



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
EPC PCD File No.: SP205
(LSC #S224260)
April 5, 2023

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.

Steph Jacob

6/16/23
Date

Eagle Rising Preliminary Plan

Traffic Technical Memorandum

My Pad, Inc. | Developer
Attn: Mr. Stephen Jacobs
Casas Limited Partnership #4 and
IQ Investors, LLC
P.O. Box 2076
Colorado Springs, CO 80901-0276

APRIL 5, 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
DEVIATON REQUEST	8
TRANSPORTATION IMPROVEMENT FEE PROGRAM	8
Enclosures:	9
Table 1	
Figures 1-10	
Traffic Counts	
Levels of Service	
MTCP Maps	
Appendix Table 1	
LRA Preliminary Plan Sheet (for reference)	



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Colorado Springs, CO 80901-0276

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.

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;
- 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

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) ⁽¹⁾
A	10 sec or less	10 sec or less
B	10-20 sec	10-15 sec
C	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 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, 6th 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

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).

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, 6th 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.

DEVIATION REQUEST

A deviation to the criteria contained in the *El Paso County Engineering Criteria Manual* to allow for the proposed extension of Eagle Wing Drive as a private gravel roadway has been prepared. This deviation is 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)

**Table 1
Trip Generation Estimate
Eagle Rising Preliminary Plan**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾				Total External Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Evening Peak Hour		Average Weekday Traffic	Morning Peak Hour		Evening Peak Hour	
				In	Out	In	Out		In	Out		
Existing Land Use - Filing No. 1												
210	Single-Family Detached Housing	2 DU ⁽²⁾	9.43	0.18	0.52	0.59	0.35	19	0	1	1	1
Proposed 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
Proposed New Land Uses - Buildout of Preliminary Plan												
210	Single-Family Detached Housing	15 DU	9.43	0.18	0.52	0.59	0.35	141	3	8	9	5

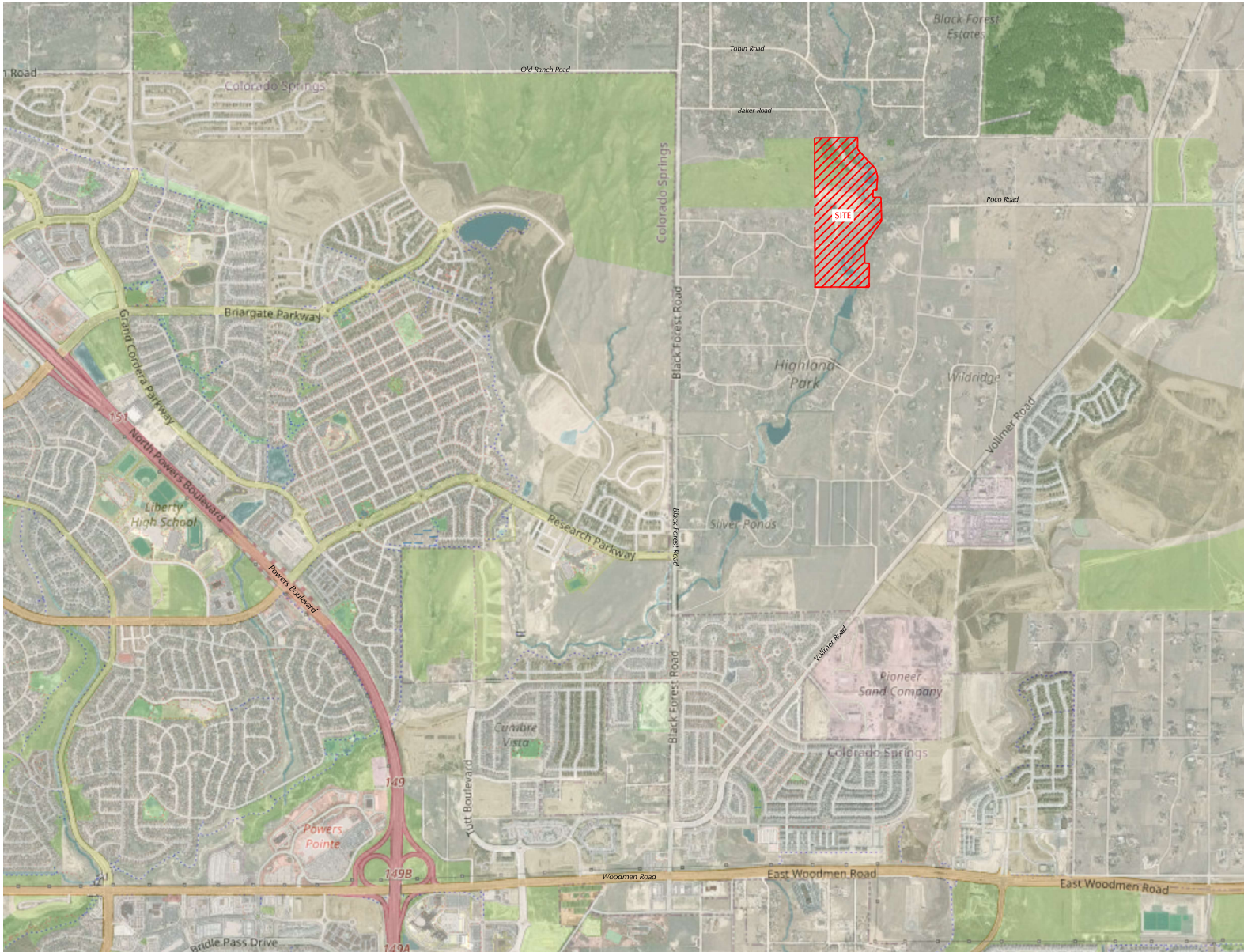
Notes:

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

(2) DU = dwelling unit

Figures 1-10





Approximate Scale
NTS

Figure 1
**Vicinity
Map**

Eagle Rising 2022 Update (LSC #S224260)

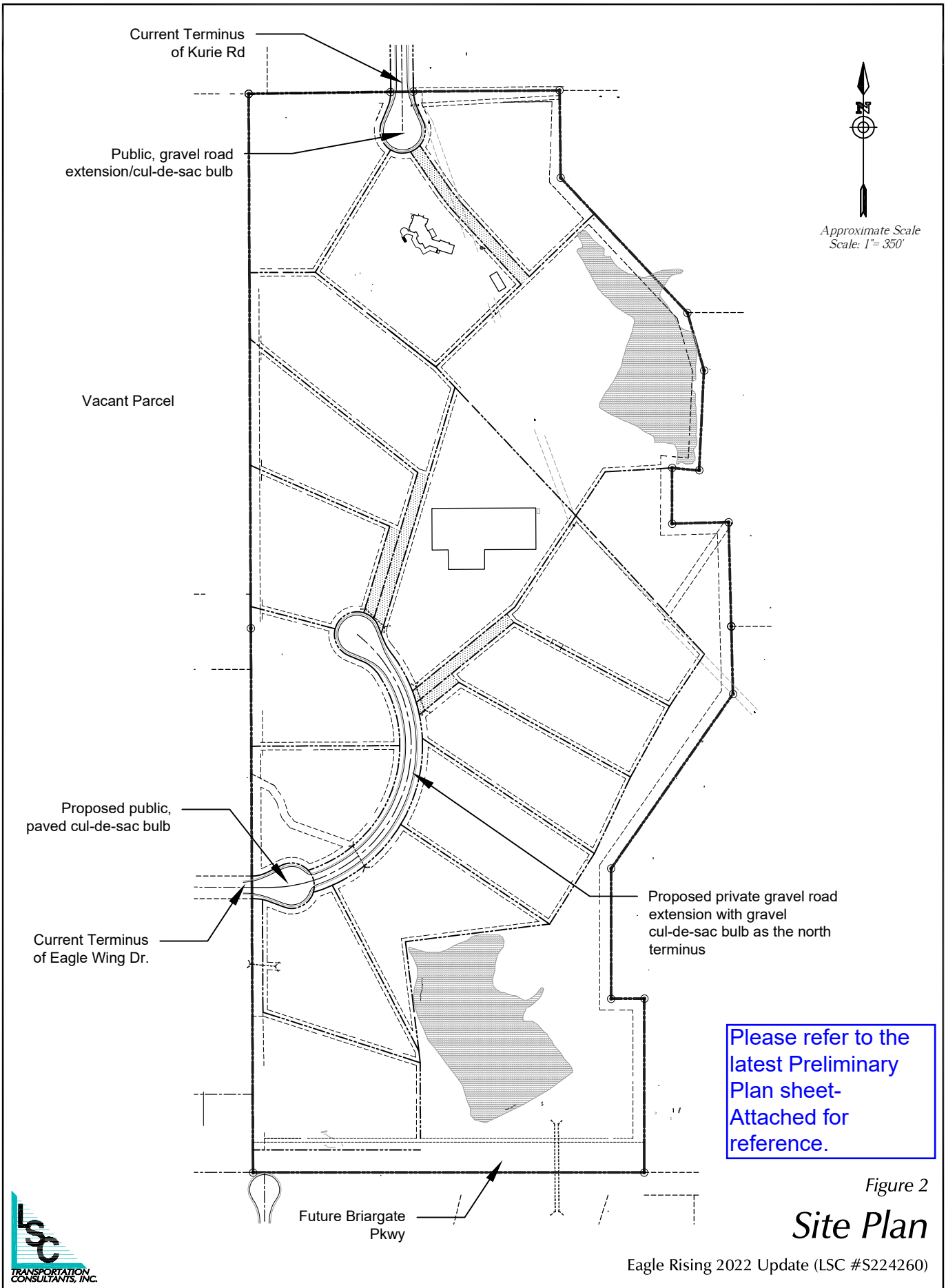


Figure 2

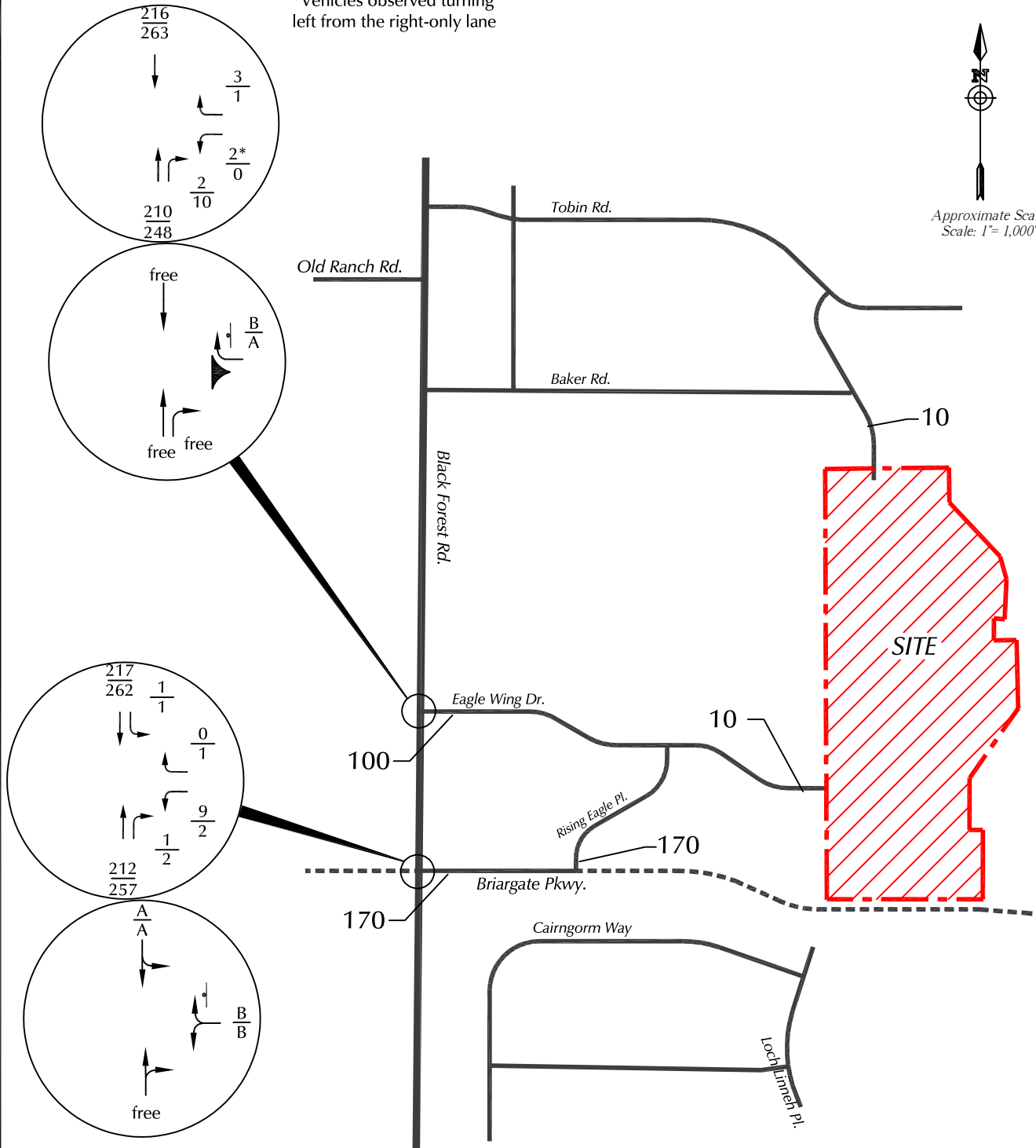
Site Plan



*Vehicles observed turning left from the right-only lane



Approximate Scale
Scale: 1" = 1,000'



