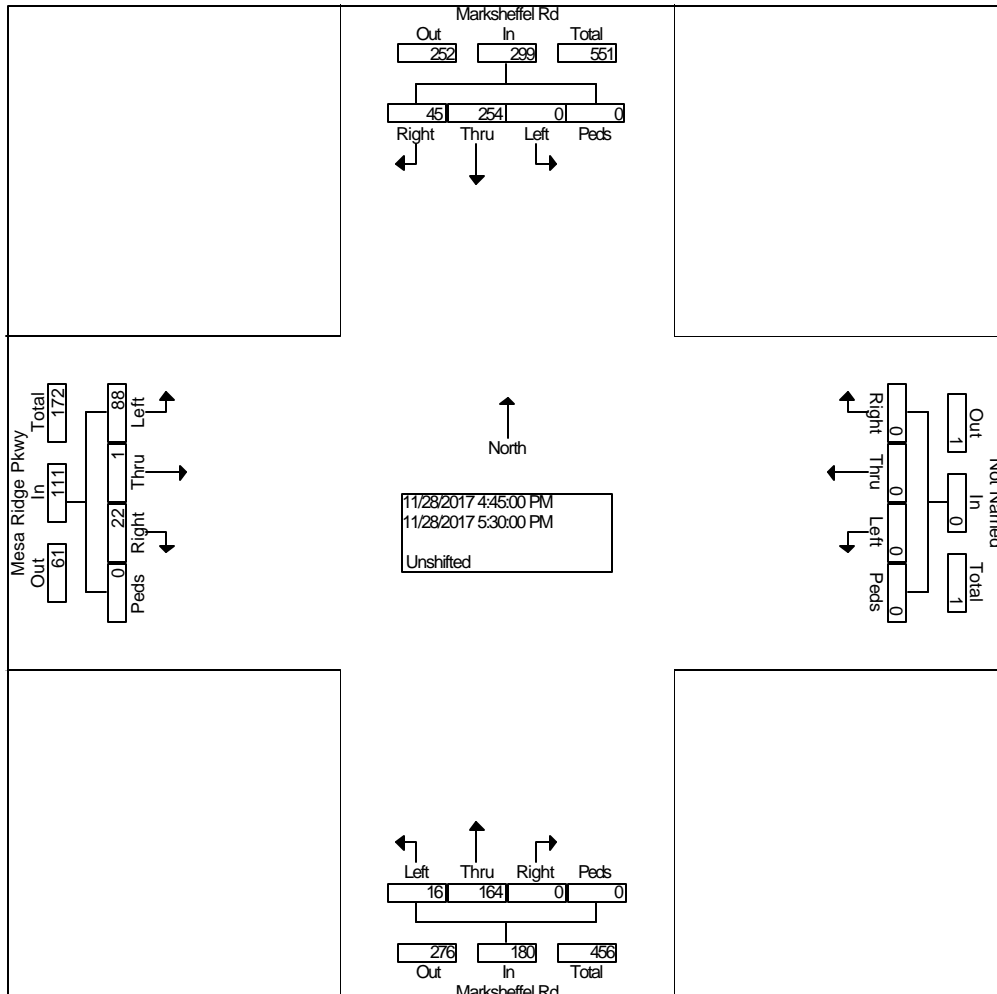
Groups Printed- Unshifted

Start Time	Marksheffel Rd From North				From East				Marksheffel Rd From South				Mesa Ridge Pkwy From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	1.0
04:00 PM	15	51	0	0	0	0	0	0	0	38	3	0	7	0	26	0	140
04:15 PM	13	54	0	0	0	0	0	0	0	49	3	0	3	0	21	0	143
04:30 PM	10	44	0	0	0	0	0	0	0	39	5	0	1	0	25	0	124
04:45 PM	16	83	0	0	0	0	0	0	0	39	3	0	3	0	18	0	162
Total	54	232	0	0	0	0	0	0	0	165	14	0	14	0	90	0	569
05:00 PM	9	46	0	0	0	0	0	0	0	40	4	0	5	1	28	0	133
05:15 PM	13	68	0	0	0	0	0	0	0	42	4	0	7	0	14	0	148
05:30 PM	7	57	0	0	0	0	0	0	0	43	5	0	7	0	28	0	147
05:45 PM	5	36	0	0	0	0	0	0	0	30	6	0	17	0	22	0	116
Total	34	207	0	0	0	0	0	0	0	155	19	0	36	1	92	0	544
Grand Total	88	439	0	0	0	0	0	0	0	320	33	0	50	1	182	0	1113
Apprch %	16.7	83.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.7	9.3	0.0	21.5	0.4	78.1	0.0	
Total %	7.9	39.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.8	3.0	0.0	4.5	0.1	16.4	0.0	

Counts by LSC

File Name : Marksheffel Rd - Mesa Ridge Pkwy PM
 Site Code : 00174850
 Start Date : 11/28/2017
 Page No : 2

