



Provide cover sheet
with traffic engineer's &
developer's statements

Provide table of contents

LSC TRANSPORTATION CONSULTANTS, INC.
2504 E. Pikes Peak Ave., Suite 304
Colorado Springs, CO 80909
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lscctrans.com
Website: <http://www.lscctrans.com>

April 30, 2023

Nathan Steele
Senior Vice President of Western Region
ROI Property Group, LLC

RE: Saddlehorn Ranch Filing No. 3
El Paso County, CO
Traffic Impact Study
LSC #S224541
PCD FILE NO. SF-23-004

Dear Mr. Steele,

LSC Transportation Consultants, Inc. has prepared this traffic impact study for Saddlehorn Ranch Filing No. 3. Filing No. 3 is part of the greater 824-acre Saddlehorn Ranch residential development located southeast of the intersection of Curtis Road and Judge Orr Road in El Paso County, Colorado. The development includes 2.5-acre single-family residential lots. Figure 1 shows the location of the development. Access is proposed to Curtis Road and Judge Orr Road. This report follows our prior TIS report for the Preliminary Plan, and Filing No. 2 report, and is part of the Filing No. 3 Final Plat submittal to the County.

REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on major thoroughfares adjacent to the site, including surface conditions, functional classification, widths, pavement markings, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes;
- Review of the roadway improvement plans for the adjacent arterial roads;
- Review of other recent LSC traffic reports completed in the area;
- Updated weekday peak-hour turning-movement traffic counts at several of the major intersections in the area;
- Estimated average weekday traffic (ADT) volumes on Falcon Highway, Curtis Road, Judge Orr Road, and US Highway 24 (US Hwy 24);
- Projections of 20-year background traffic volumes at the study-area intersections and on Falcon Highway, Curtis Road, Judge Orr Road, and US Hwy 24;
- The proposed site land use and access plan;

- Estimates of average weekday and weekday peak-hour trip generation for the Filing No. 3 residential development and the estimated directional distribution of site-generated vehicle trips on roadways and intersections adjacent to and in the vicinity of the site;
- Projected site-generated and resulting total peak-hour intersection traffic volumes at the following “study-area” intersections:
 - Falcon Highway/Curtis Road
 - Curtis Road/Judge Orr Road
 - Judge Orr Road/Del Cambre Trail
 - Judge Orr/Barrosito Trail
 - Curtis Road/Benito Wells Trail
 - Curtis Road/Oscuro Trail (Filing 1 and 2 intersection)
 - US Highway 24/Stapleton Road
- Intersection level of service analysis at the study-area intersections;
- Evaluation of the short- and long-term projected intersection volumes to determine, for Filing No. 3, requirements for any auxiliary right-/left-turn lanes at the proposed site-access points, based on the criteria in El Paso County’s Engineering Criteria Manual (ECM). Also included are potential long-term lane requirements;
- Findings and recommendations for Filing No. 3 relative to those identified in the Preliminary Plan TIS. This report includes a modified version improvements table from the Preliminary Plan report. This modified version focuses on Filing No. 3 improvements; and
- CDOT process and requirements for Filing No. 3, specifically for the US Hwy 24/Stapleton intersection.

LIST OF OTHER TRAFFIC REPORTS USED IN THE PREPARATION OF THIS REPORT

The following previously-completed traffic reports were referenced when the preparing this report:

- Saddlehorn Ranch Preliminary Plan TIS – dated March 11, 2020
- Saddlehorn Ranch (Filing 2 Memo) – dated February 6, 2023
- Meadowlake Industrial Park Rezone TIS report – dated July 29, 2022

LAND USE AND ACCESS

Figure 1 shows a vicinity map of the Filing No. 3 site location and study area. The site is located south of Judge Orr Road and east of Curtis Road. The greater 824-acre Saddlehorn Ranch development is also shown for reference. Saddlehorn at buildout of all five filings is planned to contain a total of 218 single-family residential lots. The following is a summary of the lot count by subdivision filing:

- Filing 1 – 49 dwelling units
- Filing 2 – 42 dwelling units
- Filing 3 – 44 dwelling units (this application)
- Filing 4 – 42 dwelling units
- Filing 5 – 41 dwelling units

Figure 2 shows the planned access points (subdivision road connections) to the existing, adjacent arterial roads for Filing No. 3. Four full-movement access points are planned for the overall development (not including a potential future local road connection to the parcel to the south of Saddlehorn):

- Barrosito Trail – 1,320 feet east of Curtis Road/Judge Orr
- Del Cambre Trail – 2,750 feet east of Curtis Road/Judge Orr (1,430 feet east of Barrosito Trail)
- Benito Wells Trail – 2,750 feet south of Curtis Road/Judge Orr (1,430 feet north of Oscuro Trail)
- Oscuro Trail (Primarily serving Filing Nos. 1 and 2) – 5,280 feet south of Curtis Road/Judge Orr (1,430 feet north of Richland Drive, the proposed north site access to Meadowlake Industrial Park development to the south)

Filing No. 1 has been approved and Filing No. 2 is currently in the County review process. Filing Nos. 4 and 5 are likely to be submitted in the short-term future.

Figure 3 shows the subdivision roadways to be constructed with each filing.

The proposed Filing No. 3 lot and street layout is shown in Figure 2 and generally matches/conforms to the Preliminary Plan. Filing No. 3 traffic will primarily utilize Barrosito Trail and Del Cambre Trail to access Judge Orr Road, and Benito Wells Trail to access Curtis Road. A copy of the plat is attached for reference.

Subdivision roads will be constructed to Rural Local standards, so sidewalks would not be required. No trail connections are shown on the site plan. A Park 'n Ride facility is located approximately 4.5 miles southwest of the site near US Hwy 24/New Meridian Road. The nearest school (Falcon High School) is located approximately 3.5 miles northwest of the site.

Roadway construction plans for Curtis Road adjacent to Filings 1 and 2 were previously prepared, submitted, and approved (in the case of Filing No. 1). Filing No. 3 roadway improvement plans for the adjacent sections of Curtis Road and Judge Orr Road are included with this Filing No. 3 submittal (by JR Engineering).

Intersection sight distance must meet *ECM* criteria at all subdivision street intersections.

ROAD AND TRAFFIC CONDITIONS AND *MTCP* CLASSIFICATION

Figure 1 shows the roads adjacent to and in the vicinity of the site. Key study-area roads serving the site are identified below followed by a brief description of each:

Judge Orr Road is a two-lane roadway that extends east from Eastonville Road across most of El Paso County. It is shown on the *El Paso County 2040 Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan* as a four-lane Minor Arterial west of Curtis Road. Posted speed limits range from 45 to 55 miles per hour (mph). West of Curtis Road, the speed limit is 45 mph. The limit increases to 55 mph east of Curtis Road. The intersection of Curtis Road and Judge Orr

Road is two-way, stop-sign-controlled with the stop signs on the northbound and southbound approaches. The intersection of US Hwy 24/Judge Orr Road is signalized. Due to the oblique angle of this intersection, the eastbound and westbound approaches are split-phased. The *US 24 Access Control Plan/PEL Study* shows future plans for realignment of Judge Orr at US Hwy 24 to improve the intersection and provide an intersection skew angle closer to 90 degrees.