LEGEND:

⊥ = Stop Sign

$\frac{X}{X}$ = AM Individual Movement Peak-Hour LOS
PM Individual Movement Peak-Hour LOS

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (Veh/Hour)
PM Weekday Peak-Hour Traffic (Veh/Hour)

X,XXX = Average Daily Traffic (Vehicles/Day) Estimate by LSC

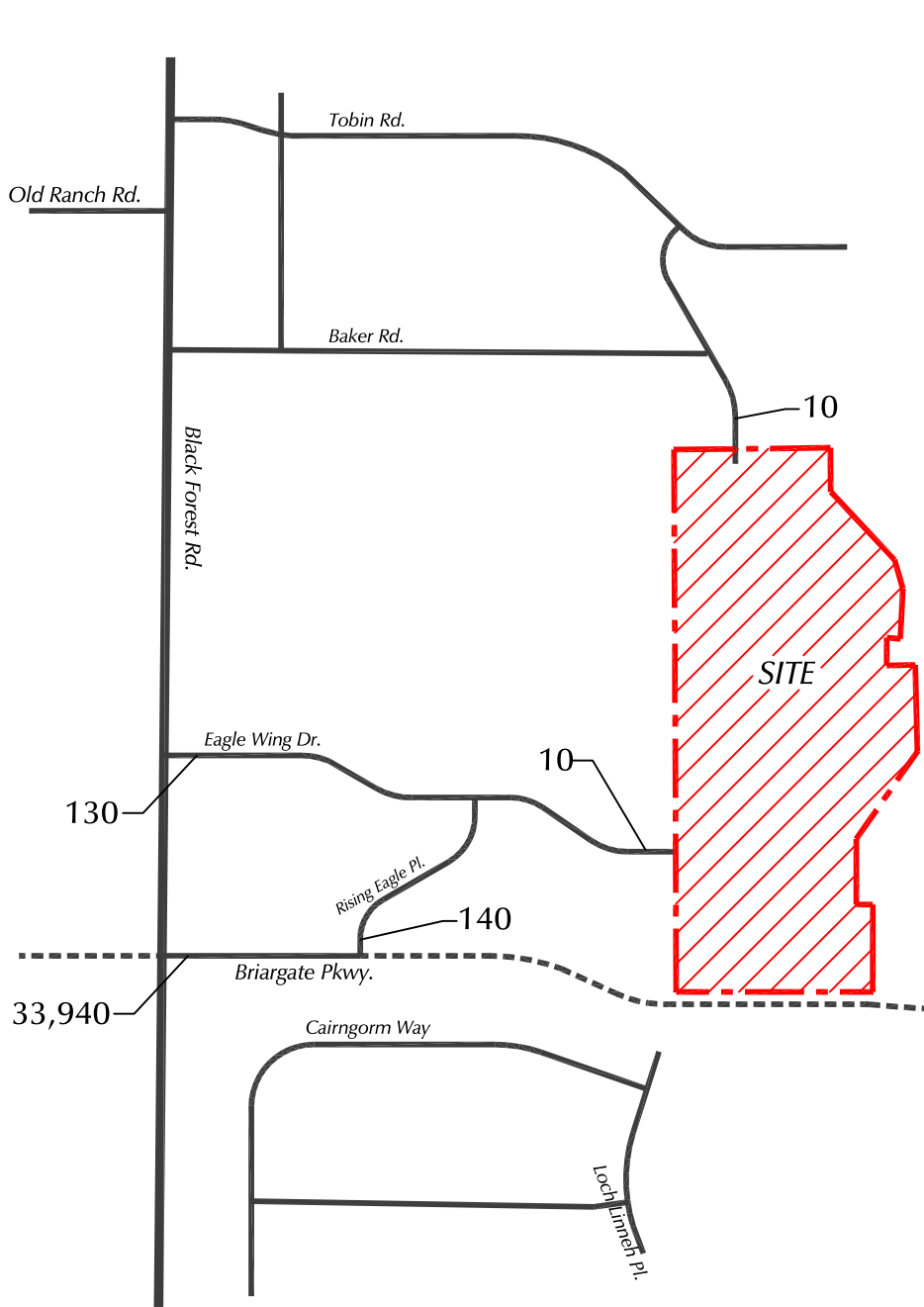
Based on counts by LSC Dec 2022

Figure 3

Existing Conditions

Eagle Rising 2022 Update (LSC #S224260)





*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:

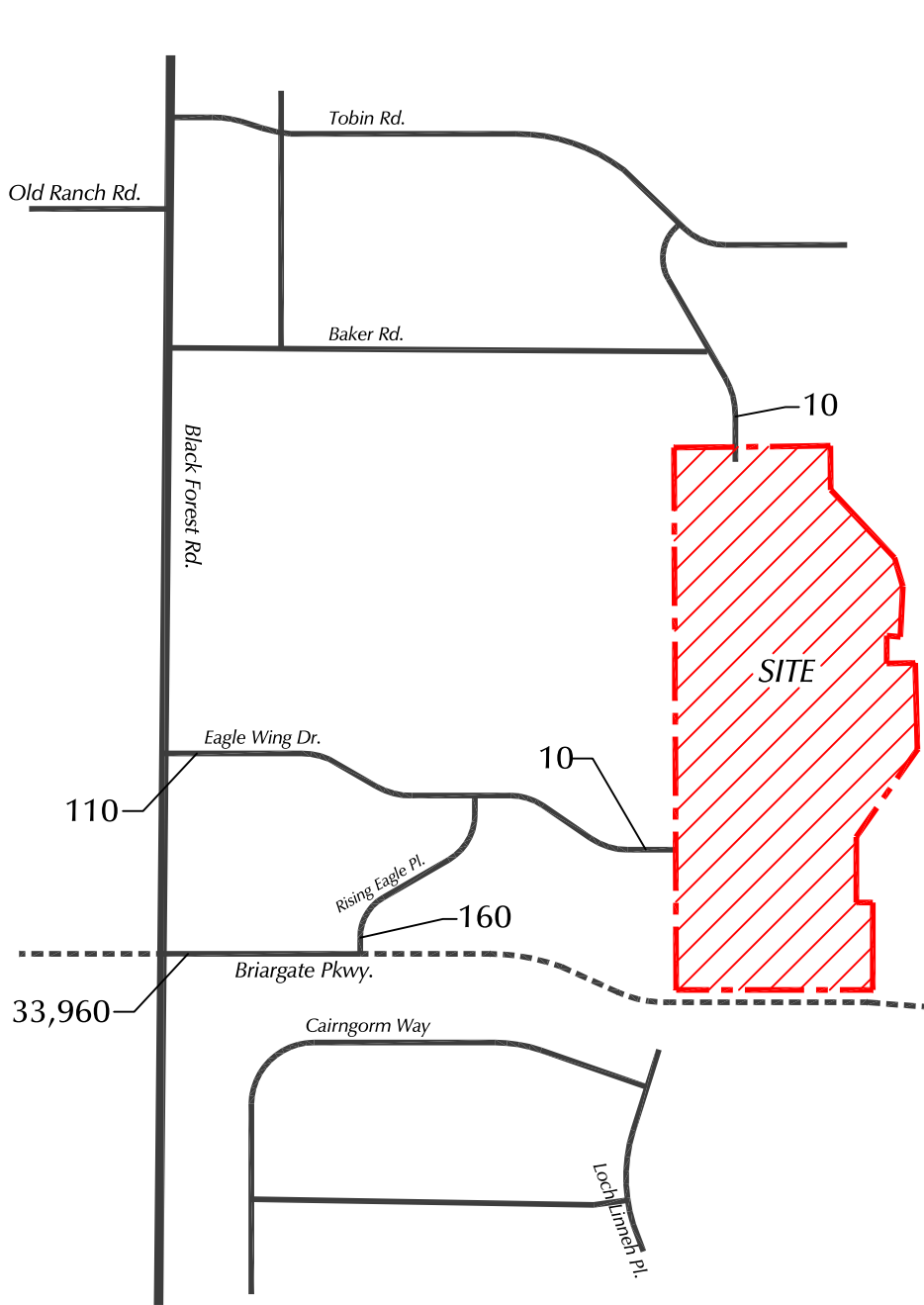
10,165 = Average Daily Traffic

Figure 4a

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

Eagle Rising 2022 Update (LSC #S224260)





Approximate Scale
Scale: 1"= 1,000'

*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)

LEGEND:
10,165 = Average Daily Traffic

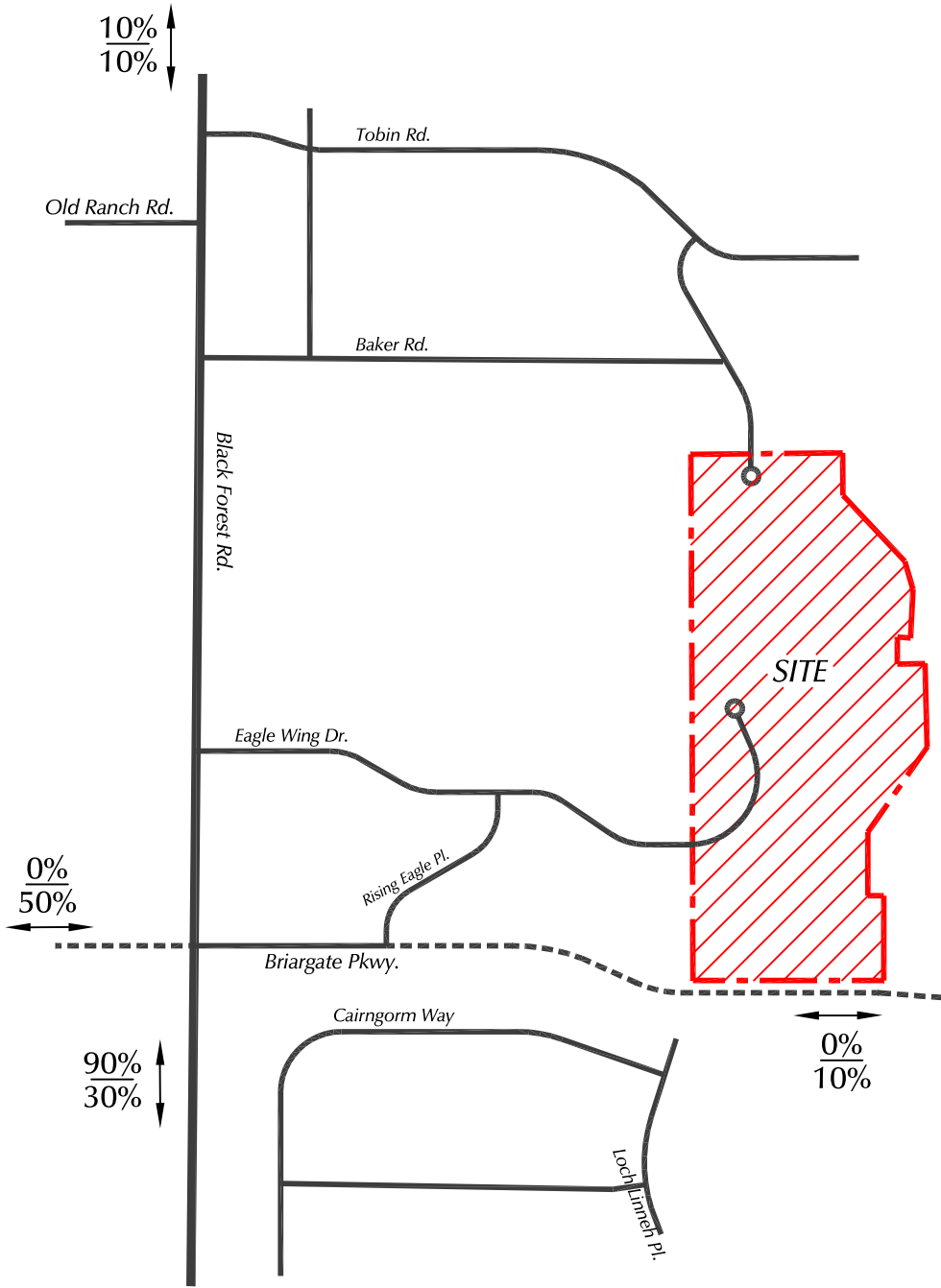
Figure 4b
**Year 2040
Background Traffic**
Three-Quarter Intersection Scenario*

