



LSC TRANSPORTATION CONSULTANTS, INC.
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May 17, 2019

High Valley Land Company, Inc.
c/o Mr. Cody Humphrey
Director of Planning
La Plata Communities
1755 Telstar Drive, Suite 211
Colorado Springs, CO 80920

RE: Briargate Commercial North Concept Plan
Colorado Springs, Colorado
Traffic Technical Memorandum
LSC #194360

Dear Mr. Humphrey:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum for the currently proposed Briargate Commercial North concept plan. The site is located generally southwest of the Old Ranch Road and Cordera Crest Avenue roundabout in Colorado Springs, Colorado.

LAND USE AND ACCESS

The currently proposed Briargate Commercial North concept plan has been attached. The parcels included in the currently proposed concept plan were also included as part of the *Cordera Filing No. 3 Traffic Impact Analysis Report (TIA)* by LSC dated January 17, 2007. A copy of this study has been attached for reference. As shown in Figure 3 of that report, Parcel A of the currently proposed concept plan was included as Traffic Analysis Zone B in the 2007 TIA. The currently proposed land use for this parcel is multi-family residential. This land use is consistent with the 2007 TIA, however the 2007 TIA assumed 291 dwelling units and the currently proposed concept plan calls for only 280 dwelling units. Parcel C of currently proposed concept plan was included as Traffic Analysis Zone C in the 2007 TIA. The currently proposed land use for this parcel is office use. This land use is consistent with the 2007 TIA, however the 2007 TIA assumed about 213,000 square feet of office floor space and the currently proposed plan calls for only 50,000 square feet of office floor space. Parcel B is shown as an existing detention area and Parcel D is shown as community open space. This is consistent with the 2007 TIS.

Access for Parcel A is proposed to Cordera Crest Avenue via the west leg (Blue Horizon View) of the Old Ranch Road/Cordera Crest intersection and a new full-movement intersection aligning

with Marshall Mesa Court (future access for Cordera Filing 3I). Access for Parcel C is proposed to Cordera Crest Avenue via a new west leg at the intersection of Notch Trail and to a new full-movement access to be located about midway between Notch Trail and Horse Gulch Loop. These access points are consistent with the access assumed in the 2007 TIA.

TRIP GENERATION

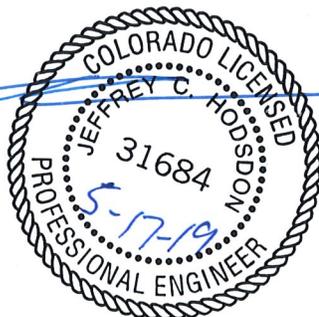
The site-generated vehicle-trips have been estimated using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 1 shows the average weekday and peak-hour trip generation estimates and a comparison to the trip generation estimate for the same area from the *Cordera Filing No. 3 Traffic Impact Analysis Report* by LSC dated January 17, 2007.

The currently proposed Briargate Commercial North concept plan is estimated to generate about 2,591 total vehicle-trips on the average weekday, with about half entering and half exiting the site. This is about 1,752 fewer trips than were estimated for this same area in the 2007 TIA. During the morning peak hour of adjacent street traffic, which generally occurs for one hour between 6:30 and 8:30 a.m., the site is estimated to generate about 93 entering vehicles and 109 exiting vehicles. During the afternoon peak hour of adjacent street traffic, which generally occurs for one hour between 4:15 and 6:15 p.m., the site is estimated to generate about 108 entering vehicles and 108 exiting vehicles.

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:bjwb

Enclosures: Table 1
Briargate North Concept Plan
Cordera Filing No. 3 Traffic Impact Analysis Report dated 1-17-07

**Table 1
Trip Generation Estimate
Briargate Commercial North**

Currently Proposed Parcel	2007 Traffic Analysis Zone	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾						Total Trips Generated				
					Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		
						In	Out	In	Out		In	Out	In	Out	
Trip Generation Estimate Based On The Currently Proposed Concept Plan															
A	B	220	Multifamily Housing (Low-Rise)	280 DU ⁽²⁾	7.32	0.11	0.35	0.35	0.21	2,050	30	99	99	58	
B	---	---	Drainage	---	---	---	---	---	---	---	---	---	---	---	
C	C	710	General Office Building	50 KSF ⁽³⁾	10.83	1.26	0.21	0.19	0.99	542	63	10	9	50	
D	---	---	Open Space	---	---	---	---	---	---	---	---	---	---	---	
										2,591	93	109	108	108	
Trip Generation Estimate From The <i>Cordera Filing No. 3 Traffic Impact Analysis Report</i> by LSC dated January 17, 2007															
A	B	220	Multifamily Housing (Low-Rise)	291 DU	6.72	0.10	0.41	0.40	0.22	1,956	30	119	117	63	
B	---	---	Drainage	---	---	---	---	---	---	---	---	---	---	---	
C	C	710	General Office Building	213 KSF	11.21	1.42	0.19	0.25	1.24	2,388	302	41	54	263	
D	---	---	Open Space	---	---	---	---	---	---	---	---	---	---	---	
										4,343	333	161	171	326	
										Change (Decrease) In Trip Generation Estimate	-1,752	-240	-51	-63	-219
Notes:															
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)															
(2) DU = dwelling unit															
(3) KSF = Thousand square feet															
Source: LSC Transportation Consultants, Inc.															

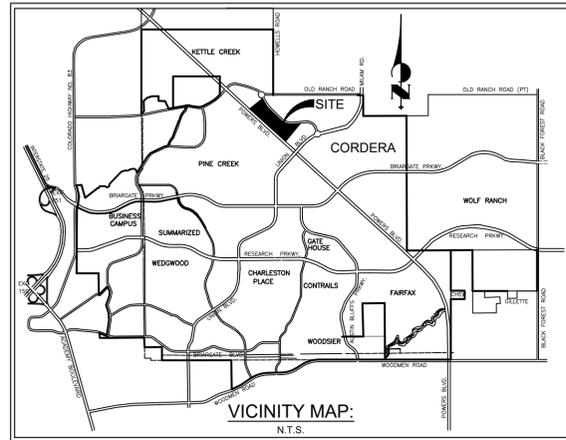
BRIARGATE COMMERCIAL NORTH

CITY OF COLORADO SPRINGS

CONCEPT PLAN

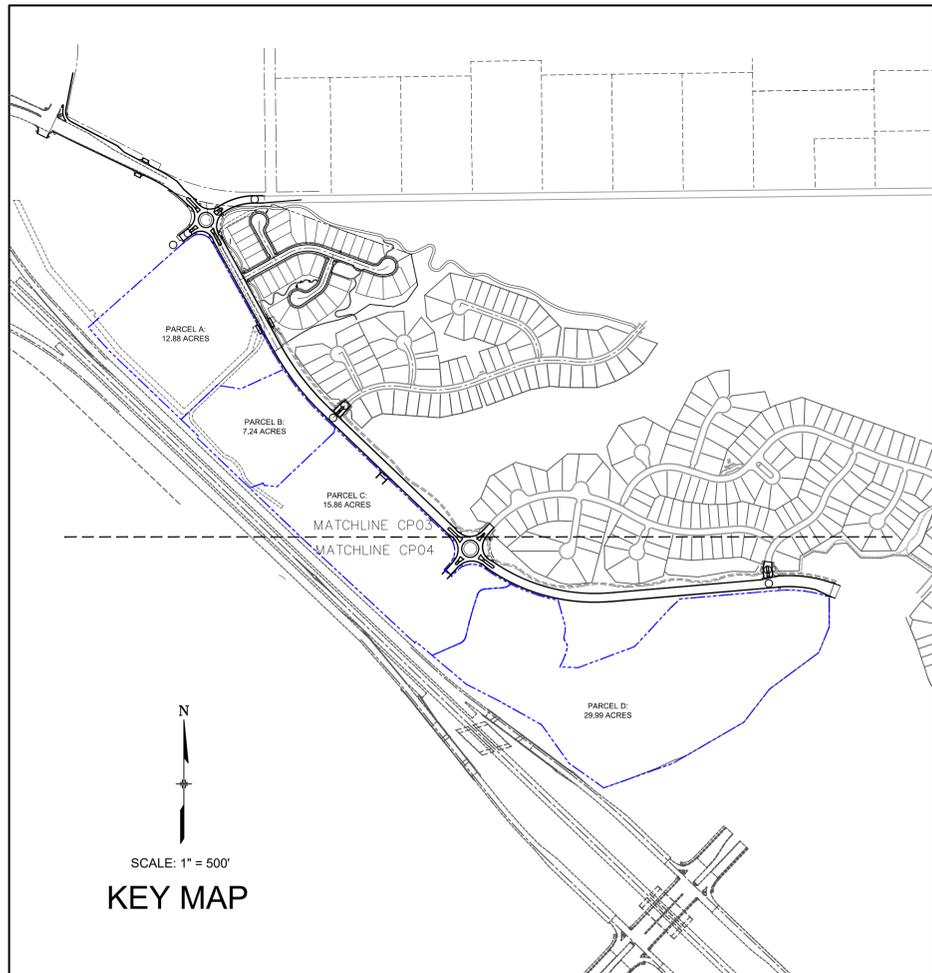


CONSULTANT:
 PLANNER/ CIVIL ENGINEER:
Matrix
 DESIGN GROUP
 2435 Research Parkway, Suite 300
 Colorado Springs, CO 80920 Phone
 719-575-0100
 Fax: 719-575-0208
 Contact: Greg Shaner/ Jason Alwine



GENERAL NOTES:

- LAND USES WILL CONFORM TO THOSE ALLOWED WITHIN THE OC (OFFICE COMPLEX), PF (PUBLIC FACILITY), AND PK (PARK) ZONING DISTRICTS.
- ALL STREETS ARE PUBLIC UNLESS DESIGNATED AS PRIVATE ON THIS PLAN.
- BUILDING, PARKING AND ACCESS LOCATIONS SHOWN ON THIS PLAN ARE SCHEMATIC IN NATURE AND WILL CHANGE. SPECIFIC DETAILS OF SITE DESIGN WILL BE COMPLETED AT THE TIME OF THE DEVELOPMENT PLAN SUBMITTAL FOR EACH PARCEL.
- DEVELOPMENT WILL OCCUR OVER MULTIPLE PHASES. SIZES/DIMENSIONS OF LOTS ARE UNKNOWN AT THIS TIME.
- ALL STREET LIGHTS WILL BE PER THE CITY OF COLORADO SPRINGS STANDARDS AND THEIR LOCATION WILL BE DETERMINED AT A LATER DATE.
- THIS SITE IS NOT WITHIN A DESIGNATED F.E.M.A. FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 08041C0507 G, DATED DECEMBER 7, 2018.
- IN ACCORD WITH CITY CODE 7.5.505 AND 7.9.101 (F), THE CITY OF COLORADO SPRINGS RESERVES THE RIGHT TO MODIFY OR REMOVE ANY TRAFFIC CONTROL DEVICE (INCLUDING BUT NOT LIMITED TO TRAFFIC SIGNALS, TRAFFIC SIGNS AND STREET MARKINGS) ON PUBLIC RIGHTS-OF-WAY OR EASEMENTS SHOWN ON THIS OR ANY OTHER APPROVED DEVELOPMENT DOCUMENT. AFTER INSTALLATION OF THE TRAFFIC CONTROL DEVICE(S), THE CITY TRAFFIC ENGINEER (OR DESIGNEE) SHALL HAVE THE DUTY AND POWER TO CONTROL TIMING, MAINTENANCE AND REMOVAL OF THE TRAFFIC CONTROL DEVICE(S), IN ACCORD WITH CITY CODE 10.1.309. NO PRIVATE PERSON OR ENTITY HAS ANY OWNERSHIP RIGHT OR VESTED INTEREST IN OR RIGHT TO THE CONTINUED OPERATION OR PRESENCE OF ANY SPECIFIC TRAFFIC CONTROL DEVICE ON A PUBLIC RIGHT-OF-WAY OR EASEMENT. ALL DESIGN PLANS OF TRAFFIC CONTROL DEVICES SUBMITTED ON ANY DEVELOPMENT DOCUMENT MUST HAVE APPROVAL SIGNATURES FROM THE CITY TRAFFIC ENGINEER (OR DESIGNEE) FOR:
 - CONCEPTUAL APPROVAL OF THE INSTALLATION OF A FUTURE TRAFFIC CONTROL DEVICE
 - DESIGN APPROVAL OF A SPECIFIC TRAFFIC CONTROL DEVICE
 - PERMISSION TO CONSTRUCT OR INSTALL A SPECIFIC TRAFFIC CONTROL DEVICE
- ALL FINAL CRITERIA, CONDITIONS AND DESIGN FOR A TRAFFIC CONTROL DEVICE APPROVED BY THE CITY TRAFFIC ENGINEER SHALL SUPERSEDE ANY OTHER INFORMATION FOUND IN APPROVED DEVELOPMENT DOCUMENTS.
- A TWENTY FIVE FOOT (25') LANDSCAPE SETBACK IS REQUIRED ALONG THE PROPERTY BOUNDARY THAT BORDERS POWERS BOULEVARD. ALL REQUIRED LANDSCAPE SETBACKS WILL BE MET AND REVIEWED ON FUTURE DEVELOPMENT PLANS.
- A NOISE STUDY FOR POWERS BLVD. SHALL BE REQUIRED AT THE TIME OF DEVELOPMENT PLAN FOR ANY PROPOSED RESIDENTIAL USES. A NOISE STUDY IS NOT REQUIRED FOR COMMERCIAL/ OFFICE USES.
- CROSS ACCESS AGREEMENTS WILL BE ESTABLISHED FOR THE BRIARGATE COMMERCIAL NORTH DEVELOPMENT.
- A MASTER DEVELOPMENT DRAINAGE PLAN (MDDP) WAS COMPLETED AND APPROVED FOR THESE PARCELS CITY PLANNING FILE NO. 17272-27 DATED OCTOBER 31, 2007. REFER TO THIS MDDP FOR PRELIMINARY DRAINAGE INFORMATION. DETENTION FOR INDIVIDUAL PARCELS WILL UTILIZE EXISTING DETENTION FACILITIES OR WILL REQUIRE ON-SITE DETENTION. A FINAL DRAINAGE REPORT WILL BE REQUIRED AT TIME OF DEVELOPMENT PLAN FOR EACH INDIVIDUAL PARCEL.
- AN GEOLOGICAL HAZARD EXEMPTION REQUEST FORM HAS BEEN SUBMITTED FOR REVIEW AND APPROVAL FOR THE PARCELS INCLUDED WITHIN THIS CONCEPT PLAN.
- REFER TO THE TRAFFIC LETTER SUBMITTED WITH THIS CONCEPT PLAN FOR MORE DETAIL REGARDING TRAFFIC VOLUMES, CIRCULATION, ETC. FUTURE DEVELOPMENT PLANS SHALL FOLLOW THE RECOMMENDATIONS OUTLINED IN THIS TRAFFIC LETTER. ADDITIONAL TRAFFIC ANALYSIS SHALL NOT BE REQUIRED WITH FUTURE SUBMITTALS UNLESS A CHANGE OF USE IS REQUESTED.