Curtis Road is a two-lane roadway that extends south from the intersection of US Hwy 24/Stapleton Road intersection to Drennan Road. It is shown as a two-lane, rural Principal Arterial on El Paso County's *2040 Major Transportation Corridors Plan* and a four-lane Principal Arterial on the *Preserved Corridor Network Plan*. Adjacent to the site, the posted speed limit is 45 mph. Both intersections of Curtis Road/Judge Orr Road and Curtis Road/Falcon Highway are two-way, stop-sign-controlled. The newer section north of Judge Orr, which connects to Stapleton Drive, was constructed to current *ECM* standards with paved shoulders, etc. Generally, Curtis Road is an "unimproved," two-lane paved road between Judge Orr and Falcon Highway. Roadway construction plans for Curtis Road adjacent to Saddlehorn have been prepared (the plans for the segment adjacent to Filing No. 1 were approved). Please refer to the "deviations" section of this report for a brief discussion of the interim cross section to be constructed.

Existing Traffic Volumes

Vehicular-turning-movement counts were conducted at the study-area intersections. Figure 4 shows these turning-movement volumes, as well as the average weekday traffic volumes (estimated based on factored peak-hour count data) on the study-area roadways. Raw count data are attached.

- Curtis Road/Falcon Highway
 - Wednesday, April 20, 2022 from 6:30 – 8:30 a.m.
 - Wednesday, April 20, 2022 from 4:00 – 6:00 p.m.
- Curtis Road/Judge Orr Road
 - Thursday, April 21, 2022 from 6:30 – 8:30 a.m.
 - Thursday, April 21, 2022 from 4:00 – 6:00 p.m.
- US Hwy 24/Judge Orr Road
 - Tuesday, May 10, 2022 from 6:30 – 8:30 a.m.
 - Tuesday, May 10, 2022 from 4:00 – 6:00 p.m.
- US Hwy 24/Stapleton Drive
 - January 10, 2023 from 6:30 – 8:30 a.m.
 - January 10, 2023 from 4:00 – 6:00 p.m.

Existing Level of service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or

delay. LOS F indicates a high level of congestion or delay. Table 1 shows the level of service delay ranges for signalized and unsignalized intersections.

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	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

Level of service values for existing conditions have been included on Figure 4 for each turning movement/approach during the weekday morning and evening peak hours for the proposed site-access intersections and off-site intersections in the study area. Please refer to the figure and attached LOS reports for additional detail.

TRIP GENERATION

Estimates of the vehicle trips projected to be generated by the proposed Saddlehorn Ranch Filing No. 3 have been made using the nationally published trip-generation rates for land-use code “210 – Single-Family (Detached) Housing” from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE).

Filing No. 3

Forty-four dwelling units would be constructed in Filing No. 3. Resulting trip-generation estimates for Filing No. 3 are as follows:

- A.M. peak hour – 9 entering and 24 exiting trips
- P.M. peak hour – 28 entering and 16 exiting trips
- Daily 24-hour – 444 total trips, with half entering and half exiting

Table 2 below presents a summary of the estimated site trip generation for Filings 3. A detailed trip-generation estimate, including ITE rates for the proposed land use is presented in Table 5 (attached).

Table 2: Estimated Site Vehicle-Trip Generation

Filing 3			
Analysis Period	In	Out	Total
Morning Peak Hour	9	24	33
Afternoon Peak Hour	28	16	44
Daily 24-Hour	222	222	444

Prior and Future Filings and Overall Saddlehorn Buildout (for Reference)

Filing 4 – 42 Dwelling Units (Future – Not part of this application)

Filing 4 would consist of an additional 42 dwelling units to be constructed. Resulting trip-generation estimates for Filing 4 are as follows:

- A.M. peak hour – 8 entering and 23 exiting trips
- P.M. peak hour – 26 entering and 15 exiting trips
- Daily 24-hour – 424 total trips, with half entering and half exiting

Filing 5 – 41 Dwelling Units (Future – Not part of this application)

The final 41 dwelling units would be constructed during Filing 5. Resulting trip-generation estimates for Filing 5 are as follows:

- A.M. peak hour – 8 entering and 23 exiting trips
- P.M. peak hour – 26 entering and 15 exiting trips
- Daily 24-hour – 424 total trips, with half entering and half exiting

Overall Saddlehorn Development Buildout – 218 Dwelling Units

A total of 218 dwelling units are planned to be constructed by buildout of all Filings 1-5. Resulting trip-generation estimates for the residential development at buildout are as follows:

- A.M. peak hour – 42 entering and 120 exiting trips
- P.M. peak hour – 136 entering and 80 exiting trips
- Daily 24-hour – 2,200 total trips, with half entering and half exiting

A detailed trip-generation estimate, including ITE rates for all Saddlehorn filings is presented in Table 5 (attached).

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Directional Distribution

Figure 5 shows the estimated percentages of the short-term and long-term site-generated vehicle trips. These percentages have been taken from the Preliminary Plan TIS report.

Site-Generated Traffic

Short Term (Filing 3 Only)

Short-term site-generated traffic volumes have been estimated at the study-area intersections by applying the short-term directional-distribution percentages estimated by LSC (from Figure 5) to the trip-generation estimates (from Table 5). Figure 6 shows projected short-term site-generated traffic volumes for Filing 3 only during the weekday morning and evening peak hours, as well as the estimated average daily traffic volumes (ADTs). The volumes shown in Figure 6 reflect Filing No. 3-specific trip routing on the area roadway system between the site and directional distribution “gates” or trip origin/destination reference points.

Short Term (Filings 1-3 Combined)

Short-term site-generated traffic volumes for Filing 3 plus Filings 1 and 2. Filings 1-3 combined traffic volumes have been estimated at the study-area intersections by applying the short-term directional-distribution percentages estimated by LSC (from Figure 5) to the trip-generation estimates (from Table 5). Trip routing on the area roadway system between the site and directional distribution “gates” or trip origin/destination reference points is specific to each Filing. Figure 7 shows projected short-term site-generated traffic volumes for only Filings 1-3 combined during the weekday morning and evening peak hours, as well as the estimated average daily traffic volumes (ADTs). Site-generated traffic volumes in Figure 7 assume buildout of only the 135 dwelling units to be constructed during the short term for Filings 1-3 only.

Short Term (Filings 1-5 Combined – Saddlehorn Buildout – For Reference)

Short-term Saddlehorn buildout site-generated traffic volumes have been estimated at the study-area intersections by applying the short-term directional-distribution percentages estimated by LSC (from Figure 5) to the trip-generation estimates (from Table 5). Figure 8 shows projected short-term site-generated traffic volumes for all Filings 1-5 combined during the weekday morning and evening peak hours, as well as the estimated average daily traffic volumes (ADTs). Site-generated traffic volumes for Saddlehorn buildout in Figure 8 assume full buildout of all 218 dwelling units to be constructed during the short term for Filings 1-5 combined.

Long Term (Filings 1-5 Combined – Saddlehorn Buildout – For Reference)

Long-term site-generated traffic volumes have been estimated at the study-area intersections. The volumes have been calculated by applying the long-term directional-distribution percentages estimated by LSC (from Figure 5) to the trip-generation estimates (from Table 5). Figure 9 shows projected long-term site-generated traffic volumes for the weekday morning and evening peak hours. The figure also shows the estimated average daily traffic volumes (ADTs). Site-generated traffic volumes on Figure 9 assume full buildout of all 218 dwelling units during the long term.

