

LSC TRANSPORTATION CONSULTANTS, INC. 2504 East Pikes Peak Avenue, Suite 304 Colorado Springs, CO 80909 (719) 633-2868 FAX (719) 633-5430

E-mail: lsc@lsctrans.com

Website: http://www.lsctrans.com

### Eagle Rising Preliminary Plan Transportation Memorandum

(LSC #S224260) SP205 July 6, 2023

(w/ September 15, 2023 Minor Revision)

#### **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.



#### **Developer's Statement**.

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

\_Stept Jacob Ja\_\_\_\_

7/6/23 Date

# **Eagle Rising Preliminary Plan Traffic Technical Memorandum**

My Pad, Inc. | Developer Attn: Mr. Stephen J. Jacobs, Jr. P.O. Box 2076 Colorado Springs, CO 80901-2076

JULY 6, 2023 (w/ minor revision September 15, 2023)

LSC Transportation Consultants Prepared by: Kirstin D. Ferrin, P.E. Reviewed by: Jeffrey C. Hodsdon, P.E.

PCD File No.: SP205 LSC #S224260



### **CONTENTS**

REPORT CONTENTS	1
RECENT TRAFFIC REPORTS	2
CURRENTLY PROPOSED LAND USE AND ACCESS	2
Land Use and Vehicle Access	2
Project Phasing	2
Sight Distance Analysis	2
Pedestrian and Bicycle Access/Multimodal Options	3
EXISTING ROAD AND TRAFFIC CONDITIONS	3
Existing Traffic Volumes	4
Existing Levels of Service	4
BACKGROUND TRAFFIC	5
TRIP GENERATION	6
TRIP DISTRIBUTION AND ASSIGNMENT	6
TOTAL TRAFFIC	7
PROJECTED LEVELS OF SERVICE	7
SUBDIVISION ROADWAY CLASSIFICATIONS	7
AREA MTCP 2040 ROADWAY IMPROVEMENT PROJECTS	8
AUXILLIARY TURN LANES	8
WAIVERS AND DEVIATON REQUESTS	8
Previously Approved Items	8
Currently Requested Items	8
TRANSPORTATION IMPROVEMENT FEE PROGRAM	9
Enclosures:	9

Table 1

Figures 1-10

Traffic Counts

Levels of Service

MTCP Maps

Appendix Table 1



LSC TRANSPORTATION CONSULTANTS, INC. 2504 East Pikes Peak Avenue, Suite 304 Colorado Springs, CO 80909 (719) 633-2868 FAX (719) 633-5430

E-mail: <a href="mailto:lsc@lsctrans.com">lsc@lsctrans.com</a>

Website: http://www.lsctrans.com

July 6, 2023 (w/ minor revision September 15, 2023)

My Pad, Inc. | Developer Attn: Mr. Stephen J. Jacobs, Jr. P.O. Box 2076 Colorado Springs, CO 80901-2076

RE: Eagle Rising Preliminary Plan
Traffic Technical Memorandum
El Paso County, Colorado
PCD File No.: SP205

LSC #S224260

Dear Mr. Jacobs:

In response to your request, we have prepared this traffic technical memorandum for the proposed Eagle Rising Preliminary Plan in El Paso County, Colorado. The site, shown in Figure 1, is located generally east of Black Forest Road and north of the future Briargate Parkway. The site is planned to contain 17 lots for single-family homes (15 lots for new homes and two lots for existing homes). Access to the site is planned via extensions of Kurie Road and Eagle Wing Drive. The "Waivers and Deviation Requests" section of this report has been revised since the previous report.

#### REPORT CONTENTS

The preparation of this report included the following:

- A list of traffic reports completed by LSC Transportation Consultants, Inc. for other area developments in the vicinity of the site;
- 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;
- Estimates of projected short-term and long-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;

Mr. Stephen J. Jacobs, Jr. Eagle Rising Preliminary Plan

- The projected short-term and long-term average weekday total traffic volumes on the area roadways;
- The recommended street classifications and roadway surfaces for the internal streets within the proposed development;
- 2040 roadway improvement projects within the study area; and
- The project's obligation to the County roadway improvement fee program.

#### **RECENT TRAFFIC REPORTS**

A list of other traffic studies in the area of study completed within the past five years (that LSC is aware of) is attached for reference. This study accounts for the land use, trip generation, and the roadway network included in these studies.

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

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

The 70.8-acre site currently has two single-family homes. Eagle Wing Estates is located just west of the site and the Highland Park residential development is located south of the site. The Park Forest Estates subdivision exists north of the site.

The Preliminary Plan shows the site subdivided into lots for 17 single-family homes (including lots for the existing homes). The plan is shown in Figure 2.

One of the existing homes and twelve of the proposed homes would have access to an extension of Eagle Wing Drive (as a private, gravel roadway) and one of the existing homes and three proposed homes would have access via a short extension of Kurie Road (the plan shows a proposed relocation of the existing cul-de-sac on Kurie Road to the south – just south of the property line).

#### **Project Phasing**

The project will include a first phase (Filing No. 1) and "future development" (future phase(s)). Filing No. 1 is being submitted concurrent with the Preliminary Plan. Please refer to the attached Copy of the Preliminary Plan and the Filing No. 1 exhibit, for reference. A separate LSC memo has also been prepared for inclusion in the Filing No. 1 application. Filing 1 will include ten lots – two will be for the existing dwelling units and eight will be lots for new homes. Please refer to the LSC memo for Filing 1 for details.

#### **Sight Distance Analysis**

No new access points to Black Forest Road are proposed as part of the currently proposed preliminary plan.

#### Pedestrian and Bicycle Access/Multimodal Options

This is planned as a rural subdivision and it is surrounded by rural subdivisions. Sidewalks are not required along the roadways in rural subdivisions and generally bicycles are accommodated on the local roadways.

There are currently no sidewalks or bike lanes/shoulders along Black Forest Road. The Wolf Ranch development west of Black Forest Road is progressing to the east and will likely be developed in the short term. Pedestrian facilities and connections will become available in the future west of Black Forest Road. The Briargate/Stapleton corridor is currently under study.

The closest existing school, Legacy Peak Elementary School, is located southwest of the intersection of Black Forest Road and Research Parkway about one and a half miles from the site. Busing will be necessary for this subdivision and is likely already in place for the adjacent Eagle Wing subdivision.

There is a Park & Ride facility located about two miles to the south on the northwest corner of Woodmen and Black Forest Road.

#### **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 each of them have been attached to this report.

**Black Forest Road** is generally a paved two-lane rural roadway that begins just south of Woodmen Road and extends north, ultimately terminating at County Line Road. Black Forest Road is classified as a Principal Arterial between Research Parkway and Briargate Parkway and a Minor Arterial north of Briargate Parkway. South of Vollmer Road, Black Forest Road has two through lanes in each direction and a posted speed limit of 45 miles per hour (mph). Black Forest Road narrows to one through lane in each direction at Vollmer Road. Long-range transportation plans show Black Forest Road as a four-lane arterial.

Briargate Parkway currently extends east from Interstate 25 to Wolf Lake Drive located within the Wolf Ranch Master Plan area. This existing section is classified as a six-lane, Principal Arterial on the City of Colorado Springs' *Major Thoroughfare Plan (MTP)*. Currently there is also a short section of Briargate Parkway from Black Forest Road to Rising Eagle Place. This section of Briargate is about 25 feet wide and has a posted speed limit of 25 mph. Briargate Parkway is planned to be extended to Black Forest Road in the short-term future and extended east of Black Forest Road to connect with Stapleton Road in unincorporated El Paso County by 2040, per the 2016 El Paso County *Major Transportation Corridors Plan (MTCP)* 2040 Roadway Plan. The Briargate/Stapleton corridor east of Black Forest Road is currently under study.

**Kurie Road** is a two-lane gravel road that extends south from Tobin Road to the north edge of the Eagle Rising site. The Preliminary Plan shows proposed ROW to allow for the proposed short extension and platting of a relocated cul-de-sac bulb just south of the property line. This would allow for the proposed extension of Kurie Road to just inside the site and for a new roadway termination in a publicly-owned and maintained gravel-surfaced cul-de-sac to serve four proposed lots depicted on the Preliminary Plan within Eagle Rising.

Kurie Road will continue to end in a cul-de-sac just south of the property line. It will not be extended through the site as a continuous roadway connection to either Eagle Wing Drive or Briargate Parkway. Park Forest Estates (north of the site) does not need a through-road connection to the south as there are multiple roadway connections to Black Forest Road to the west and Burgess Road to the north. Also, there is the potential for a future connection to Vollmer Road via Wildflower Road in the future. Eagle Wing Subdivision also does not need a road connection through this site, as there are multiple access points to the adjacent arterial roadways.

**Eagle Wing Drive** is a paved two-lane residential street that extends from Black Forest Road to the site boundary. The intersection of Eagle Wing Drive and Black Forest Road is restricted to right-in/right-out only. Eagle Wing Drive is planned to be extended east and terminate in a cul-de-sac to serve 13 of the proposed lots and the existing home within Eagle Rising. This new road, Eagle Wing View, is proposed to be gravel-surfaced, and will be privately owned, and maintained by the homeowner's association (HOA).

**Rising Eagle Place** is a paved two-lane residential street that extends north from the current terminus of Briargate Parkway to Eagle Wing Drive. Once Briargate Parkway is extended east to Vollmer Road, the intersection of Briargate Parkway and Rising Eagle Place may be restricted to a three-quarter-movement or right-in/right-out only intersection. The future intersection configuration is likely to be determined with the Stapleton corridor study (PPRTA/EPC).

#### **Existing Traffic Volumes**

Figure 3 shows the existing morning and afternoon peak-hour traffic volumes at the intersections of Briargate/Black Forest and Eagle Wing/Black Forest. These volumes are based on manual intersection turning-movement counts conducted by LSC in December 2022. The count-data sheets are attached for reference.

#### **Existing Levels 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** 

	Signalized Intersections	Unsignalized Intersections
Level of Service	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) <sup>(1)</sup>
А	10 sec or less	10 sec or less
В	10-20 sec	10-15 sec
С	20-35 sec	15-25 sec
D	35-55 sec	25-35 sec
E	55-80 sec	35-50 sec
F	80 sec or more	50 sec or more
(1) For unsignalized	intersections if V/C ratio is	greater than 1.0 the level of

<sup>(1)</sup> 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.

Figure 3 presents the results of the existing intersection level of service analysis. The intersections of Briargate/Black Forest and Eagle Wing/Black Forest were analyzed based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6<sup>th</sup> Edition* by the Transportation Research Board. The peak-hour factors used for each approach are based on the traffic volumes for the peak fifteen minutes of the entire intersection. If the peak 15 minutes for an approach occurs during an interval other than the peak 15 minutes of the entire intersection, the suggested peak-hour value, based on the total approach volume from Table 9-1 of the *Synchro Studio 10 User Guide*, was used instead. The level of service reports are attached.

All movements at the intersections of Briargate/Black Forest and Eagle Wing/Black Forest are currently operating at LOS B or better during the peak hours.

#### **BACKGROUND TRAFFIC**

Background traffic is the traffic estimated to be on the adjacent streets without consideration of the proposed development's trip generation. It includes through traffic and traffic generated by adjacent developments but assumes zero traffic generated by the site. Background traffic assumes adjacent street extensions and the proposed new subdivision streets are in place but does not include trips to be added by this project.

Background traffic for the long term (2040) is shown in Figures 4a and 4b. Background traffic volumes are estimates by LSC, based on volumes shown in the El Paso County 2040 *MTCP* on work completed for other area developments. Long-term background traffic on Briargate Parkway assumes the completed roadway east and west of the site. The volumes shown in Figure 4a assume the intersection of Briargate/Rising Eagle will be restricted to right-in/right-out only once Briargate Parkway is extended east and constructed to its final cross section. The volumes shown in Figure 4b assume the intersection of Briargate/Rising Eagle will be restricted to three-quarter movement (left-in/right-in/right-out only). The future intersection configuration

Mr. Stephen J. Jacobs, Jr. Eagle Rising Preliminary Plan

is likely to be determined with the Stapleton corridor study (PPRTA/EPC). A draft copy of this study was completed in December 2021.

#### **TRIP GENERATION**

The site-generated vehicle trips were estimated using the nationally published trip-generation rates from *Trip Generation*, 11th Edition, 2021 by the Institute of Transportation Engineers (ITE). Table 1 shows the trip-generation estimates.

Eagle Rising is projected to generate about 141 new external vehicle trips on an 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 three vehicles would enter and eight 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 nine vehicles would enter and five vehicles would exit the site.

#### TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of site-generated traffic on the adjacent roads is an important factor in the determination of the traffic impacts of the site. The specific short-term and long-term distribution estimates for the site-generated traffic are shown in Figure 5. The estimates are based on the following factors: the location of the site with respect to area residential, employment, commercial, and activity centers and the balance of the Colorado Springs area; the land uses proposed for the site; the proposed access system for the site; the roadway system serving the site; and future traffic patterns as indicated by the Wolf Ranch Master Plan Study by LSC. The short-term distribution estimates assume the existing roadway system. The long-term distribution estimates assume Briargate Parkway has been completed east and west of the site.

When the distribution percentages in Figure 5 are applied to the trip-generation estimates shown in Table 1, the site-generated traffic volumes on the adjacent streets can be determined. Figure 6 shows the short-term site-generated traffic volumes for this development. The short-term assignment assumes the existing roadway system. Figures 7a and 7b show the long-term site-generated traffic volumes for this development. The volumes shown in Figure 7a assume the intersection of Briargate/Rising Eagle will be restricted to right-in/right-out only, once Briargate Parkway is extended east and constructed to its final cross section. The volumes shown in Figure 7b assume the intersection of Briargate/Rising Eagle will be restricted to three-quarter movement (left-in/right-in/right-out only). The future intersection configuration is likely to be determined with the Stapleton corridor study (PPRTA/EPC).

Page 7

#### **TOTAL TRAFFIC**

The short-term total traffic volumes are shown in Figure 8. The short-term total traffic volumes are the sum of the short-term site-generated volumes from Figure 6 plus the existing traffic volumes from Figure 3.

The 2040 total traffic volumes are shown in Figures 9a and 9b. The volumes shown in Figure 7a assume the intersection of Briargate/Rising Eagle will be restricted to right-in/right-out only, once Briargate Parkway is extended east and constructed to its final cross section. The volumes shown in Figure 7b assume the intersection of Briargate/Rising Eagle will be restricted to three-quarter movement (left-in/right-in/right-out only). The 2040 total traffic volumes are the sum of the long-term site-generated traffic volumes from Figures 7a and 7b, plus the 2040 background traffic volumes from Figures 4a and 4b.

#### PROJECTED LEVELS OF SERVICE

The intersections Briargate/Black Forest and Eagle Wing/Black Forest have been analyzed to determine the projected short-term levels of service based on the unsignalized method of analysis procedures from the *Highway Capacity Manual*, 6<sup>th</sup> Edition by the Transportation Research Board and Synchro signalized intersection procedures. The results of the analysis are contained in Figure 8. The level of service reports are attached.

All movements at the intersections of Briargate/Black Forest and Eagle Wing/Black Forest are projected to continue to operate at LOS B or better with the addition of site-generated traffic.

Please refer to the Draft *Briargate-Stapleton Corridor Study Appendix B: Traffic Report* by Wilson and Company dated December 9, 2021 for the long-term analysis.

#### **SUBDIVISION ROADWAY CLASSIFICATIONS**

Figure 10 shows the recommended roadway classifications and roadway surfaces for roadways within the Eagle Rising development. Figures 9a and 9b show a comparison of the projected average weekday traffic volumes on key street segments and the design-average-day traffic volumes from Tables 2-5 and 2-6 from the *El Paso County Engineering Criteria Manual*.

#### 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:

- C11: Black Forest Road, from Hodgen Road to Stapleton Drive [Briargate Parkway], as a 2-Lane Minor Arterial.
- U11: Black Forest Road, from Stapleton Drive [Briargate Parkway] to 1300 feet south of Silver Pond Heights, as a 4-Lane Minor Arterial.
- N5 Stapleton Drive [Briargate Parkway], from Towner Road to Black Forest Road, as a 4-Lane Urban Principal Arterial.

#### **AUXILLIARY TURN LANES**

- Based on the short-term total traffic volumes shown in Figure 8 and the criteria contained in
  the El Paso County Engineering Criteria Manual (ECM), a northbound right-turn deceleration
  lane and a southbound left-turn lane are not required on Black Forest Road approaching
  Briargate Parkway. For long-term improvements, please refer to the Draft
  Briargate-Stapleton Corridor Study Appendix B: Traffic Report by Wilson and Company dated
  December 9, 2021. An additional reference is the Black Forest Road Widening Project Traffic
  Impact Study (DRAFT) prepared by AECOM for the City of Colorado Springs and PPRTA
  (November 2019).
- There is an existing northbound right-turn deceleration lane on Black Forest Road approaching Eagle Wing Drive. The southbound approach is signed for no-left-turns and there is a raised island on Eagle Wing Drive that prevents vehicles from turning left. Therefore, a southbound left-turn lane is not needed.

#### **WAIVERS AND DEVIATON REQUESTS**

#### **Previously Approved Items**

During the 2020 Eagle Rising Preliminary Plan Reinstatement application process (SF-20-012), the applicant requested a waiver to LDC 8.4.4.C allowing for Eagle Wing Drive (now View) to be a private roadway rather than a public roadway. The BoCC approved the requested waiver in their December 8, 2020 Resolution No. 20-423

A deviation for length of cul-de-sac was previously approved following the 2013 submittal.

#### **Currently Requested Items**

A separate subdivision waiver is submitted with the Subdivision application pursuant to LDC Section 8.4.4(E)(3) to allow private roadway having gravel surface as currently constructed and design speed of 20 mph. Please refer to the waiver request included with this submittal for additional details.

Mr. Stephen J. Jacobs, Jr. Eagle Rising Preliminary Plan

A deviation from the standards of or in Section 2.2.4 Roadway Functional Classifications, Section 6, Figure 2.8 and Appendix F SD 2-10 of the Engineering Criteria Manual (ECM) is requested. The request is to allow a private roadway cross section that differs from the ECM standards for Rural Gravel Roadway. Specifically, lane width of 11 feet, shoulder width of 2 feet for total road width of 26 feet, foreslope of 4:1 and elimination of the 5' Public Improvements Easement is requested in this deviation. Please refer to the Deviation form prepared by MVE included with this submittal.

#### TRANSPORTATION IMPROVEMENT FEE PROGRAM

The applicant will be required to participate in the Countywide Transportation Improvement Fee Program. The subdivision contains two lots with existing homes and fifteen (15) lots for new homes. The applicant will opt-out of the PID options. The upfront building permit fee rate is currently \$3,830 per dwelling unit. Filing 1 will only include ten lots, but only eight of those new lots will have new homes. Two of them already have existing homes. The total building permit fee amount for Filing No. 1 (8 new homes) will be \$30,640. The fee amount for the entire Preliminary Plan (15 new homes) will be \$57,450. These amounts are subject to change if the fee program building permit fee rate per dwelling unit is updated.

\* \* \* \*

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By Jeffrey C. Hodsdon, P.E. Principal

JCH/KDF:jas

Enclosures: Table 1

Figures 1-10 Traffic Counts Levels of Service MTCP Maps Appendix Table 1

LRA Preliminary Plan Sheet (for Reference)

### Table1



Table 1
Trip Generation Estimate
Eagle Rising Preliminary Plan

			Т	rip Gene	ration Ra	ates <sup>(1)</sup>		Total	Extern	al Trips G	enerate	d
Land Use	Land Use	Trip Generation	Average Weekday	Mor Peak	•		ning Hour	Average Weekday		ning Hour		ning Hour
Code	Description	Units	Traffic	In	Out	In	Out	Traffic	ln	Out	In	Out
Existing	Land Use - Filing No. 1											
210	Single-Family Detached Housing	2 DU <sup>(2)</sup>	9.43	0.18	0.52	0.59	0.35	19	0	1	1	1
Propose	ed New Land Uses - Filing No. 1											
210	Single-Family Detached Housing	8 DU	9.43	0.18	0.52	0.59	0.35	75	1	4	5	3
Propose	ed New Land Uses - Buildout of Pre	liminary Plan										
210	Single-Family Detached Housing	15 DU	9.43	0.18	0.52	0.59	0.35	141	3	8	9	5

#### Notes:

(1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE)

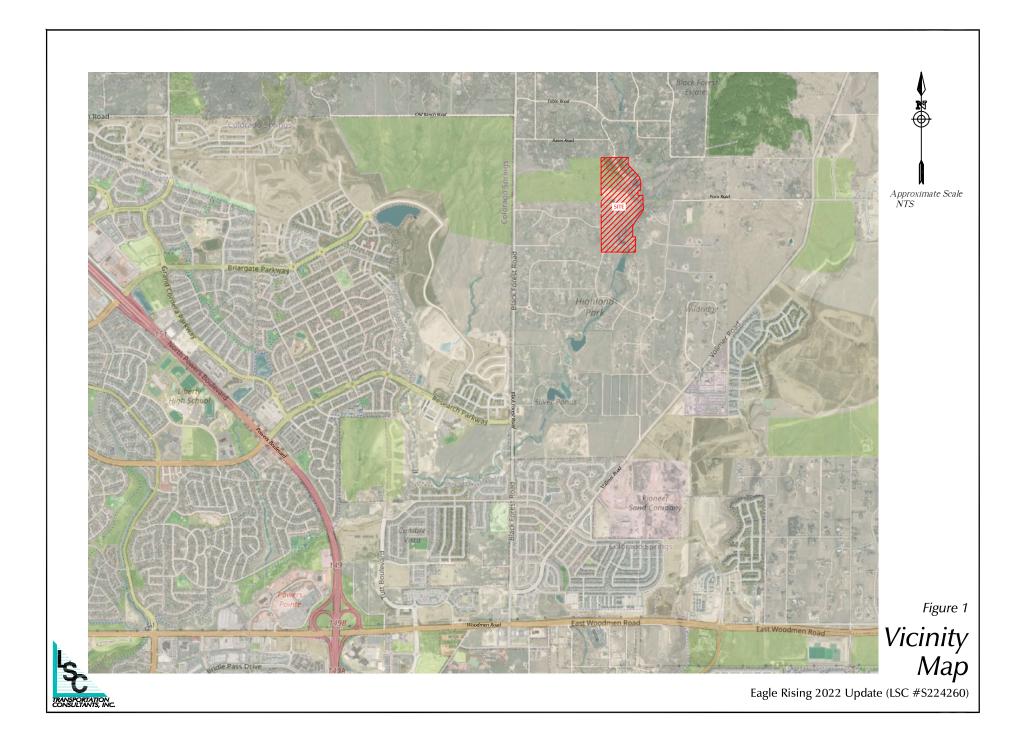
(2) DU = dwelling unit

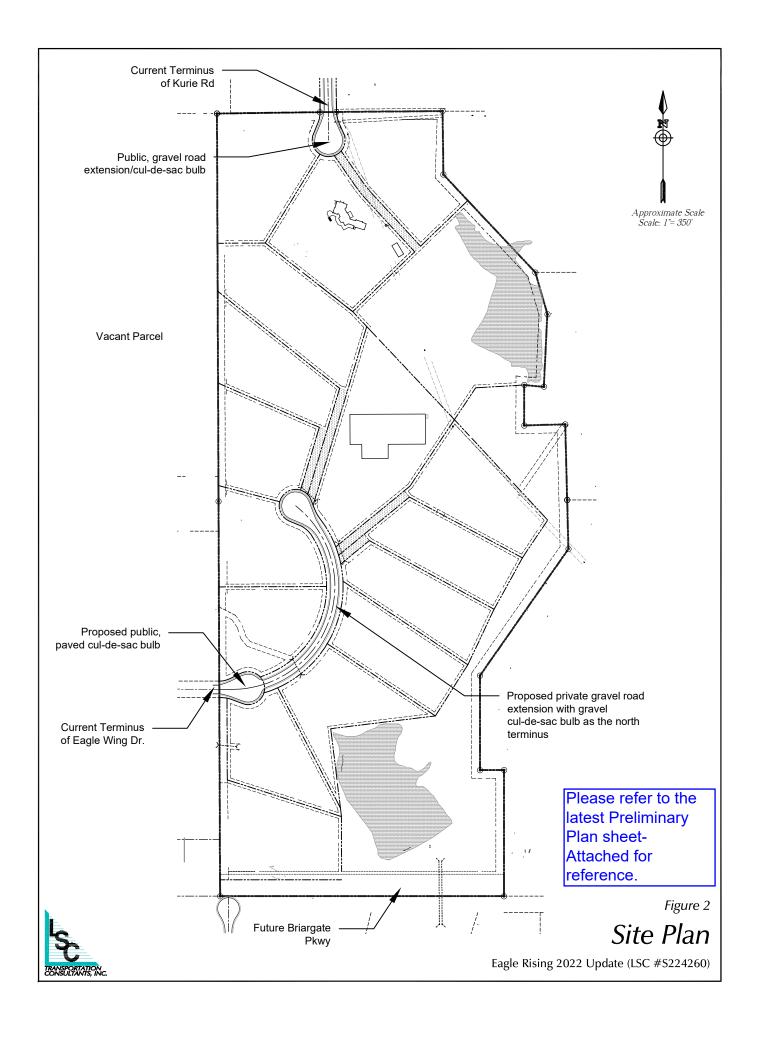
Source: LSC Transportation Consultants, Inc.