SUMMARY DATA	
PROPERTY SIZE	65.97 ACRES
TAX SCHEDULE NO.	6200000667, 6226200002, 6227100007
MASTER PLAN	BRIARGATE MASTER PLAN (CPC MP 07-0061-A4MN16)
CONCEPT PLAN	BRIARGATE COMMERCIAL NORTH
DRAINAGE BASIN	KETTLE CREEK BASIN
DEVELOPMENT SCHEDULE	2019-2024
EXISTING LAND USE	VACANT LAND

PARCELS A & C	
PARCEL A	12.88 ACRES
PARCEL C	15.86 ACRES
EXISTING LAND USE	VACANT LAND
PROPOSED LAND USE	OFFICE/ MULTI-FAMILY RESIDENTIAL
EXISTING ZONING	A
PROPOSED ZONING	OC (OFFICE COMPLEX)
PARCEL SETBACKS	FRONT: 25' SIDE: 20' REAR: 20'
POWERS LANDSCAPE SETBACK	25'
MAXIMUM BUILDING HEIGHT	45'

PARCEL B	
PARCEL B	7.24 ACRES
EXISTING LAND USE	DETENTION FACILITY, VACANT LAND
PROPOSED LAND USE	DETENTION FACILITY/ OPEN SPACE
EXISTING ZONING	A
PROPOSED ZONING	PF (PUBLIC FACILITY)

PARCEL D	
PARCEL D	29.99 ACRES
EXISTING LAND USE	OPEN SPACE/ VACANT LAND
PROPOSED LAND USE	OPEN SPACE/ PARK
EXISTING ZONING	A
PROPOSED ZONING	PK (PARK)

CITY FILE NO.:

PROJECT:
BRIARGATE COMMERCIAL NORTH CONCEPT PLAN
 CITY OF COLORADO SPRINGS
 APRIL 2019

OWNER:
HIGH VALLEY LAND CO, INC.
 1755 TELSTAR DRIVE, SUITE 211
 COLORADO SPRINGS, COLORADO 80920
 (719) 260-7477

DESCRIPTION	SHEET
COVER SHEET	1
NOTE SHEET	2
CONCEPT PLAN	3
CONCEPT PLAN	4

ISSUE:

DRAWING INFORMATION:	
PROJECT NO:	19.104.202
DRAWN BY:	JASON ALWINE
CHECKED BY:	GREG SHANER
APPROVED BY:	GREG SHANER
SHEET TITLE:	

COVER SHEET

CITY PLANNING FILE NO: CPC-CP
CS01
 SHEET 1 OF 4

BRIARGATE COMMERCIAL NORTH

CITY OF COLORADO SPRINGS

CONCEPT PLAN



CONSULTANT:

PLANNER/ CIVIL ENGINEER:



2435 Research Parkway, Suite 300
 Colorado Springs, CO 80920 Phone
 719-575-0100
 Fax 719-575-0208
 Contact: Greg Shaner/ Jason Alwine

LEGAL DESCRIPTION PARCEL A

A PARCEL OF LAND LOCATED IN THE NORTHEAST ONE-QUARTER OF SECTION 27 AND THE NORTHWEST ONE-QUARTER OF SECTION 26, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO; MORE PARTICULARLY DESCRIBED AS FOLLOWS WITH BEARINGS REFERENCED TO THE NORTH LINE OF SAID NORTHEAST ONE-QUARTER OF SECTION 27; MONUMENTED ON THE EAST END BY A FOUND ILLEGIBLE 3-1/4" ALUMINUM CAP IN RANGE BOX AND ON THE WEST END BY A FOUND 3-1/4" ALUMINUM CAP STAMPED "COLORADO DEPT OF TRANSPORTATION PLS NO. 25381" AND IS ASSUMED TO BEAR SOUTH 89°45'46" WEST 2623.10 FEET;

COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 27; THENCE SOUTH 00°36'05" EAST, ALONG THE WEST LINE OF SAID NORTHWEST ONE-QUARTER OF SECTION 26, A DISTANCE OF 834.87 FEET TO THE WESTERNMOST CORNER OF THE PLAT OF CORDERA FILING NO. 3H RECORDED ON JUNE 16, 2016 IN THE OFFICE OF THE EL PASO COUNTY CLERK AND RECORDER UNDER RECEPTION NUMBER 216713791 AND THE **POINT OF BEGINNING**; SAID POINT ALSO BEING THE BEGINNING OF A CURVE TO THE LEFT, OF WHICH THE RADIUS POINT BEARS NORTH 60°12'43" EAST, A RADIAL DISTANCE OF 1,532.50 FEET;

THENCE SOUTHEASTERLY ALONG SAID CURVE AND THE WEST LINE OF SAID CORDERA FILING NO. 3H, THROUGH A CENTRAL ANGLE OF 04°07'57", AN ARC DISTANCE OF 110.54 FEET;

THENCE SOUTH 65°42'51" WEST, A DISTANCE OF 257.79 FEET;

THENCE NORTH 80°39'22" WEST, A DISTANCE OF 129.21 FEET TO A POINT ON THE EAST LINE OF THAT CERTAIN UTILITY EASEMENT RECORDED ON FEBRUARY 17, 2016 IN SAID RECORDS UNDER RECEPTION NUMBER 216015764;

THENCE SOUTH 46°32'37" WEST, ALONG SAID EAST LINE AND ITS EXTENSION, A DISTANCE OF 272.47 FEET TO THE EAST LINE OF THE PRESENT POWERS BOULEVARD RIGHT-OF-WAY AS DESCRIBED IN WARRANTY DEED RECORDED ON MARCH 25, 2004 IN SAID RECORDS UNDER RECEPTION NUMBER 204047093;

THENCE NORTH 46°22'25" WEST, ALONG SAID EAST LINE AND ITS EXTENSION, A DISTANCE OF 546.15 FEET TO AN ANGLE POINT IN SAID EAST LINE OF POWERS BOULEVARD RIGHT-OF-WAY AS DESCRIBED IN DEED RECORDED ON NOVEMBER 06, 2002 IN SAID RECORDS UNDER RECEPTION NUMBER 202195126;

THENCE NORTH 41°33'42" WEST, ALONG SAID EAST LINE, A DISTANCE OF 167.96 FEET;

THENCE NORTH 48°28'16" EAST, A DISTANCE OF 108.04 FEET TO THE EAST LINE OF OLD RANCH STATION FILING NO. 1 RECORDED ON JANUARY 25, 2018 IN SAID RECORDS UNDER RECEPTION NUMBER 218714082;

THENCE ALONG SAID EAST LINE THE FOLLOWING 2 COURSES:

1. THENCE NORTH 48°26'16" EAST, A DISTANCE OF 537.79 FEET TO A 971.50 FOOT RADIUS TANGENT CURVE WHOSE CENTER BEARS SOUTHEASTERLY;
2. THENCE NORTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 02°57'59", AN ARC DISTANCE OF 60.30 FEET TO THE SOUTH LINE OF CORDERA FILING NO. 3I RECORDED ON MAY 25, 2017 IN SAID RECORDS UNDER RECEPTION NUMBER 217713971;

THENCE ALONG SAID SOUTH LINE THE FOLLOWING 8 COURSES:

1. THENCE CONTINUE NORTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 02°51'15", AN ARC DISTANCE OF 48.40 FEET;
2. THENCE NORTH 54°15'30" EAST, A DISTANCE OF 6.36 FEET TO A TANGENT 74.00 FOOT RADIUS CURVE WHOSE CENTER BEARS SOUTHEASTERLY;
3. THENCE EASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 85°40'26", AN ARC DISTANCE OF 110.65 FEET;
4. THENCE SOUTH 25°41'16" EAST, A DISTANCE OF 11.89 FEET;
5. THENCE NORTH 64°18'44" EAST, A DISTANCE OF 2.05 FEET TO A 986.50 FOOT RADIUS NON-TANGENT CURVE WHOSE CENTER BEARS SOUTH 58°19'15" WEST;
6. THENCE SOUTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 02°49'42", AN ARC DISTANCE OF 48.70 FEET;
7. THENCE SOUTH 28°51'04" EAST, A DISTANCE OF 620.86 FEET TO A TANGENT 1,532.50 FOOT RADIUS CURVE WHOSE CENTER BEARS NORTHEASTERLY;
8. THENCE SOUTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 00°56'13", AN ARC DISTANCE OF 25.06 FEET TO THE **POINT OF BEGINNING**.

THE ABOVE PARCEL DESCRIPTION CONTAINS A CALCULATED AREA OF 560.934 SQUARE FEET OR (12.87728 ACRES), MORE OR LESS.

LEGAL DESCRIPTION PARCEL C

A PARCEL OF LAND LOCATED IN THE NORTHWEST ONE-QUARTER OF SECTION 26 AND THE NORTHEAST ONE-QUARTER OF SECTION 27, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO MORE PARTICULARLY DESCRIBED AS FOLLOWS WITH BEARINGS REFERENCED TO THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF CORDERA CREST AVENUE ACCORDING TO THE OFFICIAL PLAT OF CORDERA FILING NO. 3H RECORDED JUNE 16, 2016 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 216713791, SAID PORTION OF CORDERA CREST AVENUE BEING MONUMENTED ON EACH END BY A FOUND NO. 5 REBAR AND 1-1/2 INCH ALUMINUM CAP STAMPED "MATRIX PLS 34977" - BEARING SOUTH 46°22'02" EAST A DISTANCE OF 910.57 FEET

BEGIN AT THE MOST SOUTHERLY CORNER OF SAID CORDERA FILING NO. 3H;

THENCE SOUTHEASTERLY, ALONG THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF SAID CORDERA CREST AVENUE AND THE EXTERIOR OF CORDERA FILING NO. 3G RECORDED AUGUST 7, 2015 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 215713655 THE FOLLOWING (8) EIGHT COURSES:

1. THENCE SOUTH 46°22'02" EAST A DISTANCE OF 43.31 FEET TO A TANGENT 104.00 FOOT RADIUS CURVE WHOSE CENTER BEARS SOUTHWESTERLY;
2. THENCE SOUTHERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 86°41'30" AN ARC DISTANCE OF 157.36 FEET TO A 990.50 FOOT RADIUS COMPOUND CURVE;
3. THENCE SOUTHWESTERLY, ALONG SAID COMPOUND CURVE, THROUGH A CENTRAL ANGLE OF 02°35'49" AN ARC DISTANCE OF 44.90 FEET;
4. THENCE SOUTH 42°53'14" WEST A DISTANCE OF 5.01 FEET;
5. THENCE SOUTH 47°06'46" EAST A DISTANCE OF 55.00 FEET;
6. THENCE NORTH 42°53'14" EAST A DISTANCE OF 42.37 FEET TO A TANGENT 114.00 FOOT RADIUS CURVE WHOSE CENTER BEARS SOUTHEASTERLY;
7. THENCE EASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 82°54'38" AN ARC DISTANCE OF 164.97 FEET TO A 1,032.50 FOOT RADIUS REVERSE CURVE;
8. THENCE SOUTHEASTERLY, ALONG SAID REVERSE CURVE THROUGH A CENTRAL ANGLE OF 09°17'51" AN ARC DISTANCE OF 167.55 FEET TO A 56.62 FOOT RADIUS NON-TANGENT CURVE WHOSE CENTER BEARS NORTH 49°54'47" WEST;

THENCE SOUTHWESTERLY, ALONG SAID NON-TANGENT CURVE, THROUGH A CENTRAL ANGLE OF 45°29'12" AN ARC DISTANCE OF 44.95 FEET TO A 6,601.92 FOOT RADIUS NON-TANGENT CURVE WHOSE CENTER BEARS NORTH 04°32'40" WEST;

THENCE WESTERLY, ALONG SAID NON-TANGENT CURVE, THROUGH A CENTRAL ANGLE OF 00°52'32" AN ARC DISTANCE OF 100.88 FEET TO A 45.70 FOOT RADIUS REVERSE CURVE;

THENCE SOUTHWESTERLY, ALONG SAID REVERSE CURVE THROUGH A CENTRAL ANGLE OF 67°24'04" AN ARC DISTANCE OF 53.76 FEET TO A 2,100.70 FOOT RADIUS COMPOUND CURVE;

THENCE SOUTHERLY, ALONG SAID COMPOUND CURVE THROUGH A CENTRAL ANGLE OF 06°27'31" AN ARC DISTANCE OF 236.80 FEET TO A 52.75 FOOT RADIUS REVERSE CURVE;

THENCE SOUTHWESTERLY, ALONG SAID REVERSE CURVE THROUGH A CENTRAL ANGLE OF 54°01'45" AN ARC DISTANCE OF 49.74 FEET;

THENCE SOUTH 66°30'02" WEST A DISTANCE OF 167.71 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF POWERS BOULEVARD;

THENCE NORTHWESTERLY, ALONG THE SAID NORTHEASTERLY RIGHT-OF-WAY LINE OF SAID POWERS BOULEVARD, THE FOLLOWING (5) FIVE COURSES:

1. THENCE NORTH 49°54'12" WEST A DISTANCE OF 115.88 FEET;
2. THENCE SOUTH 41°32'14" WEST A DISTANCE OF 9.00 FEET;
3. THENCE NORTH 47°10'36" WEST A DISTANCE OF 840.91 FEET;
4. THENCE NORTH 46°21'28" WEST A DISTANCE OF 208.81 FEET;
5. THENCE NORTH 46°22'25" WEST A DISTANCE OF 188.27 FEET;

THENCE NORTH 70°53'59" EAST A DISTANCE OF 79.94 FEET;

THENCE SOUTH 19°06'01" EAST A DISTANCE OF 12.21 FEET;

THENCE SOUTH 84°03'13" EAST A DISTANCE OF 71.10 FEET;

THENCE NORTH 46°35'51" EAST A DISTANCE OF 427.94 FEET;

THENCE NORTH 13°44'16" EAST A DISTANCE OF 27.01 FEET TO THE PREVIOUSLY CITED SOUTH WESTERLY LINE OF CORDERA CREST AVENUE;

THENCE SOUTH 46°22'02" EAST, ALONG SAID RIGHT-OF-WAY LINE, A DISTANCE OF 816.75 FEET TO THE **POINT OF BEGINNING**.