Short-Term Total Traffic Volumes

Figure 10 shows the sum of the existing traffic volumes (from Figure 4) and short-term site-generated peak-hour traffic volumes (shown in Figure 8). These volumes represent the projected short-term total traffic following full site buildout of Filings 1-5. Laneage and traffic control at the study-area intersections following short-term site buildout are shown in Figure 10.

2043 Background Traffic Volumes

The 2042 background traffic volumes, shown in Figure 11, are generally based on the projections presented in the Preliminary Plan report, but adjustments have been made, including adjustments based on more recent traffic count data and projections in LSC's recent *Meadowlake Industrial Park* report (dated July 29, 2022). Traffic projected for Saddlehorn Ranch (all Filings) is **not** included in the 2043 **background** traffic volumes.

2043 Total Traffic Volumes

Figure 12 shows the sum of 2043 background traffic volumes (from Figure 11) plus long-term site-generated traffic volumes (from Figure 9).

LEVEL OF SERVICE ANALYSIS

LOS values have been included on each figure for each turning movement/approach during the weekday morning and evening peak hours for the proposed site-access intersections and off-site intersections in the study area:

- Figure 4: Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 10: Existing + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 11: 2043 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 12: 2043 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

LOS calculations for long-term scenarios were based upon the recommended lane geometries and traffic controls outlined in the figures above.

Judge Orr Road/Barrosito Trail

All individual turning movements and approaches at this stop-sign-controlled intersection are projected to operate at LOS D or better through 2043 during both peak hours.

Judge Orr Road/Del Cambre Trail

All individual turning movements and approaches at this stop-sign-controlled intersection are projected to operate at LOS B or better through 2043 during both peak hours.

Curtis Road/Benito Wells Trail

All individual turning movements and approaches at this stop-sign-controlled intersection are projected to operate at LOS C or better through 2043 during both peak hours.

Judge Orr Road/Curtis Road

Short Term

Currently, all individual approaches/turning movements at the intersection of Judge Orr/Curtis operate at LOS B or better during both peak hours. All individual turning movements are projected to operate at LOS C or better during the short-term with the addition of Saddlehorn Filing Nos. 1-5 site-generated traffic (two-way stop-sign-controlled (TWSC) intersection).

Long Term

Assuming the intersection of Judge Orr/Curtis is converted from TWSC to a two-lane roundabout in the future, all individual turning movements would operate at LOS B or better during both peak hours of the long-term buildout scenario. This intersection improvement was previously recommended in the *Saddlehorn Ranch* traffic study. Additionally, eastbound and westbound approaches on Judge Orr Road and the southbound approach on Curtis Road are assumed to be two through lanes in each direction (per the 2040 *MTCP*).

Falcon Highway/Curtis Road

Short Term

All individual approaches/turning movements at the intersection of Falcon Highway/Curtis Road currently operate at LOS C or better and would remain LOS D or better during both peak hours with the addition of short-term site-generated traffic.

Long Term

Assuming the intersection of Falcon Highway/Curtis Road is converted from TWSC to a two-lane roundabout in the future, all individual turning movements would operate at LOS C or better during both peak hours of the long-term buildout scenario. This intersection improvement was previously recommended in the *Saddlehorn Ranch* traffic study. Additionally, the analysis assumes some two-lane approaches to the roundabout at the Falcon Highway/Curtis Road intersection proper, even though roadway links are shown to remain one through lane in each direction (per the 2040 *MTCP*).

AUXILIARY TURN-LANE ANALYSIS, INTERSECTION CONFIGURATION, AND TRAFFIC CONTROL

Please refer to the attached Roadway Improvements Table for details. The following provides a summary and discussion.

Auxiliary Turn-Lane Requirements

Auxiliary turn lanes at the access points and study-area intersections would be required to meet design criteria specified in El Paso County’s *Engineering Criteria Manual* (ECM Tables 2-24 and 2-27) or the Colorado State Highway Access Code (CDOT) for US Hwy 24 intersections.

Turn-Lane Criteria – El Paso County

Table 3 summarizes peak-hour auxiliary left- and right-turn lane thresholds according to *ECM* criteria. Roadway classifications for key County thoroughfares in the vicinity of the site include:

- Expressway – US Highway 24
- Principal Arterial – Curtis Road
- Minor Arterial – Judge Orr Road

Table 3: ECM Auxiliary Turn-Lane Thresholds by Functional Classification

Functional Classification	Deceleration Lanes		Acceleration Lanes	
	Left	Right	Left	Right
Expressway	Required	10+ vph	*	10+ vph
Principal Arterial	10+ vph	25+ vph	*	50+ vph
Minor Arterial and Lower	25+ vph	50+ vph	*	Generally not required
* May be required if the design would benefit safety and roadway operations Note: vph = vehicles per hour				

Based on projected volumes and *ECM* criteria summarized in Table 3 -, auxiliary turn lanes would be required for the following turning movements at the following study-area intersections.

Note: all recommended auxiliary turn lanes at these intersections have been based on the *ECM* design speed for the roadway’s classification, with adjustments for storage lengths and/or based on the more site-specific design speed of the adjacent roadway (if different from the *ECM* design speed by general roadway classification).

Curtis Road/Oscuro Trail

Filing No. 3 is not projected to add traffic to this intersection. Please refer to the traffic report for Filing No. 2 for turn-lane recommendations specific to this intersection. The northbound right

turn deceleration lane on Curtis Road (part of Curtis Road Filing No. 1 improvement) has not yet been constructed as of the date of this report.

Curtis Road/Benito Wells Trail

Southbound-Left Deceleration Lane

The projected Filing Nos. 1, 2 and 3 site-generated traffic volumes show a southbound-left turn volume over 10 vehicles per hour at Benito Wells Trail, the proposed Filing 2/3 Curtis Road access point. This is the threshold for a left-turn lane on a Principal Arterial. Based on the Preliminary Plan TIS, the Benito Wells Trail/Curtis Road intersection (Filing 2 & 3/north Curtis Road Access) would include a southbound left-turn lane. Based on a design speed of 50 mph, this 485-foot turn lane should consist of 235 feet of deceleration length, a 200-foot approach taper, 50 feet of storage, and a 45:1 redirect taper length. Construction plans show this auxiliary turn lane being constructed with Filing 2.

Northbound-Right Deceleration Lane

The projected northbound-right turning volume would not exceed the 25-vph threshold requiring a right-turn deceleration lane with the projected short-term, Filings 1, 2, and 3 turning-movement volumes. Construction plans show this auxiliary turn lane to be constructed with Filing No. 2. *ECM* turn-lane-length criteria based on a design speed of 50 mph shows a 435-foot turn lane consisting of 235 feet of deceleration length plus a 200-foot approach taper.

Judge Orr Road/Barrosito Trail

Based on projected short-term and long-term eastbound-right and westbound-left turning-movement volumes, no auxiliary turn lanes would be required at this proposed intersection (proposed site access). The Filing No. 3 construction plans show a right-turn deceleration lane at this intersection in case the actual volume (once developed) is higher than projected and exceeds the threshold requiring a turn lane.