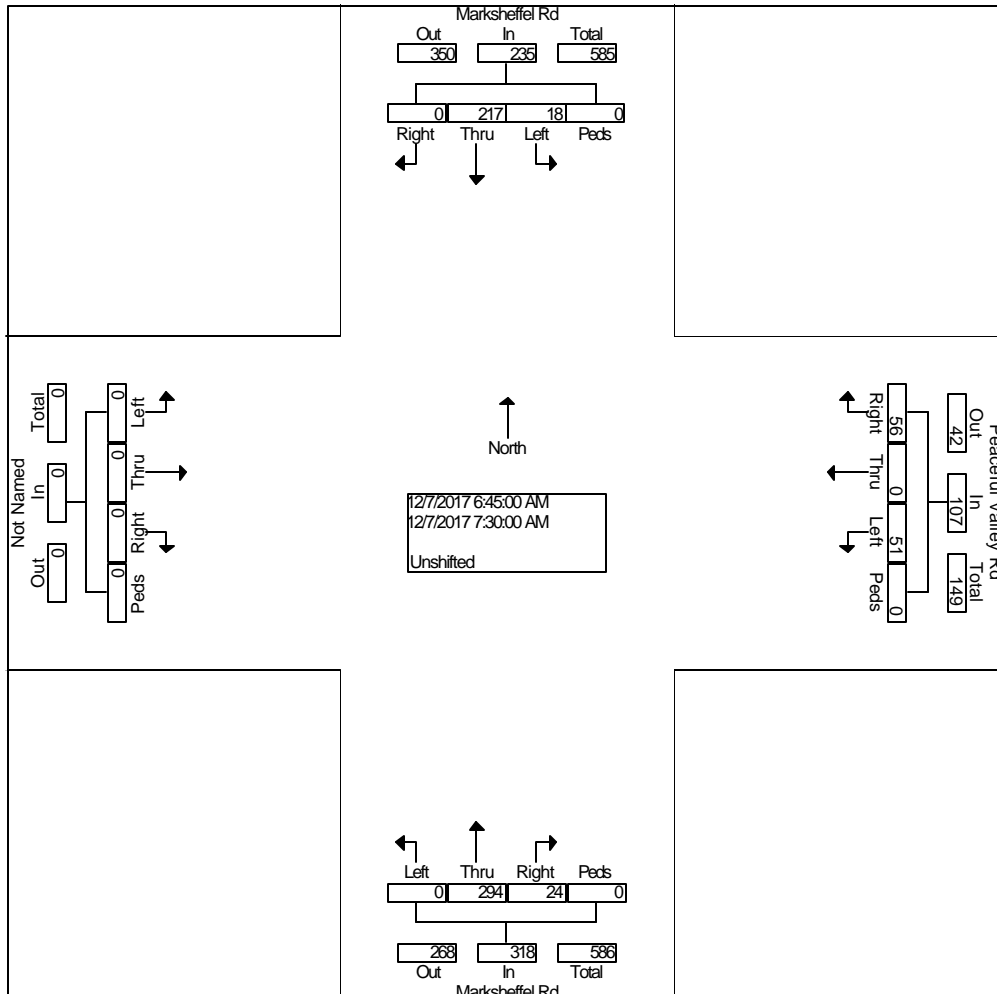
Start Time	Marksheffel Rd From North					From East					Marksheffel Rd From South					Mesa Ridge Pkwy From West					Int. Total
	Rig ht	Thru	Lef t	Pe ds	App. Total	Rig ht	Thru	Lef t	Pe ds	App. Total	Rig ht	Thru	Lef t	Pe ds	App. Total	Rig ht	Thru	Lef t	Pe ds	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	45	254	0	0	299	0	0	0	0	0	0	164	16	0	180	22	1	88	0	111	590
Percent	15.1	84.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	91.1	8.9	0.0		19.8	0.9	79.3	0.0		
04:45 Volume	16	83	0	0	99	0	0	0	0	0	0	39	3	0	42	3	0	18	0	21	162
Peak Factor																					
High Int.	04:45 PM																				
Volume	16	83	0	0	99	3:45:00 PM					05:30 PM					05:30 PM					
Peak Factor					0.75																0.93
					5																8



Counts by LSC

File Name : Marksheffel Rd - Peaceful Valley Rd AM
 Site Code : 00174850
 Start Date : 12/07/2017
 Page No : 2

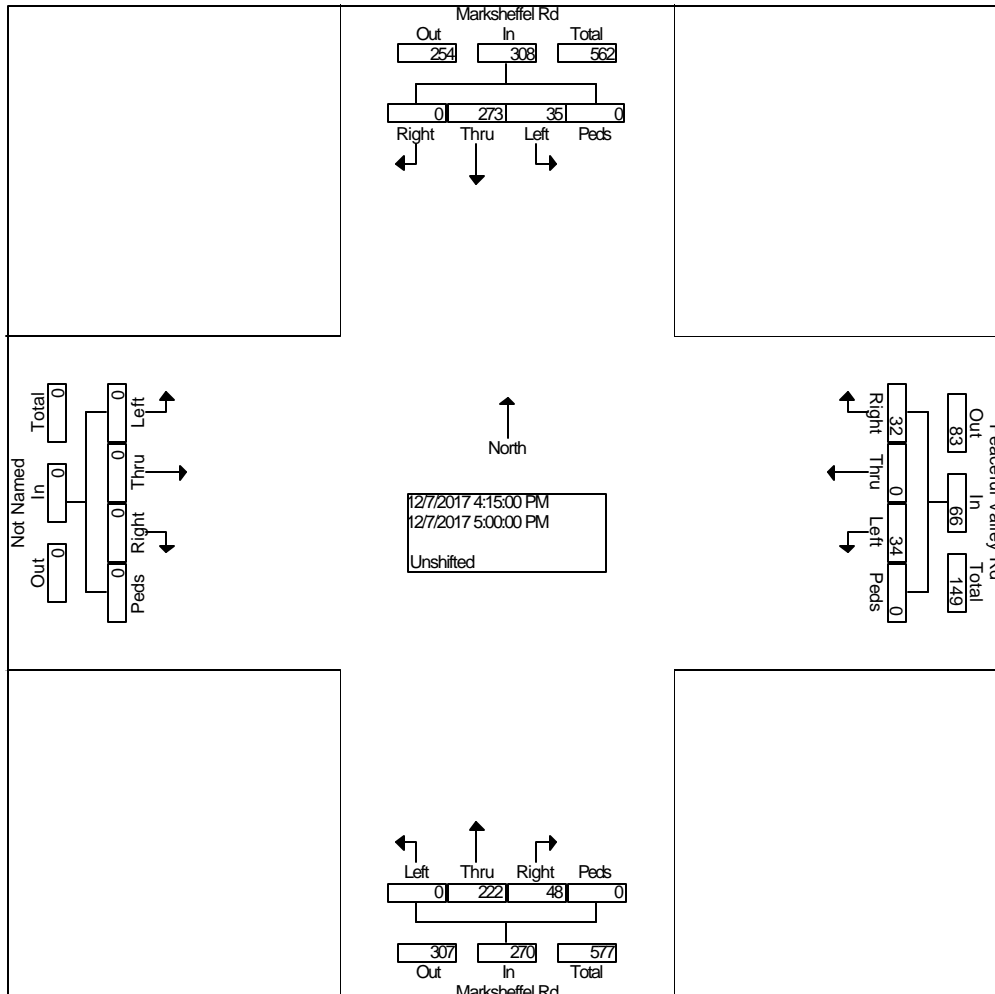
Start Time	Marksheffel Rd From North					Peaceful Valley Rd From East					Marksheffel Rd From South					From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	0	217	18	0	235	56	0	51	0	107	24	294	0	0	318	0	0	0	0	0	660
Percent	0.0	92.3	7.7	0.0		52.3	0.0	47.7	0.0		7.5	92.5	0.0	0.0		0.0	0.0	0.0	0.0		
07:00 Volume	0	64	8	0	72	21	0	22	0	43	4	88	0	0	92	0	0	0	0	0	207
Peak Factor																					
High Int. Volume	07:00 AM					07:00 AM					07:00 AM					6:15:00 AM					
Peak Factor	0.81					0.62					0.86										0.797
Factor	6					2					4										