Eagle Rising 2022 Update (LSC #S224260)





Approximate Scale
Scale: 1" = 1,000'



LEGEND:

↔ 50% = Short-Term Percent Directional Distribution
↔ 65% = Long-Term Percent Directional Distribution

Figure 5

Directional Distribution of Site-Generated Traffic

Eagle Rising 2022 Update (LSC #S224260)



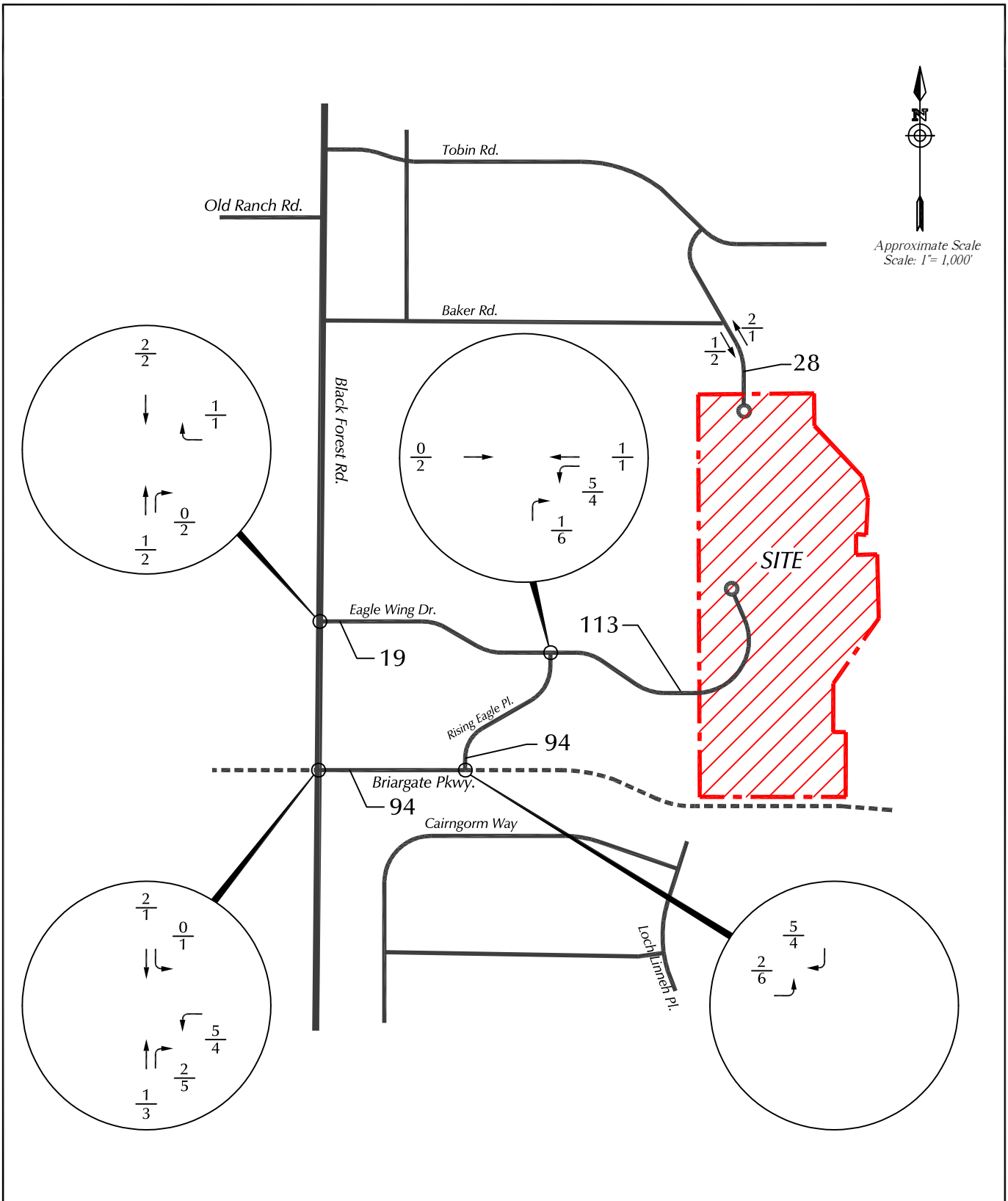


Figure 6

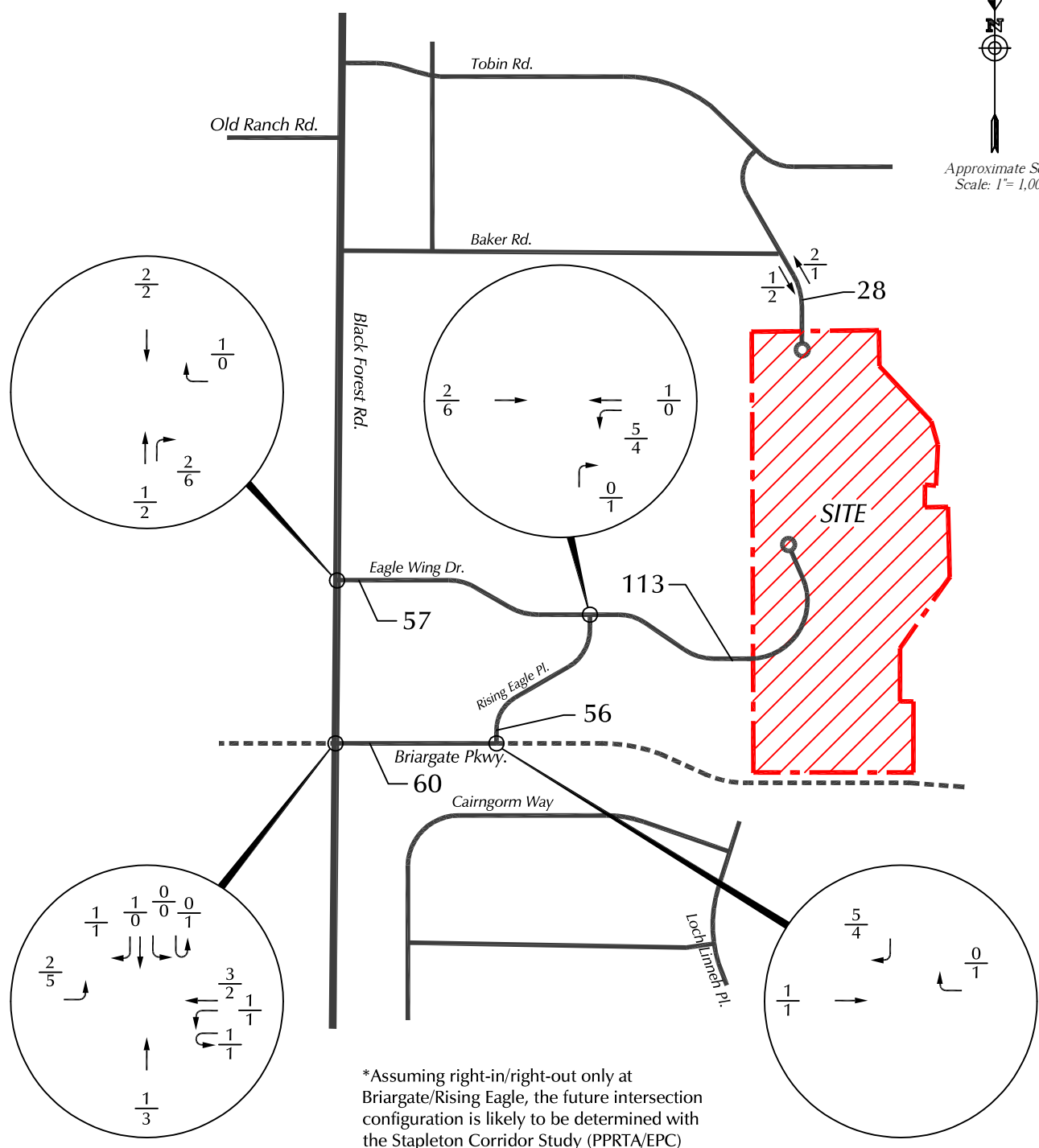
Short-Term Assignment of New Site-Generated Traffic

LEGEND:

$\frac{26}{31}$ = AM Peak-Hour Weekday Traffic
 PM Peak-Hour Weekday Traffic
 10,165 = Average Daily Traffic



Approximate Scale
Scale: 1"= 1,000'



*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:

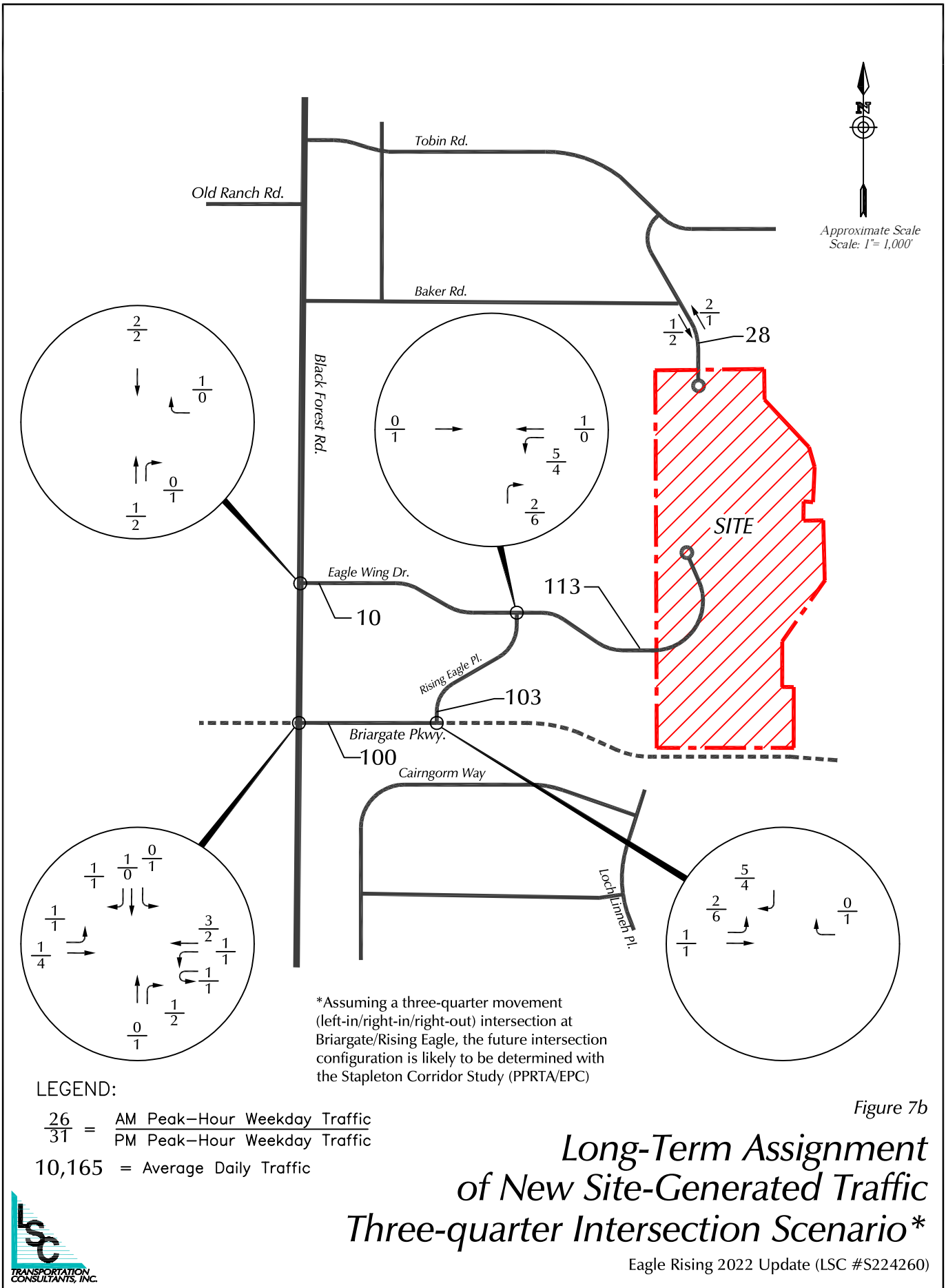
$\frac{26}{31}$ = AM Peak-Hour Weekday Traffic
 $\frac{31}{31}$ = PM Peak-Hour Weekday Traffic
 10,165 = Average Daily Traffic

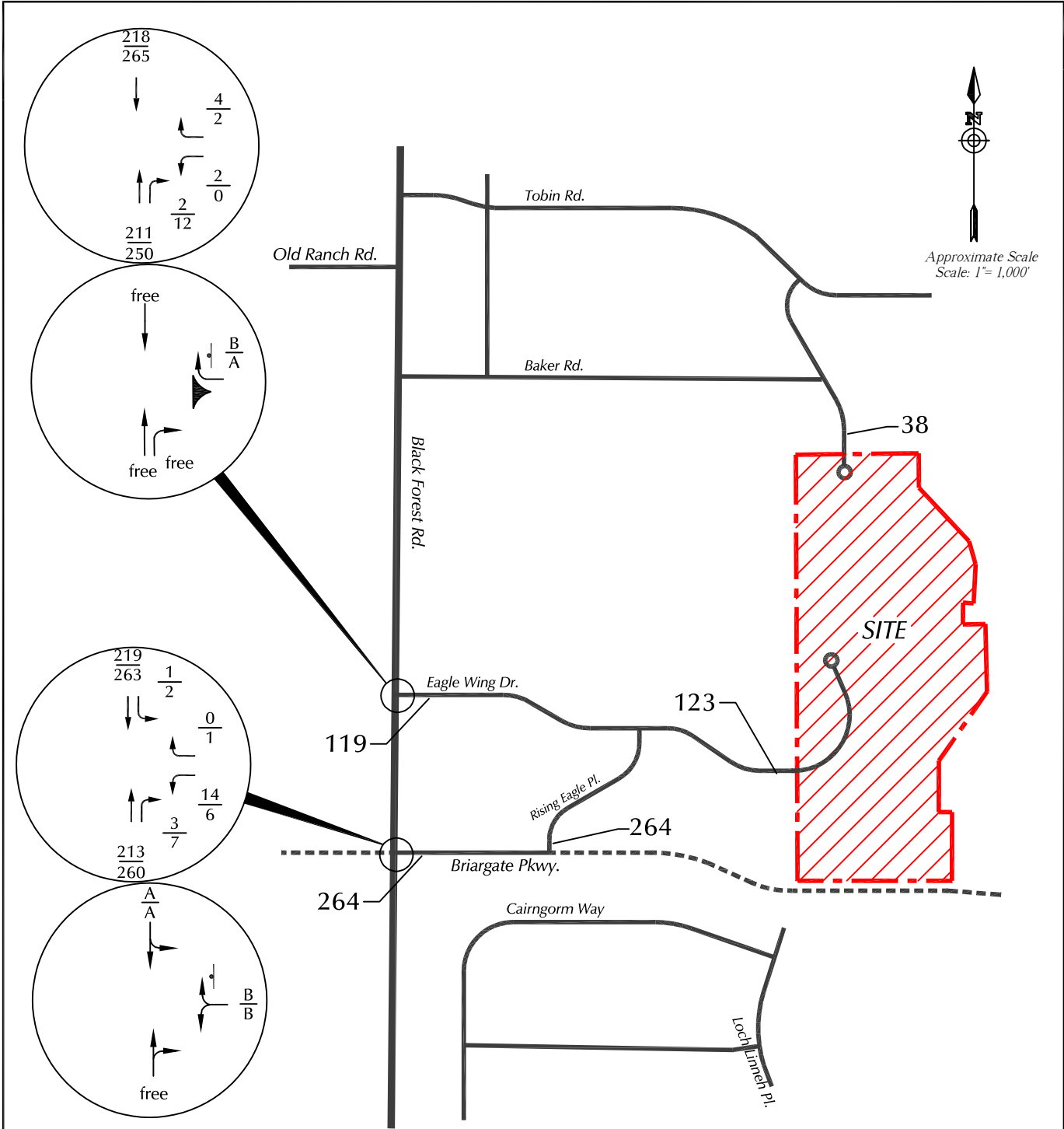
Figure 7a

Long-Term Assignment of New Site-Generated Traffic Right-in/Right-out Intersection Scenario*

Eagle Rising 2022 Update (LSC #S224260)







LEGEND:


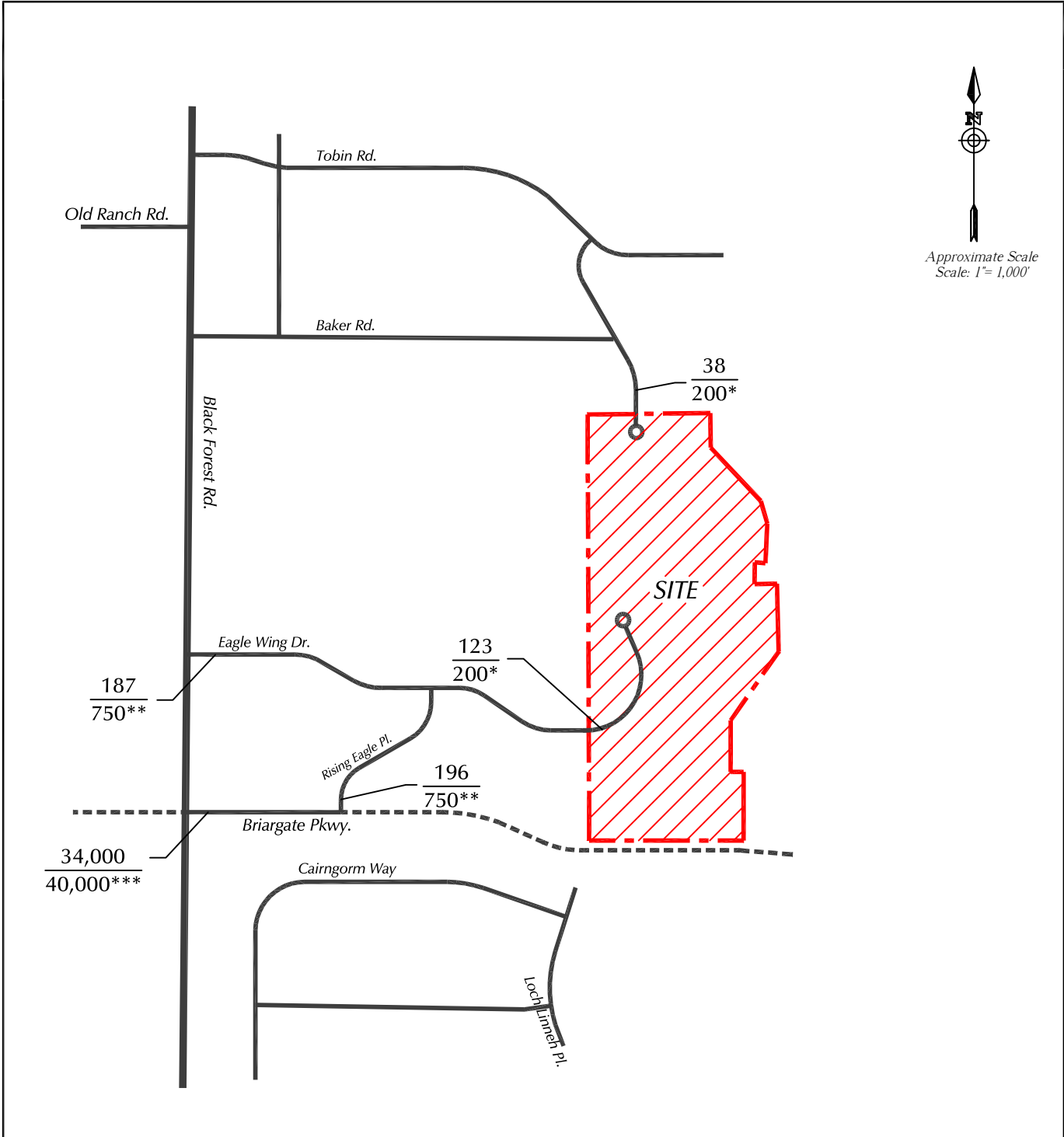
-  = Stop Sign
- $\frac{X}{X}$ = $\frac{AM\ Individual\ Movement\ Peak-Hour\ LOS}{PM\ Individual\ Movement\ Peak-Hour\ LOS}$
- $\frac{XX}{XX}$ = $\frac{AM\ Weekday\ Peak-Hour\ Traffic\ (Veh/Hour)}{PM\ Weekday\ Peak-Hour\ Traffic\ (Veh/Hour)}$
- X,XXX = Average Daily Traffic (Vehicles/Day) Estimate by LSC

Figure 8

Short-Term Total Conditions

Eagle Rising 2022 Update (LSC #S224260)





(*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:
 XX,XXX = Average Daily Traffic
 XX,XXX = Design ADT from Tables 2-5 and 2-6 of the El Paso County Engineering Criteria Manual