Judge Orr Road/Del Cambre Trail

Based on projected short-term and long-term eastbound-right and westbound-left turning movement volumes, no auxiliary turn lanes would be required at this proposed intersection (proposed site access). The Filing No. 3 construction plans show a right-turn deceleration lane at this intersection in case the actual volume (once developed) is higher than projected and exceeds the threshold requiring a turn lane.

Judge Orr Road/Curtis Road

The intersection will likely require future improvements/upgrades, including AWSC, roundabout, or signal control, in order for all individual turning movements/approaches to operate at an acceptable level of service in the long-term. The development may be required to participate in future improvements or construct improvements. The intersection could potentially be converted to a modern roundabout in the future, as recommended in LSC's Preliminary Plan study for Saddlehorn and the *Meadowlake Industrial Park* (July 2022) traffic study.

All individual turning movements are projected to operate at LOS C or better during the short term for this project (assuming no traffic yet added by the proposed Meadowlake Industrial Park site to the southwest).

Note: The following future auxiliary turn-lane upgrade would not be required if a roundabout is selected as the ultimate traffic control in the future at the intersection of Judge Orr Road/Curtis Road. However, this auxiliary turn lane may be needed if two-way stop control remains the intermediate traffic-control condition or with future traffic-signal control:

- Eastbound right-turn deceleration lane
 - 290-foot deceleration lane
 - 240-foot approach taper
-

The current eastbound AM peak-hour right-turn volume exceeds the ECM-threshold right turning volume of 50 vph for which a right-turn lane is prescribed. The current eastbound PM peak-hour volume does not currently exceed this threshold. The existing-plus-Filing No. 1-5 site-generated eastbound PM peak-hour volume is not projected to exceed this threshold.

Regarding short- or intermediate-term need for this right-turn lane, Colorado State Highway Access Code Section 3.5 (5) has a provision stating:

"The auxiliary lanes required in the category design standards may be waived when the 20th year predicted roadway volumes conflicting with the turning vehicle are below the following minimum volume thresholds. The right turn deceleration lane may be dropped if the volume in the travel lane is predicted to be below 150 DHV."

Neither the AM nor PM peak-hour eastbound through volume is currently at the 150 vph level. For the existing-plus-Filings 1-5 traffic condition, the AM peak-hour eastbound through movement is not shown to exceed 150 and the PM peak-hour eastbound right-turn movement is not projected to exceed 50. However, the background intersection traffic movements are expected to increase over time, with either the PM peak-hour right-turn volume increasing to over 50, and/or the AM peak-hour through movement increasing to over 150.

The check for these thresholds could occur with future subdivision filings and a determination could be made at that time if this project should install the turn lane (with fee-program credit per fee-program provisions). Otherwise, each filing, including Filing No. 3, should escrow for pro rata share of this future improvement.

Falcon Highway/Curtis Road

The intersection will likely require future improvements/upgrades, including traffic control, in order for all individual turning movements/approaches to operate at an acceptable level of service in the long term. The development may be required to participate in future improvements or construct improvements. The intersection of Falcon Highway/Curtis Road could potentially be converted to a roundabout in the long term, as all approaches would operate at LOS D or better as shown in the analysis.

Note: The following auxiliary turn-lane **upgrades** would not be required if a roundabout were to be constructed at the intersection of Falcon Highway/Curtis Road. However, these auxiliary turn lanes may be needed as long as two-way stop-sign control remains the traffic control or with future traffic-signal control:

- Southbound right-turn deceleration lane (New Lane – with signal control or if needed for operations)
 - 235-foot deceleration lane
 - 200-foot approach taper
- Eastbound left-turn deceleration lane
 - 290-foot deceleration lane
 - 100 feet of storage length
 - 240-foot approach taper
 - 55:1 redirect taper length
- Westbound right-turn deceleration lane
 - 290-foot deceleration lane
 - 240-foot approach taper

Please refer to the attached Improvements Table for additional details.

ROADWAY CLASSIFICATIONS

All roadways within this subdivision filing should be classified as Rural Local.

ROADWAY SEGMENT IMPROVEMENTS

The segments of Curtis Road and Judge Orr Road adjacent to Filing No. 3 will be improved with this project, per the approved deviations (see the next section for details). Also, please refer to the Filing No. 3 construction plans. This project will be required to dedicate right-of-way along

the east side of Curtis Road and the south side of Judge Orr Road. Details are presented in Table 4 (attached) and shown in the construction drawings.

Please refer to the Filing No. 1 and Filing No. 2 construction drawing sets for plans for upgrades to Curtis Road adjacent to those respective subdivision filings.

Judge Orr Road Improvements

The construction plans for Judge Orr show construction of an additional eastbound lane and eastbound right turn deceleration lanes at the access points. This has been shown on the construction plans to complete the ½ section of the ultimate four-lane Minor Arterial cross section.

Curtis Road Improvements

The construction plans for Curtis Road with Filing No. 2 indicate that improvements will extend about 775 feet north of Benito Wells Trail and 1,100 feet south of Benito Wells Trail. Travel lanes will be 12-feet wide. The cross section will include 8-foot outside paved shoulder and 2-foot gravel shoulder along the east side of Curtis Road and a 2-foot outside paved shoulder and 2-foot gravel shoulder on the west side of Curtis Road.

Auxiliary turn lanes to be constructed with Filing No. 2 at the intersection of Benito Wells Trail/Curtis Road will include a northbound right-turn deceleration lane and a southbound left-turn deceleration lane.

Adjacent to the northbound right-turn lane on the east side of the roadway, there will be a 2-foot-wide outside paved shoulder and a 2-foot-wide gravel shoulder. The Curtis Road section which will include the southbound left-turn lane will have a cross section including 2-foot outside paved shoulders (both sides) and 2-foot gravel shoulders.

Internal Subdivision Roadways

All proposed internal roadways for Filing No. 3 should be constructed to Rural Local design standards.

DEVIATIONS

Approved Deviations

Curtis Road

A deviation (by JR Engineering, dated September 28, 2020) was approved for modification to the standard *ECM* cross section of Curtis Road, a Rural Two-Lane, Principal Arterial roadway (*ECM* Section 2.2.4 criteria). The *ECM* requires that Rural Principal Arterial cross-sections consist of 12-foot travel lanes with 8-foot paved, outside shoulders. The approved deviation shows the modified interim cross section with a 2-foot paved, outside shoulder on the west side of the roadway instead of an 8-foot shoulder, as this is the maximum that can fit within the existing western right-of-way (ROW) without needing to acquire additional ROW from the adjacent property owners. The east side of the roadway will be constructed with an 8-foot outside shoulder. Please refer to the attached approved deviation for more information.

Judge Orr Road

A deviation (by JR Engineering, dated September 4, 2020) was approved for modification to the standard *ECM* cross section of Judge Orr Road, which has a 2040 classification of Rural Four-Lane, Minor Arterial roadway (*ECM* Section 2.2.4 criteria). Although Judge Orr Road is shown as a four-lane Rural Minor Arterial in the 2040 *MTCP*, the *ECM* does not have a standard cross-section for this type of roadway functional classification. The deviation shows an interim four-lane Rural Minor Arterial cross-section with an additional eastbound 12-foot travel lane on the south side (Saddlehorn side).