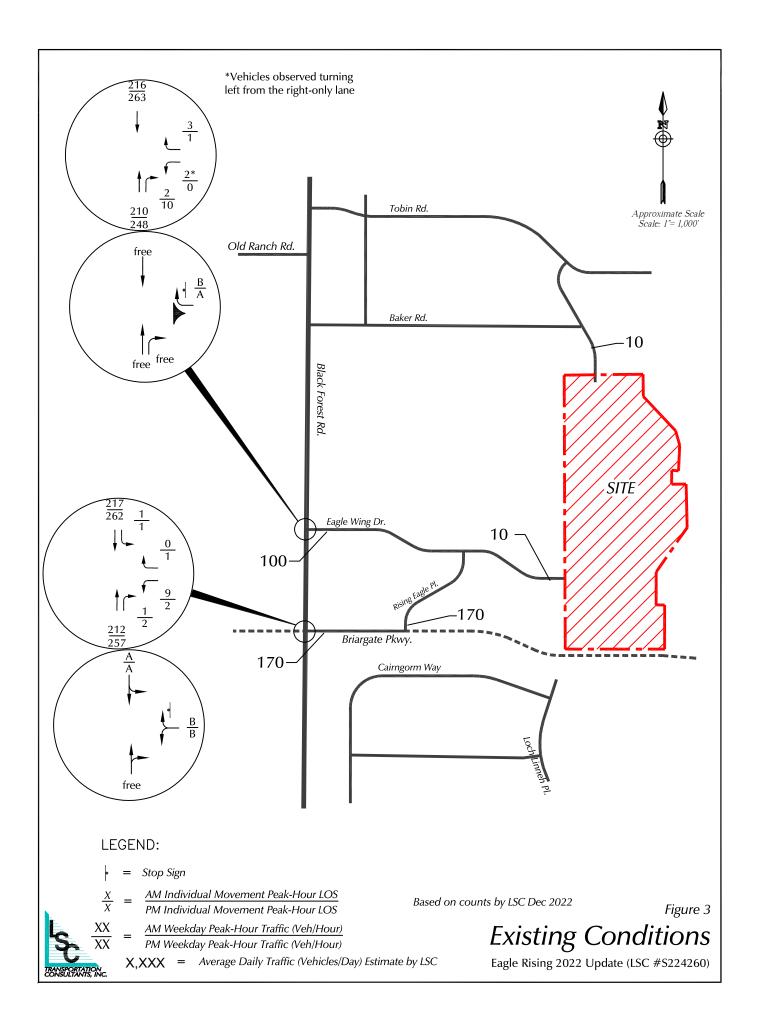
Apr-23

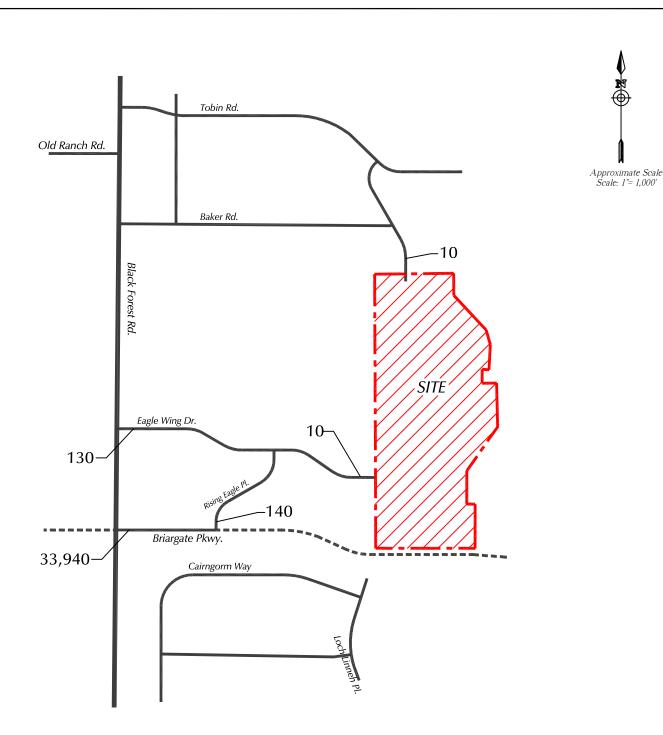
### Figures 1-10











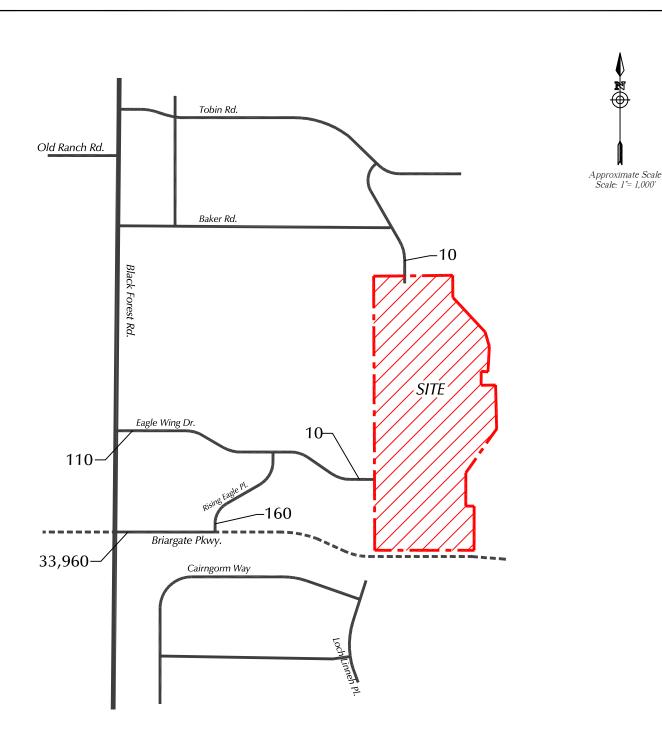
\*Assuming right-in/right-out only at Briargate/Rising Eagle, the future intersection configuration is likely to be determined with the Stapleton Corridor Study (PPRTA/EPC)

LEGEND: Figure 4a

10,165 = Average Daily Traffic

Year 2040 Background Traffic Right-in/Right-out Intersection Scenario\*





\*Assuming a three-quarter movement (left-in/right-in/right-out) intersection at Briargate/Rising Eagle, the future intersection configuration is likely to be determined with the Stapleton Corridor Study (PPRTA/EPC)

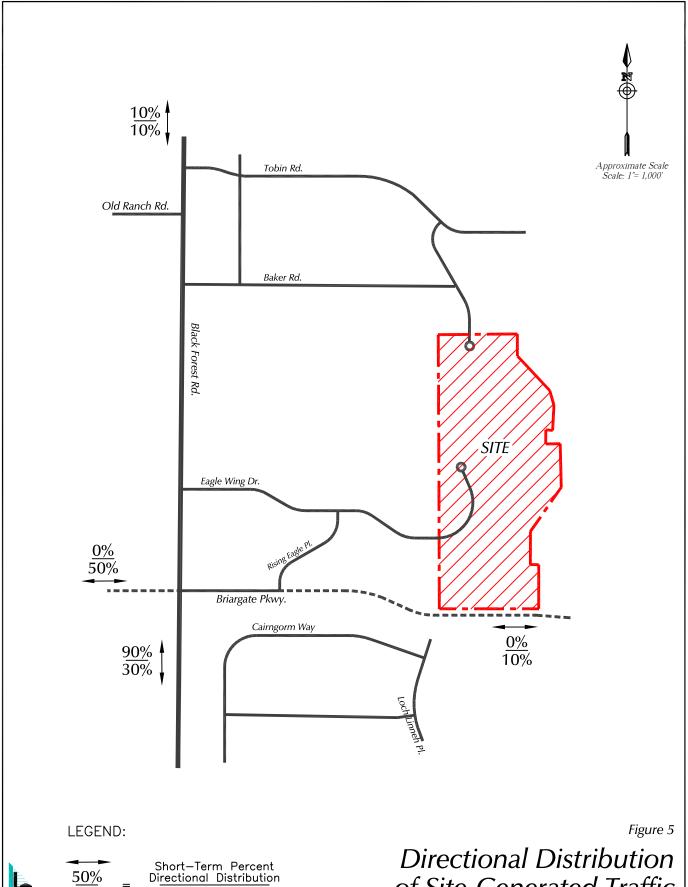
Figure 4b

LEGEND:

10,165 = Average Daily Traffic

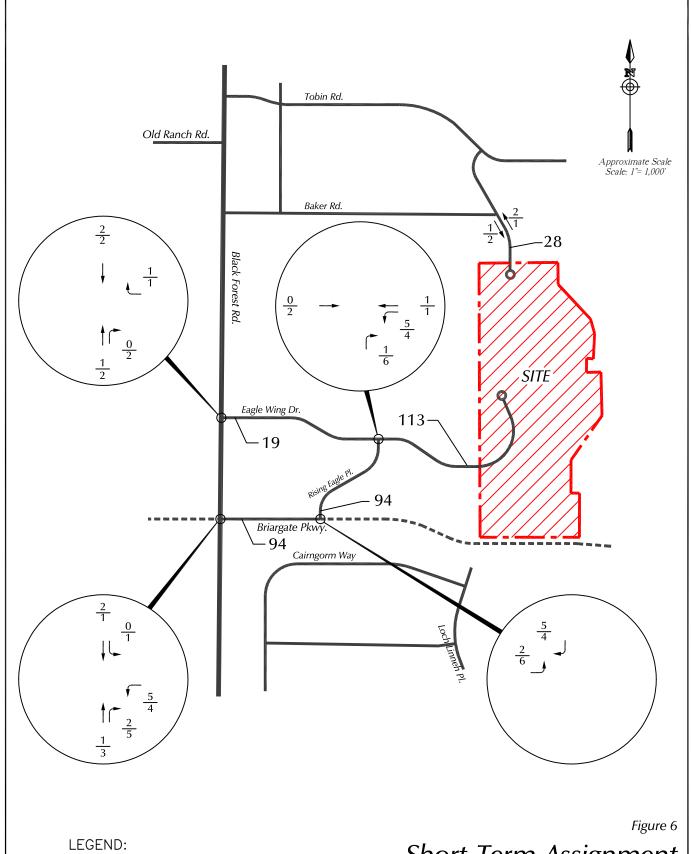
Year 2040 Background Traffic

Three-Quarter Intersection Scenario\*



**50%** Long—Term Percent Directional Distribution 65%

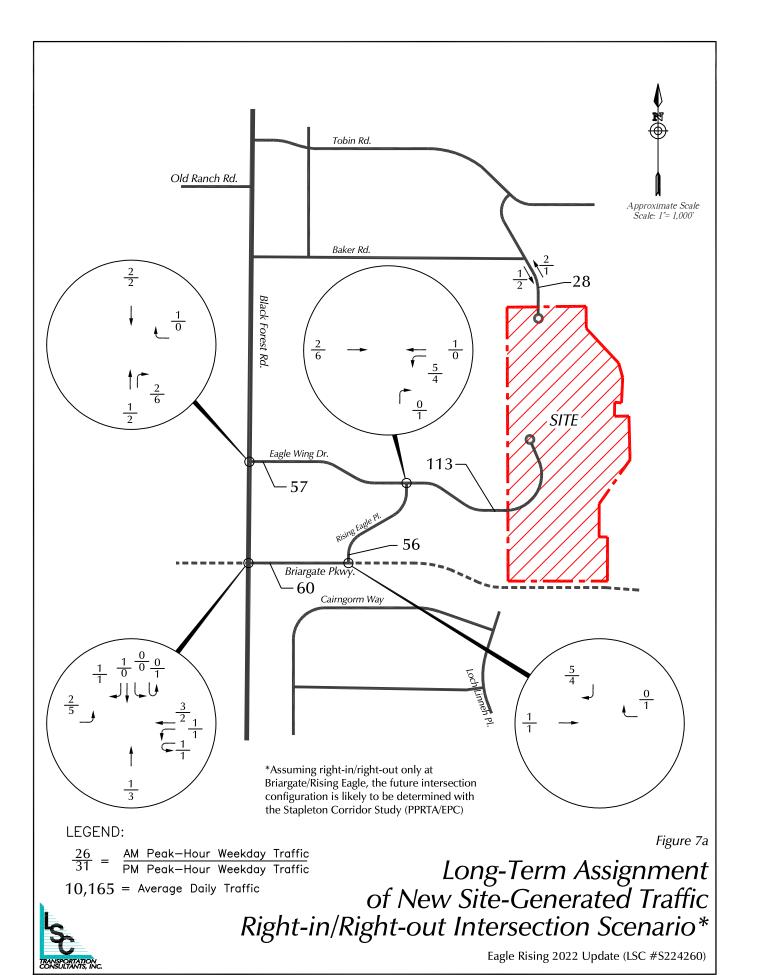
### of Site-Generated Traffic

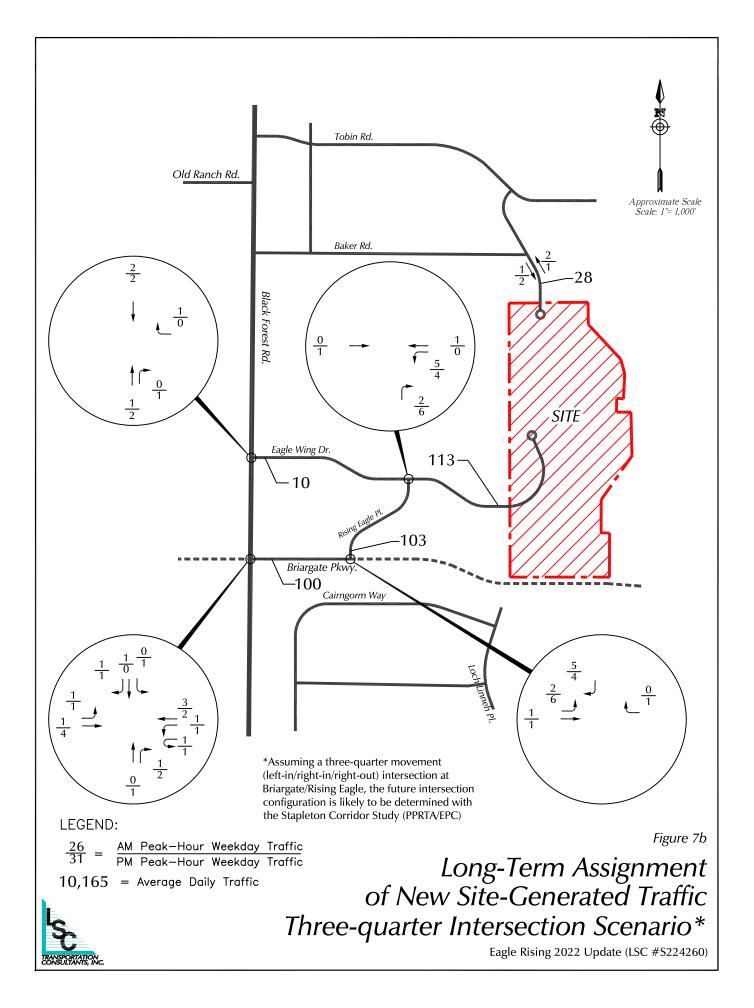


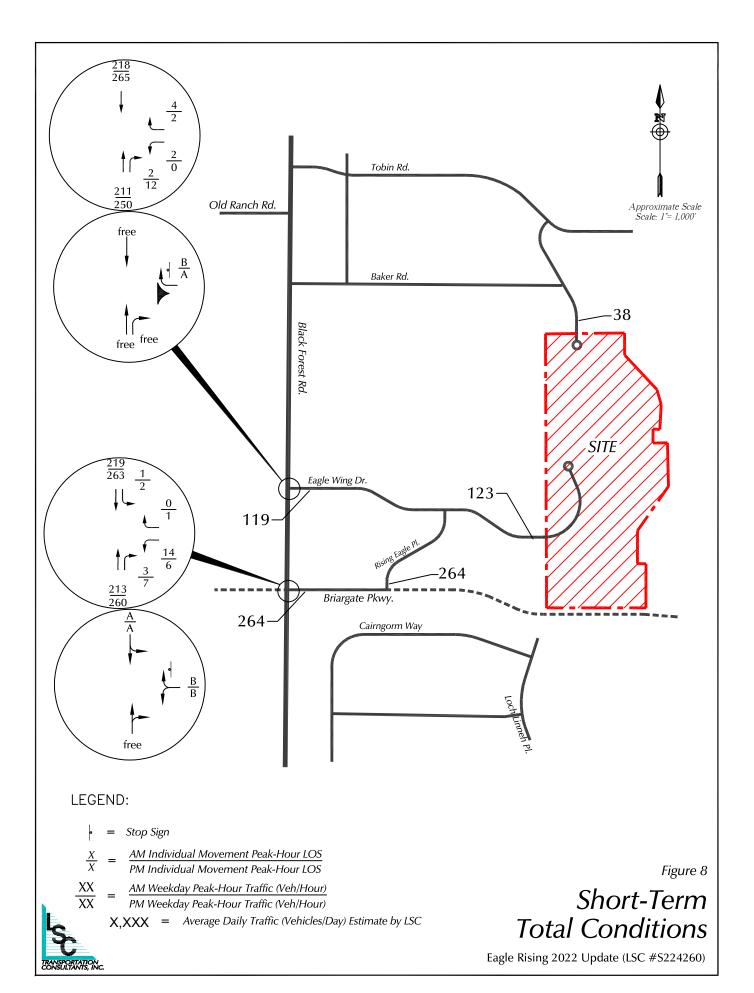
 $\frac{26}{31}$  =  $\frac{AM \ Peak-Hour \ Weekday \ Traffic}{PM \ Peak-Hour \ Weekday \ Traffic}$ 

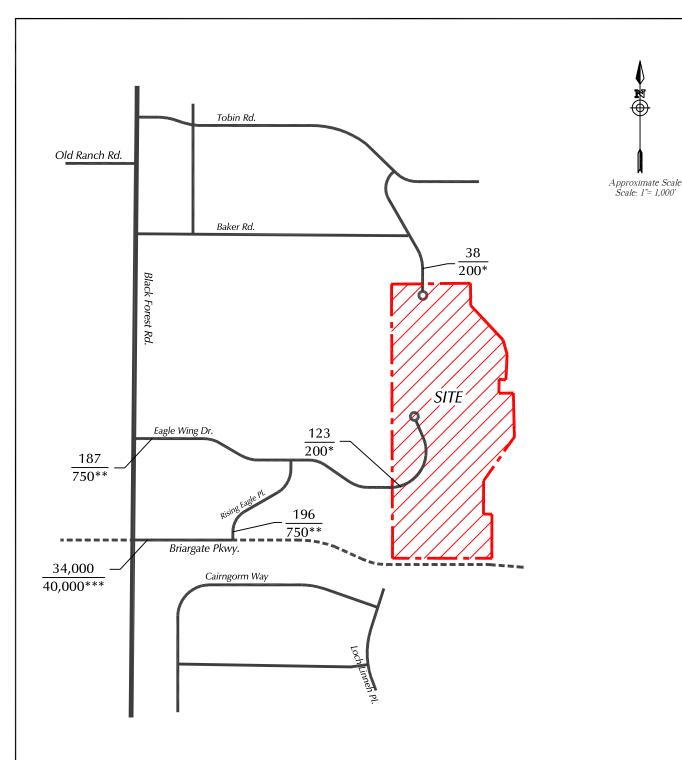
10,165 = Average Daily Traffic

Short-Term Assignment of New Site-Generated Traffic









(\*)Assuming right-in/right-out only at Briargate/Rising Eagle, the future intersection configuration is likely to be determined with the Stapleton Corridor Study (PPRTA/EPC)

LEGEND:

 $\frac{XX,XXX}{XX,XXX} = \frac{Average Daily Traffic}{Design ADT from Tables 2-5 and 2-6 of the El Paso County Engineering Criteria Manual}$ 

Figure 9a

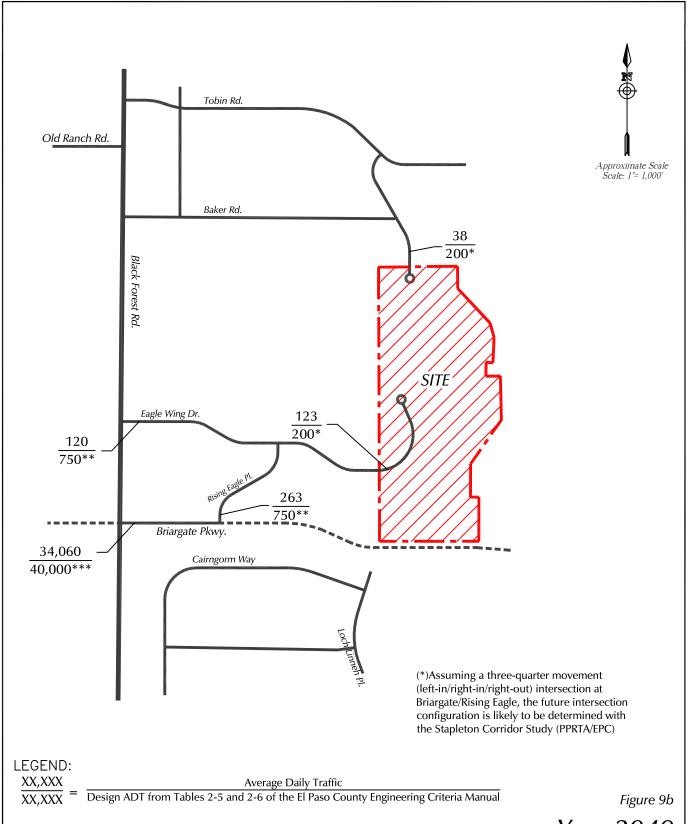
\*Rural Local Gravel

\*\*Rural Local

\*\*\*4-lane Urban Principal Arterial

Year 2040
Total Daily Traffic

Right-in/Right-out Intersection Scenario(\*)



\*Rural Local Gravel

\*\*Rural Local
\*\*\*4-lane Urban Principal Arterial

Year 2040 Total Daily Traffic Three-quarter Intersection Scenario(\*)

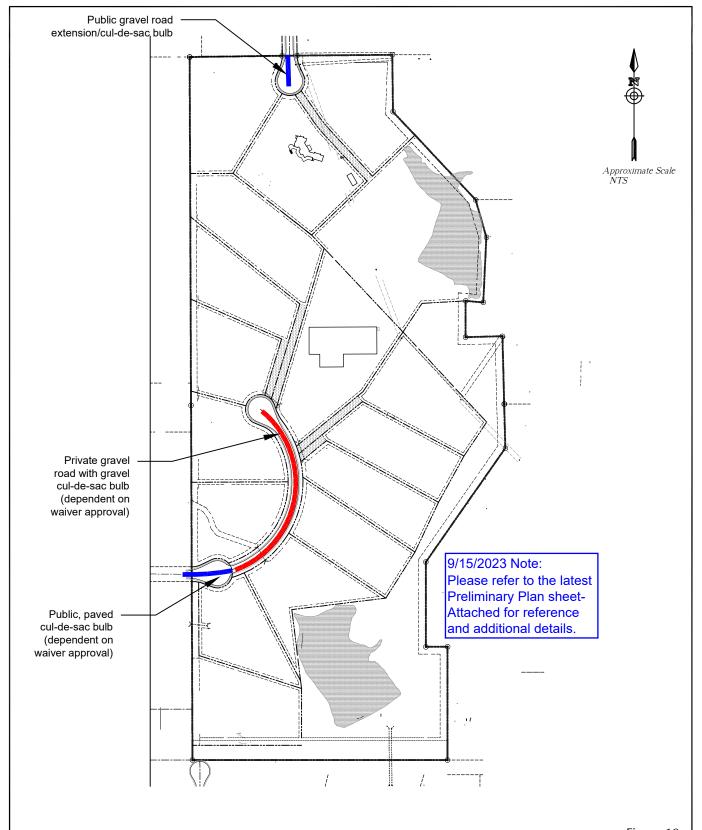


Figure 10

## Roadway Classifications and Roadway Surface



### **Traffic Counts**



719-633-2868

File Name: Black Forest Rd - Briargate Pkwy AM PM B

Site Code : S224260 Start Date : 12/6/2022

Page No : 1

**Groups Printed- Bank 1** 

		Blac	k Fore	est Rd			Bria	rgate		S Print	cu- Da		k For	est Rd							
			uthbo					estbo					rthbo				Ea	astbo	und		
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru		Peds	App. Total	Right	Thru	Left		App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
06:35	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
06:40	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
	**	_	_	-	- '			-	-		•		_	-		-			-		-
06:50	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:55	0	Ő	0	Ö	Ö	0	0	3	0	3	0	0	Ö	ő	0	Ö	0	0	0	Ö	3
Total	0	0	1	0	1	0	0	4	0	4	1	0	1	0	2	0	0	0	0	0	7
07:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *	**																				
07:10	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *	**																				
07:25	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
*** BREAK *		_	_	-					-		•		_	-		-			-		
07:45	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
*** BREAK *		_		-				-	-				_	-	- '	-			-		
07:55	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
Total	0	0	1	0	1	0	0	6	0	6	2	0	0	0	2	0	0	0	0	0	9
*** BREAK *	**																				
08:05	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *	**														•					•	
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *	**																				
16:10	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
*** BREAK *	**																				
16:50	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
16:55	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	4
*** BREAK *	**																				
17:05	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
17:10	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *	**																				
17:20	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *	**									•					•					•	
17:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
DIVEAR	**				. 1										· · · · · ·						
Total	0	0	1	0	1	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	4
Grand Total	0	0	3	0	3	1	0	15	0	16	5	0	1	0	6	0	0	0	0	0	25
Apprch %	0	0	100	0		6.2	0	93.8	0		83.3	0	16.7	0		0	0	0	0		
Total %	0	0	12	0	12	4	0	60	0	64	20	0	4	0	24	0	0	0	0	0	