THE ABOVE DESCRIPTION PRODUCES A CALCULATED AREA OF 690.920 SQUARE FEET (15.86134 ACRES), MORE OR LESS.

LEGAL DESCRIPTION PARCEL D

A PARCEL OF LAND LOCATED IN SECTION 26, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO MORE PARTICULARLY DESCRIBED AS FOLLOWS WITH BEARINGS REFERENCED TO THE RIGHT-OF-WAY LINE OF CORDERA CREST AVENUE ACCORDING TO THE OFFICIAL PLAT OF CORDERA FILING NO. 3G RECORDED AUGUST 7, 2015 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 215713655, SAID PORTION OF CORDERA CREST AVENUE BEING MONUMENTED ON EACH END BY A FOUND NO. 5 REBAR AND 1- 1/2 INCH ALUMINUM CAP STAMPED "MATRIX PLS 34977" - BEARING NORTH 42°53'14" EAST A DISTANCE OF 42.37 FEET COMMENCE AT THE MOST SOUTHERLY CORNER OF SAID CORDERA FILING NO. 3G; THENCE NORTHEASTERLY, ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID CORDERA CREST AVENUE AND THE EXTERIOR OF CORDERA FILING NO. 3G THE FOLLOWING (3) THREE COURSES:

1. THENCE NORTH 42°53'14" EAST A DISTANCE OF 42.37 FEET TO A TANGENT 114.00 FOOT RADIUS CURVE WHOSE CENTER BEARS SOUTHEASTERLY;
2. THENCE EASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 82°54'38" AN ARC DISTANCE OF 164.97 FEET TO A 1032.50 FOOT RADIUS REVERSE CURVE;
3. THENCE SOUTHEASTERLY, ALONG SAID REVERSE CURVE, THROUGH A CENTRAL ANGLE OF 9°17'51" AN ARC DISTANCE OF 167.55 FEET TO THE POINT OF BEGINNING;

THENCE EASTERLY, CONTINUING ALONG SAID RIGHT-OF-WAY AND ARC, THROUGH A CENTRAL ANGLE OF 15°18'28", AN ARC DISTANCE OF 275.86 FEET TO A 5,462.09 FOOT RADIUS NON-TANGENT CURVE WHOSE CENTER BEARS NORTH 74°48'51" EAST;

THENCE SOUTHERLY, ALONG SAID NON-TANGENT CURVE, THROUGH A CENTRAL ANGLE OF 01°20'34" AN ARC DISTANCE OF 128.49 FEET TO A 114.11 FOOT REVERSE CURVE;

THENCE SOUTHERLY, ALONG SAID REVERSE CURVE THROUGH A CENTRAL ANGLE OF 35°00'03" AN ARC DISTANCE OF 69.71 FEET TO A 32.97 FOOT REVERSE CURVE;

THENCE SOUTHERLY, ALONG SAID REVERSE CURVE THROUGH A CENTRAL ANGLE OF 57°56'43" AN ARC DISTANCE OF 33.34 FEET TO A 47.35 FOOT REVERSE CURVE;

THENCE SOUTHERLY, ALONG SAID REVERSE CURVE THROUGH A CENTRAL ANGLE OF 53°52'06" AN ARC DISTANCE OF 44.51 FEET TO A 397.25 FEET COMPOUND CURVE;

THENCE SOUTHERLY, ALONG SAID COMPOUND CURVE THROUGH A CENTRAL ANGLE OF 13°31'19" AN ARC DISTANCE OF 93.75 FEET;

THENCE SOUTH 27°55'02" WEST A DISTANCE OF 12.29 FEET TO A POINT ON THE EXTERIOR OF PARCEL 5 AS DESCRIBED IN A DOCUMENT RECORDED MARCH 7, 2003 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 203049162;

THENCE ALONG SAID PARCEL 5 THE FOLLOWING (3) THREE COURSES:

1. THENCE SOUTH 87°25'14" EAST A DISTANCE OF 99.79 FEET;
2. THENCE NORTH 69°39'15" EAST A DISTANCE OF 329.51 FEET;
3. THENCE NORTH 43°01'10" EAST A DISTANCE OF 297.54 FEET;

THENCE NORTH 47°20'27" EAST A DISTANCE OF 63.68 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF CORDERA CREST AVENUE ACCORDING TO THE OFFICIAL PLAT OF CORDERA FILING NO. 3B RECORDED FEBRUARY 11, 2014 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 214713431;

THENCE EASTERLY ALONG SAID SOUTHERLY RIGHT-OF-WAY THE FOLLOWING (2) TWO COURSES:

1. THENCE NORTH 85°05'27" EAST A DISTANCE OF 539.62 FEET TO A TANGENT 658.00 FOOT RADIUS CURVE WHOSE CENTER BEARS SOUTHEASTERLY;
2. THENCE EASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 24°38'19" AN ARC DISTANCE OF 282.38 FEET TO THE WESTERLY EXTERIOR OF BRIARGATE CROSSING EAST SUBDIVISION FILING NO.2 RECORDED FEBRUARY 2, 2007 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 207712525;

THENCE SOUTH 00°00'17" WEST, ALONG THE SAID WESTERLY EXTERIOR, A DISTANCE OF 47.06 FEET TO THE NORTHEAST CORNER OF PREVIOUSLY CITED PARCEL 5;

THENCE SOUTHERLY, ALONG THE COMMON LINE OF SAID BRIARGATE CROSSING SUBDIVISION FILING NO.2 AND PARCEL 5, THE FOLLOWING (5) FIVE COURSES:

1. THENCE SOUTH 00°00'17" WEST A DISTANCE OF 117.05 FEET;
2. THENCE SOUTH 22°38'26" WEST A DISTANCE OF 150.66 FEET;
3. THENCE SOUTH 53°27'12" WEST A DISTANCE OF 335.64 FEET;
4. THENCE SOUTH 37°46'24" WEST A DISTANCE OF 227.20 FEET;
5. THENCE SOUTH 59°58'48" WEST A DISTANCE OF 372.13 FEET;

THENCE SOUTHERLY ALONG SAID PARCEL 5 THE FOLLOWING (2) TWO COURSES:

1. THENCE SOUTH 59°58'48" WEST A DISTANCE OF 78.08 FEET;
2. THENCE SOUTH 70°31'39" WEST A DISTANCE OF 399.96 FEET TO A POINT ON THE NORTHERLY RIGHTOF- WAY LINE OF POWERS BOULEVARD RECORDED NOVEMBER 06, 2002 IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NO. 202195133;

THENCE NORTHWESTERLY, ALONG SAID POWERS BOULEVARD RIGHT-OF-WAY, THE FOLLOWING (6) SIX COURSES

1. THENCE NORTH 53°27'24" WEST A DISTANCE OF 42.79 FEET;
2. THENCE NORTH 55°01'13" WEST A DISTANCE OF 187.28 FEET;
3. THENCE NORTH 35°41'32" WEST A DISTANCE OF 261.37 FEET;
4. THENCE NORTH 60°53'19" WEST A DISTANCE OF 264.18 FEET;
5. THENCE NORTH 62°57'09" WEST A DISTANCE OF 202.67 FEET;
6. THENCE NORTH 49°54'12" WEST A DISTANCE OF 244.05 FEET;

THENCE NORTH 66°30'02" EAST A DISTANCE OF 167.71 FEET TO A TANGENT 52.75 FOOT RADIUS CURVE WHOSE CENTER BEARS NORTHWESTERLY;

THENCE NORTHEASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 54°01'45" AN ARC DISTANCE OF 49.74 FEET TO A 2,100.70 FOOT REVERSE CURVE;

THENCE NORTHERLY, ALONG SAID REVERSE CURVE, THROUGH A CENTRAL ANGLE OF 06°27'31" AND ARC DISTANCE OF 236.80 FEET TO A 45.70 FEET COMPOUND CURVE;

THENCE NORTHEASTERLY, ALONG SAID COMPOUND CURVE, THROUGH A CENTRAL ANGLE OF 67°24'04" AN ARC DISTANCE OF 53.76 FEET TO A 6,601.92 FOOT REVERSE CURVE;

THENCE EASTERLY, ALONG SAID REVERSE CURVE, THROUGH A CENTRAL ANGLE OF 00°52'32" AN ARC DISTANCE OF 100.88 FEET TO A 56.62 FOOT RADIUS NON-TANGENT CURVE WHOSE CENTER BEARS NORTH 04°25'34" WEST;

THENCE NORTHEASTERLY, ALONG SAID NON-TANGENT CURVE, THROUGH A CENTRAL ANGLE OF 45°29'12" AN ARC DISTANCE OF 44.95 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIPTION PRODUCES A CALCULATED AREA OF 1,306,559 SQUARE FEET (29.99446 ACRES).

LEGAL DESCRIPTION PARCEL B

A PARCEL OF LAND LOCATED IN THE NORTHWEST ONE-QUARTER OF SECTION 26 AND THE NORTHEAST ONE- QUARTER OF SECTION 27, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN IN THE CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO; MORE PARTICULARLY DESCRIBED AS FOLLOWS WITH BEARINGS REFERENCED TO THE NORTH LINE OF SAID NORTHWEST ONE-QUARTER OF SECTION 26; MONUMENTED AT EACH END BY A FOUND ILLEGIBLE 3-1/4" ALUMINUM CAP IN RANGE BOX AND ASSUMED TO BEAR NORTH 89°18'07" EAST 2644.70 FEET.

COMMENCE AT THE WEST END OF SAID NORTH LINE; THENCE SOUTH 00°36'05" EAST, ALONG THE WEST LINE OF SAID NORTHWEST ONE-QUARTER, A DISTANCE OF 954.50 FEET TO THE **POINT OF BEGINNING**;

THENCE NORTH 65°42'51" EAST, A DISTANCE OF 62.61 FEET TO A 1,532.50 FOOT RADIUS NON-TANGENT CURVE WHOSE CENTER BEARS NORTH 56°04'46" EAST; SAID POINT IS ON THE WEST LINE OF CORDERA CREST AVENUE RIGHT-OF-WAY AS SHOWN ON THE PLAT OF CORDERA FILING NO. 3H AS RECORDED JUNE 16, 2016 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY UNDER RECEPTION NUMBER 216713791;

THENCE ALONG SAID WEST LINE THE FOLLOWING 2 COURSES:

1. THENCE SOUTHEASTERLY ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 12°28'47", AN ARC DISTANCE OF 332.91 FEET;
2. THENCE SOUTH 46°22'02" EAST, A DISTANCE OF 93.82 FEET TO A POINT ON THE WEST LINE OF THAT CERTAIN UTILITY EASEMENT RECORDED ON SEPTEMBER 26, 2016 IN SAID RECORDS UNDER RECEPTION NUMBER 216110222;

THENCE ALONG SAID WEST LINE THE FOLLOWING 3 COURSES:

1. THENCE SOUTH 13°44'16" WEST, A DISTANCE OF 27.01 FEET;
2. THENCE SOUTH 46°35'51" WEST, A DISTANCE OF 427.94 FEET;
3. THENCE NORTH 84°03'13" WEST, A DISTANCE OF 15.51 FEET TO A POINT ON THE NORTH LINE OF THAT CERTAIN UTILITY EASEMENT RECORDED ON SEPTEMBER 26, 2016 IN SAID RECORDS UNDER RECEPTION NUMBER 216110223;

THENCE CONTINUE NORTH 84°03'13" WEST, ALONG SAID NORTH LINE, A DISTANCE OF 55.59 FEET TO A POINT ON THE NORTH LINE OF THAT CERTAIN UTILITY EASEMENT RECORDED ON AUGUST 04, 2003 IN SAID RECORDS UNDER RECEPTION NUMBER 203179242;

THENCE ALONG SAID NORTH LINE THE FOLLOWING 2 COURSES:

1. THENCE NORTH 19°06'01" WEST, A DISTANCE OF 12.21 FEET;
2. THENCE SOUTH 70°53'59" WEST, A DISTANCE OF 79.94 FEET TO A POINT ON THE NORTHEAST LINE OF POWERS BOULEVARD RIGHT-OF-WAY AS DESCRIBED IN DEED RECORDED ON NOVEMBER 6, 2002 IN SAID RECORDS UNDER RECEPTION NUMBER 202195130;

THENCE NORTH 46°22'25" WEST, ALONG SAID NORTHEAST LINE, A DISTANCE OF 400.91 FEET TO THE NORTHEAST LINE OF POWERS BOULEVARD RIGHT-OF-WAY AS DESCRIBED IN DEED RECORDED ON MARCH 25, 2004 IN SAID RECORDS UNDER RECEPTION NUMBER 204047093;

THENCE CONTINUE ALONG SAID NORTHEAST LINE THE FOLLOWING 2 COURSES:

1. THENCE NORTH 43°38'40" EAST, A DISTANCE OF 12.00 FEET;
2. THENCE NORTH 46°22'25" WEST, A DISTANCE OF 128.29 FEET TO THE INTERSECTION OF SAID NORTHEAST LINE AND THE EXTENSION OF THE EAST LINE OF THAT CERTAIN UTILITY EASEMENT RECORDED ON FEBRUARY 17, 2016 IN SAID RECORDS UNDER RECEPTION NUMBER 216015764;

THENCE NORTH 46°32'37" EAST, ALONG SAID EAST LINE, A DISTANCE OF 272.47 FEET;

THENCE SOUTH 80°39'22" EAST, A DISTANCE OF 129.21 FEET;

THENCE NORTH 65°42'51" EAST, A DISTANCE OF 195.18 FEET TO THE **POINT OF BEGINNING**.

THE ABOVE PARCEL DESCRIPTION CONTAINS A CALCULATED AREA OF 315.507 SQUARE FEET OR (7.24305 ACRES), MORE OR LESS.