Additional ROW would be required for completion of the full 4-lane section, but additional ROW is not available (not controlled by this development) on the north side of Judge Orr Road. Currently, Saddlehorn Ranch is dedicating an additional 40 feet of ROW to facilitate this in the future. Please refer to the attached deviation and deviation exhibit for more information.

New Deviation

Curtis Road & Falcon Highway Intersection - Eastbound Left Turn Lane Lengthening

A deviation to allow interim use of the existing lane and tapers and defer this improvement has been included with this resubmittal (based on short-term turning volumes /associated queue length). A copy of this deviation request is attached for reference. There is a drainage channel just to the west. The development would contribute a fair share escrow amount toward a future improvement.

expand on what the future improvement would encompass

Deviation request was not in appendix. Please include next submittal or revise statement

COUNTY ROAD IMPROVEMENT FEE PROGRAM

El Paso County Road Impact Fee Program

This project will be required to participate in the El Paso County Road Improvement Fee Program. Saddlehorn Filing No. 3 will select the “Opt-out” option (no PID) and would pay the “Full Fee” amount at building permit. The current (2019) fee amount associated with this option is **\$3,850** per dwelling unit (subject to change). Based on 44 lots, the total building permit fee for this plat would be \$169,400.

IMPROVEMENTS SUMMARY TABLE

Table 10 contained in the Preliminary Plan TIS report presented the roadway improvement recommendations including auxiliary turn lane needs, traffic control, anticipated right-of-way dedication, and corridor preservation. An updated/modified copy of that table, addressing items specific to the proposed Filing No. 3, is included in this report as Table 4.

Additionally, US Highway 24/Stapleton is planned to be signalized. This project will need to escrow funds for this future signal on a pro-rata basis. Curtis Road, Judge Orr Road, and Stapleton Road north of Curtis Road are shown to need roadway upgrades on the 2040 MTCP based on anticipated growth and the Stapleton extension to Briargate Parkway. The intersections of Curtis/Judge Orr and Curtis/Falcon Highway may need to be upgraded to roundabout or traffic-signal control by 2040. All-way, stop-sign control may be an interim option prior to ultimate signalization or roundabout control.

CDOT PROCESS AND REQUIREMENTS

- US Highway 24/Stapleton is planned to be signalized. The CDOT comment letter for Filing No. 2 indicates that the applicant will be required to escrow a fair share amount toward the future traffic signal at the US Hwy 24/Stapleton Road intersection for this subdivision filing. An access permit will be required to process the escrow.
LSC Note: There are a number of developments – in progress and future/planned - in the area which will also add traffic to this intersection and impact the four-hour warrant. As CDOT collects escrow for other developments, LSC recommends that as the collective impact trips (directly impacting the four-hour warrant volumes) by area developments begins to exceed the 60 vehicle-per-hour denominator, fair-share recalculation of pro-rata share escrow amounts and credit be provided to developments according to the updated fair-share calculations. Also, once the signal is installed, credit should be provided from the Countywide Fee Program based on a ratio of fee program unit signal cost divided by the \$700K signal cost.
- Please refer to the improvements table for detailed calculations and additional information.
- The CDOT comment letter for Filing No. 2 states the following: Section 2.6 of the State

Highway Access Code, states that if changes in land use, vehicle operation and access use from a state highway increase, an updated access permit will be required for the intersection US Hwy 24/Stapleton Road.

FINDINGS AND CONCLUSIONS

- Filing No. 3 is projected to generate about 444 vehicle trips on the average weekday.
- For Filing 3, during the weekday morning peak hour of adjacent street traffic, 9 vehicles would enter the site while 24 vehicles would exit.
- For Filing 3, during the weekday evening peak hour of adjacent street traffic, 28 vehicles would enter the site while 16 vehicles would exit.
- All Filing No. 3 proposed site accesses to Curtis Road and Judge Orr Road are projected to operate at LOS D or better during both peak hours through 2043. Please refer to the level of service section for additional information. The level of service analysis analyzes potential future roundabout traffic control at the intersections of Curtis Road/Judge Orr and Falcon Highway/Curtis Road during the long term. The roundabout may be needed in the future in order for all turning movements/approaches at the intersection to operate at an acceptable level of service (LOS D or better). . Signal control may also be an option. All-way, stop-sign control may be an interim option prior to ultimate signalization or roundabout control.
- Please refer to the Improvements Table for a detailed list of roadway system improvements.
- Please refer to the “Auxiliary Turn-Lane Analysis” section above and corresponding items in the improvements table for recommendations related to Filing No. 3.
- All subdivision streets within the site should be designed and constructed to meet Rural Local criteria prescribed in the ECM.
- Please refer to the “CDOT requirements” section above regarding the Stapleton/US Hwy 24 intersection.
- This project will be subject to participation in the El Paso County Road Impact Fee Program. This project will select the “Opt-out” option (no PID) and would pay the “Full Fee” amount at building permit. The current fee amount is \$3,850 per dwelling unit (subject to change). Based on 44 lots, the total building permit fee for this plat would be \$169,400.

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.
Principal

JCH/JAB:jas

Enclosures: **Table 4 - Table 5**
Figure 1 - Figure 12
Traffic Count Reports
Synchro LOS Reports
Approved Deviation (Curtis Road)
Approved Deviation (Judge Orr Road)
New Deviation (Left Turn Lane at Curtis/Falcon Highway)

Table 5: Detailed Trip Generation Estimate

Filing Number	Status	ITE		Inputs		Trip Generation Rates ²					Driveway Trips Generated					
		Code	Description	Values	Units ¹	Average Weekday	A.M.		P.M.		Average Weekday	A.M.		P.M.		
							In	Out	In	Out		In	Out	In	Out	
By Filing Number																
Filing 1	Approved	210	Single-Family (Detached) Housing	49	DU	10.09	0.19	0.55	0.63	0.37	494	9	27	31	18	
Filing 2	Under Review	210	Single-Family (Detached) Housing	42	DU	10.09	0.19	0.55	0.63	0.37	424	8	23	26	15	
Filing 3	This Report	210	Single-Family (Detached) Housing	44	DU	10.09	0.19	0.55	0.63	0.37	444	9	24	28	16	
Filing 4	Future	210	Single-Family (Detached) Housing	42	DU	10.09	0.19	0.55	0.63	0.37	424	8	23	26	15	
Filing 5	Future	210	Single-Family (Detached) Housing	41	DU	10.09	0.19	0.55	0.63	0.37	414	8	23	26	15	
			Total	218	DU						Total	2200	42	120	136	80
Cumulative by Filing Number																
Filing 1		210	Single-Family (Detached) Housing	49	DU	-	-	-	-	-	494	9	27	31	18	
Filings 1-2		210	Single-Family (Detached) Housing	91	DU	-	-	-	-	-	918	18	50	57	33	
Filings 1-3		210	Single-Family (Detached) Housing	135	DU	-	-	-	-	-	1362	26	74	85	50	
Filings 1-4		210	Single-Family (Detached) Housing	177	DU	-	-	-	-	-	1786	34	98	111	65	
Filings 1-5		210	Single-Family (Detached) Housing	218	DU	-	-	-	-	-	2200	42	120	136	80	
¹ DU = Dwelling Units																
² Source: <i>Trip Generation, 11th Edition (2021)</i> by the Institute of Transportation Engineers (ITE)																

Remove page if a duplicate

Duplicate?