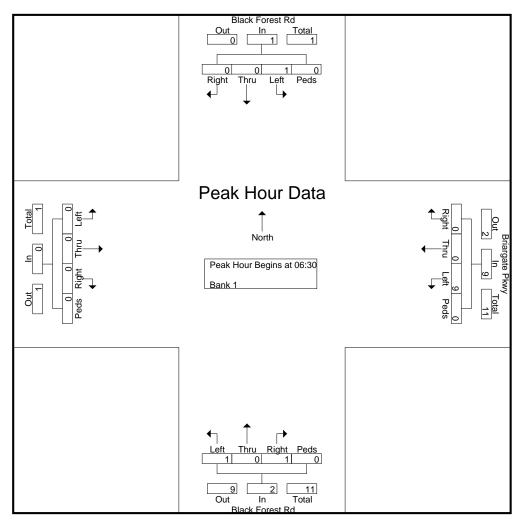
719-633-2868

File Name: Black Forest Rd - Briargate Pkwy AM PM B

Site Code: S224260 Start Date : 12/6/2022

Page No : 2

			k Fore	est Rd				rgate estbo	Pkwy und				k Fore	est Rd			Ea	astboi	ınd		
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour A		is Fro					of 1													11	
Peak Hour f																					
06:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
06:35	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
06:40	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:50	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:55	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3
07:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:10	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:25	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	1	0	1	0	0	9	0	9	1	0	1	0	2	0	0	0	0	0	12
% App. Total	0	0	100	0		0	0	100	0		50	0	50	0		0	0	0	0		
PHF	.000	.000	.083	.000	.083	.000	.000	.250	.000	.250	.083	.000	.083	.000	.167	.000	.000	.000	.000	.000	.333



719-633-2868

File Name: Black Forest Rd - Eagle Wing Dr AM PM B

Site Code : S224260 Start Date : 12/6/2022

Page No : 1

A	Date to a	1 1 1- 1641
Groups	Printea-	Unshifted

		Blac	k For	est Rd			Eagl	e Wir	ng Dr			Blac	k Fore	est Rd							
			uthbo					stbo				No	rthbo	und			Ea	astbo	und		
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30	0	16	0	0	16	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	25
06:35	0	13	0	0	13	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	15
06:40	0	6	0	0	6	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	20
06:45	0	16	0	0	16	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	25
06:50	0	14	0	0	14	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	19
06:55	0	24	0	0	24	0	0	1_	0	1	1	11_	0	0	12	0	0	0	0	0	37
Total	0	89	0	0	89	0	0	1	0	1	2	49	0	0	51	0	0	0	0	0	141
	ı										1					1					
07:00	0	32	0	0	32	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	44
07:05	0	21	0	0	21	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	28
07:10	0	14	0	0	14	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	22
07:15	0	22	0	0	22	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	34
07:20	0	22	0	0	22	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	32
07:25	0	16	0	0	16	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	25
07:30	0	26	0	0	26	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	33
07:35	0	24	0	0	24	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	35
07:40	0	15	0	0	15	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	27
07:45	0	25	0	0	25	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	46
07:50	0	19	0	0	19	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	41
07:55	0	18	0	0	18	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	40
Total	0	254	0	0	254	1	0	1	0	2	3	148	0	0	151	0	0	0	0	0	407
																				- 1	
08:00	0	18	0	0	18	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	33
08:05	0	17	0	0	17	0	0	1	0	1	1	20	0	0	21	0	0	0	0	0	39
08:10	0	18	0	0	18	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	34
08:15	0	13	0	0	13	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	33
08:20	0	12	0	0	12	2	0	0	0	2	0	25	0	0	25	0	0	0	0	0	39
08:25	0	11	0	0	11	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	33
*** BREAK						_															
Total	0	89	0	0	89	3	0	1	0	4	1	117	0	0	118	0	0	0	0	0	211
*** BREAK	***																				
	ı					ı					ı					ı					
16:00	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	35
16:05	0	24	0	0	24	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	40
16:10	0	33	0	0	33	0	0	0	0	0	1	28	0	0	29	0	0	0	0	0	62
16:15	0	42	0	0	42	0	0	0	0	0	0	26	0	0	26	0	0	0	0	0	68
16:20	0	19	0	0	19	1	0	0	0	1	4	18	0	0	22	0	0	0	0	0	42
16:25	0	25	0	0	25	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	47
16:30	0	21	0	0	21	0	0	0	0	0	1	24	0	0	25	0	0	0	0	0	46
16:35	0	13	0	0	13	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	31
16:40	0	8	0	0	8	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	27
16:45	0	28	0	0	28	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	49
16:50	0	17	0	0	17	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	30

719-633-2868

File Name: Black Forest Rd - Eagle Wing Dr AM PM B

Site Code: S224260 Start Date : 12/6/2022

Page No : 2
Groups Printed- Unshifted

		Blac	k Fore	est Rd			Eag	le Wir	ng Dr			Blac	k Fore	est Rd							
		So	uthbo	und			W	estbo	und			No	rthbo	und			Ea	ıstboı	ınd		
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:55	0	15	0	0	15	0	0	0	0	0	1_	28	0	0	29	0	0	0	0	0	44_
Total	0	262	0	0	262	1	0	0	0	1	8	250	0	0	258	0	0	0	0	0	521
17:00	0	18	0	0	18	0	0	0	0	0	2	16	0	0	18	0	0	0	0	0	36
17:05	0	18	0	0	18	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	36
17:10	0	19	0	0	19	0	0	0	0	0	2	11	0	0	13	0	0	0	0	0	32
17:15	0	30	0	0	30	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	47
17:20	0	23	0	0	23	0	0	0	0	0	1	20	0	0	21	0	0	0	0	0	44
17:25	0	16	0	0	16	0	0	0	0	0	0	23	0	0	23	0	0	0	0	0	39
17:30	0	12	0	0	12	0	0	0	0	0	2	29	0	0	31	0	0	0	0	0	43
17:35	0	15	0	0	15	1	0	1	0	2	0	15	0	0	15	0	0	0	0	0	32
17:40	0	14	0	0	14	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	29
17:45	0	11	0	0	11	0	0	0	0	0	1	11	0	0	12	0	0	0	0	0	23
17:50	0	12	0	0	12	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	31
17:55	0	8	0	0	8	0	0	0	0	0	1	18	0	0	19	0	0	0	0	0	27
Total	0	196	0	0	196	1	0	2	0	3	9	211	0	0	220	0	0	0	0	0	419
Grand Total	0	890	0	0	890	6	0	5	0	11	23	775	0	0	798	0	0	0	0	0	1699
Apprch %	0	100	0	0		54.5	0	45.5	0		2.9	97.1	0	0		0	0	0	0		
Total %	0	52.4	0	0	52.4	0.4	0	0.3	0	0.6	1.4	45.6	0	0	47	0	0	0	0	0	

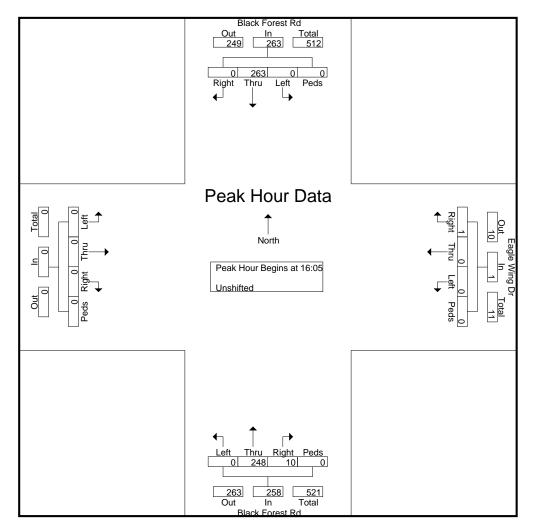
719-633-2868

File Name: Black Forest Rd - Eagle Wing Dr AM PM B

Site Code : S224260 Start Date : 12/6/2022

Page No : 3

		Blac	k Fore	st Rd			Eag	le Wir	ng Dr			Blac	k Fore	est Rd							
		So	uthbo	und			W	estbo	und			No	rthbo	und			Ea	astbo	und		
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour A	Analys	is Fro	m 06:3	30 to 1	7:55 - F	Peak 1	of 1														
Peak Hour f	or Ent	ire Inte	ersecti	on Be	gins at	16:05															
16:05	0	24	0	0	24	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	40
16:10	0	33	0	0	33	0	0	0	0	0	1	28	0	0	29	0	0	0	0	0	62
16:15	0	42	0	0	42	0	0	0	0	0	0	26	0	0	26	0	0	0	0	0	68
16:20	0	19	0	0	19	1	0	0	0	1	4	18	0	0	22	0	0	0	0	0	42
16:25	0	25	0	0	25	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	47
16:30	0	21	0	0	21	0	0	0	0	0	1	24	0	0	25	0	0	0	0	0	46
16:35	0	13	0	0	13	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	31
16:40	0	8	0	0	8	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	27
16:45	0	28	0	0	28	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	49
16:50	0	17	0	0	17	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	30
16:55	0	15	0	0	15	0	0	0	0	0	1	28	0	0	29	0	0	0	0	0	44
17:00	0	18	0	0	18	0	0	0	0	0	2	16	0	0	18	0	0	0	0	0	36
Total Volume	0	263	0	0	263	1	0	0	0	1	10	248	0	0	258	0	0	0	0	0	522
% App. Total	0	100	0	0		100	0	0	0		3.9	96.1	0	0		0	0	0	0		
PHF	.000	.522	.000	.000	.522	.083	.000	.000	.000	.083	.208	.738	.000	.000	.741	.000	.000	.000	.000	.000	.640



### **Levels of Service**



Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	₩.	וטייי	<u> </u>	NDIX *	ODL	<u>361</u>
Traffic Vol, veh/h	2	3	210	2	0	216
Future Vol, veh/h	2	3	210	2	0	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	_	350	_	-
Veh in Median Storage		_	0	-	_	0
Grade, %	0	_	0	_	_	0
Peak Hour Factor	78	78	82	82	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	4	256	2	0	248
WWIICHIOW	U	7	200	_	U	2-10
Major/Minor I	Minor1		//ajor1	N	/lajor2	
Conflicting Flow All	504	256	0	0	-	-
Stage 1	256	_	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	528	783	-	-	0	-
Stage 1	787	-	-	-	0	-
Stage 2	793	_	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	528	783	-	-	-	-
Mov Cap-2 Maneuver	528	-	_	-	-	-
Stage 1	787	-	_	_	_	_
Stage 2	793	_	_	_	_	_
3.0.g0 L						
Approach	WB		NB		SB	
HCM Control Delay, s	10.5		0		0	
HCM LOS	В					
Minor Lane/Major Mvm	nt	NBT	NRRV	VBLn1	SBT	
Capacity (veh/h)		-	-	656	-	
HCM Lane V/C Ratio		-	-	0.01	-	
HCM Control Delay (s)		-	-	10.5		
HCM Control Delay (s)					-	
	\	-	-	B 0	-	
HCM 95th %tile Q(veh)	)	-	-	U	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥	11511	<b>1</b>	HEIL	002	4
Traffic Vol, veh/h	9	0	212	1	1	217
Future Vol, veh/h	9	0	212	1	1	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		-	None
Storage Length	0	-	-	-	_	-
Veh in Median Storage		-	0	_	_	0
Grade, %	0	_	0	_	_	0
Peak Hour Factor	78	78	82	82	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	259	1	1	249
WWW.CT IOW	12	J	200	•	•	210
		_		-		
	Minor1		Major1		Major2	
Conflicting Flow All	511	260	0	0	260	0
Stage 1	260	-	-	-	-	-
Stage 2	251	-	-	-	-	-
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	523	779	-	-	1304	-
Stage 1	783	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	522	779	-	-	1304	-
Mov Cap-2 Maneuver	522	-	-	-	-	-
Stage 1	783	-	-	-	_	-
Stage 2	790	_	-	_	_	_
<u>-</u>						
Approach	WB		NB		SB	
HCM Control Delay, s	12.1		0		0	
HCM LOS	В					
Minor Lane/Major Mvm	t	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)			-	522	1304	-
HCM Lane V/C Ratio		<u>-</u>		0.022		_
HCM Control Delay (s)		_	_		7.8	0
HCM Lane LOS		_	_	В	Α.	A
HCM 95th %tile Q(veh)			_	0.1	0	-
TOW SOUT JULIE Q(VEIT)				0.1	U	