Counts by LSC

File Name : Marksheffel Rd - Peaceful Valley Rd PM
 Site Code : 00174850
 Start Date : 12/07/2017
 Page No : 2

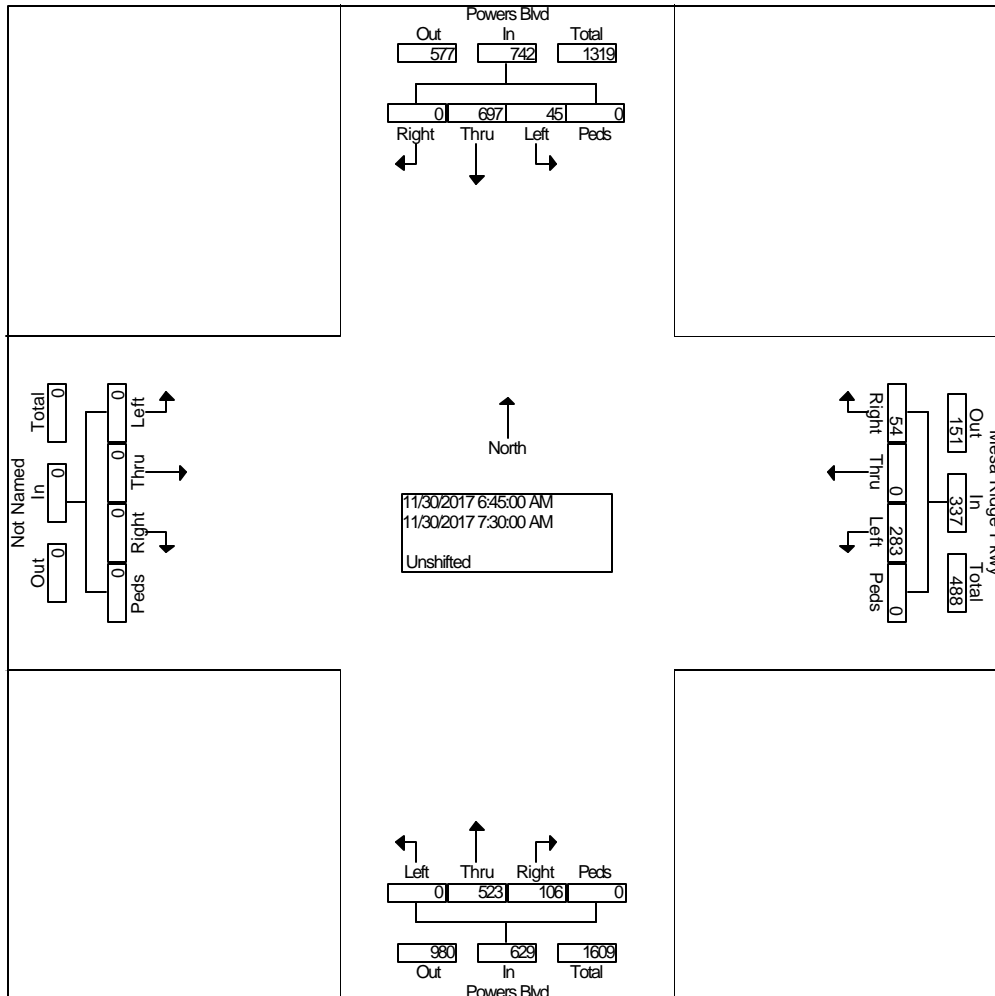
Start Time	Marksheffel Rd From North					Peaceful Valley Rd From East					Marksheffel Rd From South					From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	0	27	35	0	308	32	0	34	0	66	48	22	0	0	270	0	0	0	0	0	644
Percent	0.0	88.	11.	0.0		48.	0.0	51.	0.0		17.	82.	0.0	0.0		0.0	0.0	0.0	0.0		
		6	4			5		5			8	2									
04:15 Volume	0	74	10	0	84	6	0	10	0	16	13	59	0	0	72	0	0	0	0	0	172
Peak Factor																					0.936
High Int.	04:45 PM																				
Volume	0	77	10	0	87	9	0	9	0	18	13	69	0	0	82						
Peak Factor					0.88					0.91					0.82						
					5					7					3						