Filing Number	Status	ITE		Inputs		Trip Generation Rates ²					Driveway Trips Generated					
		Code	Description	Values	Units ¹	Average Weekday	A.M.		P.M.		Average Weekday	A.M.		P.M.		
							In	Out	In	Out		In	Out	In	Out	
By Filing Number																
Filing 1	Approved	210	Single-Family (Detached) Housing	49	DU	10.09	0.19	0.55	0.63	0.37	494	9	27	31	18	
Filing 2	Under Review	210	Single-Family (Detached) Housing	42	DU	10.09	0.19	0.55	0.63	0.37	424	8	23	26	15	
Filing 3	This Report	210	Single-Family (Detached) Housing	44	DU	10.09	0.19	0.55	0.63	0.37	444	9	24	28	16	
Filing 4	Future	210	Single-Family (Detached) Housing	42	DU	10.09	0.19	0.55	0.63	0.37	424	8	23	26	15	
Filing 5	Future	210	Single-Family (Detached) Housing	41	DU	10.09	0.19	0.55	0.63	0.37	414	8	23	26	15	
			Total	218	DU						Total	2200	42	120	136	80
Cumulative by Filing Number																
Filing 1		210	Single-Family (Detached) Housing	49	DU	-	-	-	-	-	494	9	27	31	18	
Filings 1-2		210	Single-Family (Detached) Housing	91	DU	-	-	-	-	-	918	18	50	57	33	
Filings 1-3		210	Single-Family (Detached) Housing	135	DU	-	-	-	-	-	1362	26	74	85	50	
Filings 1-4		210	Single-Family (Detached) Housing	177	DU	-	-	-	-	-	1786	34	98	111	65	
Filings 1-5		210	Single-Family (Detached) Housing	218	DU	-	-	-	-	-	2200	42	120	136	80	
¹ DU = Dwelling Units																
² Source: <i>Trip Generation, 11th Edition (2021)</i> by the Institute of Transportation Engineers (ITE)																

Tables



Sheet was shown earlier in appendix.
Please remove from here.

Table 5: Detailed Trip Generation Estimate

Filing Number	Status	ITE		Inputs		Trip Generation Rates ²					Driveway Trips Generated					
		Code	Description	Values	Units ¹	Average Weekday	A.M.		P.M.		Average Weekday	A.M.		P.M.		
							In	Out	In	Out		In	Out	In	Out	
By Filing Number																
Filing 1	Approved	210	Single-Family (Detached) Housing	49	DU	10.09	0.19	0.55	0.63	0.37	494	9	27	31	18	
Filing 2	Under Review	210	Single-Family (Detached) Housing	42	DU	10.09	0.19	0.55	0.63	0.37	424	8	23	26	15	
Filing 3	This Report	210	Single-Family (Detached) Housing	44	DU	10.09	0.19	0.55	0.63	0.37	444	9	24	28	16	
Filing 4	Future	210	Single-Family (Detached) Housing	42	DU	10.09	0.19	0.55	0.63	0.37	424	8	23	26	15	
Filing 5	Future	210	Single-Family (Detached) Housing	41	DU	10.09	0.19	0.55	0.63	0.37	414	8	23	26	15	
			Total	218	DU						Total	2200	42	120	136	80
Cumulative by Filing Number																
Filing 1		210	Single-Family (Detached) Housing	49	DU	-	-	-	-	-	494	9	27	31	18	
Filings 1-2		210	Single-Family (Detached) Housing	91	DU	-	-	-	-	-	918	18	50	57	33	
Filings 1-3		210	Single-Family (Detached) Housing	135	DU	-	-	-	-	-	1362	26	74	85	50	
Filings 1-4		210	Single-Family (Detached) Housing	177	DU	-	-	-	-	-	1786	34	98	111	65	
Filings 1-5		210	Single-Family (Detached) Housing	218	DU	-	-	-	-	-	2200	42	120	136	80	
¹ DU = Dwelling Units																
² Source: <i>Trip Generation, 11th Edition (2021)</i> by the Institute of Transportation Engineers (ITE)																