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WDL W	WDIX	<u>ND1</u>	NDIX	ODL	<u>361</u>
Traffic Vol, veh/h	<b>T</b>	1	<b>T</b> 248	10	0	<b>T</b> 263
Future Vol, veh/h	0	1	248	10	0	263
	0	0	240	0	0	203
Conflicting Peds, #/hr						
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		-	None
Storage Length	0	-	-	350	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	66	66
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	273	11	0	398
Major/Minor	Minor1	N	Major1	ı	/lajor2	
Conflicting Flow All	671	273	0	0	-	_
Stage 1	273	-	-	-	_	_
Stage 2	398	_	_	_	_	_
Critical Hdwy	6.42	6.22	_	_	_	-
Critical Hdwy Stg 1	5.42	0.22		_	_	_
Critical Hdwy Stg 2	5.42		_	<u>-</u>	-	
			_	-		
Follow-up Hdwy	3.518		-	-	-	-
Pot Cap-1 Maneuver	422	766	-	-	0	-
Stage 1	773	-	-	-	0	-
Stage 2	678	-	-	-	0	-
Platoon blocked, %	,		-	-		-
Mov Cap-1 Maneuver	422	766	-	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	9.7		0		0	
HCM LOS	Α					
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBT	
Capacity (veh/h)		_	-			
HCM Lane V/C Ratio		_		0.002	_	
HCM Control Delay (s)		_	_		_	
HCM Lane LOS		_	_	A	_	
HCM 95th %tile Q(veh	)	_	_	0	_	
Jili Jour / Julio Q(Vol)	,			- 0		

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	₩.	ופייי	1\D1	NON	ODL	- <del>3</del> 1
Traffic Vol, veh/h	<b>T</b>	1	257	2	1	262
Future Vol, veh/h	2	1	257	2	1	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Stop -	None	-	None	-	None
Storage Length	0	None -	_	NONE -	_	None
			0	-		0
Veh in Median Storage	•		0			
Grade, %	0	- 70		- 01	-	0
Peak Hour Factor	78	78	91	91	66	66
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	282	2	2	397
Major/Minor	Minor1	N	//ajor1		Major2	
Conflicting Flow All	684	283	0	0	284	0
Stage 1	283	-	_	_		-
Stage 2	401	_	_	_	_	_
Critical Hdwy	6.42	6.22	_	_	4.12	_
Critical Hdwy Stg 1	5.42	-	_	_	7.12	_
Critical Hdwy Stg 2	5.42	_	_	_	_	_
Follow-up Hdwy		3.318	_	_	2.218	_
Pot Cap-1 Maneuver	414	756	-	_	1278	
•	765	750	-	-	1270	_
Stage 1		-	-	_	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %	440	750	-	_	4070	-
Mov Cap-1 Maneuver	413	756	-	-	1278	-
Mov Cap-2 Maneuver	413	-	-	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	12.5		0		0	
HCM LOS	12.3 B		U		U	
TIOWI LOG	D					
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-	487	1278	-
HCM Lane V/C Ratio		-	-	0.008	0.001	-
HCM Control Delay (s)		-	-	12.5	7.8	0
HCM Lane LOS		-	-	В	Α	Α
HCM 95th %tile Q(veh	)	-	-	0	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
	₩.	WDIX		TOPIC T	ODL	
Lane Configurations Traffic Vol, veh/h	<b>T</b>	1	<b>↑</b> 211		٥	<b>↑</b> 218
		4		2	0	
Future Vol, veh/h	2	4	211	2	0	218
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	-	-	350	-	-
Veh in Median Storage	,#0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	82	82	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	5	257	2	0	251
				_		
	Minor1		Major1		/lajor2	
Conflicting Flow All	508	257	0	0	-	-
Stage 1	257	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	_	-
Pot Cap-1 Maneuver	525	782	-	-	0	_
Stage 1	786	-	_	_	0	_
Stage 2	791	_	_	_	0	_
Platoon blocked, %	751		_	_	U	_
Mov Cap-1 Maneuver	525	782		_	_	_
	525		_			
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	10.4		0		0	
HCM LOS	10.4 B		U		U	
HOW LOS	D					
Minor Lane/Major Mvm	t	NBT	NBRV	VBLn1	SBT	
Capacity (veh/h)		_	-		_	
HCM Lane V/C Ratio		_	_	0.011	_	
HCM Control Delay (s)		_	_		_	
HCM Lane LOS		_	_	В	_	
HCM 95th %tile Q(veh)		_	_	0	_	
How our found w(veri)				- 0		

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		\$			4
Traffic Vol, veh/h	14	0	213	3	1	219
Future Vol, veh/h	14	0	213	3	1	219
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	-	_	-	<u>-</u>	-
Veh in Median Storage		_	0	_	_	0
Grade, %	0	<u>-</u>	0	<u> </u>	_	0
Peak Hour Factor	78	78	82	82	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	0	260	4	1	252
Major/Minor	Minor1	N	Major1		Major2	
Conflicting Flow All	516	262	0	0	264	0
Stage 1	262	-	-	-	-	-
Stage 2	254	<u>-</u>	_	_	_	_
Critical Hdwy	6.42	6.22	_	_	4.12	_
Critical Hdwy Stg 1	5.42	-	_	_	- 1.12	_
	5.42	_	_	_	_	_
Critical Hdwy Stg 2	3.518		_	_	2.218	_
Follow-up Hdwy			-			
Pot Cap-1 Maneuver	519	777	-	-	1300	-
Stage 1	782	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %	= 4.0		-	-	1000	-
Mov Cap-1 Maneuver		777	-	-	1300	-
Mov Cap-2 Maneuver		-	-	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Annroach	WD		ND		CD	
Approach	WB		NB		SB	
HCM Control Delay, s			0		0	
HCM LOS	В					
Minor Lane/Major Mvr	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		1101	אוטוי	518	1300	OD I
HCM Lane V/C Ratio		-	-	0.035		•
	١	-	-			-
HCM Control Delay (s	)	-	-	12.2	7.8	0
HCM Lane LOS		-	-	В	A	Α
HCM 95th %tile Q(veh	1)	-	-	0.1	0	-

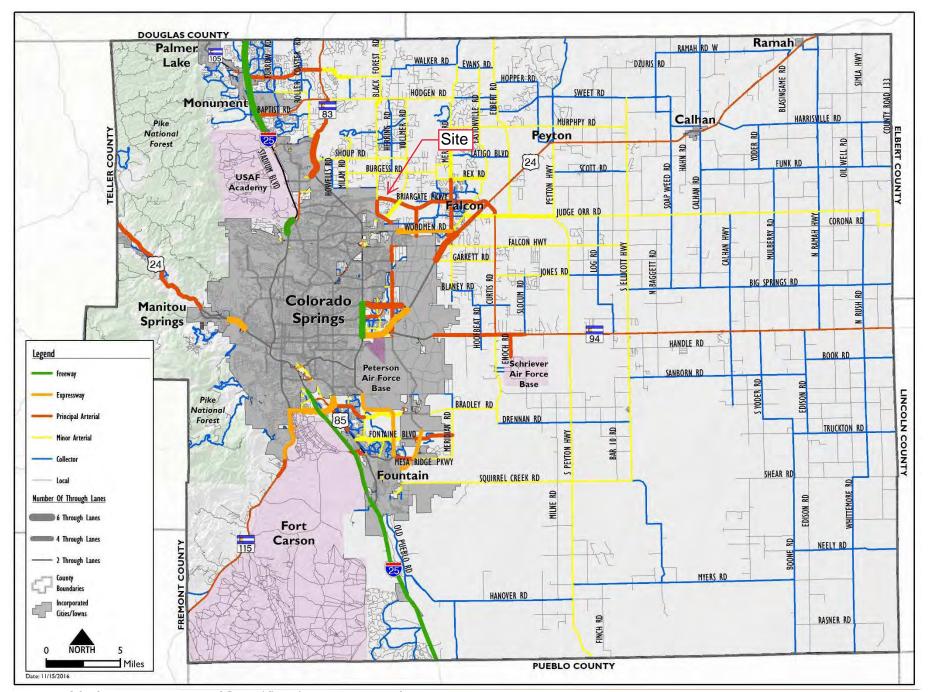
Short-Term Total Traffic Synchro 10 Report AM Peak Hour Page 2

0					
WBL	WBR	NBT	NBR	SBL	SBT
					<u> </u>
	2			0	265
					265
					0
					Free
-		-		-	None
0	-	-		-	-
	-	0	-	-	0
	_		_	_	0
			91		66
					2
					402
U	J	210	10	U	702
				Major2	
	275	0	0	-	-
	-	-	-	-	-
	-	-	-	-	-
6.42	6.22	-	-	-	-
5.42	-	-	-	-	-
5.42	-	-	-	-	-
3.518	3.318	-	-	-	-
418	764	-	-	0	-
771	-	-	-	0	-
676	-	-	-	0	-
		-	_		-
418	764	_	-	_	_
	-	_	_	_	_
	_	_	_	_	_
		_	_		_
010					
		0		0	
Α					
n t	NDT	NDDV	VDI 4	CDT	
ııı	INRT	INRKA			
	-	-		-	
	-	-		-	
		_	9.7	-	
)	_				
1)	-	-	A 0	-	
	WBL  O O O Stop  e, # 0 O O T8 2 O O Minor1 677 275 402 6.42 5.42 5.42 5.42 3.518 418 771 676 418 418 771 676 WB 9.7 A	WBL WBR  0 2 0 2 0 0 2 0 0 0 Stop Stop - None 0 e, # 0 78 78 2 2 0 3  Minor1 7 677 275 275 402 6.42 6.22 5.42 5.42 5.42 5.42 5.42 6.418 764 771 676 WB 9.7 A  mt NBT	WBL         WBR         NBT           0         2         250           0         2         250           0         0         0           Stop         Stop         Free           None         -         -           e, # 0         -         0           78         78         91           2         2         2           0         3         275           Minor1         Major1           677         275         0           275         -         -           402         -         -           5.42         -         -           5.42         -         -           5.42         -         -           3.518         3.318         -           418         764         -           418         764         -           418         764         -           418         764         -           418         764         -           418         764         -           418         764         -           418         -         -	WBL         WBR         NBT         NBR           0         2         250         12           0         2         250         12           0         0         0         0           Stop         Stop         Free         Free           -         None         -         None           0         -         -         350           e, # 0         -         0         -           78         78         91         91           2         2         2         2           0         3         275         13           Minor1         Major1         Major1         Major1           677         275         0         0           275         -         -         -           402         -         -         -           5.42         -         -         -           5.42         -         -         -           418         764         -         -           418         764         -         -           418         764         -         -           418         764	WBL         WBR         NBT         NBR         SBL           WF         F         F         C <t< td=""></t<>

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	₩.	וטייי	<b>₽</b>	אטא	ODL	<u>₽</u>
Traffic Vol, veh/h	<b>T</b>	1	260	7	2	263
	6	-	260	7	2	263
Future Vol, veh/h		1				
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	66	66
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	1	286	8	3	398
	Minor1		Major1		Major2	_
Conflicting Flow All	694	290	0	0	294	0
Stage 1	290	-	-	-	-	-
Stage 2	404	-	-		-	-
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	409	749	-	-	1268	_
Stage 1	759	-	_	_	-	_
Stage 2	674	_	_	_	_	_
Platoon blocked, %	014		_	_		_
Mov Cap-1 Maneuver	408	749			1268	
			_	_		_
Mov Cap-2 Maneuver	408	-	-	-	-	<del>-</del>
Stage 1	759	-	-	-	_	-
Stage 2	672	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	13.4		0		0.1	
HCM LOS	13.4 B		U		0.1	
I IOIVI LOO	ט					
Minor Lane/Major Mvn	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-	436	1268	-
HCM Lane V/C Ratio		-	_	0.021		-
HCM Control Delay (s		_	_		7.8	0
HCM Lane LOS		_	_	В	A	A
HCM 95th %tile Q(veh	)	_	_	0.1	0	-
Sim oom 70tho Q(Vol)	1			J. 1	9	