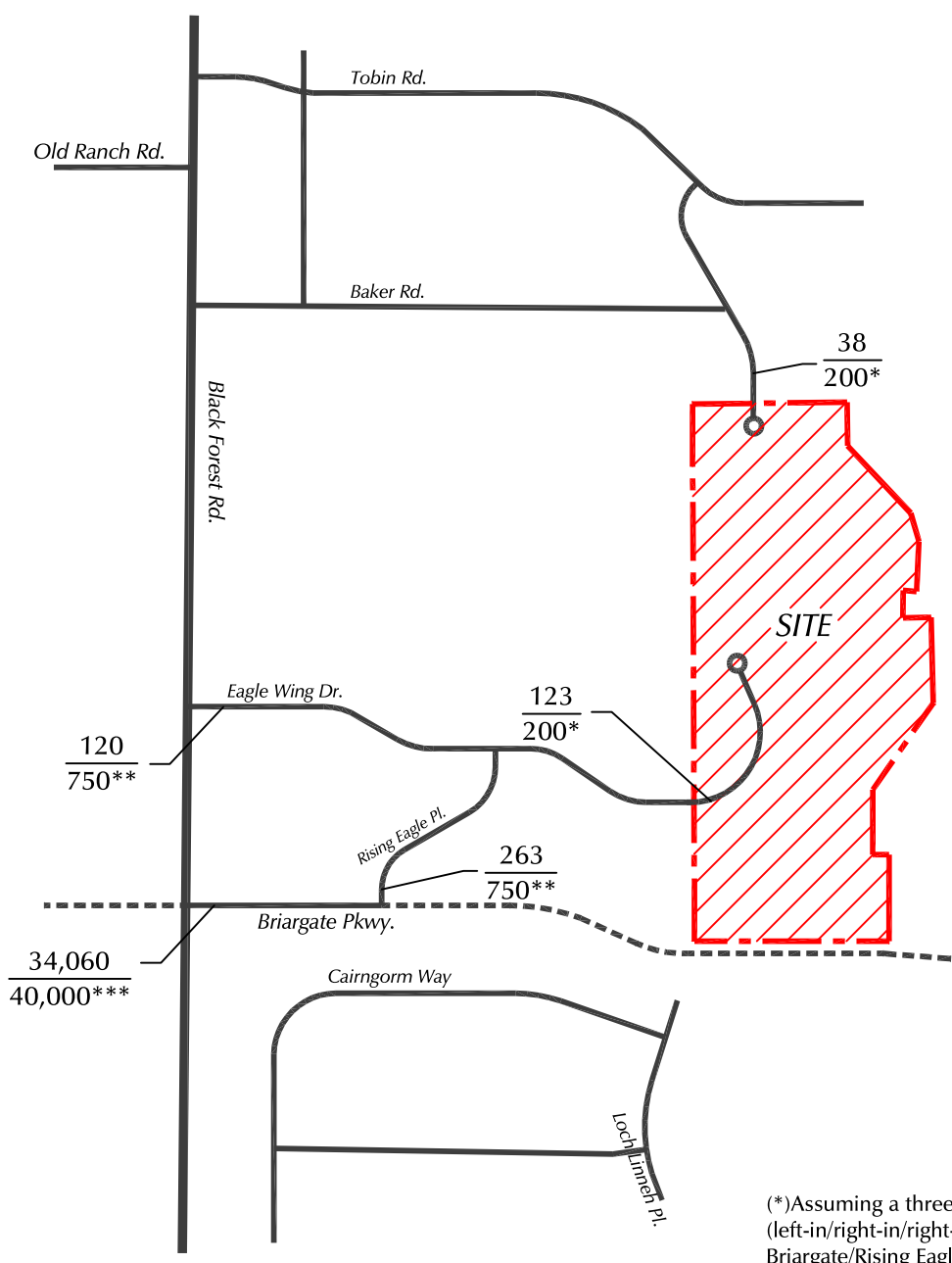
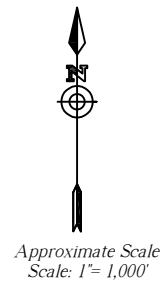
- *Rural Local Gravel
- **Rural Local
- ***4-lane Urban Principal Arterial

Figure 9a

**Year 2040
 Total Daily Traffic
 Right-in/Right-out Intersection Scenario(*)**

Eagle Rising 2022 Update (LSC #S224260)





(*) 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)

LEGEND:

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

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

Figure 9b

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

Eagle Rising 2022 Update (LSC #S224260)



Public gravel road extension/cul-de-sac bulb



Approximate Scale
NTS

Private gravel road with gravel cul-de-sac bulb (dependent on waiver approval)

Public, paved cul-de-sac bulb (dependent on waiver approval)

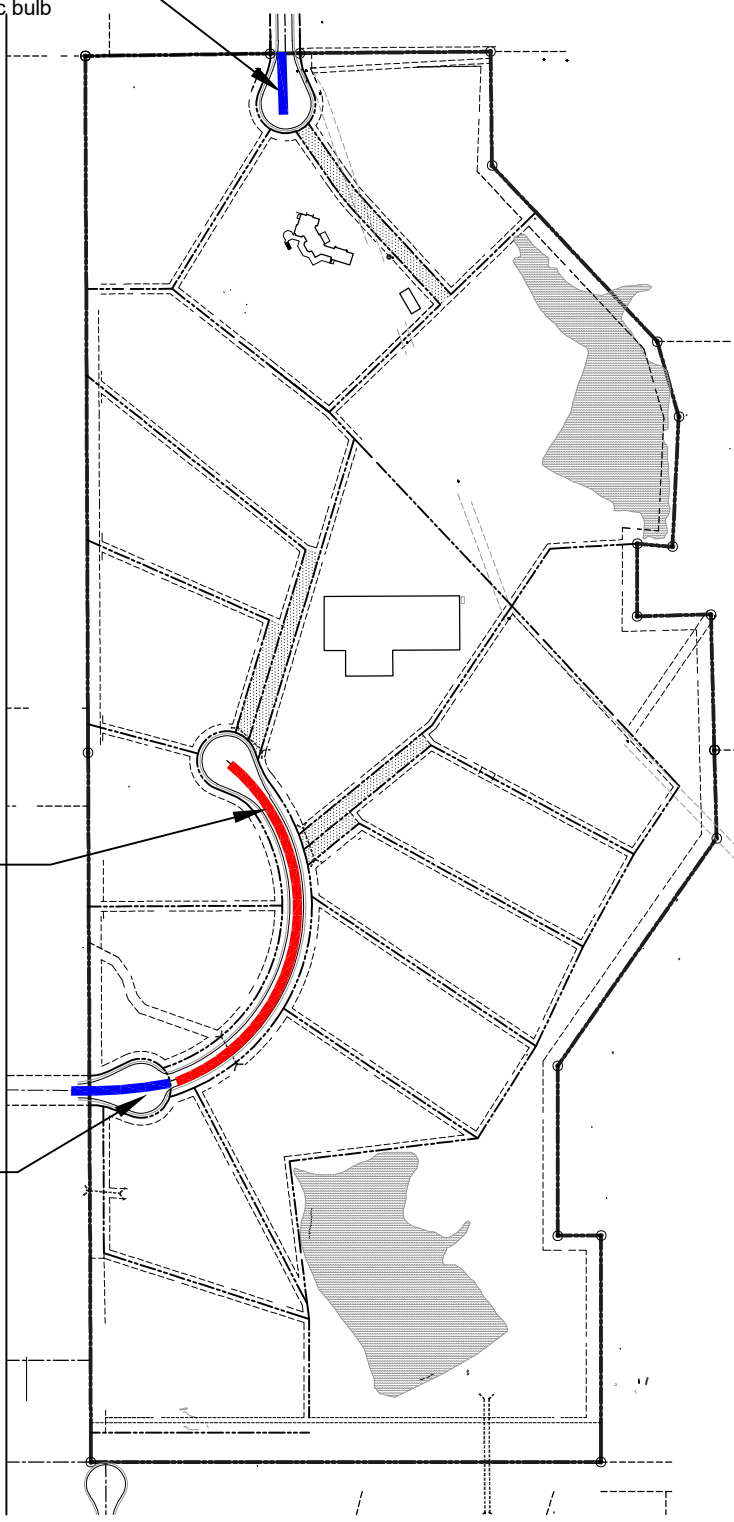


Figure 10

Roadway Classifications and Roadway Surface

Eagle Rising 2022 Update (LSC #S224260)



Traffic Counts



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
 Colorado Springs, CO 80909
 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

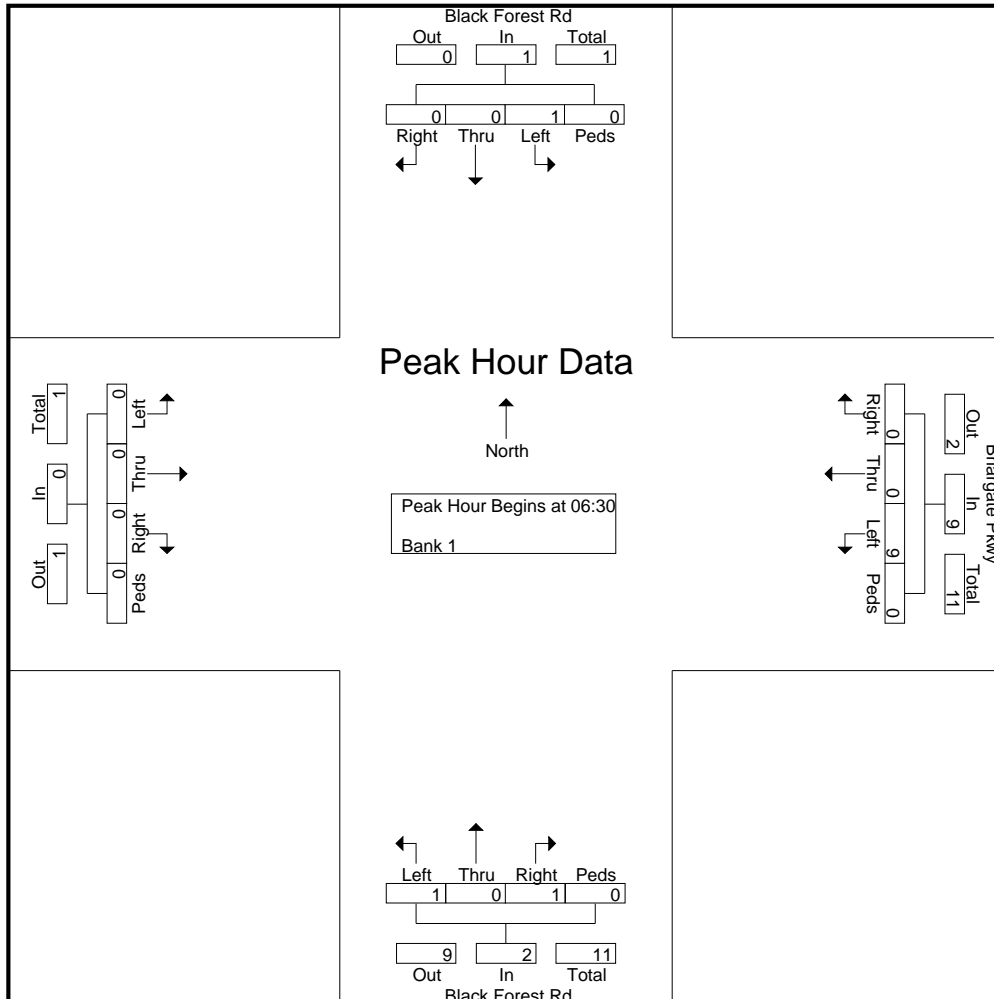
Start Time	Black Forest Rd Southbound					Briargate Pkwy Westbound					Black Forest Rd Northbound					Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
06:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	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	0	0
06:40	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***																						
06:50	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:55	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	1	0	1	0	0	4	0	4	1	0	1	0	2	0	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	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	0	1
07:15	0	0	0	0	0	0	0	1	0	1	0	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	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	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	0	2
Total	0	0	1	0	1	0	0	6	0	6	2	0	0	0	2	0	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	0	1
*** BREAK ***																						
Total	0	0	0	0	0	0	0	1	0	1	0	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	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	0	1
16:55	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	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	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	0	1
17:10	0	0	0	0	0	1	0	0	0	1	0	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	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	0	1
*** BREAK ***																						
Total	0	0	1	0	1	1	0	1	0	2	1	0	0	0	1	0	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	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		

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
 Colorado Springs, CO 80909
 719-633-2868

File Name : Black Forest Rd - Briargate Pkwy AM PM B
 Site Code : S224260
 Start Date : 12/6/2022
 Page No : 2