Table 4*: Roadway Improvements			
Saddlehorn Ranch Filing No. 3			
Offsite Intersections			
Item #	Improvement	Timing	Responsibility
US Highway 24/Judge Orr Intersection			
1.1	Realignment of Judge Orr Road at US Highway 24 per CDOT Hwy 24 PEL Study	Future (the PEL study identified this as a high priority project with a time frame of less than 5 years)	CDOT
1.2	Southwest-bound right-turn deceleration lane on US Hwy 24 approaching Judge Orr Road	As required by other development(s) or with realignment of US Hwy 24/Judge Orr	CDOT or by others
1.3	Construct southwest-bound right-turn acceleration lane on US Hwy 24 at Judge Orr Road	As required by other development(s) or with realignment of US Hwy 24/Judge Orr	CDOT or by others
1.4	Eastbound left-turn lane on Judge Orr Road approaching US Hwy 24	With realignment of US Hwy 24/Judge Orr	CDOT
1.5	Westbound dual left-turn lanes on Judge Orr Road approaching US Hwy 24	With realignment of US Hwy 24/Judge Orr	CDOT
1.6	Northeast-bound right-turn deceleration lane on US 24 approaching Judge Orr Road	With realignment of US Hwy 24/Judge Orr	CDOT
1.7	Eastbound right-turn deceleration lane on Judge Orr Road approaching US Hwy 24	As required by other development(s) or with realignment of US Hwy 24/Judge Orr	CDOT or by others
US Highway 24/Stapleton Intersection			
2.1a	CDOT Escrow for Participation in the cost of future signalization - \$79,500** (Note: Opportunity for County fee Program credit/reimbursement for a portion; also opportunity for cost recovery as other area project are required to escrow funds and if/when this development's overall fair share percentage is reduced accordingly in the future.	With the Filing No. 3 Plat	Applicant
2.1b	Signalize the intersection	Once warrants are met	CDOT is collecting escrow from area developments impacting this intersection.
Curtis Road/Falcon Highway			
3.1	Filing No. 3 Escrow toward the cost of future lengthening of the eastbound left-turn lane to ECM standards on Falcon Highway approaching Curtis Road	Currently warranted by ECM; a deviation request is being included with this resubmittal to allow interim use of the existing lane and taper (based on short term turning volumes /associated queue length). Please refer to the deviation request for details. For Existing plus Fil. 1-5, recommended "trigger:" once projected queue (95th percentile) exceeds 50'	Escrow for pro-rata share of improvement or construction at the time of Filing No. 3 development (fee program credit per fee program provisions)
3.2	Long Term: ONLY In the case of a future signalized intersection or reverse of the TWSC Stop-sign traffic control orientation- Construct southbound right-turn deceleration lane on Curtis Road approaching Falcon Highway	Upon Signalization or reversal of the Stop-sign traffic control orientation. See footnote below.	Check for either trigger with future subdivision filings and a determination could be made at that time if this project should install the turn lane (with fee program credit per fee program provisions). Otherwise, with each filing, escrow for pro-rata share of improvement or construction if warranted at the time of development (fee program credit per fee program provisions)
3.2	Long Term: Reconstruct intersection as a modern roundabout (or signalize the intersection)	Once LOS of AWSC drops below acceptable levels (roundabout); or once signal warrants are met (for conversion to a signal or roundabout)	El Paso County - This intersection will be fee-program eligible for a signal/roundabout and applicant will pay fee program traffic impact fees.
Adjacent County Arterial Roadway ROW Requirements			
4.1	Judge Orr Right-of-Way Dedication - 4 Lane Minor Arterial, Rural 130' to 150 estimated right-of-way dedication (Note: 4-lane Rural Principal is 180')	Shown in 2040 MTCP; Dedicate adjacent ROW with the Filing No. 3 Plat	Applicant
4.2	Judge Orr - 4 Lane Minor Arterial - Beyond above dedication, no additional right-of-way preservation needed.	Shown in 2060 Corridor Pres Plan	Applicant
4.3	Curtis Road - 2 Lane Rural Principal Arterial 72' from existing centerline/section line to proposed ROW lind. This translates to 42 feet of ROW dedication. (Note: 4-lane Rural Principal is 180')	Dedicate adjacent ROW with the Filing No. 3 Plat	Applicant
4.4	Curtis Road - 4 Lane Rural Principal Arterial 180' right-of-way preservation (90 feet east of the existing centerline/section line).	Shown in 2060 Corridor Pres Plan; Reserve up to 90 feet as required with the Filing No. 3 plat.	Applicant
Roadway Segment Improvements			
5.1	Falcon Highway - Upgrade to Two-Lane Rural Minor Arterial	Shown in 2040 MTCP	MTCP Project No. U5; Details TBD; applicant will pay fee program traffic impact fees.
5.2a	Judge Orr Road (Short Term) - CDs show construction of an additional eastbound lane: Filing No. 3 construction plans show widening of the south side along the site frontage to a half-section of the ultimate/future Four Lane Rural Minor Arterial. Please see Judge Orr Road approved deviation.	With development of Filing No. 3	Applicant with potential for negotiated fee program credit based on construction of the ultimate four-lane, Rural Minor Arterial half section. This will be subject to submission and review and potential acceptance of a proposed fee program credit agreement by EPC and the Fee Program Committee.
5.2b	Judge Orr Road (Long Term) - Future widening on the north side to completed the ultimate Four Lane Rural Minor Arterial	Four-lane Rural Minor Arterial Shown in 2040 MTCP	MTCP Project No. C15; Details TBD; - applicant will pay fee program traffic impact fees.
5.3a	Short Term: Curtis Road Adjacent to Filing No. 1 - Interim upgrades to Curtis Road - to be constructed with Filing No. 1- Please refer approved Filing No. 1 CDs.	To be constructed with Filing No. 2	Applicant with potential for negotiated fee program credit based on constructed half-section. This will be subject to submission and review and potential acceptance of a proposed fee program credit agreement by EPC and the Fee Program Committee.
5.3b	Short Term: Curtis Road Adjacent to Filing No. 2 - Interim upgrades to Curtis Road - to be constructed with Filing No. 2 - Please refer to Filing No. 2 CDs.	To be constructed with Filing No. 2	Applicant with potential for negotiated fee program credit based on constructed half-section. This will be subject to submission and review and potential acceptance of a proposed fee program credit agreement by EPC and the Fee Program Committee.
5.3c	Short Term: Curtis Road Adjacent to Filing No. 3 - Interim upgrades to Curtis Road - to be constructed with Filing No. 3 - Please refer to Filing No. 3 CDs.	To be constructed with Filing No. 3	Applicant with potential for negotiated fee program credit based on constructed half-section. This will be subject to submission and review and potential acceptance of a proposed fee program credit agreement by EPC and the Fee Program Committee.
5.3d	Long Term: Curtis Road - Upgrade to Two-Lane Rural Principal Arterial	Shown in 2040 MTCP; (Future - TBD - Limited ROW available on the west side. Please refer to approved Curtis Road Deviation). The segment from the south border of Saddlehorn and Falcon Highway is adjacent to the Meadowlake Industrial Park development. Please refer to the most recent TIS for that project for additional information.	MTCP Project No. U1; Applicant per rezone condition of approval, potentially subject to fee program credit.
Internal Subdivision Roadways			
6.1	Construct internal Filing No. 3 streets to County Rural Local Standards	Per the Filing 3 Construction Plans	Applicant
Adjacent Intersection and Access Intersections			
Judge Orr/Curtis Road Intersection			
7.1	Westbound right-turn deceleration lane	Once peak-hour westbound right-turn volume exceeds 50 vehicles per hour.	Escrow a pro-rata share for future construction with Filing No. 3 (fee program credit per fee program provisions)
7.2	Eastbound right-turn deceleration lane	Currently warranted by ECM. However, please refer to the Filing No. 2 TIS report narrative for the provision in the "State Highway Access Code" Section 3.5 (5) for low through volumes). Evaluate with future Final Plats. By Filing 5 (the last filing) a determination would be made if Saddlehorn Ranch should construct the turn lane or provide escrow toward future construction by others.	Check for eastbound through and right turning thresholds (as described in the report narrative) with future subdivision filings and a determination could be made at that time if this project should install the turn lane (with fee program credit per fee program provisions). Otherwise escrow a pro-rata share for future construction with Filing No. 3 (fee program credit per fee program provisions).
7.3	Potentially sign for all-way stop-sign control (AWSC)	Once warrants for AWSC are met	El Paso County
7.4	Long Term: Reconstruct intersection as a modern roundabout (or signalize the intersection)	Once LOS of AWSC drops below acceptable levels (roundabout); or once signal warrants are met (for conversion to a signal or roundabout)	El Paso County. This intersection will be fee-program eligible for a signal/roundabout and applicant will pay fee program traffic impact fees.
7.5	Long Term: In the case of a future signalized intersection - lengthening of northbound and southbound left-turn deceleration lanes.	As needed based on future speed limit and turning volume/stacking length criteria.	Escrow for improvement or construction if warranted at the time of development (fee program credit per fee program provisions)
7.6	Northbound Left Turn Lane - potential future lengthening (restriping)	Proposed trigger - once intersection is signalized Or if Stop signs are switched to EB and WB or while NB stop control remains, if queue reaches lengths	Escrow for improvement or construction if warranted at the time of development (fee program credit per fee program provisions)
Judge Orr/Barrosito Trail			
8.1	No Auxiliary Turn Lanes Required Construction Plans show an eastbound right-turn deceleration lane to be constructed with Filing 3	To be constructed with Filing No. 3	Applicant
Judge Orr/Del Cambre Trail			
9.1	No Auxiliary Turn Lanes Required Construction Plans show an eastbound right-turn deceleration lane to be constructed with Filing 3	To be constructed with Filing No. 3	Applicant
Curtis Road/Oscuro Trail			
10.1	Short Term Please Refer to Filing No. 2 TIS. Filing 3 is not projected to generate any left- or right-turning movements at this intersection. NOTE: The northbound right turn deceleration lane (Filing No. 1 improvement) has not yet been constructed.		
10.2	Long Term Please Refer to Filing No. 2 TIS. Filing 3 is not projected to generate any left- or right-turning movements at this intersection		
Curtis Road/Benito Wells Trail			
11.1	Short Term Construction Plans show Auxiliary Turn Lanes to be constructed with Filing 2	Construction Plans show Auxiliary Turn Lanes to be constructed with Filing 2	Applicant
11.2	Long Term Construct southbound left-turn deceleration lane on Curtis Rd approaching the site access	To be constructed with Filing No. 2	Applicant
11.3	Long Term Construct northbound right-turn deceleration lane on Curtis Rd approaching the site access	To be constructed with Filing No. 2	Applicant
* Modified version of Table 10 From the Saddlehorn Ranch Preliminary Plan TIS dated March 11, 2020.			
Note: Items with red borders - Filing No. 3 related; items in blue border - modifications associated with Filings 1 or 2.			
** Note: CDOT Formula taken from Filing No. 2 review letter: [for Filing 2] The development is required to participate in the cost of the future traffic signal at Stapleton and Hwy 24. Based on the average AM&PM site-generated passenger cars directly impacting the 4-hour warrant, the development would be responsible for ~\$75,000 [Filing 2 amount], (6.5 new vehicles / 60 vehicles-to-warrant x ~\$700K/signal cost). Filing 3 amount calculated using 44 lots/42 lots x Filing 2 amount			
Item 3.2 Note: The default ECM trigger for this potential right turn lane is 25 vph. However, since the southbound approach is currently Stop-sign controlled, the turn lane is not currently needed due to speed differential between through traffic and right turning traffic. LSC recommends the following triggers: o Once the intersection is signalized (if a signal is the selected future traffic control instead of a modern roundabout) or o If El Paso County switches the orientation of the stop signs such that Curtis is changed to the "major street" and Falcon Highway is changed to the "minor street" (the intersection remains two-way, stop-sign control). The check for either trigger could occur with future subdivision filings and a determination could be made at that time if this project should install the turn lane (with fee-program credit per fee program provisions). If neither trigger is met, escrow for pro-rata share of this potential improvement with each Filing. Per EPC, Saddlehorn values alone would exceed 25 vph, which could trigger the improvement LSC would suggest escrow in lieu of lane construction if the above two triggers are not met as the lane could potentially be "thrown away" if a roundabout is selected as the future traffic control. The escrow for the southbound right turn lane could potentially be returned to the applicant, as it would not be necessary with a roundabout.			
Source: LSC Transportation Consultants, Inc. REVISIONS: 2/8/2022, 11/18/2022 for Filing No. 2, 1/20/2023 and 4/30/2023 for Filing No. 3.			