PROJECT:

**BRIARGATE COMMERCIAL NORTH
 CONCEPT PLAN
 CITY OF COLORADO SPRINGS
 APRIL 2019**

OWNER:

**HIGH VALLEY LAND CO, INC.
 1755 TELSTAR DRIVE, SUITE 211
 COLORADO SPRINGS, COLORADO 80920
 (719) 260-7477**

SHEET INDEX:

DESCRIPTION	SHEET
COVER SHEET	1
NOTE SHEET	2
CONCEPT PLAN	3
CONCEPT PLAN	4

ISSUE:

DRAWING INFORMATION:

PROJECT NO: 19.104.202

DRAWN BY: JASON ALWINE

CHECKED BY: GREG SHANER

APPROVED BY: GREG SHANER

SHEET TITLE:

NOTE SHEET

CITY PLANNING FILE NO: CPC-CP

NS01

SHEET 2 OF 4

CITY FILE NO.:

SHEET INDEX:

DESCRIPTION	SHEET
COVER SHEET	1
NOTE SHEET	2
CONCEPT PLAN	3
CONCEPT PLAN	4

ISSUE:

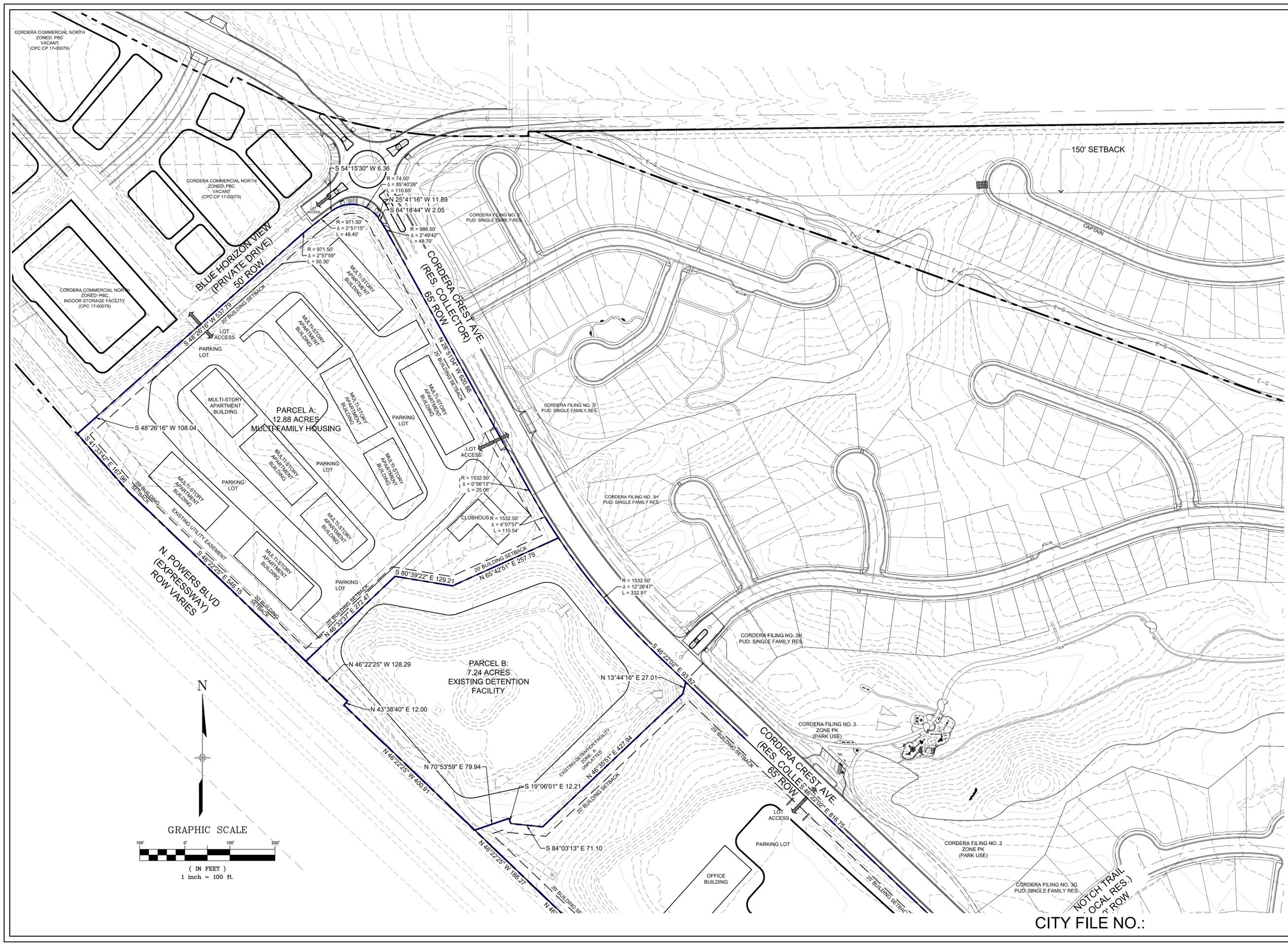
DRAWING INFORMATION:

PROJECT NO:	19.104.202
DRAWN BY:	JASON ALWINE
CHECKED BY:	GREG SHANER
APPROVED BY:	GREG SHANER
SHEET TITLE:	

CONCEPT PLAN

CITY PLANNING FILE NO. CPC-CP

CP01



CITY FILE NO.:

NOTCH TRAIL
 LOCAL RES.
 ROW

SHEET INDEX:

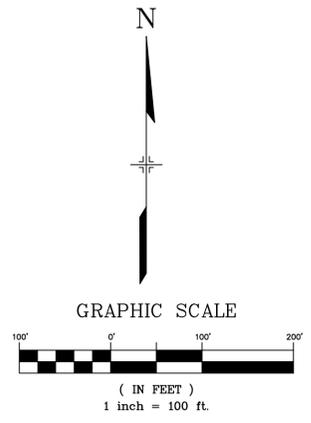
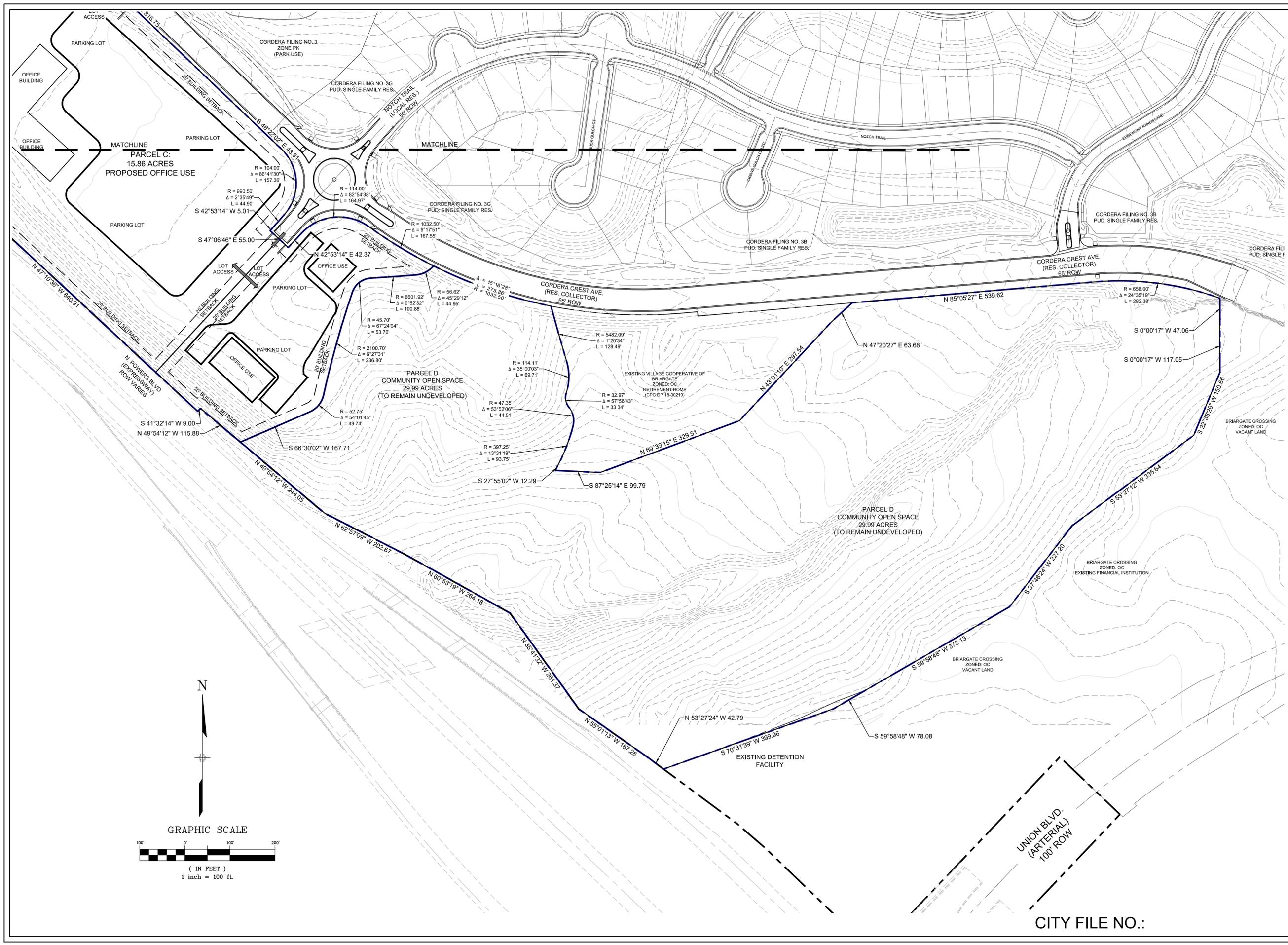
DESCRIPTION	SHEET
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ISSUE:

DRAWING INFORMATION:

PROJECT NO:	19.104.202
DRAWN BY:	JASON ALWINE
CHECKED BY:	GREG SHANER
APPROVED BY:	GREG SHANER
SHEET TITLE:	

CONCEPT PLAN



CITY FILE NO.:



516 North Tejon Street
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lscs.com
Web Site: <http://www.lscs.com>

January 17, 2007

Ms. Angela White, AICP
La Plata Investments, LLC
2315 Briargate Parkway, Suite 100
Colorado Springs, Colorado 80920

RE: Cordera Filing No.3
Traffic Impact Analysis Report
Colorado Springs, Colorado
LSC #065940

Dear Ms. White:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis report for the proposed Cordera Filing No.3 development. As shown on Figure 1, the site is located south of Old Ranch Road, north of Union Boulevard, east of Powers Boulevard and west of Milam Road in Colorado Springs, Colorado. The areas northeast of Cordera Crest Avenue are generally proposed as residential. The areas southwest of Cordera Crest Avenue are generally proposed as office/commercial, with some multi-family residential near the Cordera Crest Avenue/Old Ranch Road intersection.

REPORT CONTENTS

This report is being prepared for submittal to the City of Colorado Springs. The analysis includes the following items: dividing the site and the adjacent properties into traffic analysis zones (TAZs); develop projections of the vehicle-trips to be generated by each TAZ; develop projections of the site-generated and background traffic volumes on the proposed street system; and develop recommendations for the access intersection lane geometries and traffic controls along Cordera Crest Avenue necessary to accommodate the site-generated and adjacent off-site traffic volumes.

PROPOSED LAND USE AND ACCESS PLAN

Figure 2 shows the preliminary site plan and the adjacent proposed off-site land uses. The area southwest of Cordera Crest Avenue is generally proposed as office/commercial, with some multi-family residential near the Cordera Crest Avenue/Old Ranch Road intersection.

Figure 2 also shows the proposed access points to Cordera Crest Avenue between Union Boulevard and Old Ranch Road.

STREET AND TRAFFIC CONDITIONS

Figure 1 shows the existing and proposed streets in the vicinity of the site. The major streets are identified below, followed by a brief description.

- **Union Boulevard** is a north/south Principal Arterial. Plans call for an extension of Union Boulevard northeast across Powers Boulevard to connect to Milam Road, which extends north into the Black Forest area.
- **Cordera Crest Avenue** is a planned Minor Arterial that will parallel Powers Boulevard to the east between Old Ranch Road and Union Boulevard. The Union Boulevard/Cordera Crest Avenue and Cordera Crest Avenue/Old Ranch Road intersections are proposed as two-lane roundabouts. Cordera Crest Avenue will extend the bicycle lane from Old Ranch Road to the roundabout just north of Union Boulevard.
- **Old Ranch Road** is an existing east/west street extending east from Powers Boulevard, providing access to Pine Creek High School at Thunder Mountain Avenue. Old Ranch Road is currently classified as a Minor Arterial, but the City of Colorado Springs plans to downgrade it to a Collector in the vicinity of the site. Just beyond Thunder Mountain Avenue, Old Ranch Road becomes a two-lane rural cross section. Approximately one and a half miles east of Thunder Mountain Avenue, Old Ranch Road turns 90 degrees to the north and changes its name to Milam Road extending north into the Black Forest area.
- **Milam Road** is a north/south street extending north from Old Ranch Road to north of Shoup Road in the Black Forest area. Plans call for Union Boulevard to be extended east across Powers Boulevard and connect to Milam Road near the current location where Old Ranch Road and Milam Road meet.

TRIP GENERATION

The site has been divided into TAZs, as shown on Figure 3. Estimates of the traffic volumes expected to be generated by each TAZ were based on the nationally published trip generation rates found in *Trip Generation, 7th Edition, 2003* by the Institute of Transportation Engineers (ITE). The results of the trip generation estimates by TAZ are shown on Table 1.

The Cordera Filing No.3 site is projected to generate about 21,100 new vehicle-trips on the average weekday, with about half of the vehicles entering and half of the vehicles exiting the site in a 24-hour period. During the morning peak hour, about 995 vehicles would enter and 665 vehicles would exit the site. During the afternoon peak hour, about 1,250 vehicles would enter and 1,525 vehicles would exit the site.

The sum of all the land uses along Cordera Crest Avenue between Union Boulevard and Old Ranch Road are projected to generate about 22,500 new vehicle-trips on the average weekday, with about half of the vehicles entering and half of the vehicles exiting these land uses in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 1,025 vehicles would enter and 745 vehicles would exit these land uses. During the afternoon

peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 1,340 vehicles would enter and 1,580 vehicles would exit these land uses.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the proposed street system is one of the most important factors in determining the site's traffic impacts. Specific trip distribution estimates were assumed for each TAZ. The directional distribution estimates for each TAZ were based on the following factors: the location of the site with respect to the greater Colorado Springs area; the land uses proposed for each TAZ; the planned access to each TAZ; the existing and proposed street system serving the overall site; and LSC's previous work in the area.