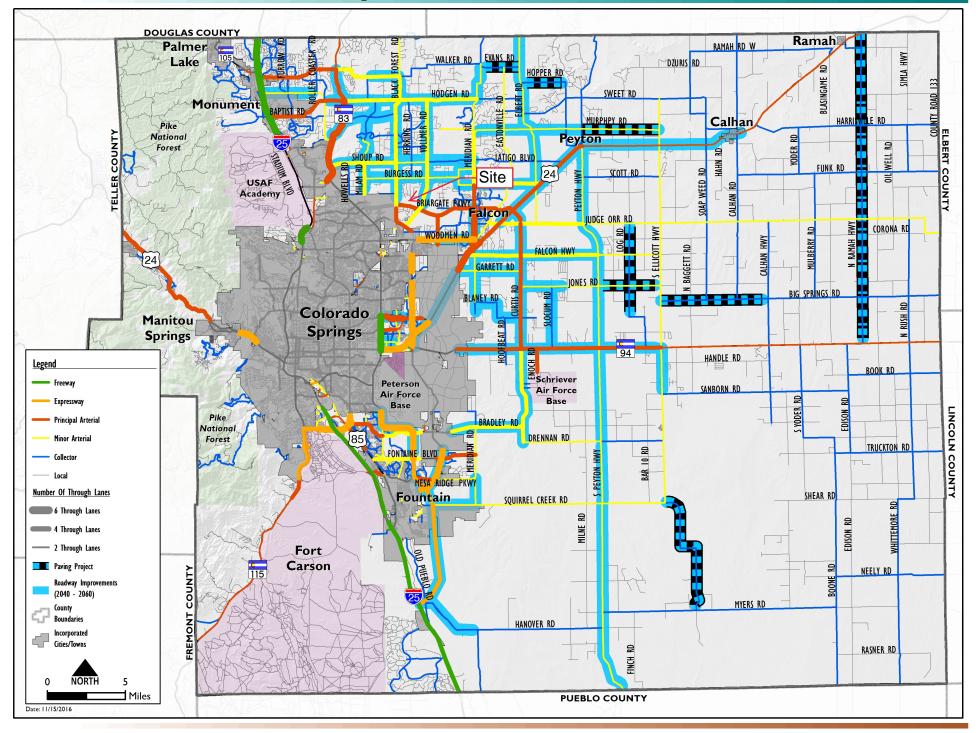
### MTCP Maps





Map 14: 2040 Roadway Plan (Classification and Lanes)





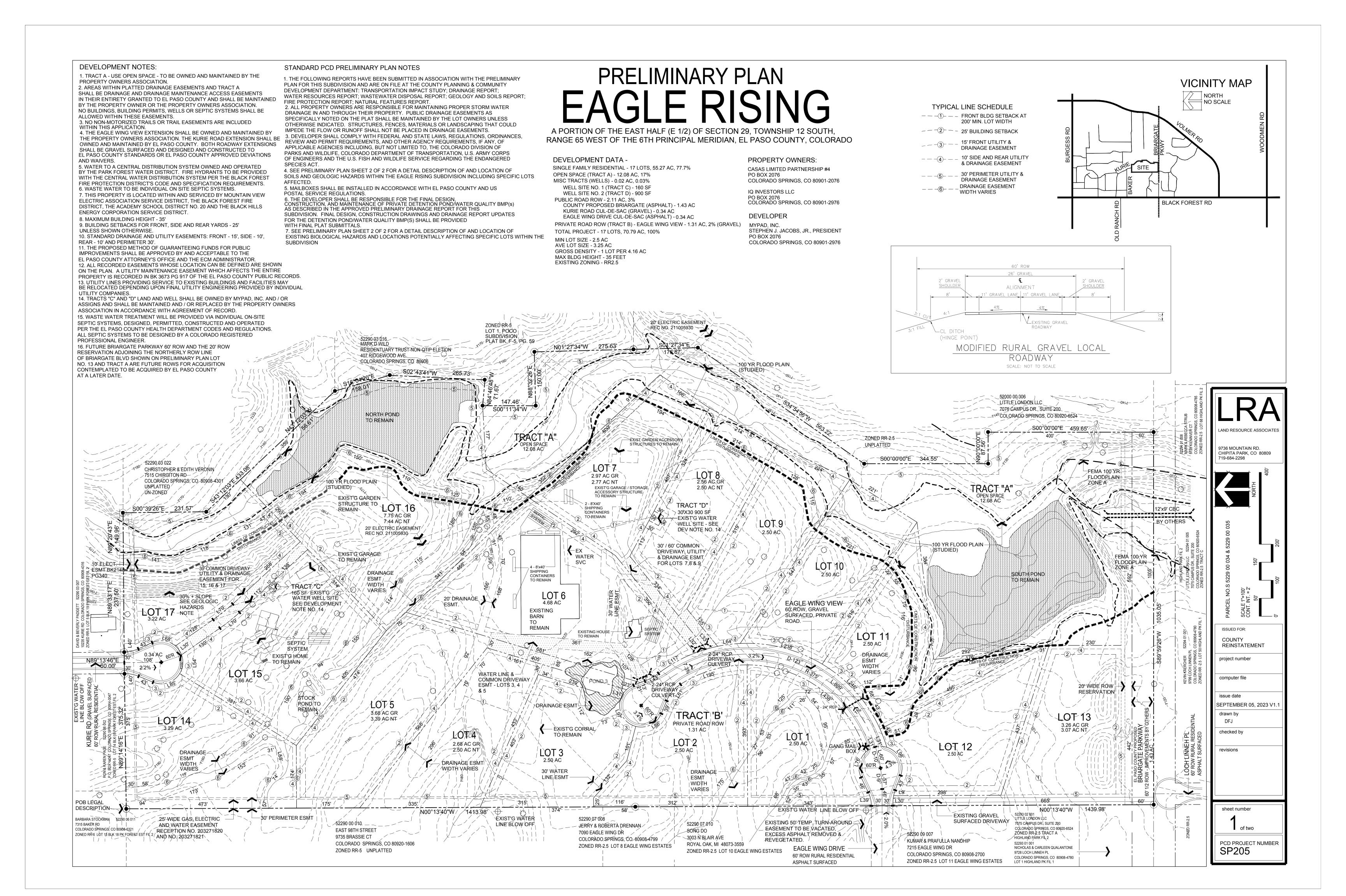
### Appendix Table 1

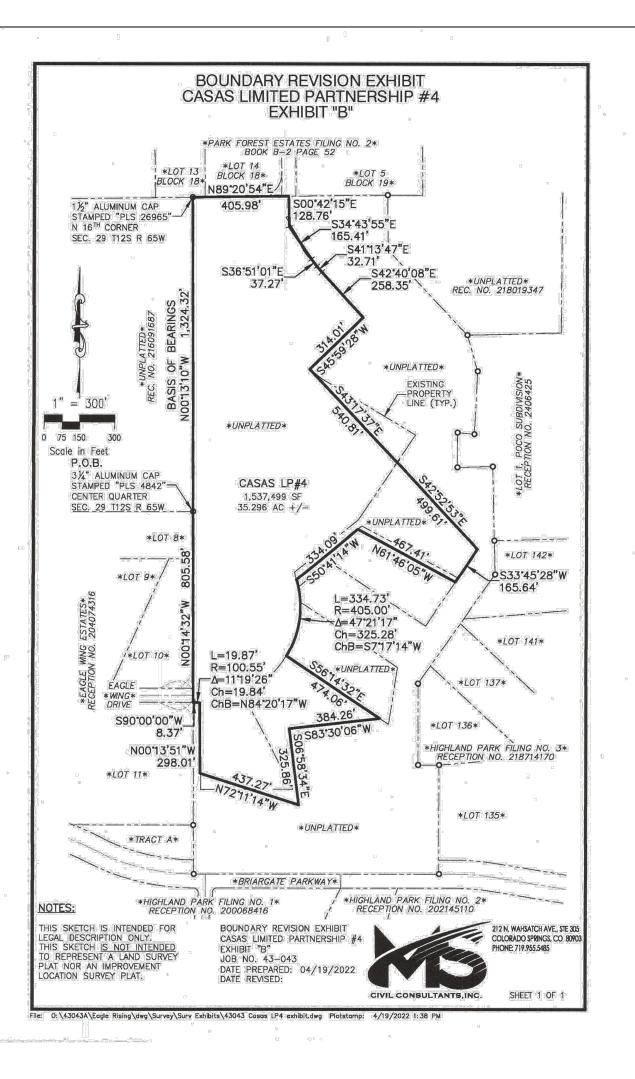


## Appendix Table 1 Area Trafffic Impact Studies by LSC Eagle Rising

Study	Date
Sterling Ranch	
Sterling Ranch TIS	June 5, 2008
Sterling Ranch Phase 1 TIS	March 16, 2015
Sterling Ranch Phases 1-3 Memorandum	October 2, 2017
Branding Iron at Sterling Ranch Fil No. 1 and Homestead at Sterling Ranch Fil No. 1 TIS	December 19, 2017
Sterling Ranch Filing No. 2 TIS	April 3, 2018
Sterling Ranch Phase 2 TIS	December 20, 2018
Homestead at Sterling Ranch Filing NO. 2	May 6, 2020
Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS	June 23, 2021
Sterling Ranch Filing No. 3 Transportation Memorandum	April 19, 2022
Copper Chase at Sterling Ranch Transportation Memorandum	May 26, 2022
Homestead North Phase 1 Updated TIS	January 11, 2022
Homestead North Filing No. 1 Traffic Technical Memorandum	February 2, 2022
Homestead North Filing No. 2 Traffic Technical Memorandum	June 13, 2022
Retreat at TimberRidge Retreat at TimberRidge TIS	January 25, 2018
Retreat at TimberRidge Preliminary Plan Transportation Memorandum	May 29, 2018
Retreat at TimberRidge Filing No. 1	May 3, 2020
Wolf Ranch	
Wolf Ranch Master TIS	April 13, 2001
Wolf Ranch Master TIS Updates	8/15/2005 & 7/3/2013
Wolf Ranch Master Plan Amendment Trip Generation Technical Memorandum	April 22, 2019
Wolf Ranch Master Plan Amendment Technical Memorandum No. 3	March 21, 2022
Others	
Koinonia Ranch Minor Subdivision Transportation Memorandum	October 21, 2021
Source: LSC Transportation Consultants, Inc. (June 2022)	

# **LRA Preliminary Plan Sheet (for reference)**





### CASAS LIMITED PARTNERSHIP #4 **LEGAL DESCRIPTION**

A PARCEL OF LAND IN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER (SW1/4 NE1/4) AND THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER (NW1/4, SE1/4) SECTION 29, T12S, R65W, OF THE 6th P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF THAT PARCEL DESCRIBED BY WARRANTY DEED RECORDED UNDER RECEPTION NO. 216091687 OF THE RECORDS OF EL PASO COUNTY, COLORADO; THENCE NO0°13'10"W ALONG THE EAST LINE THEREOF, 1,324.32 FEET TO THE SOUTH LINE OF "PARK FOREST ESTATES FILING NO. 2" AS RECORDED IN BOOK B-2 AT PAGE 52 OF THE RECORDS OF EL PASO COUNTY,

COLORADO; THENCE N89°20'54"E ALONG THE SOUTH LINE THEREOF, 405.98 FEET;

THENCE S00°42'15"E A DISTANCE OF 128.76 FEET; THENCE S34°43'55"E A DISTANCE OF 165.41 FEET; THENCE S36°51'01"E A DISTANCE OF 37.27 FEET; THENCE S41°13'47"E A DISTANCE OF 32.71 FEET; THENCE \$42°40'08"E A DISTANCE OF 258.35 FEET; THENCE S45°59'28"W A DISTANCE OF 314.01 FEET; THENCE \$43°17'37"E A DISTANCE OF 540.81 FEET;

THENCE \$42°52'53"E A DISTANCE OF 499.61 FEET; THENCE S33°45'28"W A DISTANCE OF 165.64 FEET; THENCE N61°46'05"W A DISTANCE OF 467.41 FEET; THENCE S50°41'14"W A DISTANCE OF 334.09 FEET;

THENCE 334.73 FEET ON THE ARC OF A NON-TANGENT CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 405.00 FEET, A CENTRAL ANGLE OF 47°21'17" THE CHORD OF 325.28 FEET WHICH BEARS S07°17'14"W; THENCE S56°14'32"E, NON-TANGENT TO THE PREVIOUS COURSE, 474.06 FEET;

THENCE S83°30'06"W A DISTANCE OF 384.26 FEET THENCE S06°58'34"E A DISTANCE OF 325.86 FEET; THENCE N72°11'14"W A DISTANCE OF 437.27 FEET;

THENCE NO0°13'51"W A DISTANCE OF 298.01 FEET; THENCE 19.87 FEET ON THE ARC OF A NON-TANGENT CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 100.55 FEET, A CENTRAL ANGLE OF 11°19'26" THE CHORD OF 19.84 FEET WHICH BEARS N84°20'17"W TO A POINT

THENCE S90°00'00"W A DISTANCE OF 8.37 FEET TO THE EAST LINE OF "EAGLE WING ESTATES" AS RECORDED UNDER RECEPTION NO. 204074316 OF THE RECORDS OF EL PASO COUNTY, COLORADO: THENCE NO0°14'32"W ALONG SAID EAST LINE, 805.58 FEET TO THE POINT OF BEGINNING.