Counts by LSC

File Name : Powers Blvd - Mesa Ridge AM
 Site Code : 00174850
 Start Date : 11/30/2017
 Page No : 2

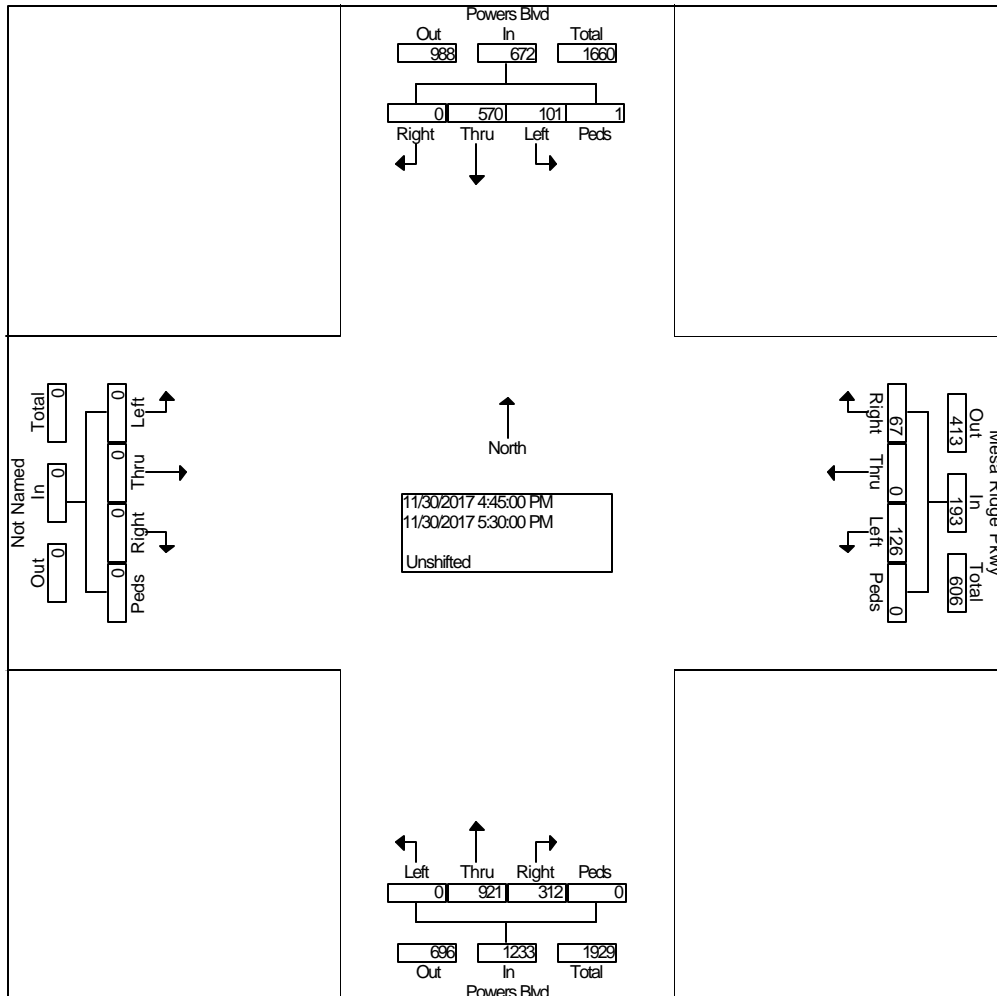
Start Time	Powers Blvd From North					Mesa Ridge Pkwy From East					Powers Blvd From South					From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	0	697	45	0	742	54	0	283	0	337	106	523	0	0	629	0	0	0	0	0	1708
Percent	0.0	93.9	6.1	0.0		16.0	0.0	84.0	0.0		16.9	83.1	0.0	0.0		0.0	0.0	0.0	0.0		
06:45 Volume	0	232	12	0	244	13	0	81	0	94	20	111	0	0	131	0	0	0	0	0	469
Peak Factor																					
High Int.	06:45 AM					06:45 AM					07:15 AM					6:15:00 AM					
Volume	0	232	12	0	244	13	0	81	0	94	36	136	0	0	172						
Peak Factor	0.760					0.896					0.914										



Counts by LSC

File Name : Powers Blvd - Mesa Ridge PM
 Site Code : 00174850
 Start Date : 11/30/2017
 Page No : 2

Start Time	Powers Blvd From North					Mesa Ridge Pkwy From East					Powers Blvd From South					From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	57	10	1	672	67	0	12	0	193	31	92	0	0	1233	0	0	0	0	0	2098
Percent	0.0	84.8	15.0	0.1		34.7	0.0	65.3	0.0		25.3	74.7	0.0	0.0		0.0	0.0	0.0	0.0		
04:45 Volume	0	153	24	0	177	16	0	30	0	46	85	243	0	0	328	0	0	0	0	0	551
Peak Factor	0.952																				
High Int.	05:15 PM					05:15 PM					04:45 PM					3:45:00 PM					
Volume	0	154	31	0	185	17	0	37	0	54	85	243	0	0	328						
Peak Factor	0.908										0.894					0.940					



HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Existing Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	51	56	303	24	18	217
Future Vol, veh/h	51	56	303	24	18	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	290	340	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	62	62	86	86	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	90	352	28	22	265