2030 TOTAL TRAFFIC

Figure 4 shows the total traffic volumes for the year 2030. The 2030 total traffic volumes include the buildout site-generated and background traffic volumes. The background through traffic volumes on Cordera Crest Avenue were based on other studies performed in the area including the *May 20, 2003 Briargate Master Plan 2003 Update Transportation Study* by LSC and the *Briargate Crossing East Traffic Impact Study* by Kimley-Horn and Associates, Inc.

PROJECTED LEVELS OF SERVICE

The Old Ranch Road/Thunder Mountain Avenue intersection and all of the intersections along Cordera Crest Avenue from Old Ranch Road to Union Boulevard have been analyzed to determine the projected levels of service for the 2030 total traffic volumes. Four roundabouts are proposed along Cordera Crest Avenue located at Old Ranch Road, Union Boulevard, the approximate midpoint between Old Ranch Road and Union Boulevard, and the access just northwest of Union Boulevard. The roundabouts were analyzed with Sidra analysis software. All of the other intersections were analyzed based on the signalized and unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 2000 Edition* by the Transportation Research Board. All of the movements at the analyzed intersections are projected to operate at acceptable levels of service during the peak hours through the year 2030. The level of service analysis results are shown on Figure 5. The level of service reports are attached.

RECOMMENDED IMPROVEMENTS

Figure 5 shows the recommended lane geometries and traffic controls for the analyzed intersections. With the recommended improvements, there are not expected to be any significant capacity or queuing issues along Cordera Crest Avenue between Union Boulevard and Old Ranch Road.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. The Cordera Filing No.3 site is projected to generate about 21,100 new vehicle-trips on the average weekday, with about half of the vehicles entering and half of the vehicles exiting the

site in a 24-hour period. During the morning peak hour, about 995 vehicles would enter and 665 vehicles would exit the site. During the afternoon peak hour, about 1,250 vehicles would enter and 1,525 vehicles would exit the site.

2. The sum of all the land uses along Cordera Crest Avenue between Union Boulevard and Old Ranch Road are projected to generate about 22,500 vehicle-trips on the average weekday, with about half of the vehicles entering and half of the vehicles exiting these land uses in a 24-hour period. During the morning peak hour, about 1,025 vehicles would enter and 745 vehicles would exit these land uses. During the afternoon peak hour, about 1,340 vehicles would enter and 1,580 vehicles would exit these land uses.

Projected Levels of Service

3. All of the movements at the analyzed intersections are projected to operate at acceptable levels of service during the peak hours through the year 2030.

Proposed Improvements

4. Figure 5 shows the recommended lane geometries and traffic controls for the analyzed intersections. With the recommended improvements, there are not expected to be any significant capacity or queuing issues along Cordera Crest Avenue between Union Boulevard and Old Ranch Road.

* * * * *

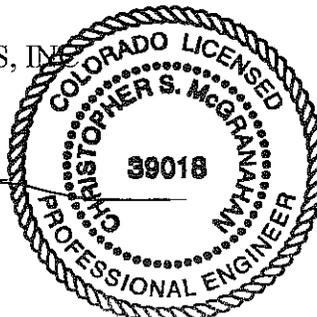
We trust this traffic impact analysis report will assist you in gaining approval of the proposed Cordera Filing No.3 development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By


Christopher S. McGranahan, P.E., PTOE
Associate



1-17-07

CSM:DCJ:rf

Enclosures: Table 1
Figures 1-5
Level of Service Reports

**Table 1
Cordera Filing No.3 and Surrounding Land Uses
Trip Generation Estimates**

TAZ ⁽²⁾	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾					Total Trips Generated					Total New Trips Generated	
				Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Pass-By Trips ⁽³⁾	Average New Weekday Traffic
A ⁽⁴⁾	820	Shopping Center	231 KSF ⁽⁵⁾	50.66	0.68	0.44	2.26	2.45	11,703	158	101	522	566	34%	7,724
B ⁽⁴⁾	220	Apartment	291 DU ⁽⁶⁾	6.72	0.10	0.41	0.40	0.22	1,956	30	119	117	63	0%	1,956
C ⁽⁴⁾	710	General Office Building	213 KSF	11.21	1.42	0.19	0.25	1.24	2,388	302	41	54	263	0%	2,388
D ⁽⁴⁾	710	General Office Building	43 KSF	16.20	1.95	0.27	0.50	2.45	697	84	11	22	105	0%	697
E ⁽⁴⁾	565	Day Care Center	7.2 KSF	79.26	6.78	6.01	6.19	6.99	571	49	43	45	50	0%	571
	710	General Office Building	93 KSF	13.57	1.68	0.23	0.33	1.63	1,259	155	21	31	152	0%	1,259
	912	Drive-In Bank	5 DIL ⁽⁷⁾	411.17	11.24	8.14	25.54	25.54	2,056	56	41	128	128	24%	1,562
	932	High Turnover (Sit-Down) Restaurant	16 KSF	127.15	5.99	5.53	6.66	4.26	2,034	96	88	107	68	22%	1,587
F ⁽⁴⁾	210	Single-Family Detached Housing	39 DU	9.57	0.19	0.56	0.64	0.37	373	7	22	25	15	0%	373
G ⁽⁴⁾	210	Single-Family Detached Housing	60 DU	9.57	0.19	0.56	0.64	0.37	574	11	34	38	22	0%	574
H ⁽⁴⁾	210	Single-Family Detached Housing	65 DU	9.57	0.19	0.56	0.64	0.37	622	12	37	41	24	0%	622
I ⁽⁴⁾	210	Single-Family Detached Housing	77 DU	9.57	0.19	0.56	0.64	0.37	737	14	43	49	29	0%	737
J ⁽⁴⁾	210	Single-Family Detached Housing	110 DU	9.57	0.19	0.56	0.64	0.37	1,053	21	62	70	41	0%	1,053
K	210	Single-Family Detached Housing	107 DU	9.57	0.19	0.56	0.64	0.37	1,024	20	60	68	40	0%	1,024
L	210	Single-Family Detached Housing	40 DU	9.57	0.19	0.56	0.64	0.37	383	8	23	25	15	0%	383
Total (TAZs A-L)									27,429	1,023	746	1,342	1,582		22,509
Cordera Filing No.3 Total (TAZs A-J)									26,022	996	663	1,248	1,527		21,102

Notes:

- (1) Source: "Trip Generation, 7th Edition, 2003" by the Institute of Transportation Engineers (ITE)
- (2) TAZ = traffic analysis zone
- (3) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, October 1998" by ITE
- (4) Cordera Filing No.3 land uses. The other land uses are off-site.
- (5) KSF = thousand square feet
- (6) DU = dwelling unit
- (7) DIL = drive-in lane

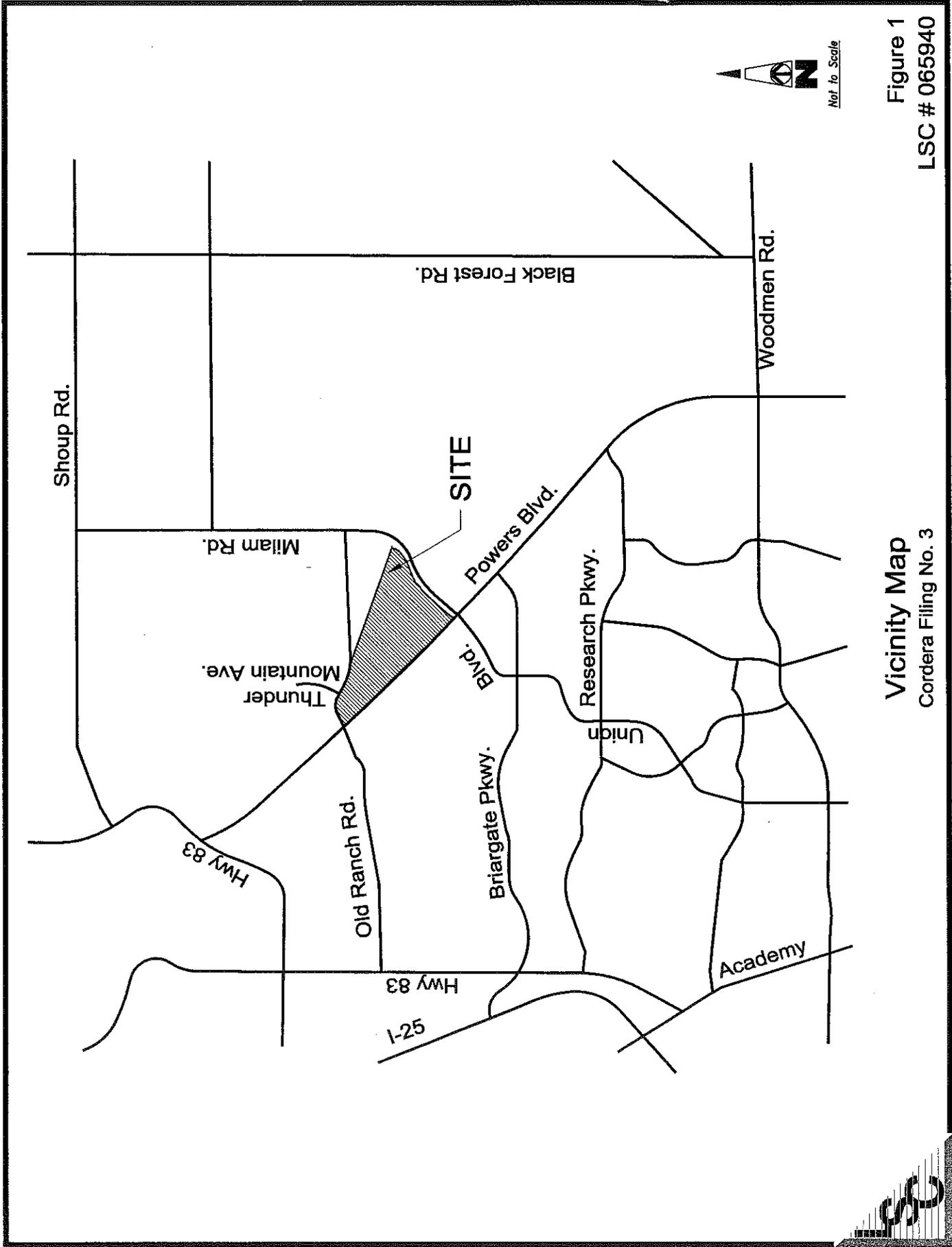
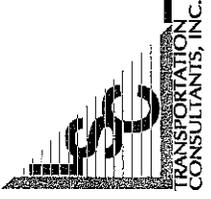
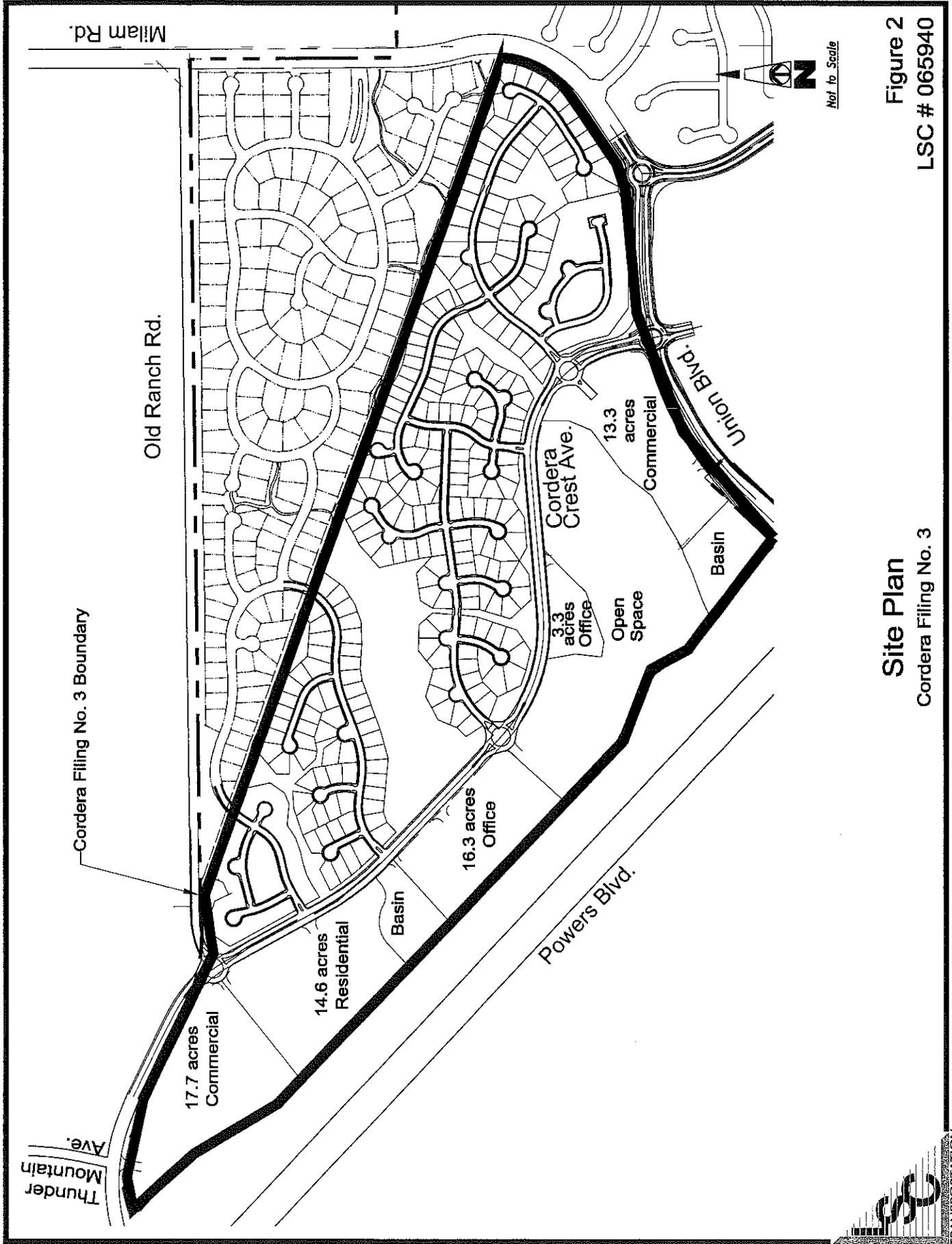