Start Time	Black Forest Rd Southbound					Briargate Pkwy Westbound					Black Forest Rd Northbound					Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 06:30 to 17:55 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 06:30																						
06:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	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	0	1
06:40	0	0	0	0	0	0	0	1	0	1	0	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	0
06:50	0	0	1	0	1	0	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	0	3
07:00	0	0	0	0	0	0	0	1	0	1	0	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	0
07:10	0	0	0	0	0	0	0	1	0	1	0	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	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	0
07:25	0	0	0	0	0	0	0	2	0	2	0	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	0	12
% App. Total	0	0	100	0		0	0	100	0		50	0	50	0		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	.000	.333



LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
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 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

Groups Printed- Unshifted

Start Time	Black Forest Rd Southbound					Eagle Wing Dr Westbound					Black Forest Rd Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30	0	16	0	0	16	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0
06:35	0	13	0	0	13	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0
06:40	0	6	0	0	6	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0
06:45	0	16	0	0	16	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0
06:50	0	14	0	0	14	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0
06:55	0	24	0	0	24	0	0	1	0	1	1	11	0	0	12	0	0	0	0	0	0
Total	0	89	0	0	89	0	0	1	0	1	2	49	0	0	51	0	0	0	0	0	0
07:00	0	32	0	0	32	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0
07:05	0	21	0	0	21	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0
07:10	0	14	0	0	14	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	0
07:15	0	22	0	0	22	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0
07:20	0	22	0	0	22	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0
07:25	0	16	0	0	16	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0
07:30	0	26	0	0	26	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0
07:35	0	24	0	0	24	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0
07:40	0	15	0	0	15	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0
07:45	0	25	0	0	25	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0
07:50	0	19	0	0	19	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0
07:55	0	18	0	0	18	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	0
Total	0	254	0	0	254	1	0	1	0	2	3	148	0	0	151	0	0	0	0	0	0
08:00	0	18	0	0	18	1	0	0	0	1	0	14	0	0	14	0	0	0	0	0	0
08:05	0	17	0	0	17	0	0	1	0	1	1	20	0	0	21	0	0	0	0	0	0
08:10	0	18	0	0	18	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0
08:15	0	13	0	0	13	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0
08:20	0	12	0	0	12	2	0	0	0	2	0	25	0	0	25	0	0	0	0	0	0
08:25	0	11	0	0	11	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0
*** BREAK ***																					
Total	0	89	0	0	89	3	0	1	0	4	1	117	0	0	118	0	0	0	0	0	0
16:00	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0
16:05	0	24	0	0	24	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0
16:10	0	33	0	0	33	0	0	0	0	0	1	28	0	0	29	0	0	0	0	0	0
16:15	0	42	0	0	42	0	0	0	0	0	0	26	0	0	26	0	0	0	0	0	0
16:20	0	19	0	0	19	1	0	0	0	1	4	18	0	0	22	0	0	0	0	0	0
16:25	0	25	0	0	25	0	0	0	0	0	1	21	0	0	22	0	0	0	0	0	0
16:30	0	21	0	0	21	0	0	0	0	0	1	24	0	0	25	0	0	0	0	0	0
16:35	0	13	0	0	13	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0
16:40	0	8	0	0	8	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0
16:45	0	28	0	0	28	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0
16:50	0	17	0	0	17	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
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 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

Start Time	Black Forest Rd Southbound					Eagle Wing Dr Westbound					Black Forest Rd Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. 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	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	

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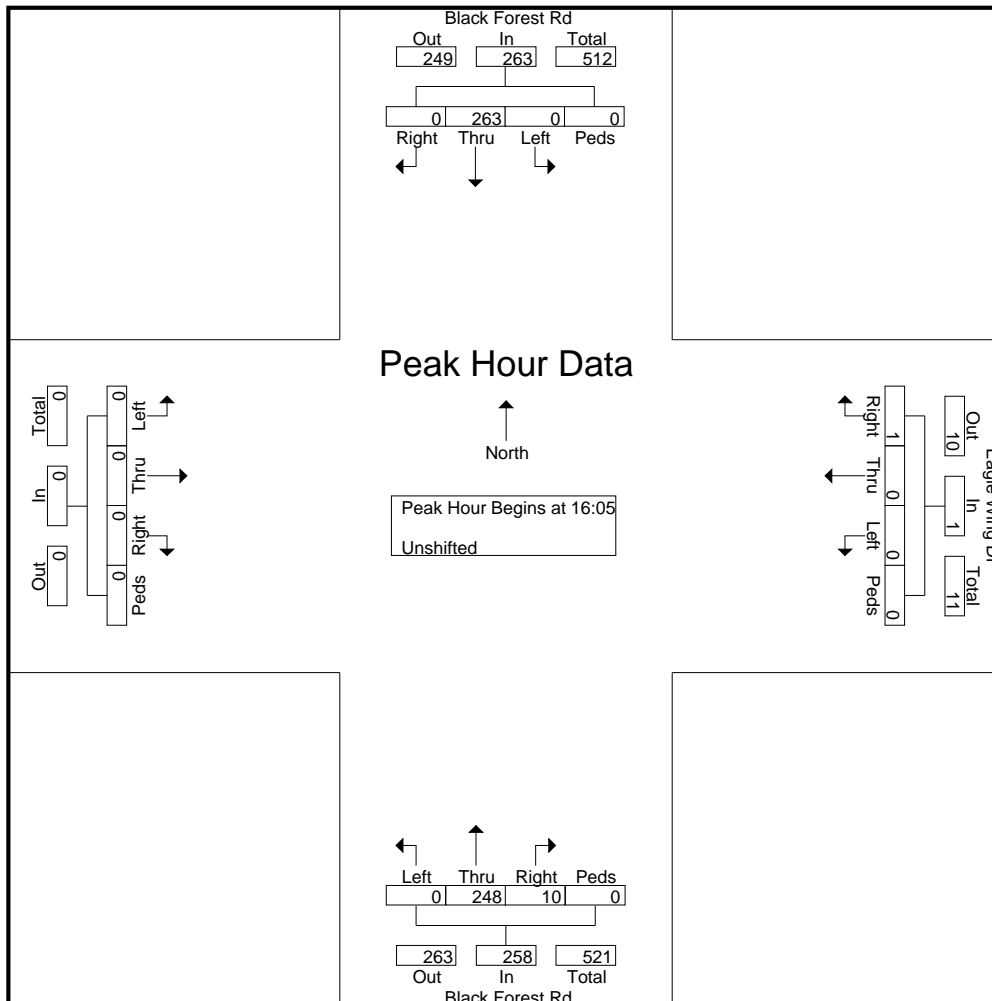
File Name : Black Forest Rd - Eagle Wing Dr AM PM B

Site Code : S224260

Start Date : 12/6/2022

Page No : 3

Start Time	Black Forest Rd Southbound					Eagle Wing Dr Westbound					Black Forest Rd Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 to 17:55 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins 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



HCM 6th TWSC
 1: Black Forest Rd & Eagle Wing Dr

Existing Traffic
 AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↑	↗		↑
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	-	-	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

Major/Minor	Minor1	Major1	Major2		
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	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	656
HCM Lane V/C Ratio	-	-	0.01
HCM Control Delay (s)	-	-	10.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

HCM 6th TWSC
2: Black Forest Rd & Briargate Pkwy

Existing Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
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	-	None
Storage Length	0	-	-	-	-	-
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	12	0	259	1	1	249

Major/Minor	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	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	522	1304
HCM Lane V/C Ratio	-	-	0.022	0.001
HCM Control Delay (s)	-	-	12.1	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
 1: Black Forest Rd & Eagle Wing Dr

Existing Traffic
 AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↑	↗		↑
Traffic Vol, veh/h	0	1	248	10	0	263
Future Vol, veh/h	0	1	248	10	0	263
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	91	91	66	66
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	273	11	0	398

Major/Minor	Minor1	Major1	Major2		
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	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-
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	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	766
HCM Lane V/C Ratio	-	-	0.002
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

HCM 6th TWSC
2: Black Forest Rd & Briargate Pkwy

Existing Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	2	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	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	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	3	1	282	2	2	397

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	684	283	0	0	284
Stage 1	283	-	-	-	-
Stage 2	401	-	-	-	-
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	756	-	-	1278
Stage 1	765	-	-	-	-
Stage 2	676	-	-	-	-
Platoon blocked, %			-	-	-
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	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	487	1278
HCM Lane V/C Ratio	-	-	0.008	0.001
HCM Control Delay (s)	-	-	12.5	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
 1: Black Forest Rd & Eagle Wing Dr

Short-Term Total Traffic
 AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑		↑
Traffic Vol, veh/h	2	4	211	2	0	218
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

Major/Minor	Minor1	Major1	Major2		
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, %			-	-	-
Mov Cap-1 Maneuver	525	782	-	-	-
Mov Cap-2 Maneuver	525	-	-	-	-
Stage 1	786	-	-	-	-
Stage 2	791	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	672
HCM Lane V/C Ratio	-	-	0.011
HCM Control Delay (s)	-	-	10.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

HCM 6th TWSC
2: Black Forest Rd & Briargate Pkwy

Short-Term Total Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
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	-	-	-	-	-
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	18	0	260	4	1	252

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	516	262	0	0	264	0
Stage 1	262	-	-	-	-	-
Stage 2	254	-	-	-	-	-
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	519	777	-	-	1300	-
Stage 1	782	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	518	777	-	-	1300	-
Mov Cap-2 Maneuver	518	-	-	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	787	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	518	1300
HCM Lane V/C Ratio	-	-	0.035	0.001
HCM Control Delay (s)	-	-	12.2	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
 1: Black Forest Rd & Eagle Wing Dr

Short-Term Total Traffic
 PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑		↑
Traffic Vol, veh/h	0	2	250	12	0	265
Future Vol, veh/h	0	2	250	12	0	265
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	-	-
Veh in Median Storage, #	0	-	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	3	275	13	0	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	677	275	0	0	-
Stage 1	275	-	-	-	-
Stage 2	402	-	-	-	-
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	418	764	-	-	0
Stage 1	771	-	-	-	0
Stage 2	676	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	418	764	-	-	-
Mov Cap-2 Maneuver	418	-	-	-	-
Stage 1	771	-	-	-	-
Stage 2	676	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	764
HCM Lane V/C Ratio	-	-	0.003
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

HCM 6th TWSC
2: Black Forest Rd & Briargate Pkwy

Short-Term Total Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	6	1	260	7	2	263
Future Vol, veh/h	6	1	260	7	2	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	91	91	66	66
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	1	286	8	3	398