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	661	352	0	0	380
Stage 1	352	-	-	-	-
Stage 2	309	-	-	-	-
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	427	692	-	-	1178
Stage 1	712	-	-	-	-
Stage 2	745	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	419	692	-	-	1178
Mov Cap-2 Maneuver	419	-	-	-	-
Stage 1	698	-	-	-	-
Stage 2	745	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	419	692	1178
HCM Lane V/C Ratio	-	-	0.196	0.131	0.019
HCM Control Delay (s)	-	-	15.7	11	8.1
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0.4	0.1

HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Existing Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↘
Traffic Vol, veh/h	56	38	18	271	231	37
Future Vol, veh/h	56	38	18	271	231	37
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	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	100	100	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	59	18	271	257	41

Major/Minor

	Minor2	Major1	Major2		
Conflicting Flow All	564	257	298	0	0
Stage 1	257	-	-	-	-
Stage 2	307	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	487	782	1263	-	-
Stage 1	786	-	-	-	-
Stage 2	746	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	480	782	1263	-	-
Mov Cap-2 Maneuver	480	-	-	-	-
Stage 1	775	-	-	-	-
Stage 2	746	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s	12.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt

	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1263	-	480	782	-	-
HCM Lane V/C Ratio	0.014	-	0.182	0.076	-	-
HCM Control Delay (s)	7.9	-	14.2	10	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	0.2	-	-

Timings
 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

Existing Traffic
 AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	283	54	523	106	45	697
Future Volume (vph)	283	54	523	106	45	697
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	40.0	40.0	40.0	40.0	10.0	50.0
Total Split (%)	44.4%	44.4%	44.4%	44.4%	11.1%	55.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	21.5	21.5	51.4	51.4	58.5	58.5
Actuated g/C Ratio	0.24	0.24	0.57	0.57	0.65	0.65
v/c Ratio	0.74	0.14	0.34	0.14	0.10	0.30
Control Delay	42.2	7.3	13.1	3.2	7.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	7.3	13.1	3.2	7.7	8.0
LOS	D	A	B	A	A	A
Approach Delay	36.6		11.4			8.0
Approach LOS	D		B			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 15.0
 Intersection Capacity Utilization 46.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Existing Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	32	27	208	51	35	267
Future Vol, veh/h	32	27	208	51	35	267
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	290	340	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	98	98	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	31	212	52	40	303

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	595	212	0	0	264	0
Stage 1	212	-	-	-	-	-
Stage 2	383	-	-	-	-	-
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	467	828	-	-	1300	-
Stage 1	823	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	453	828	-	-	1300	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	453	828	1300	-
HCM Lane V/C Ratio	-	-	0.081	0.037	0.031	-
HCM Control Delay (s)	-	-	13.6	9.5	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Existing Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	88	22	16	171	254	45
Future Vol, veh/h	88	22	16	171	254	45
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	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	22	16	171	334	59

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	537	334	393	0	-	0
Stage 1	334	-	-	-	-	-
Stage 2	203	-	-	-	-	-
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	505	708	1166	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	498	708	1166	-	-	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1166	-	498	708	-	-
HCM Lane V/C Ratio	0.014	-	0.177	0.031	-	-
HCM Control Delay (s)	8.1	-	13.8	10.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	0.1	-	-

Timings
 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

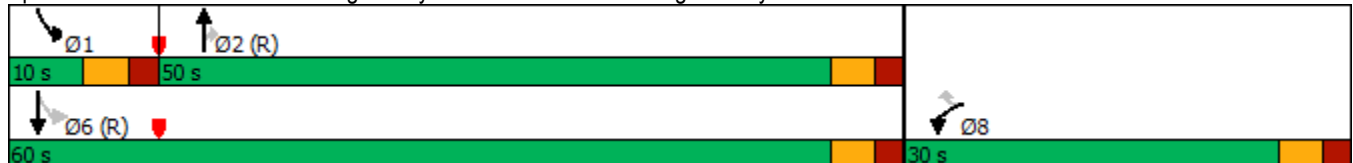
Existing Traffic
 PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	126	67	921	312	101	570
Future Volume (vph)	126	67	921	312	101	570
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	11.7	11.7	58.4	58.4	68.3	68.3
Actuated g/C Ratio	0.13	0.13	0.65	0.65	0.76	0.76
v/c Ratio	0.55	0.25	0.43	0.29	0.25	0.22
Control Delay	44.9	11.2	9.6	1.8	4.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	11.2	9.6	1.8	4.7	3.7
LOS	D	B	A	A	A	A
Approach Delay	33.2		7.6			3.9
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 8.7
 Intersection Capacity Utilization 50.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Short-Term Total Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	15	0	2	51	0	56	1	350	24	18	447	5
Future Vol, veh/h	15	0	2	51	0	56	1	350	24	18	447	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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	2	55	0	61	1	380	26	20	486	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	924	937	489	912	913	380	491	0	0	406	0	0
Stage 1	529	529	-	382	382	-	-	-	-	-	-	-
Stage 2	395	408	-	530	531	-	-	-	-	-	-	-
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	250	265	579	255	273	667	1072	-	-	1153	-	-
Stage 1	533	527	-	640	613	-	-	-	-	-	-	-
Stage 2	630	597	-	533	526	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	224	260	579	250	268	667	1072	-	-	1153	-	-
Mov Cap-2 Maneuver	224	260	-	250	268	-	-	-	-	-	-	-
Stage 1	532	518	-	639	612	-	-	-	-	-	-	-
Stage 2	572	596	-	522	517	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.2		16.9		0		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1072	-	-	241	250	667	1153	-	-
HCM Lane V/C Ratio	0.001	-	-	0.077	0.222	0.091	0.017	-	-
HCM Control Delay (s)	8.4	-	-	21.2	23.5	10.9	8.2	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	0.3	0.1	-	-