Figure 1
LSC # 065940

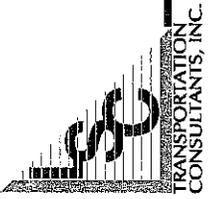
Vicinity Map
Cordera Filing No. 3





Site Plan
Cordera Filing No. 3

Figure 2
LSC # 065940



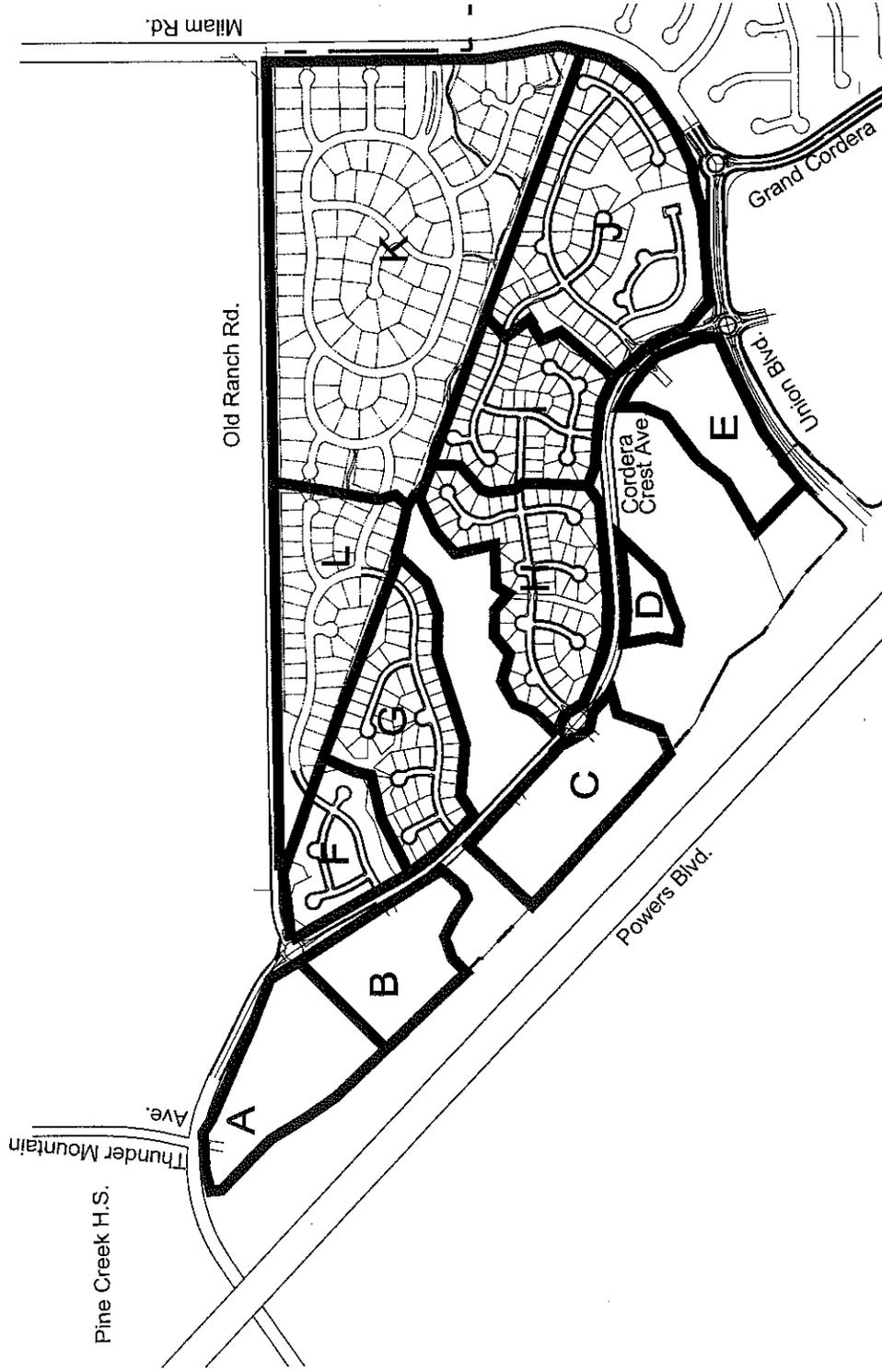


Figure 3
LSC # 065940

Traffic Analysis Zones
Cordera Filing No. 3



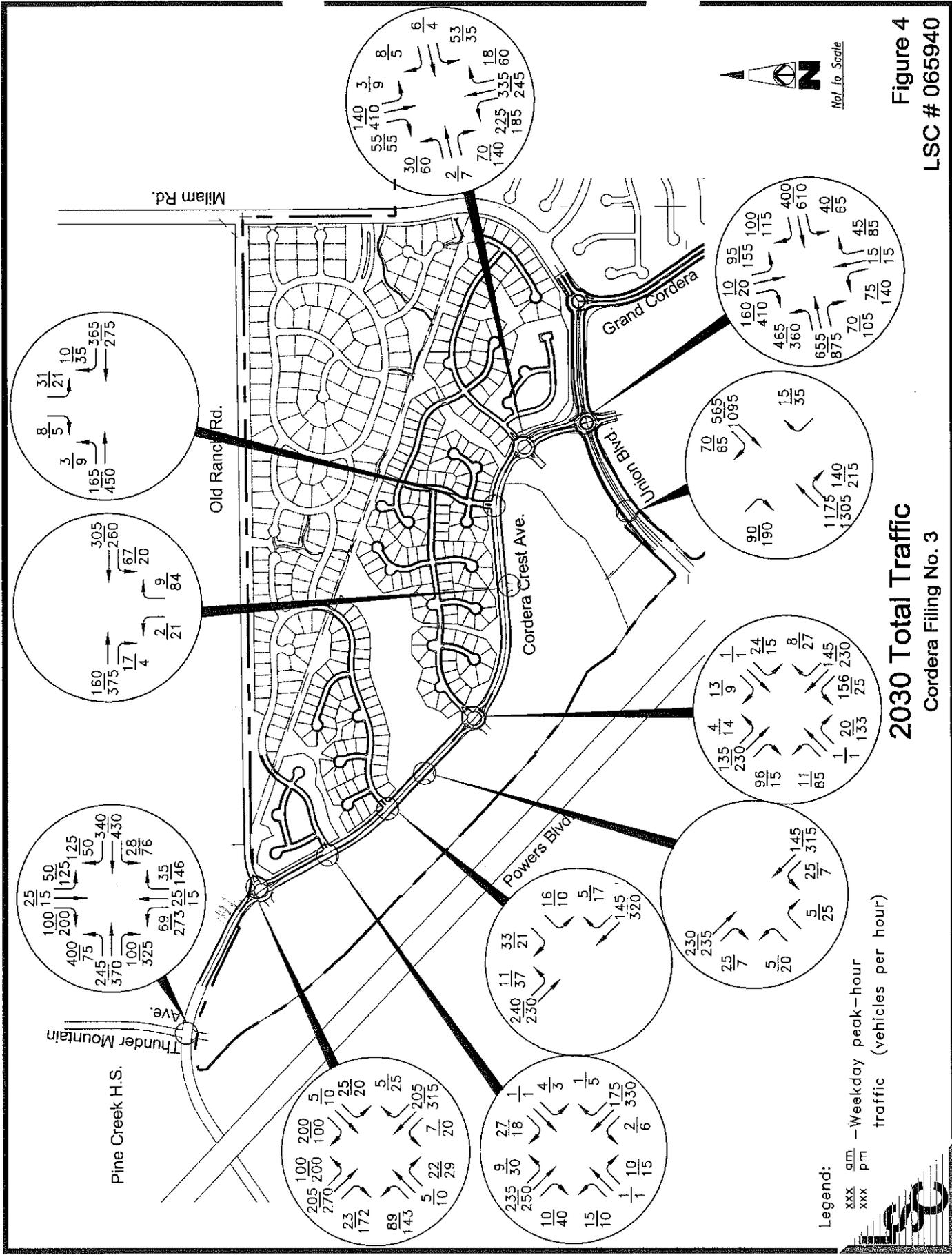
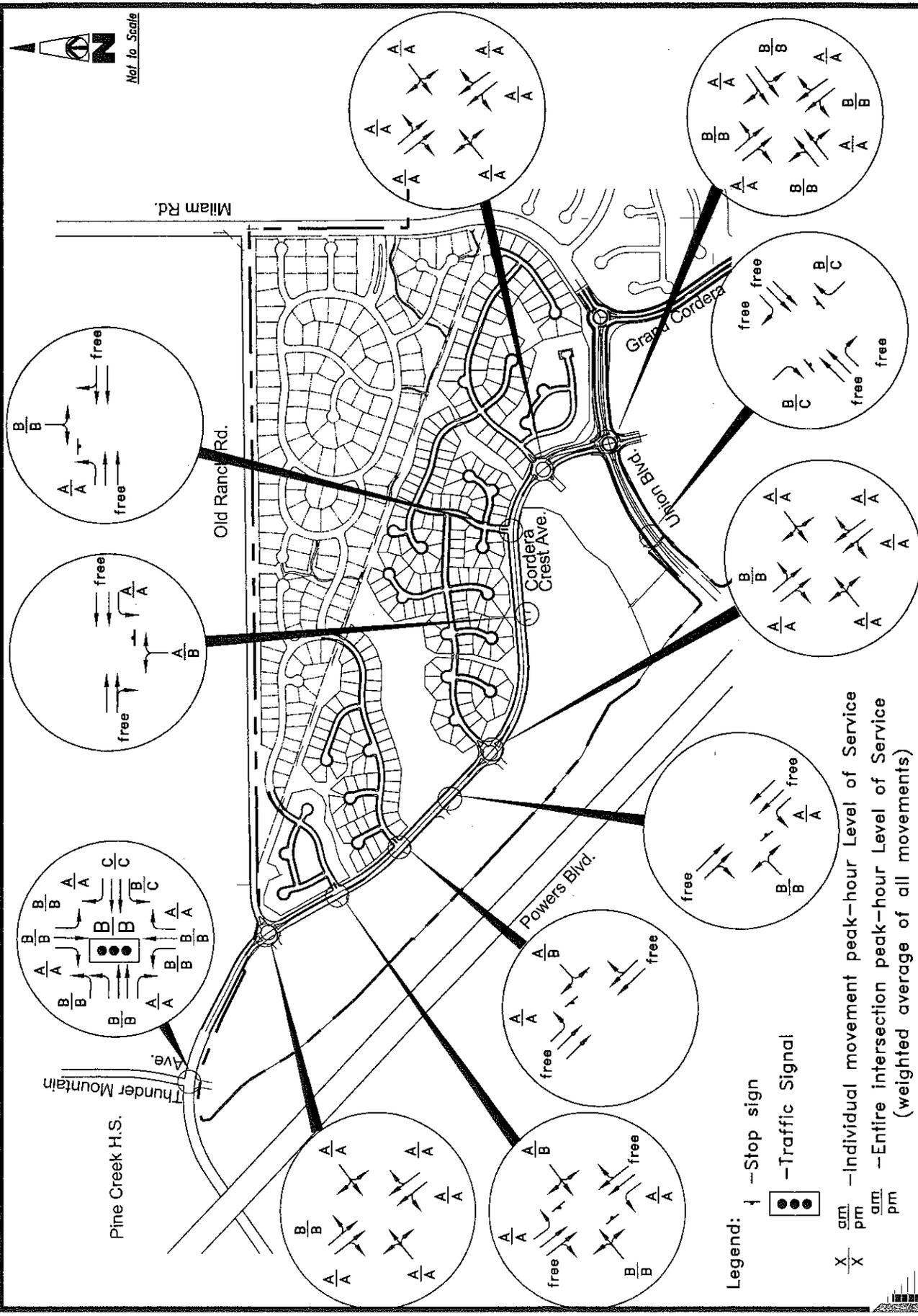


Figure 4
LSC # 065940

2030 Total Traffic
Cordera Filing No. 3

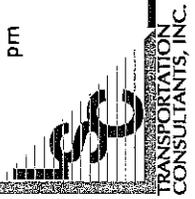




- Legend:
- ⊥ — Stop sign
 - — Traffic Signal
 - $\frac{am}{pm}$ — Individual movement peak-hour Level of Service
 - $\frac{am}{pm}$ — Entire intersection peak-hour Level of Service (weighted average of all movements)

Figure 5
LSC # 065940

2030 Total Lane Geometry, Traffic Control and Level of Service
Cordera Filing No. 3



Lanes, Volumes, Timings
4: Old Ranch Rd. & Thunder Mountain Ave.