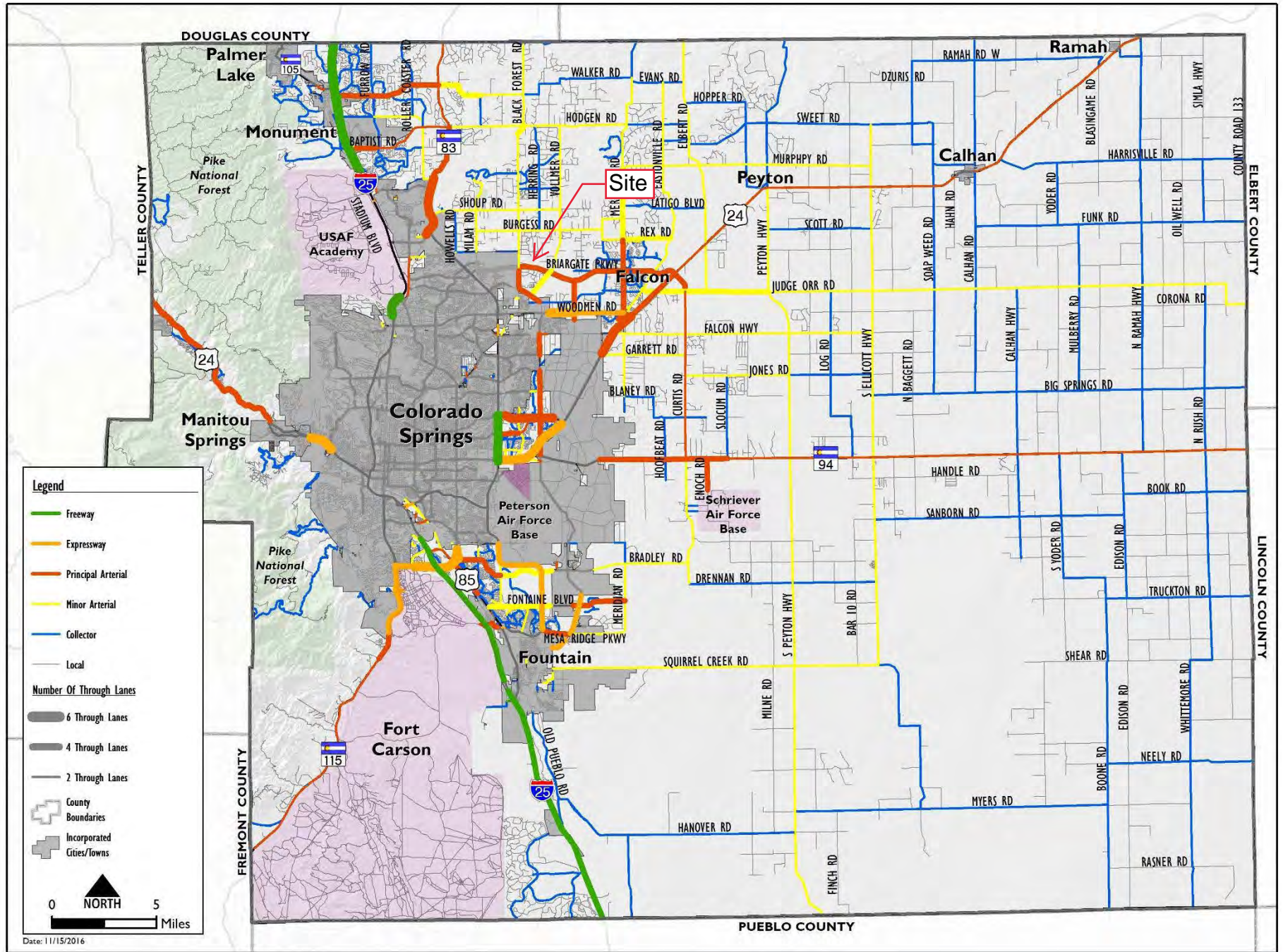
Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	694	290	0	0	294
Stage 1	290	-	-	-	-
Stage 2	404	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	409	749	-	-	1268
Stage 1	759	-	-	-	-
Stage 2	674	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	408	749	-	-	1268
Mov Cap-2 Maneuver	408	-	-	-	-
Stage 1	759	-	-	-	-
Stage 2	672	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	436	1268
HCM Lane V/C Ratio	-	-	0.021	0.002
HCM Control Delay (s)	-	-	13.4	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

MTCP Maps





Map 14: 2040 Roadway Plan (Classification and Lanes)

Appendix Table 1



Appendix Table 1
Area Traffic Impact Studies by LSC
Eagle Rising

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

LRA Preliminary Plan Sheet (for reference)



DEVELOPMENT NOTES:

- TRACT A - USE OPEN SPACE - TO BE PLACED INTO A CONSERVATION EASEMENT AND OWNED AND MAINTAINED BY HOME OWNERS ASSOCIATION OR OTHER ENTITY ACCEPTABLE TO BOTH THE APPLICANT AND THE BOARD OF COUNTY COMMISSIONERS.
- AREAS WITHIN PLATTED DRAINAGE EASEMENTS AND TRACT A SHALL BE A DRAINAGE & DRAINAGE MAINTENANCE ACCESS EASEMENT IN ITS ENTIRETY GRANTED TO EL PASO COUNTY. NO BUILDINGS, BUILDING PERMITS, WELLS OR SEPTIC SYSTEMS SHALL BE ALLOWED WITHIN THIS AREA.
- NO NON-MOTORIZED TRAILS OR TRAIL EASEMENTS ARE INCLUDED WITHIN THIS APPLICATION.
- THE EAGLE WING DRIVE EXTENSION SHALL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION. THE KURIE ROAD EXTENSION SHALL BE OWNED AND MAINTAINED BY EL PASO COUNTY. BOTH ROADWAY EXTENSIONS SHALL BE GRAVEL SURFACED AND DESIGNED AND CONSTRUCTED TO EL PASO COUNTY STANDARDS.
- WATER TO A CENTRAL DISTRIBUTION SYSTEM OWNED AND OPERATED BY THE PARK FOREST WATER DISTRICT. FIRE HYDRANTS TO BE PROVIDED WITH THE CENTRAL WATER DISTRIBUTION SYSTEM PER THE BLACK FOREST FIRE PROTECTION DISTRICTS CODE AND SPECIFICATION REQUIREMENTS.
- WASTE WATER TO BE INDIVIDUAL ON SITE SEPTIC SYSTEMS.
- THIS PROPERTY IS LOCATED WITHIN AND SERVICED BY MOUNTAIN VIEW ELECTRIC ASSOCIATION SERVICE DISTRICT, THE BLACK FOREST FIRE DISTRICT, THE ACADEMY SCHOOL DISTRICT NO. 20 AND THE BLACK HILLS ENERGY CORPORATION SERVICE DISTRICT.
- MAXIMUM BUILDING HEIGHT - 35'
- BUILDING SETBACKS FOR FRONT, SIDE AND REAR YARDS - 25' UNLESS SHOWN OTHERWISE.
- STANDARD DRAINAGE AND UTILITY EASEMENTS: FRONT - 15', SIDE - 10', REAR - 10' AND PERIMETER 30'.
- PROPOSED METHOD OF GUARANTEEING FUNDS SHALL BE APPROVED BY AND ACCEPTABLE TO THE EL PASO COUNTY ATTORNEYS OFFICE.
- ALL RECORDED EASEMENTS WHOSE LOCATION CAN BE DEFINED ARE SHOWN ON THE PLAN. A UTILITY MAINTENANCE EASEMENT WHICH AFFECTS THE ENTIRE PROPERTY IS RECORDED IN BK 3673 PG 917 OF THE EL PASO COUNTY PUBLIC RECORDS.
- UTILITY LINES PROVIDING SERVICE TO EXISTING BUILDINGS AND FACILITIES MAY BE RELOCATED DEPENDING UPON FINAL UTILITY ENGINEERING PROVIDED BY INDIVIDUAL UTILITY COMPANIES.

DEVELOPMENT DATA -

SINGLE FAMILY RESIDENTIAL - 17 LOTS, 55.29 AC, 78%
 OPEN SPACE (TRACT A) - 12.08 AC, 17%
 PUBLIC ROAD ROW - 2.11 AC, 3%
 COUNTY PROPOSED BRIARGATE (ASPHALT) - 1.43 AC
 KURIE ROAD CUL-DE-SAC (GRAVEL) - 0.34 AC
 EAGLE WING DRIVE CUL-DE-SAC (ASPHALT) - 0.34 AC
 PRIVATE ROAD ROW (TRACT B) - EAGLE WING DRIVE - 1.31 AC, 2% (GRAVEL)
 TOTAL PROJECT - 17 LOTS, 70.79 AC, 100%
 MIN LOT SIZE - 2.5 AC
 AVE LOT SIZE - 3.25 AC
 GROSS DENSITY - 1 LOT PER 4.16 AC
 MAX BLDG HEIGHT - 35 FEET
 EXISTING ZONING - RR-2.5

STANDARD DSD PLAT NOTES

- THE FOLLOWING REPORTS HAVE BEEN SUBMITTED IN ASSOCIATION WITH THE PRELIMINARY PLAN FOR THIS SUBDIVISION AND ARE ON FILE AT THE COUNTY DEVELOPMENT SERVICES DEPARTMENT: TRANSPORTATION IMPACT STUDY; DRAINAGE REPORT; WATER RESOURCES REPORT; WASTEWATER DISPOSAL REPORT; GEOLOGY AND SOILS REPORT; FIRE PROTECTION REPORT; NATURAL FEATURES REPORT.
- ALL PROPERTY OWNERS ARE RESPONSIBLE FOR MAINTAINING PROPER STORM WATER DRAINAGE IN AND THROUGH THEIR PROPERTY. PUBLIC DRAINAGE EASEMENTS AS SPECIFICALLY NOTED ON THE PLAT SHALL BE MAINTAINED BY THE LOT OWNERS UNLESS OTHERWISE INDICATED. STRUCTURES, FENCES, MATERIALS OR LANDSCAPING THAT COULD IMPEDE THE FLOW OR RUNOFF SHALL NOT BE PLACED IN DRAINAGE EASEMENTS.
- DEVELOPER SHALL COMPLY WITH FEDERAL AND STATE LAWS, REGULATIONS, ORDINANCES, REVIEW AND PERMIT REQUIREMENTS, AND OTHER AGENCY REQUIREMENTS, IF ANY, OF APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO, THE COLORADO DIVISION OF WILDLIFE, COLORADO DEPARTMENT OF TRANSPORTATION, U.S. ARMY CORPS OF ENGINEERS AND THE U.S. FISH AND WILDLIFE SERVICE REGARDING THE ENDANGERED SPECIES ACT, PARTICULARLY AS RELATED TO THE LISTED SPECIES IDENTIFIED IN THE PROJECT'S ENVIRONMENTAL ASSESSMENT.
- NO DRIVEWAY SHALL BE ESTABLISHED UNLESS AN ACCESS PERMIT HAS BEEN GRANTED BY EL PASO COUNTY.
- MAILBOXES SHALL BE INSTALLED IN ACCORDANCE WITH EL PASO COUNTY AND US POSTAL SERVICE REGULATIONS.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE FINAL DESIGN, CONSTRUCTION, AND MAINTENANCE OF PRIVATE DETENTION POND/WATER QUALITY BMP(S) AS DESCRIBED IN THE APPROVED PRELIMINARY/FINAL DRAINAGE REPORT FOR THIS SUBDIVISION. FINAL DESIGN, CONSTRUCTION DRAWINGS AND DRAINAGE REPORT UPDATES FOR THE DETENTION POND/WATER QUALITY BMP(S) SHALL BE PROVIDED WITH FINAL PLAT SUBMITTALS. THE DETENTION POND/WATER QUALITY BMP(S) SHALL BE CONSTRUCTED AND COMPLETED PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS.