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	75	50	25	300	300	200
Future Vol, veh/h	75	50	25	300	300	200
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	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	54	27	326	326	217

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	706	326	543	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	380	-	-	-	-	-
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	402	715	1026	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	715	1026	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1026	-	492	715	-	-
HCM Lane V/C Ratio	0.026	-	0.166	0.076	-	-
HCM Control Delay (s)	8.6	-	13.8	10.4	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.2	-	-

HCM 6th TWSC
7: Mesa Ridge Pkwy & Spring Glen

Short-Term Total Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Vol, veh/h	39	118	223	2	7	115
Future Vol, veh/h	39	118	223	2	7	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	128	242	2	8	125

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	244	0	-	0	455 243
Stage 1	-	-	-	-	243 -
Stage 2	-	-	-	-	212 -
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	1322	-	-	-	563 796
Stage 1	-	-	-	-	797 -
Stage 2	-	-	-	-	823 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1322	-	-	-	545 796
Mov Cap-2 Maneuver	-	-	-	-	545 -
Stage 1	-	-	-	-	771 -
Stage 2	-	-	-	-	823 -

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1322	-	-	-	545	796
HCM Lane V/C Ratio	0.032	-	-	-	0.014	0.157
HCM Control Delay (s)	7.8	-	-	-	11.7	10.4
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.6

Timings
 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

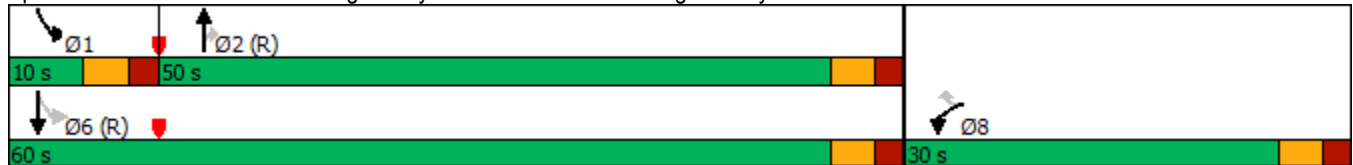
Short-Term Total Traffic
 AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	535	85	566	159	55	754
Future Volume (vph)	535	85	566	159	55	754
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	20.5	20.5	50.7	50.7	59.5	59.5
Actuated g/C Ratio	0.23	0.23	0.56	0.56	0.66	0.66
v/c Ratio	0.75	0.21	0.31	0.18	0.12	0.35
Control Delay	38.4	7.1	12.1	2.5	6.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	7.1	12.1	2.5	6.8	7.7
LOS	D	A	B	A	A	A
Approach Delay	34.1		10.0			7.6
Approach LOS	C		B			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 16.0
 Intersection LOS: B
 Intersection Capacity Utilization 46.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Short-Term Background Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	11	0	1	32	0	27	1	298	51	35	442	18
Future Vol, veh/h	11	0	1	32	0	27	1	298	51	35	442	18
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	1	34	0	28	1	314	54	37	465	19

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	892	919	475	865	874	314	484	0	0	368	0	0
Stage 1	549	549	-	316	316	-	-	-	-	-	-	-
Stage 2	343	370	-	549	558	-	-	-	-	-	-	-
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	263	271	590	274	288	726	1079	-	-	1191	-	-
Stage 1	520	516	-	695	655	-	-	-	-	-	-	-
Stage 2	672	620	-	520	512	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	246	262	590	267	279	726	1079	-	-	1191	-	-
Mov Cap-2 Maneuver	246	262	-	267	279	-	-	-	-	-	-	-
Stage 1	519	500	-	694	654	-	-	-	-	-	-	-
Stage 2	645	619	-	503	496	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.6		15.7		0		0.6	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	259	267	726	1191	-	-
HCM Lane V/C Ratio	0.001	-	-	0.049	0.126	0.039	0.031	-	-
HCM Control Delay (s)	8.3	-	-	19.6	20.4	10.2	8.1	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	100	25	25	250	325	150
Future Vol, veh/h	100	25	25	250	325	150
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	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	26	26	263	342	158

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	657	342	500	0	-	0
Stage 1	342	-	-	-	-	-
Stage 2	315	-	-	-	-	-
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	430	701	1064	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	420	701	1064	-	-	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	740	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1064	-	515	701	-	-
HCM Lane V/C Ratio	0.025	-	0.204	0.038	-	-
HCM Control Delay (s)	8.5	-	13.8	10.3	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	0.1	-	-

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Vol, veh/h	128	121	167	8	4	75
Future Vol, veh/h	128	121	167	8	4	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	127	176	8	4	79

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	184	0	-	0	577 180
Stage 1	-	-	-	-	180 -
Stage 2	-	-	-	-	397 -
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	1391	-	-	-	478 863
Stage 1	-	-	-	-	851 -
Stage 2	-	-	-	-	679 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1391	-	-	-	432 863
Mov Cap-2 Maneuver	-	-	-	-	432 -
Stage 1	-	-	-	-	768 -
Stage 2	-	-	-	-	679 -

Approach	EB	WB	SB
HCM Control Delay, s	4	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1391	-	-	-	432	863
HCM Lane V/C Ratio	0.097	-	-	-	0.01	0.091
HCM Control Delay (s)	7.9	-	-	-	13.4	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0	0.3