2030 Total Traffic
AM Peak Hour

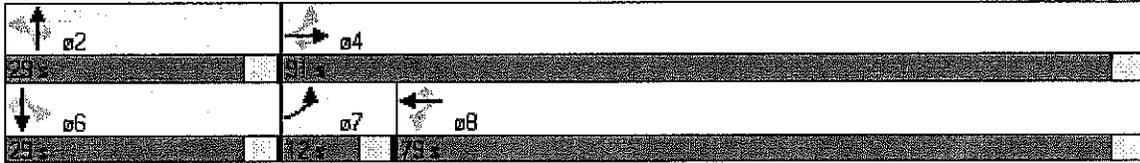


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↙	↖↖	↘	↙	↖	↘	↙	↖	↘
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.502			0.592			0.737			0.737		
Satd. Flow (perm)	1814	3539	1583	1103	3539	1583	1373	1863	1583	1373	1863	1583
Satd. Flow (RTOR)			105			132			41			105
Volume (vph)	400	245	100	28	340	125	69	25	35	50	25	100
Peak Hour Factor	0.95	0.95	0.95	0.80	0.95	0.95	0.85	0.80	0.85	0.85	0.80	0.95
Adj. Flow (vph)	421	258	105	35	358	132	81	31	41	59	31	105
Lane Group Flow (vph)	421	258	105	35	358	132	81	31	41	59	31	105
Turn Type	pm+pt		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phases	7	4	4	8	8	8	2	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	12.0	91.0	91.0	79.0	79.0	79.0	29.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	10.0%	75.8%	75.8%	65.8%	65.8%	65.8%	24.2%	24.2%	24.2%	24.2%	24.2%	24.2%
Maximum Green (s)	8.0	87.0	87.0	75.0	75.0	75.0	25.0	25.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	23.3	23.3	23.3	11.3	11.3	11.3	25.0	25.0	25.0	25.0	25.0	25.0
Actuated g/C Ratio	0.41	0.41	0.41	0.20	0.20	0.20	0.44	0.44	0.44	0.44	0.44	0.44
v/c Ratio	0.43	0.18	0.15	0.16	0.50	0.31	0.13	0.04	0.06	0.10	0.04	0.14
Control Delay	12.4	10.6	3.1	19.9	22.4	6.4	11.1	10.2	4.3	10.8	10.2	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	10.6	3.1	19.9	22.4	6.4	11.1	10.2	4.3	10.8	10.2	3.4
LOS	B	B	A	B	C	A	B	B	A	B	B	A
Approach Delay		10.5			18.2			9.1			6.7	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 56.4
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 12.4
 Intersection LOS: B
 Intersection Capacity Utilization 41.3%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Old Ranch Rd. & Thunder Mountain Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.448			0.522			0.744			0.744		
Satd. Flow (perm)	1619	3539	1583	972	3539	1583	1386	1863	1583	1386	1863	1583
Satd. Flow (RTOR)			342			59			154			211
Volume (vph)	75	370	325	76	430	50	273	15	146	125	15	200
Peak Hour Factor	0.85	0.95	0.95	0.85	0.95	0.85	0.95	0.75	0.95	0.95	0.75	0.95
Adj. Flow (vph)	88	389	342	89	453	59	287	20	154	132	20	211
Lane Group Flow (vph)	88	389	342	89	453	59	287	20	154	132	20	211
Turn Type	pm+pt		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phases	7	4	4	8	8	8	2	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	12.0	91.0	91.0	79.0	79.0	79.0	29.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	10.0%	75.8%	75.8%	65.8%	65.8%	65.8%	24.2%	24.2%	24.2%	24.2%	24.2%	24.2%
Maximum Green (s)	8.0	87.0	87.0	75.0	75.0	75.0	25.0	25.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	18.6	18.2	18.2	12.2	12.2	12.2	25.9	25.9	25.9	25.9	25.9	25.9
Actuated g/C Ratio	0.33	0.35	0.35	0.23	0.23	0.23	0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	0.12	0.32	0.44	0.39	0.55	0.14	0.42	0.02	0.18	0.19	0.02	0.24
Control Delay	10.6	12.0	3.4	23.6	20.8	6.5	14.0	10.9	3.3	11.7	10.9	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	12.0	3.4	23.6	20.8	6.5	14.0	10.9	3.3	11.7	10.9	3.0
LOS	B	B	A	C	C	A	B	B	A	B	B	A
Approach Delay		8.3			19.8			10.3			6.6	
Approach LOS		A			B			B			A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 52.3
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 11.5
 Intersection LOS: B
 Intersection Capacity Utilization 49.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Old Ranch Rd. & Thunder Mountain Ave.

 02	 04	
 06	 07	 08

Movement Summary



Cordera Crest/Old Ranch

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NW Bound Cordera Crest										
72	L	8	85	0.094	7.1	LOS A	13	1.11	22.9	1
71	T	223	2362	0.094	2.3	LOS A	13	0.50	29.5	18
73	R	5	64	0.094	4.8	LOS A	13	0.88	27.1	1
Approach		236	2511	0.094	2.6	LOS A	13	0.53	29.2	19
SW Bound Old Ranch										
62	L	27	1064	0.236	5.8	LOS A	33	1.02	27.5	28
62	T	5	1064	0.236	5.8	LOS A	33	1.02	27.5	28
62	R	217	1064	0.236	5.8	LOS A	33	1.02	27.5	28
Approach		251	1064	0.236	5.8	LOS A	33	1.02	27.5	28
SE Bound Cordera Crest										
82	L	109	1055	0.103	10.9	LOS B	13	1.28	25.2	15
81	T	223	2150	0.103	1.7	LOS A	13	0.37	32.0	21
83	R	25	252	0.103	4.1	LOS A	13	0.79	28.8	2
Approach		357	3457	0.103	4.7	LOS A	13	0.68	29.2	38
NE Bound TAZ B										
52	L	97	1008	0.127	6.8	LOS A	16	1.11	18.7	15
52	T	5	1008	0.127	6.8	LOS A	16	1.11	18.7	15
52	R	24	1008	0.127	6.8	LOS A	16	1.11	18.7	15
Approach		128	1008	0.127	6.8	LOS A	16	1.11	18.7	15
All Vehicles		972	8040	0.236	4.7	LOS A	33	0.79	27.2	100

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Movement Summary



Cordera Crest/Old Ranch

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NW Bound Cordera Crest										
72	L	22	125	0.176	8.1	LOS A	27	1.26	22.3	2
71	T	342	1948	0.176	3.2	LOS A	27	0.69	28.3	28
73	R	27	159	0.176	5.6	LOS A	27	1.04	26.3	3
Approach		393	2232	0.176	3.6	LOS A	27	0.75	27.8	33
SW Bound Old Ranch										
62	L	22	894	0.160	6.9	LOS A	21	1.18	26.9	16
62	T	11	894	0.160	6.9	LOS A	21	1.18	26.9	16
62	R	109	894	0.160	6.9	LOS A	21	1.18	26.9	16
Approach		143	894	0.160	6.9	LOS A	21	1.18	26.9	16
SE Bound Cordera Crest										
82	L	217	1064	0.204	11.0	LOS B	28	1.27	25.1	30
81	T	293	1441	0.204	1.7	LOS A	28	0.38	31.8	28
83	R	187	916	0.204	4.2	LOS A	28	0.80	28.6	15
Approach		698	3421	0.204	5.3	LOS A	28	0.77	28.4	73
NE Bound TAZ B										
52	L	155	912	0.219	7.9	LOS A	31	1.29	18.4	23
52	T	11	912	0.219	7.9	LOS A	31	1.29	18.4	23
52	R	32	912	0.219	7.9	LOS A	31	1.29	18.4	23
Approach		200	912	0.219	7.9	LOS A	31	1.29	18.4	23
All Vehicles		1434	7459	0.219	5.4	LOS A	31	0.88	26.5	145

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HCM Unsignalized Intersection Capacity Analysis
 8: TAZs B & F & Cordera Crest Pkwy.

2030 Total Traffic
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	1	10	4	1	27	2	175	1	9	235	10
Peak Hour Factor	0.75	0.60	0.70	0.60	0.60	0.80	0.60	0.95	0.60	0.65	0.95	0.70
Hourly flow rate (vph)	20	2	14	7	2	34	3	184	2	14	247	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	416	475	131	358	481	93	262			186		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	416	475	131	358	481	93	262			186		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	98	99	100	96	100			99		
cM capacity (veh/h)	496	481	894	556	477	946	1300			1386		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	42	3	123	63	14	165	97
Volume Left	20	7	3	0	0	14	0	0
Volume Right	14	34	0	0	2	0	0	14
cSH	602	823	1300	1700	1700	1386	1700	1700
Volume to Capacity	0.06	0.05	0.00	0.07	0.04	0.01	0.10	0.06
Queue Length 95th (ft)	5	4	0	0	0	1	0	0
Control Delay (s)	11.4	9.6	7.8	0.0	0.0	7.6	0.0	0.0
Lane LOS	B	A	A			A		
Approach Delay (s)	11.4	9.6	0.1			0.4		
Approach LOS	B	A						

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
 8: TAZs B & F & Cordera Crest Pkwy.

2030 Total Traffic
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	1	15	3	1	18	6	330	5	30	250	40
Peak Hour Factor	0.70	0.60	0.75	0.60	0.60	0.75	0.65	0.95	0.65	0.80	0.95	0.85
Hourly flow rate (vph)	14	2	20	5	2	24	9	347	8	38	263	47
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	579	735	155	597	755	178	310			355		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	735	155	597	755	178	310			355		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	98	99	99	97	99			97		
cM capacity (veh/h)	374	332	863	365	323	835	1247			1200		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	31	9	232	123	38	175	135
Volume Left	14	5	9	0	0	38	0	0
Volume Right	20	24	0	0	8	0	0	47
cSH	542	644	1247	1700	1700	1200	1700	1700
Volume to Capacity	0.07	0.05	0.01	0.14	0.07	0.03	0.10	0.08
Queue Length 95th (ft)	5	4	1	0	0	2	0	0
Control Delay (s)	12.1	10.9	7.9	0.0	0.0	8.1	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	12.1	10.9	0.2			0.9		
Approach LOS	B	B						

Intersection Summary		
Average Delay		1.5
Intersection Capacity Utilization	26.0%	ICU Level of Service A
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis
 11: TAZ G & Cordera Crest Pkwy.

2030 Total Traffic
 AM Peak Hour



Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	↙		↘	↕	↕	↕
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	16	33	11	240	145	5
Peak Hour Factor	0.75	0.85	0.70	0.95	0.95	0.65
Hourly flow rate (vph)	21	39	16	253	153	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	314	80	160			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	80	160			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	96	99			
cM capacity (veh/h)	647	964	1416			

Direction, Lane #	SB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	60	16	126	126	102	59
Volume Left	21	16	0	0	0	0
Volume Right	39	0	0	0	0	8
cSH	821	1416	1700	1700	1700	1700
Volume to Capacity	0.07	0.01	0.07	0.07	0.06	0.03
Queue Length 95th (ft)	6	1	0	0	0	0
Control Delay (s)	9.7	7.6	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.7	0.4			0.0	
Approach LOS	A					

Intersection Summary		
Average Delay		1.4
Intersection Capacity Utilization	19.1%	ICU Level of Service A
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis
 11: TAZ G & Cordera Crest Pkwy.

2030 Total Traffic
 PM Peak Hour



Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations	↘		↙	↑↑	↑↑	↑↑
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	10	21	37	230	320	17
Peak Hour Factor	0.70	0.80	0.85	0.95	0.95	0.75
Hourly flow rate (vph)	14	26	44	242	337	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	556	180	360			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	556	180	360			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	97	96			
cM capacity (veh/h)	444	832	1196			

Direction, Lane #	SB 1	SE 1	SE 2	SE 3	NW 1	NW 2
Volume Total	41	44	121	121	225	135
Volume Left	14	44	0	0	0	0
Volume Right	26	0	0	0	0	23
cSH	636	1196	1700	1700	1700	1700
Volume to Capacity	0.06	0.04	0.07	0.07	0.13	0.08
Queue Length 95th (ft)	5	3	0	0	0	0
Control Delay (s)	11.0	8.1	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.0	1.2	0.0			
Approach LOS	B					

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
 13: Cordera Crest Pkwy. & TAZ C

2030 Total Traffic
 AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑		↑	↑↑	↑↑	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	230	25	25	145	5	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	250	27	27	158	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			277		397	139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			277		397	139
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	99
cM capacity (veh/h)			1283		568	884

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NW 3	NE 1
Volume Total	167	111	27	79	79	11
Volume Left	0	0	27	0	0	5
Volume Right	0	27	0	0	0	5
cSH	1700	1700	1283	1700	1700	692
Volume to Capacity	0.10	0.07	0.02	0.05	0.05	0.02
Queue Length 95th (ft)	0	0	2	0	0	1
Control Delay (s)	0.0	0.0	7.9	0.0	0.0	10.3
Lane LOS			A			B
Approach Delay (s)	0.0		1.2			10.3
Approach LOS						B

Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			23.8%		ICU Level of Service A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Cordera Crest Pkwy. & TAZ C

2030 Total Traffic
 PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑		↵	↑↑	↵	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	235	7	7	315	20	25
Peak Hour Factor	0.95	0.65	0.65	0.95	0.80	0.80
Hourly flow rate (vph)	247	11	11	332	25	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			258			440 129
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			258			440 129
tC, single (s)			4.1			6.8 6.9
tC, 2 stage (s)						
tF (s)			2.2			3.5 3.3
p0 queue free %			99			95 97
cM capacity (veh/h)			1304			541 897
Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NW 3	NE 1
Volume Total	165	93	11	166	166	56
Volume Left	0	0	11	0	0	25
Volume Right	0	11	0	0	0	31
cSH	1700	1700	1304	1700	1700	694
Volume to Capacity	0.10	0.05	0.01	0.10	0.10	0.08
Queue Length 95th (ft)	0	0	1	0	0	7
Control Delay (s)	0.0	0.0	7.8	0.0	0.0	10.6
Lane LOS			A			B
Approach Delay (s)	0.0	0.2				10.6
Approach LOS					B	
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			18.7%	ICU Level of Service		A
Analysis Period (min)			15			

Movement Summary



Cordera Crest/TAZs C & H

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NW Bound Cordera Crest										
72	L	170	1780	0.095	6.4	LOS A	12	1.06	25.3	18
71	T	158	1654	0.095	1.7	LOS A	12	0.35	32.4	15
73	R	9	105	0.095	4.1	LOS A	12	0.74	29.8	1
Approach		336	3540	0.095	4.1	LOS A	12	0.72	28.3	34
SW Bound TAZ H										
62	L	26	999	0.043	9.4	LOS A	5	1.18	22.3	4
62	T	1	999	0.043	9.4	LOS A	5	1.18	22.3	4
62	R	14	999	0.043	9.4	LOS A	5	1.18	22.3	4
Approach		43	999	0.043	9.4	LOS A	5	1.18	22.3	4
SE Bound Cordera Crest										
82	L	4	50	0.100	11.5	LOS B	14	1.29	21.4	1
81	T	147	1482	0.099	2.3	LOS A	14	0.50	28.3	10
83	R	104	1049	0.099	4.6	LOS A	14	0.89	23.6	5
Approach		256	2581	0.099	3.4	LOS A	14	0.67	26.3	15
NE Bound TAZ C										
52	L	12	1095	0.034	3.5	LOS A	4	0.64	19.8	4
52	T	1	1095	0.034	3.5	LOS A	4	0.64	19.8	4
52	R	22	1095	0.034	3.5	LOS A	4	0.64	19.8	4
Approach		37	1095	0.034	3.5	LOS A	4	0.64	19.8	4
All Vehicles		672	8216	0.100	4.2	LOS A	14	0.73	26.8	57