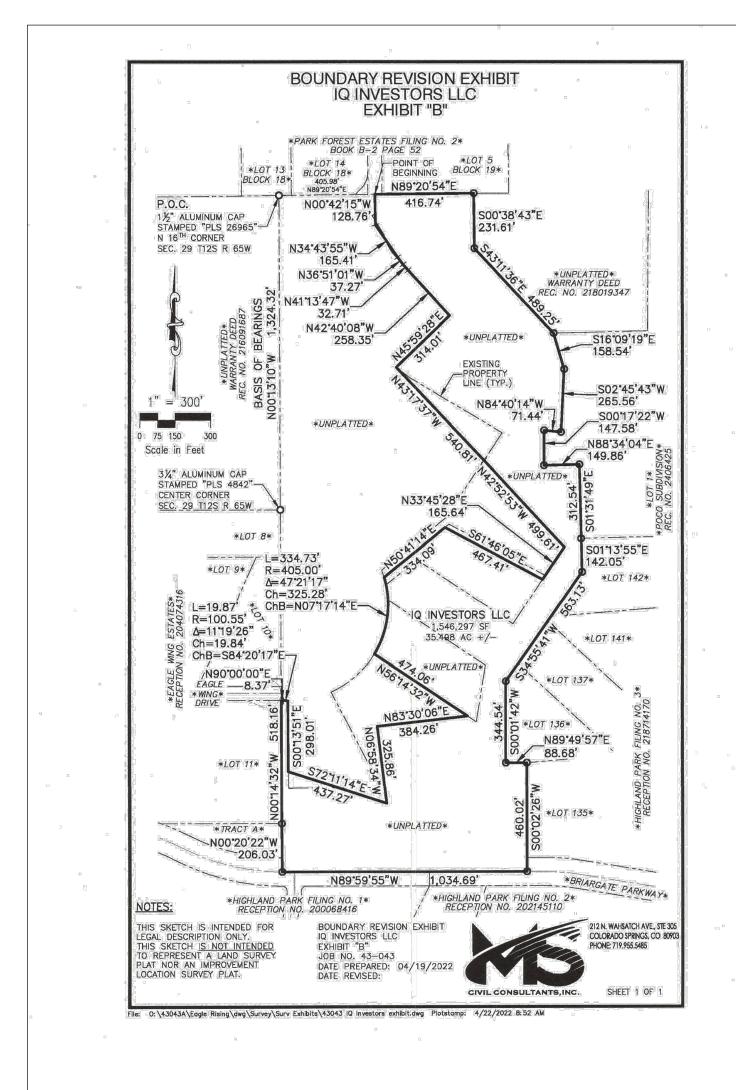
SAID PARCEL CONTAINS A CALCULATED AREA OF 1,537,499 SQUARE FEET (35.296 ACRES, MORE OR LESS).

### **BASIS OF BEARINGS:**

THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER (SW1/4 NE 1/4) SECTION 29, T12S, R65W, 6TH P.M., EL PASO COUNTY, COLORADO, BEING MONUMENTED ON THE SOUTH BY A FOUND 3 1/4" ALUMINUM CAP STAMPED "PLS 4842" AND ON THE NORTH BY A 1 1/2" ALUMINUM CAP STAMPED "PLS 26965", AND IS ASSUMED TO BEAR NO0°13'10"W, A DISTANCE OF 1,324.32 FEET.

# PRELIMINARY PLAN

RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO



### IQ INVESTORS LLC LEGAL DESCRIPTION

A PARCEL OF LAND IN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER (SW1/4 NE1/4) AND THE WEST HALF OF THE SOUTHEAST QUARTER (W1/2, SE1/4) SECTION 29, T12S, R65W, OF THE 6th P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT THE NORTHEAST CORNER OF THAT PARCEL DESCRIBED BY WARRANTY DEED RECORDED UNDER RECEPTION NO. 216091687 OF THE RECORDS OF EL PASO COUNTY, COLORADO; THENCE N89°20'54"E ALONG THE SOUTH LINE OF "PARK FOREST ESTATES FILING NO. 2" AS RECORDED IN BOOK B-2 AT PAGE 52 IN THE RECORDS OF EL PASO COUNTY, COLORADO, A DISTANCE OF 405.98 FEET TO THE POINT OF

THENCE CONTINUING N89°20'54"E ALONG SAID SOUTH LINE A DISTANCE OF 416.74 FEET TO THE NORTHWEST CORNER OF THAT PARCEL DESCRIBED BY WARRANTY DEED RECORDED UNDER RECEPTION NO. 218019347 OF THE RECORDS OF EL PASO COUNTY, COLORADO;

THENCE ALONG THE WEST LINES THEREOF THE FOLLOWING TWO (2) COURSES:

THENCE S00°38'43"E A DISTANCE OF 231.61 FEET;

2. THENCE \$43°11'36"E A DISTANCE OF 489.25 FEET TO THE NORTHWEST CORNER OF LOT 1, "POCO SUBDIVISION" AS RECORDED UNDER RECEPTION NO. 2406425 OF THE RECORDS OF EL PASO COUNTY,

THENCE ALONG THE WEST LINES THEREOF THE FOLLOWING SIX (6) COURSES:

1. THENCE S16°09'19"E A DISTANCE OF 158.54 FEET;

THENCE SO2°45'43"W A DISTANCE OF 265.56 FEET;

THENCE N84°40'14"W A DISTANCE OF 71.44 FEET; THENCE SO0°17'22"W A DISTANCE OF 147.58 FEET;

THENCE N88°34'04"E A DISTANCE OF 149.86 FEET;

6. THENCE SO1°31'49"E A DISTANCE OF 312.54 FEET TO THE NORTHWEST CORNER OF "HIGHLAND PARK" FILING NO. 3" AS RECORDED UNDER RECEPTION NO. 218714170 OF THE RECORDS OF EL PASO COUNTY,

THENCE ALONG THE WEST LINES THEREOF THE FOLLOWING FIVE (5) COURSES

THENCE S01°13'55"E A DISTANCE OF 142.05 FEET;

THENCE S34°55'41"W A DISTANCE OF 563.13 FEET; 3. THENCE SOO°01'42"W A DISTANCE OF 344.54 FEET;

THENCE N89°49'57"E A DISTANCE OF 88.68 FEET;

5. THENCE S00°02'26"W A DISTANCE OF 460.02 FEET TO THE NORTH RIGHT-OF-WAY OF BRIARGATE PARKWAY AS SHOWN ON THE PLATS OF, "HIGHLAND PARK FILING NO. 2" AS RECORDED UNDER

RECEPTION NO. 202145110 AND "HIGHLAND PARK FILING NO. 1" AS RECORDED UNDER RECEPTION NO. 200068416 OF THE RECORDS OF EL PASO COUNTY, COLORADO;

THENCE N89°59'55"W ALONG SAID RIGHT-OF-WAY LINE 1,034.69 FEET;

THENCE N00°20'22"W A DISTANCE OF 206.03 FEET TO THE SOUTHEAST CORNER OF LOT 11, "EAGLE WING ESTATES" AS RECORDED UNDER RECEPTION NO. 204074316 OF THE RECORDS OF EL PASO COUNTY, COLORADO, THENCE NO0°14'32"W ALONG THE EAST LINE THEREOF, 518.16 FEET;

THENCE N90°00'00"E A DISTANCE OF 8.37 FEET TO A POINT OF CURVE: THENCE 19.87 FEET ON THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 100.55 FEET, A

CENTRAL ANGLE OF 11°19'26" THE CHORD OF 19.84 FEET WHICH BEARS S84°20'17"E: THENCE S00°13'51"E A DISTANCE OF 298.01 FEET;

THENCE S72°11'14"E A DISTANCE OF 437.27 FEET;

THENCE N06°58'34"W A DISTANCE OF 325.86 FEET; THENCE N83°30'06"E A DISTANCE OF 384.26 FEET

THENCE 334.73 FEET ON THE ARC OF A NON-TANGENT CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 405.00 FEET, A CENTRAL ANGLE OF 47°21'17" THE CHORD OF 325.28 FEET WHICH BEARS N07°17'14"E;

THENCE N50°41'14"E, NON-TANGENT TO THE PREVIOUS COURSE, 334.09 FEET.

THENCE S61°46'05"E A DISTANCE OF 467.41 FEET:

THENCE N33°45'28"E A DISTANCE OF 165.64 FEET THENCE N42°52'53"W A DISTANCE OF 499.61 FEET

THENCE N43°17'37"W A DISTANCE OF 540.81 FEET; THENCE N45°59'28"E A DISTANCE OF 314.01 FEET;

THENCE N42°40'08"W A DISTANCE OF 258.35 FEET;

THENCE N41°13'47"W A DISTANCE OF 32.71 FEET; THENCE N36°51'01"W A DISTANCE OF 37.27 FEET;

THENCE N34°43'55"W A DISTANCE OF 165.41 FEET; THENCE NO0°42'15"W A DISTANCE OF 128.76 FEET TO THE POINT OF BEGINNING.

200' MIN. LOT WIDTH

15' FRONT UTILITY &

DRAINAGE EASEMENT

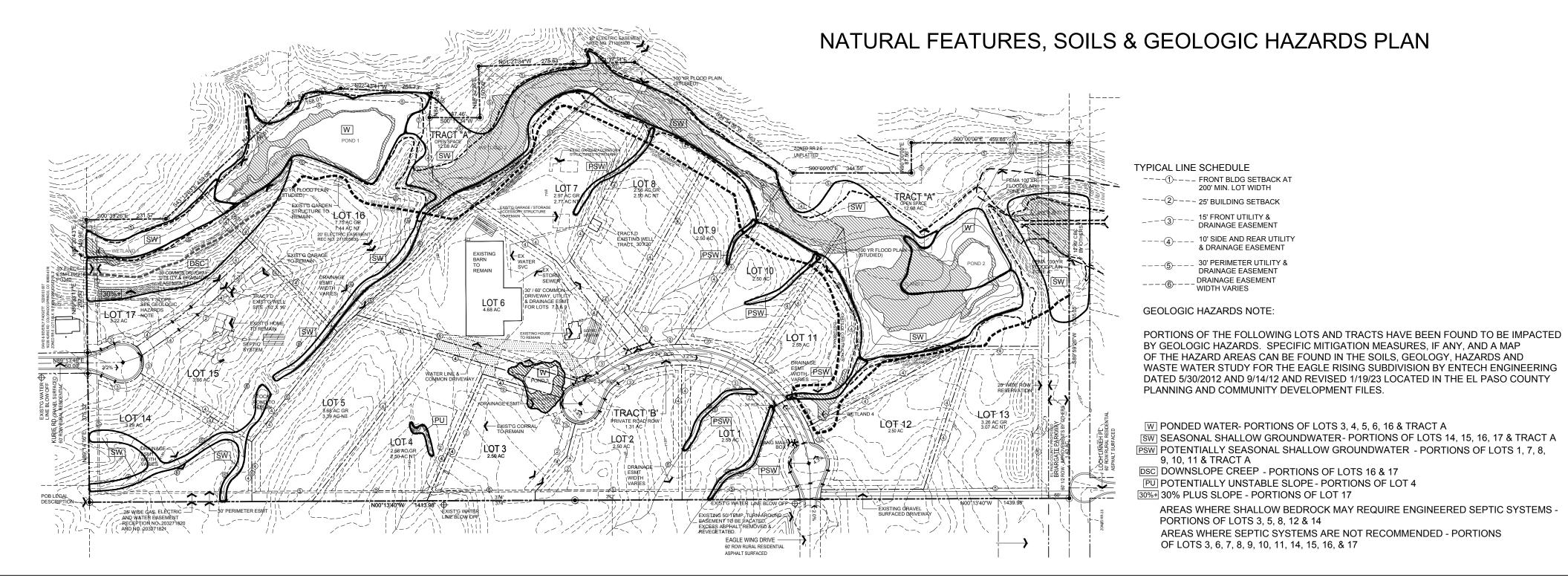
& DRAINAGE EASEMENT

DRAINAGE EASEMENT

SAID PARCEL CONTAINS A CALCULATED AREA OF 1,546,297 SQUARE FEET (35.498 ACRES, MORE OR LESS).

BASIS OF BEARINGS:

THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER (SW1/4 NE 1/4) SECTION 29, T125 R65W, 6TH P.M., EL PASO COUNTY, COLORADO, BEING MONUMENTED ON THE SOUTH BY A FOUND 3 1/4" ALUMINUM CAP STAMPED "PLS 4842" AND ON THE NORTH BY A 1 1/2" ALUMINUM CAP STAMPED "PLS 26965" AND IS ASSUMED TO BEAR NO0°13'10"W, A DISTANCE OF 1,324.32 FEET.



LAND RESOURCE ASSOCIATES 9736 MOUNTAIN RD. CHIPITA PARK, CO 80809 719-684-2298



ISSUED FOR: COUNTY

REINSTATEMENT

project number

computer file

issue date

September 05, 2023 drawn by

checked by

revisions

SW SEASONAL SHALLOW GROUNDWATER- PORTIONS OF LOTS 14, 15, 16, 17 & TRACT A PSW POTENTIALLY SEASONAL SHALLOW GROUNDWATER - PORTIONS OF LOTS 1, 7, 8,

of two

sheet number

PCD PROJECT NUMBER