Timings
10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

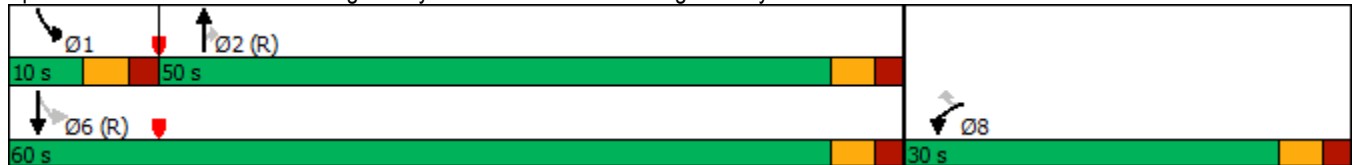
Short-Term Background Traffic
PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	287	87	996	417	135	617
Future Volume (vph)	287	87	996	417	135	617
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	13.2	13.2	54.1	54.1	66.8	66.8
Actuated g/C Ratio	0.15	0.15	0.60	0.60	0.74	0.74
v/c Ratio	0.60	0.30	0.49	0.39	0.36	0.25
Control Delay	40.7	10.0	11.8	2.2	6.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	10.0	11.8	2.2	6.3	4.2
LOS	D	A	B	A	A	A
Approach Delay	33.5		8.9			4.6
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 55.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Short-Term Total Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	24	0	2	51	0	56	1	353	24	18	450	6
Future Vol, veh/h	24	0	2	51	0	56	1	353	24	18	450	6
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	0	2	55	0	61	1	384	26	20	489	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	932	945	493	920	922	384	496	0	0	410	0	0
Stage 1	533	533	-	386	386	-	-	-	-	-	-	-
Stage 2	399	412	-	534	536	-	-	-	-	-	-	-
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	247	262	576	251	270	664	1068	-	-	1149	-	-
Stage 1	531	525	-	637	610	-	-	-	-	-	-	-
Stage 2	627	594	-	530	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	221	257	576	246	265	664	1068	-	-	1149	-	-
Mov Cap-2 Maneuver	221	257	-	246	265	-	-	-	-	-	-	-
Stage 1	530	516	-	636	609	-	-	-	-	-	-	-
Stage 2	569	593	-	519	514	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.7		17.1		0		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1068	-	-	232	246	664	1149	-	-
HCM Lane V/C Ratio	0.001	-	-	0.122	0.225	0.092	0.017	-	-
HCM Control Delay (s)	8.4	-	-	22.7	23.8	11	8.2	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.8	0.3	0.1	-	-

HCM 6th TWSC
6: Marksheffel Rd & Mesa Ridge Pkwy

Short-Term Total Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	53	26	300	300	203
Future Vol, veh/h	78	53	26	300	300	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	0	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	58	28	326	326	221

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	708	326	547	0	-	0
Stage 1	326	-	-	-	-	-
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	401	715	1022	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	390	715	1022	-	-	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1022	-	490	715	-	-
HCM Lane V/C Ratio	0.028	-	0.173	0.081	-	-
HCM Control Delay (s)	8.6	-	13.9	10.5	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.3	-	-

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	54	118	223	6	13	159
Future Vol, veh/h	54	118	223	6	13	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	128	242	7	14	173

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	249	0	-	0	492 246
Stage 1	-	-	-	-	246 -
Stage 2	-	-	-	-	246 -
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	1317	-	-	-	536 793
Stage 1	-	-	-	-	795 -
Stage 2	-	-	-	-	795 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1317	-	-	-	512 793
Mov Cap-2 Maneuver	-	-	-	-	512 -
Stage 1	-	-	-	-	759 -
Stage 2	-	-	-	-	795 -

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1317	-	-	-	512	793
HCM Lane V/C Ratio	0.045	-	-	-	0.028	0.218
HCM Control Delay (s)	7.9	-	-	-	12.2	10.8
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.8

Timings
 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

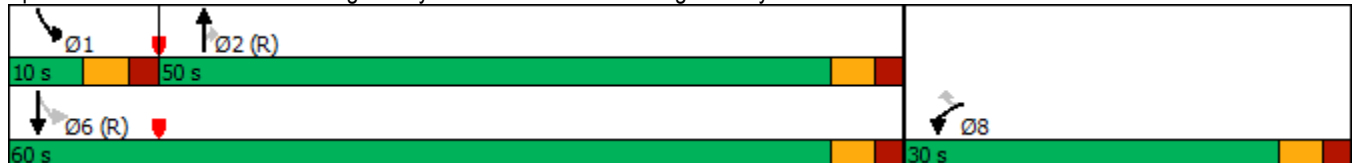
Short-Term Total Traffic
 AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	570	94	566	171	58	754
Future Volume (vph)	570	94	566	171	58	754
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	21.2	21.2	50.1	50.1	58.8	58.8
Actuated g/C Ratio	0.24	0.24	0.56	0.56	0.65	0.65
v/c Ratio	0.77	0.23	0.31	0.19	0.13	0.35
Control Delay	38.7	6.8	12.4	2.5	7.1	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	6.8	12.4	2.5	7.1	8.0
LOS	D	A	B	A	A	A
Approach Delay	34.2		10.1			7.9
Approach LOS	C		B			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 16.5
 Intersection LOS: B
 Intersection Capacity Utilization 47.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



HCM 6th TWSC
5: Marksheffel Rd & Peaceful Valley Rd

Short-Term Total Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	17	0	1	32	0	27	1	300	51	35	452	21
Future Vol, veh/h	17	0	1	32	0	27	1	300	51	35	452	21
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	0	1	35	0	29	1	326	55	38	491	23