GEOLOGIC HAZARDS NOTE:

PORTIONS OF THE FOLLOWING LOTS HAVE BEEN FOUND TO BE IMPACTED BY GEOLOGIC HAZARDS. MITIGATION MEASURES AND A MAP OF THE HAZARD AREA CAN BE FOUND IN THE SOILS, GEOLOGY, HAZARDS AND WASTE WATER STUDY FOR THE EAGLE RISING SUBDIVISION BY ENTECH ENGINEERING DATED 5/30/2012 AND 9/14/12 AND REVISED 1/9/23. IN COUNTY PLANNING AND

AREAS OF PONDED WATER: LOTS 3, 6, 11 & 16 (PORTIONS OF)
 AREAS OF POTENTIALLY SHALLOW GROUND WATER: LOTS 1, 7, 8, 9 & 10 (PORTIONS OF)
 AREAS OF SEASONALLY WET SOILS: LOTS 4, 5, 6, 9, 10, 11, 14, 15, 16 & 17 (PORTIONS OF)
 AREAS WHERE SEPTIC SYSTEMS ARE NOT RECOMMENDED: LOTS 3, 6, 7, 8, 9, 10, 11, 14, 15, 16 & 17 (PORTIONS OF)
 AREAS WHERE SHALLOW BEDROCK MAY REQUIRE ENGINEERED SEPTIC SYSTEMS: LOTS 3, 5, 8, 12 & 14 (PORTIONS OF)
 AREAS WHERE 30% + SLOPES EXIST: LOT 17 (PORTIONS OF)

TYPICAL LINE SCHEDULE

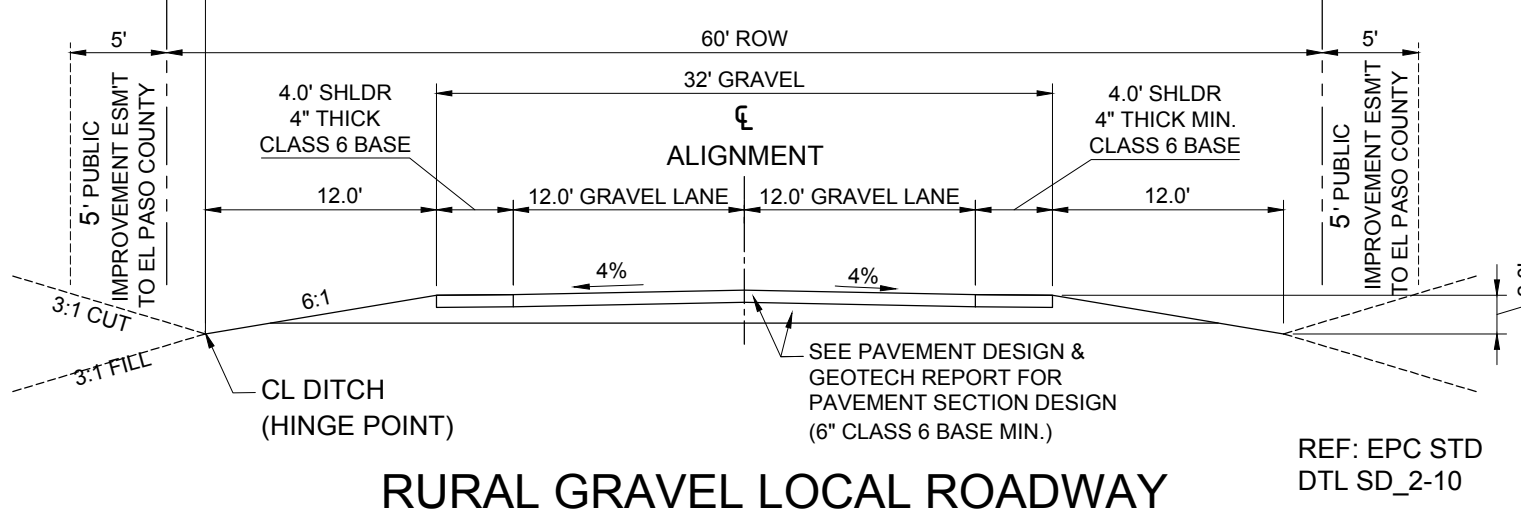
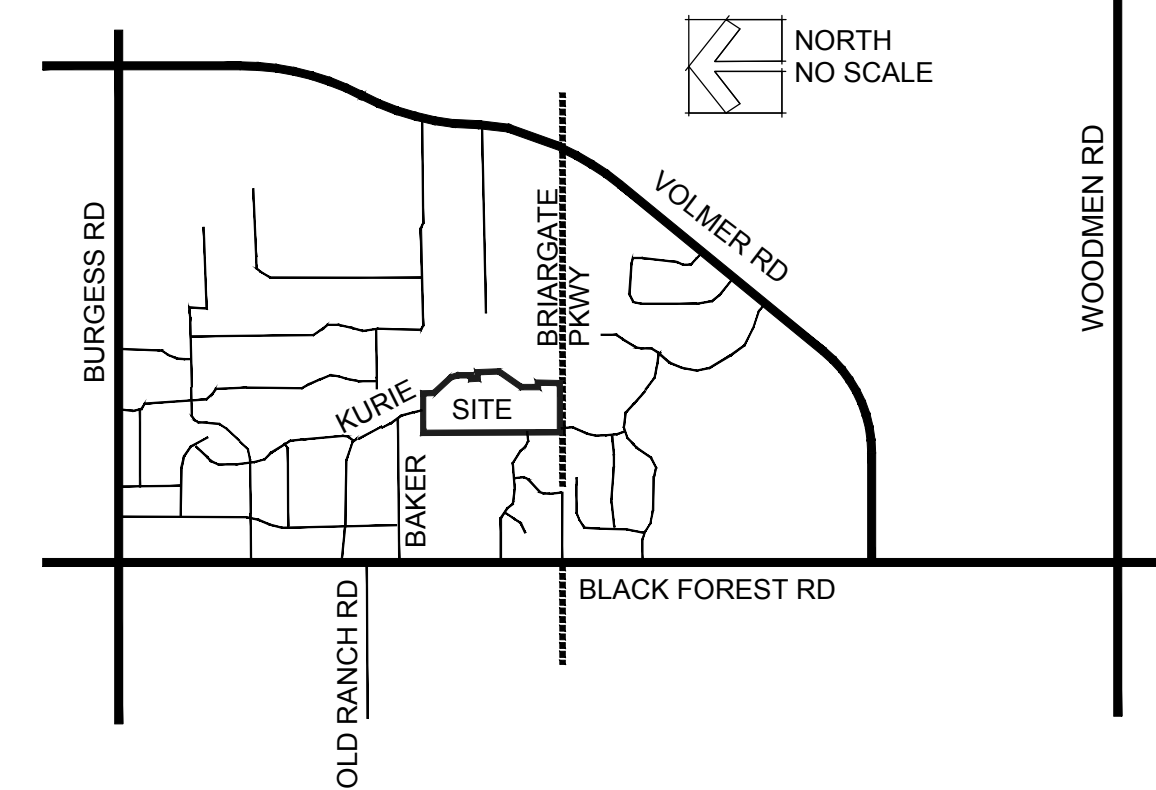
- ① FRONT BLDG SETBACK AT 200' MIN. LOT WIDTH
- ② 25' BUILDING SETBACK
- ③ 15' FRONT UTILITY & DRAINAGE EASEMENT
- ④ 10' SIDE AND REAR UTILITY & DRAINAGE EASEMENT
- ⑤ 30' PERIMETER UTILITY & DRAINAGE EASEMENT
- ⑥ DRAINAGE EASEMENT WIDTH VARIES

PROPERTY OWNERS:

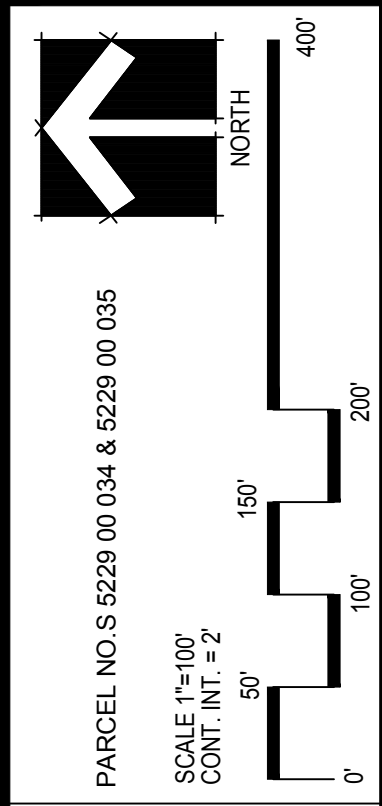
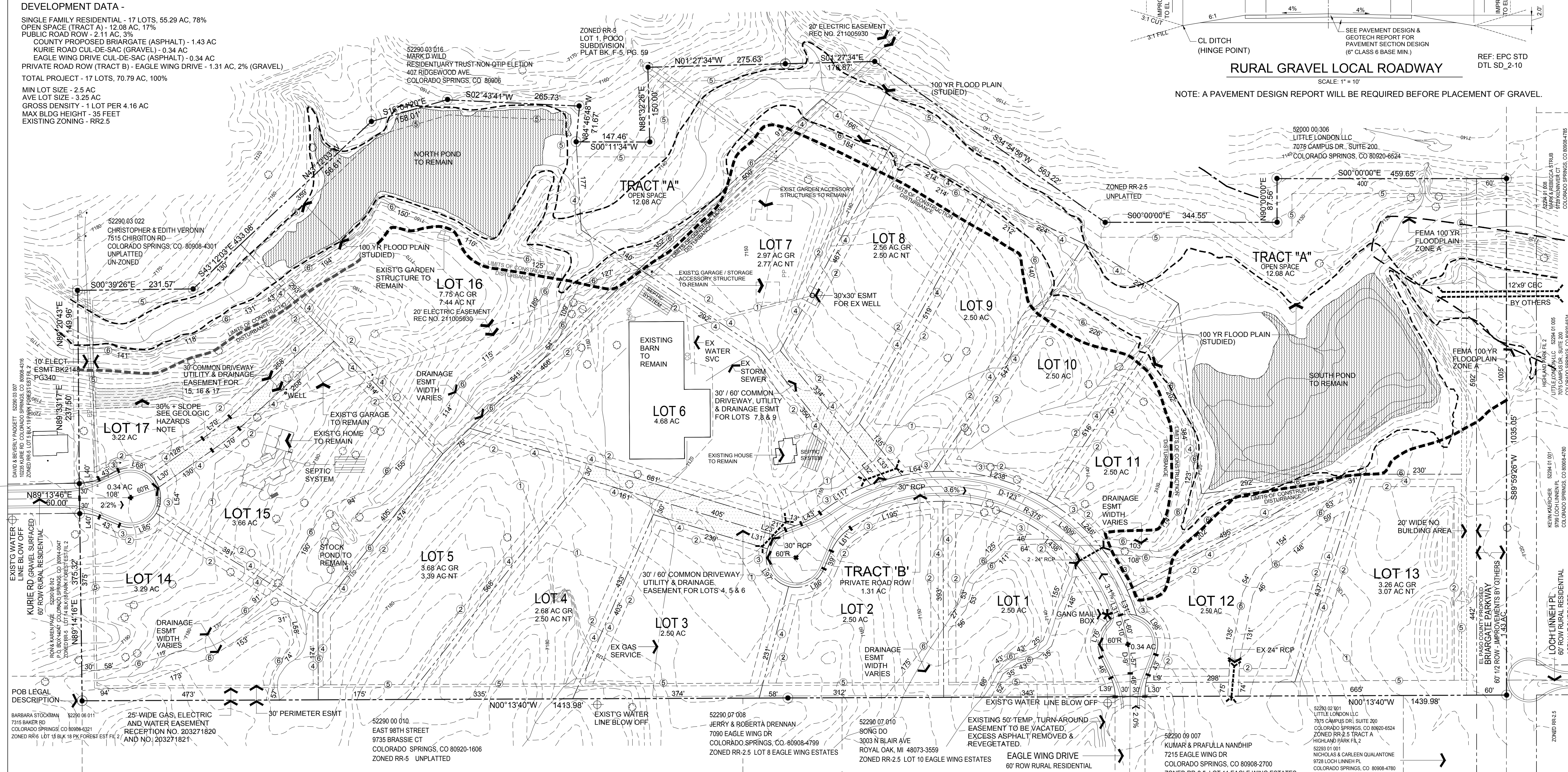
CASAS LIMITED PARTNERSHIP #4
 PO BOX 2076
 COLORADO SPRINGS, CO 80901-2076
 IQ INVESTORS LLC
 PO BOX 2076
 COLORADO SPRINGS, CO 80901-2976
 DEVELOPER
 MYPAD, INC.
 STEPHEN J. JACOBS, JR., PRESIDENT
 PO BOX 2076
 COLORADO SPRINGS, CO 80901-2976

VICINITY MAP

NORTH
 NO SCALE



NOTE: A PAVEMENT DESIGN REPORT WILL BE REQUIRED BEFORE PLACEMENT OF GRAVEL.



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

PRELIMINARY PLAN - REINSTATED
EAGLE RISING
 CASAS LIMITED PARTNERSHIP #4
 P.O. BOX 2076, COLORADO SPRINGS, CO 80901-2076

ISSUED FOR:
 COUNTY REINSTATEMENT
 DATE - DEC 08, 2022
 project number
 computer file
 issue date
 APRIL 16, 2022
 drawn by
 DFJ
 checked by
 revisions
 JAN 06, 2023
 JAN 18, 2023
 JAN 23, 2023
 sheet number
1
 PCD PROJECT NUMBER
SP205