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Movement Summary



Cordera Crest/TAZs C & H

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NW Bound Cordera Crest										
72	L	27	261	0.107	6.7	LOS A	14	1.07	24.8	3
71	T	250	2328	0.107	1.9	LOS A	14	0.42	31.2	24
73	R	29	279	0.108	4.4	LOS A	14	0.79	29.0	3
Approach		308	2869	0.107	2.6	LOS A	14	0.51	30.3	30
SW Bound TAZ H										
62	L	16	954	0.030	9.3	LOS A	4	1.17	22.3	3
62	T	1	954	0.030	9.3	LOS A	4	1.17	22.3	3
62	R	10	954	0.030	9.3	LOS A	4	1.17	22.3	3
Approach		29	954	0.030	9.3	LOS A	4	1.17	22.3	3
SE Bound Cordera Crest										
82	L	15	195	0.082	11.0	LOS B	10	1.27	22.1	2
81	T	250	3048	0.082	1.7	LOS A	10	0.37	30.4	16
83	R	16	207	0.082	4.1	LOS A	10	0.79	25.1	1
Approach		283	3451	0.082	2.4	LOS A	10	0.44	29.4	18
NE Bound TAZ C										
52	L	92	1122	0.211	4.2	LOS A	28	0.80	19.4	25
52	T	1	1122	0.211	4.2	LOS A	28	0.80	19.4	25
52	R	145	1122	0.211	4.2	LOS A	28	0.80	19.4	25
Approach		237	1122	0.211	4.2	LOS A	28	0.80	19.4	25
All Vehicles		857	8396	0.211	3.2	LOS A	28	0.59	26.3	76

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HCM Unsignalized Intersection Capacity Analysis
 18: Cordera Crest Pkwy. & TAZ D

2030 Total Traffic
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	160	17	67	305	2	9
Peak Hour Factor	0.95	0.75	0.85	0.95	0.60	0.65
Hourly flow rate (vph)	168	23	79	321	3	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			191			498
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191			498
tC, single (s)			4.1			6.8
tC, 2 stage (s)						
tF (s)			2.2			3.5
p0 queue free %			94			99
cM capacity (veh/h)			1380			473

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	112	79	79	161	161	17
Volume Left	0	0	79	0	0	3
Volume Right	0	23	0	0	0	14
cSH	1700	1700	1380	1700	1700	790
Volume to Capacity	0.07	0.05	0.06	0.09	0.09	0.02
Queue Length 95th (ft)	0	0	5	0	0	2
Control Delay (s)	0.0	0.0	7.8	0.0	0.0	9.7
Lane LOS			A			A
Approach Delay (s)	0.0		1.5			9.7
Approach LOS						A

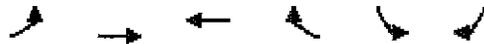
Intersection Summary			
Average Delay			1.3
Intersection Capacity Utilization	22.0%		ICU Level of Service
Analysis Period (min)	15		A



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	375	4	20	260	21	84
Peak Hour Factor	0.95	0.60	0.75	0.95	0.80	0.90
Hourly flow rate (vph)	395	7	27	274	26	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			401		588	201
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			401		588	201
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	88
cM capacity (veh/h)			1154		430	807
Direction Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	263	138	27	137	137	120
Volume Left	0	0	27	0	0	26
Volume Right	0	7	0	0	0	93
cSH	1700	1700	1154	1700	1700	676
Volume to Capacity	0.15	0.08	0.02	0.08	0.08	0.18
Queue Length 95th (ft)	0	0	2	0	0	16
Control Delay (s)	0.0	0.0	8.2	0.0	0.0	11.5
Lane LOS			A			B
Approach Delay (s)	0.0		0.7			11.5
Approach LOS						B
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			29.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 19: Cordera Crest Pkwy. & TAZ I

2030 Total Traffic
 AM Peak Hour



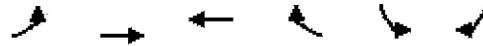
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	165	365	10	31	8
Peak Hour Factor	0.60	0.95	0.95	0.70	0.80	0.65
Hourly flow rate (vph)	5	174	384	14	39	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	398				488	199
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398				488	199
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	98
cM capacity (veh/h)	1157				506	808

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	5	87	87	256	142	51
Volume Left	5	0	0	0	0	39
Volume Right	0	0	0	0	14	12
cSH	1157	1700	1700	1700	1700	557
Volume to Capacity	0.00	0.05	0.05	0.15	0.08	0.09
Queue Length 95th (ft)	0	0	0	0	0	8
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	12.1
Lane LOS	A			B		
Approach Delay (s)	0.2			12.1		
Approach LOS				B		

Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization	20.4%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 19: Cordera Crest Pkwy. & TAZ I

2030 Total Traffic
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	450	275	35	21	5
Peak Hour Factor	0.65	0.95	0.95	0.85	0.80	0.65
Hourly flow rate (vph)	14	474	289	41	26	8

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type None

Median storage (veh)

Upstream signal (ft)

pX, platoon unblocked

vC, conflicting volume	331				575	165
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	331				575	165
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	99
cM capacity (veh/h)	1226				444	850

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	14	237	237	193	138	34
Volume Left	14	0	0	0	0	26
Volume Right	0	0	0	0	41	8
cSH	1226	1700	1700	1700	1700	498
Volume to Capacity	0.01	0.14	0.14	0.11	0.08	0.07
Queue Length 95th (ft)	1	0	0	0	0	5
Control Delay (s)	8.0	0.0	0.0	0.0	0.0	12.8
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		12.8
Approach LOS						B

Intersection Summary

Average Delay	0.6
Intersection Capacity Utilization	22.4%
ICU Level of Service	A
Analysis Period (min)	15

Movement Summary



Cordera Crest/TAZs E & J

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NW Bound Cordera Crest										
72	L	245	1352	0.181	6.5	LOS A	24	1.05	19.1	16
71	T	364	2009	0.181	1.7	LOS A	25	0.37	29.2	18
73	R	20	110	0.182	4.1	LOS A	25	0.79	21.9	1
Approach		629	3471	0.181	3.6	LOS A	25	0.65	24.0	34
SW Bound TAZ J										
62	L	58	850	0.088	7.9	LOS A	11	1.27	17.8	7
62	T	7	850	0.088	7.9	LOS A	11	1.27	17.8	7
62	R	9	850	0.088	7.9	LOS A	11	1.27	17.8	7
Approach		75	850	0.088	7.9	LOS A	11	1.27	17.8	7
SE Bound Cordera Crest										
82	L	3	43	0.093	7.6	LOS A	13	1.17	22.6	0
81	T	152	1647	0.092	2.8	LOS A	13	0.60	28.9	12
83	R	60	650	0.092	5.1	LOS A	13	0.97	25.6	4
Approach		216	2341	0.092	3.5	LOS A	13	0.71	27.9	17
NE Bound TAZ E										
52	L	33	1110	0.102	3.4	LOS A	13	0.65	19.7	9
52	T	2	1110	0.102	3.4	LOS A	13	0.65	19.7	9
52	R	76	1110	0.102	3.4	LOS A	13	0.65	19.7	9
Approach		113	1110	0.102	3.4	LOS A	13	0.65	19.7	9
All Vehicles		1033	7772	0.182	3.9	LOS A	25	0.71	23.9	66

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Movement Summary



Cordera Crest/TAZs E & J

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NW Bound Cordera Crest										
72	L	201	1248	0.161	6.6	LOS A	22	1.05	18.8	13
71	T	266	1651	0.161	1.8	LOS A	22	0.39	28.3	13
73	R	65	403	0.161	4.3	LOS A	22	0.82	21.3	2
Approach		532	3302	0.161	3.9	LOS A	22	0.70	23.1	29
SW Bound TAZ J										
62	L	38	871	0.057	7.5	LOS A	7	1.19	17.9	4
62	T	4	871	0.057	7.5	LOS A	7	1.19	17.9	4
62	R	5	871	0.057	7.5	LOS A	7	1.19	17.9	4
Approach		50	871	0.057	7.5	LOS A	7	1.19	17.9	4
SE Bound Cordera Crest										
82	L	10	54	0.204	7.4	LOS A	30	1.17	22.7	1
81	T	446	2207	0.202	2.5	LOS A	31	0.55	29.1	36
83	R	60	297	0.202	4.9	LOS A	31	0.96	25.8	4
Approach		517	2559	0.202	2.9	LOS A	31	0.61	28.6	41
NE Bound TAZ E										
52	L	65	924	0.244	4.6	LOS A	32	0.96	18.8	17
52	T	8	924	0.244	4.6	LOS A	32	0.96	18.8	17
52	R	152	924	0.244	4.6	LOS A	32	0.96	18.8	17
Approach		225	924	0.244	4.6	LOS A	32	0.96	18.8	17
All Vehicles		1324	7656	0.244	3.8	LOS A	32	0.73	24.6	92

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Movement Summary



Cordera Crest/Union

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NB Cordera Crest										
32	L	82	751	0.109	13.0	LOS B	15	1.61	18.4	10
31	T	16	156	0.109	5.8	LOS A	15	1.29	21.4	1
33	R	49	449	0.109	7.1	LOS A	14	1.39	20.1	4
Approach		148	1355	0.109	10.2	LOS B	15	1.50	19.2	16
WB Union										
22	L	43	144	0.306	11.2	LOS B	52	1.51	21.6	5
21	T	435	1421	0.306	4.8	LOS A	54	1.03	27.1	37
23	R	109	356	0.306	7.0	LOS A	54	1.28	25.4	10
Approach		588	1920	0.306	5.7	LOS A	54	1.11	26.3	52
SB Cordera Crest										
42	L	103	785	0.131	12.9	LOS B	16	1.49	19.9	11
41	T	11	91	0.132	4.3	LOS A	16	0.96	22.5	1
43	R	174	1055	0.164	5.8	LOS A	21	1.09	23.3	12
Approach		288	1931	0.164	8.3	LOS A	21	1.23	21.7	23
EB Union										
12	L	505	1215	0.416	11.4	LOS B	72	1.28	20.6	52
11	T	712	1713	0.416	2.3	LOS A	72	0.49	27.4	42
13	R	76	185	0.416	3.4	LOS A	72	0.74	23.4	4
Approach		1294	3113	0.416	5.9	LOS A	72	0.81	23.7	97
All Vehicles		2318	8320	0.416	6.4	LOS A	72	0.98	23.8	188

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Movement Summary



Cordera Crest/Union

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	Cap (veh/h)	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Eff. Stop Rate	Aver Speed (mi/h)	Oper Cost (\$/h)
NB Cordera Crest										
32	L	152	606	0.251	15.2	LOS B	36	1.81	17.4	19
31	T	16	71	0.239	8.6	LOS A	31	1.52	19.3	2
33	R	92	388	0.240	9.8	LOS A	31	1.59	18.3	9
Approach		262	1065	0.251	12.9	LOS B	36	1.71	17.8	29
WB Union										
22	L	71	163	0.429	11.2	LOS B	76	1.54	21.6	7
21	T	663	1541	0.430	4.7	LOS A	79	1.02	27.0	57
23	R	125	290	0.431	6.9	LOS A	79	1.31	25.4	12
Approach		858	1994	0.430	5.6	LOS A	79	1.10	26.2	76
SB Cordera Crest										
42	L	168	566	0.297	15.0	LOS B	37	1.74	18.9	18
41	T	22	74	0.297	6.4	LOS A	37	1.40	21.3	1
43	R	446	875	0.510	8.5	LOS A	87	1.64	21.8	32
Approach		636	1515	0.510	10.1	LOS B	87	1.66	20.8	51
EB Union										
12	L	391	746	0.524	12.0	LOS B	103	1.34	20.1	40
11	T	951	1814	0.524	2.9	LOS A	103	0.63	25.9	58
13	R	114	217	0.525	4.2	LOS A	100	0.91	22.1	5
Approach		1456	2777	0.524	5.4	LOS A	103	0.84	23.5	104
All Vehicles		3212	7350	0.525	7.0	LOS A	103	1.14	23.1	260

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HCM Unsignalized Intersection Capacity Analysis
 26: TAZ E RI/RO & Union Blvd

2030 Total Traffic
 AM Peak Hour

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	15	0	0	70	0	1175	140	0	565	70
Peak Hour Factor	0.60	0.60	0.75	0.60	0.60	0.85	0.60	0.95	0.95	0.60	0.95	0.85
Hourly flow rate (vph)	0	0	20	0	0	82	0	1237	147	0	595	82
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1617	1914	618	1233	1979	297	677			1384		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1617	1914	618	1233	1979	297	677			1384		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	95	100	100	88	100			100		
cM capacity (veh/h)	61	67	432	127	61	699	911			491		

Direction, Lane #	NB 1	SB 1	NE 1	NE 2	NE 3	SW 1	SW 2	SW 3
Volume Total	20	82	618	618	147	297	297	82
Volume Left	0	0	0	0	0	0	0	0
Volume Right	20	82	0	0	147	0	0	82
cSH	432	699	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.05	0.12	0.36	0.36	0.09	0.17	0.17	0.05
Queue Length 95th (ft)	4	10	0	0	0	0	0	0
Control Delay (s)	13.7	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	13.7	10.8	0.0			0.0		
Approach LOS	B	B						

Intersection Summary		
Average Delay		0.5
Intersection Capacity Utilization	42.5%	ICU Level of Service A
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis
 26: TAZ E RI/RO & Union Blvd

2030 Total Traffic
 PM Peak Hour



Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations			↗			↗		↕	↗		↕	↗
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	35	0	0	190	0	1305	215	0	1095	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	38	0	0	207	0	1418	234	0	1190	71
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2220	2679	709	1938	2842	595	1261			1652		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2220	2679	709	1938	2842	595	1261			1652		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	54	100			100		
cM capacity (veh/h)	13	22	376	35	17	447	547			387		

Direction, Lane #	NB 1	SB 1	NE 1	NE 2	NE 3	SW 1	SW 2	SW 3
Volume Total	38	207	709	709	234	595	595	71
Volume Left	0	0	0	0	0	0	0	0
Volume Right	38	207	0	0	234	0	0	71
cSH	376	447	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.46	0.42	0.42	0.14	0.35	0.35	0.04
Queue Length 95th (ft)	8	60	0	0	0	0	0	0
Control Delay (s)	15.6	19.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	C						
Approach Delay (s)	15.6	19.8	0.0			0.0		
Approach LOS	C	C						

Intersection Summary	
Average Delay	1.5
Intersection Capacity Utilization	48.7%
ICU Level of Service	A
Analysis Period (min)	15