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	935	962	503	907	918	326	514	0	0	381	0	0
Stage 1	579	579	-	328	328	-	-	-	-	-	-	-
Stage 2	356	383	-	579	590	-	-	-	-	-	-	-
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	246	256	569	257	272	715	1052	-	-	1177	-	-
Stage 1	501	501	-	685	647	-	-	-	-	-	-	-
Stage 2	661	612	-	501	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	230	248	569	250	263	715	1052	-	-	1177	-	-
Mov Cap-2 Maneuver	230	248	-	250	263	-	-	-	-	-	-	-
Stage 1	500	485	-	684	646	-	-	-	-	-	-	-
Stage 2	633	611	-	484	479	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.5		16.5		0		0.6	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1052	-	-	238	250	715	1177	-	-
HCM Lane V/C Ratio	0.001	-	-	0.082	0.139	0.041	0.032	-	-
HCM Control Delay (s)	8.4	-	-	21.5	21.7	10.3	8.2	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.5	0.1	0.1	-	-

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↗	↗	↙
Traffic Vol, veh/h	102	27	28	250	325	160
Future Vol, veh/h	102	27	28	250	325	160
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	0	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	111	29	30	272	353	174

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	685	353	527	0	-	0
Stage 1	353	-	-	-	-	-
Stage 2	332	-	-	-	-	-
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	414	691	1040	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	402	691	1040	-	-	-
Mov Cap-2 Maneuver	500	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1040	-	500	691	-	-
HCM Lane V/C Ratio	0.029	-	0.222	0.042	-	-
HCM Control Delay (s)	8.6	-	14.2	10.4	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	0.1	-	-

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Vol, veh/h	178	121	167	21	8	104
Future Vol, veh/h	178	121	167	21	8	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	193	132	182	23	9	113

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	205	0	-	0	712
Stage 1	-	-	-	-	194
Stage 2	-	-	-	-	518
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	1366	-	-	-	399
Stage 1	-	-	-	-	839
Stage 2	-	-	-	-	598
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1366	-	-	-	343
Mov Cap-2 Maneuver	-	-	-	-	343
Stage 1	-	-	-	-	721
Stage 2	-	-	-	-	598

Approach

	EB	WB	SB
HCM Control Delay, s	4.8	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1366	-	-	-	343	847
HCM Lane V/C Ratio	0.142	-	-	-	0.025	0.133
HCM Control Delay (s)	8.1	-	-	-	15.8	9.9
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.5	-	-	-	0.1	0.5

Timings
 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

Short-Term Total Traffic
 PM Peak Hour

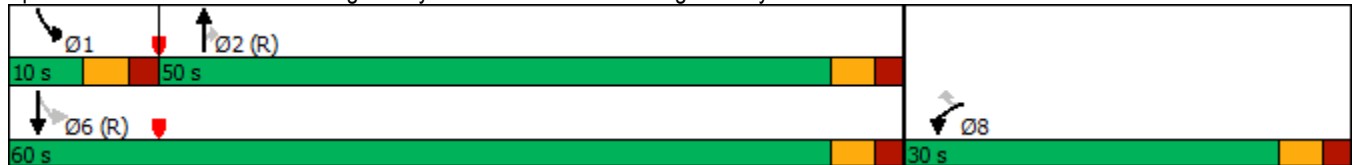
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	310	93	996	457	145	617
Future Volume (vph)	310	93	996	457	145	617
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	14.1	14.1	52.8	52.8	65.9	65.9
Actuated g/C Ratio	0.16	0.16	0.59	0.59	0.73	0.73
v/c Ratio	0.63	0.30	0.52	0.44	0.42	0.26
Control Delay	40.5	9.3	12.9	2.5	7.4	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	9.3	12.9	2.5	7.4	4.6
LOS	D	A	B	A	A	A
Approach Delay	33.3		9.7			5.1
Approach LOS	C		A			A

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 12.0
 Intersection Capacity Utilization 56.9%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



Queuing and Blocking Report

Intersection: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	278	331	68	206	157	66	63	168	141
Average Queue (ft)	163	208	22	103	40	29	29	90	55
95th Queue (ft)	267	300	46	166	100	57	55	151	111
Link Distance (ft)			824	517	517			1437	1437
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	350	350				150	1000		
Storage Blk Time (%)	0	0			0				
Queuing Penalty (veh)	0	0			0				

Queuing and Blocking Report

Intersection: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkwy

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	178	206	72	302	266	190	163	147	116
Average Queue (ft)	65	128	27	188	126	76	70	70	37
95th Queue (ft)	160	192	54	293	247	144	123	124	84
Link Distance (ft)			824	517	517			1624	1624
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	350	350				150	1000		
Storage Blk Time (%)					2	0			
Queuing Penalty (veh)					8	2			

Markup Summary

dsdlaforce (6)

transportation Memorandum
(LSC #174850)
January 24, 2018
[Add "PCD File No. SF185"](#)

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Author: dsdlaforce

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ing information were prepared under my res



Subject: Callout

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Author: dsdlaforce

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Expand the Mesa Ridge Parkway narrative to provide background information for the trigger to convert this to a 4-lane and what responsibilities (if any) the Glen at Widefield has.



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Obtain new traffic counts at all locations and update the analysis to reflect the fully operational condition of the traffic signal so the TIS analysis is representative of current conditions.



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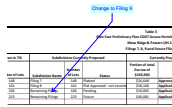
Author: dsdlaforce

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Contact and coordinate with EPC DPW and/or CDOT regarding these two proposed improvements to determine any additional requirements they may have, and update the narrative to summarize the outcome of the coordination. Submit construction plans for review (if required by DPW and/or CDOT).

With regards to Mesa Ridge Parkway dual WBLT, verify any CDOT access permit requirements. Update narrative to summarize the outcome of the coordination.



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Change to Filing 9



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The narrative noted Marksheffel Improvement is complete.