Figures



Approximate Scale
1" = 100'



Barrosito Trail

Del Cambre Trail

1,320'

1,417'

Judge Orr Road

ATOKA COURT

BARROSITO TRAIL

DEL CAMBRE TRAIL

CARRIZO SPRINGS ROAD

2,750'

Curtis Road

ESTACADO PLACE

BENITO WELLS TRAIL

SAN ISIDRO TRAIL

* SADDLEHORN RANCH

* RE

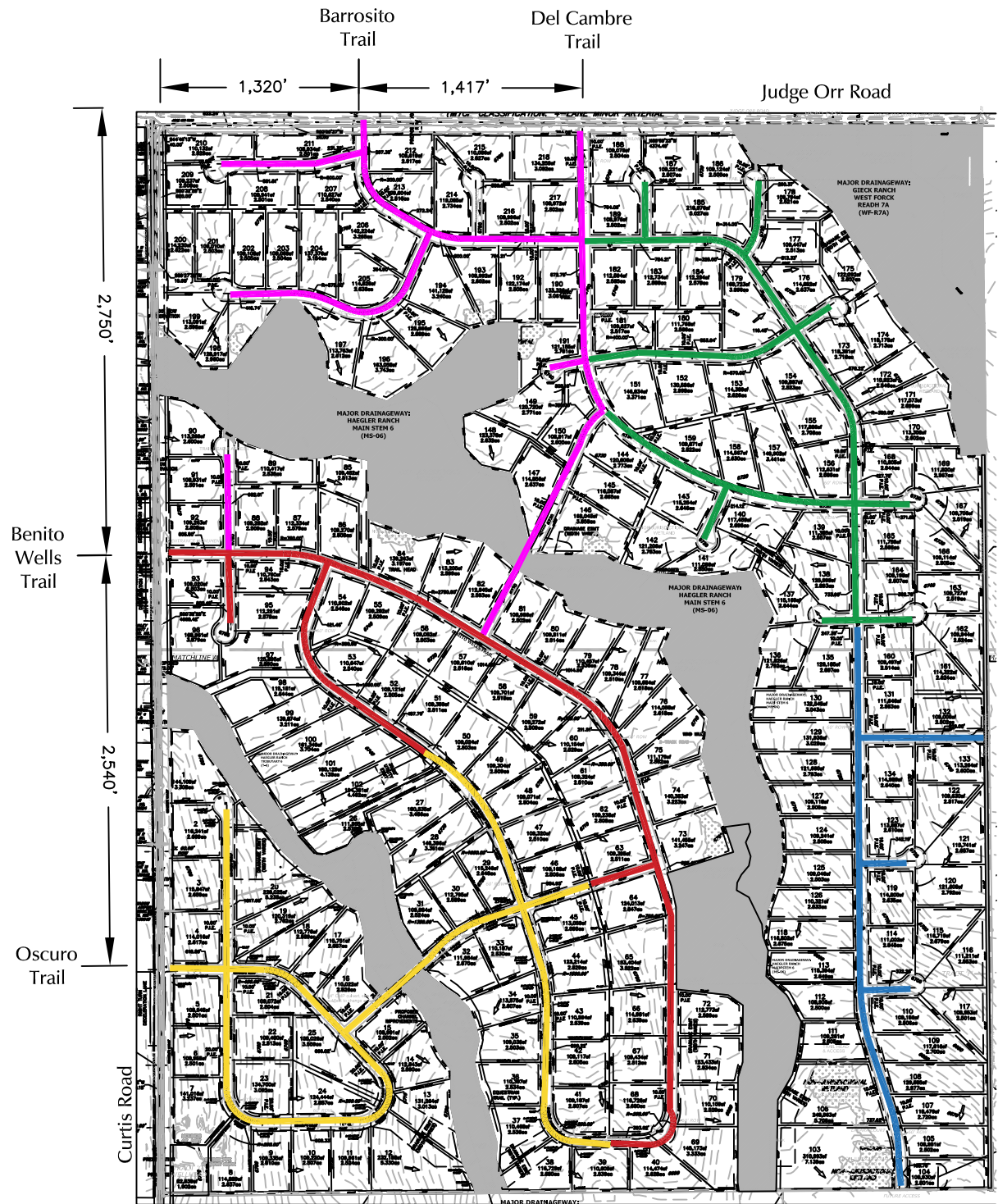
2,540'
To Oscuro Trail

 Filing No. 3

Figure 2
Site Plan

Saddlehorn Ranch Filing 3 (LSC # S224540)





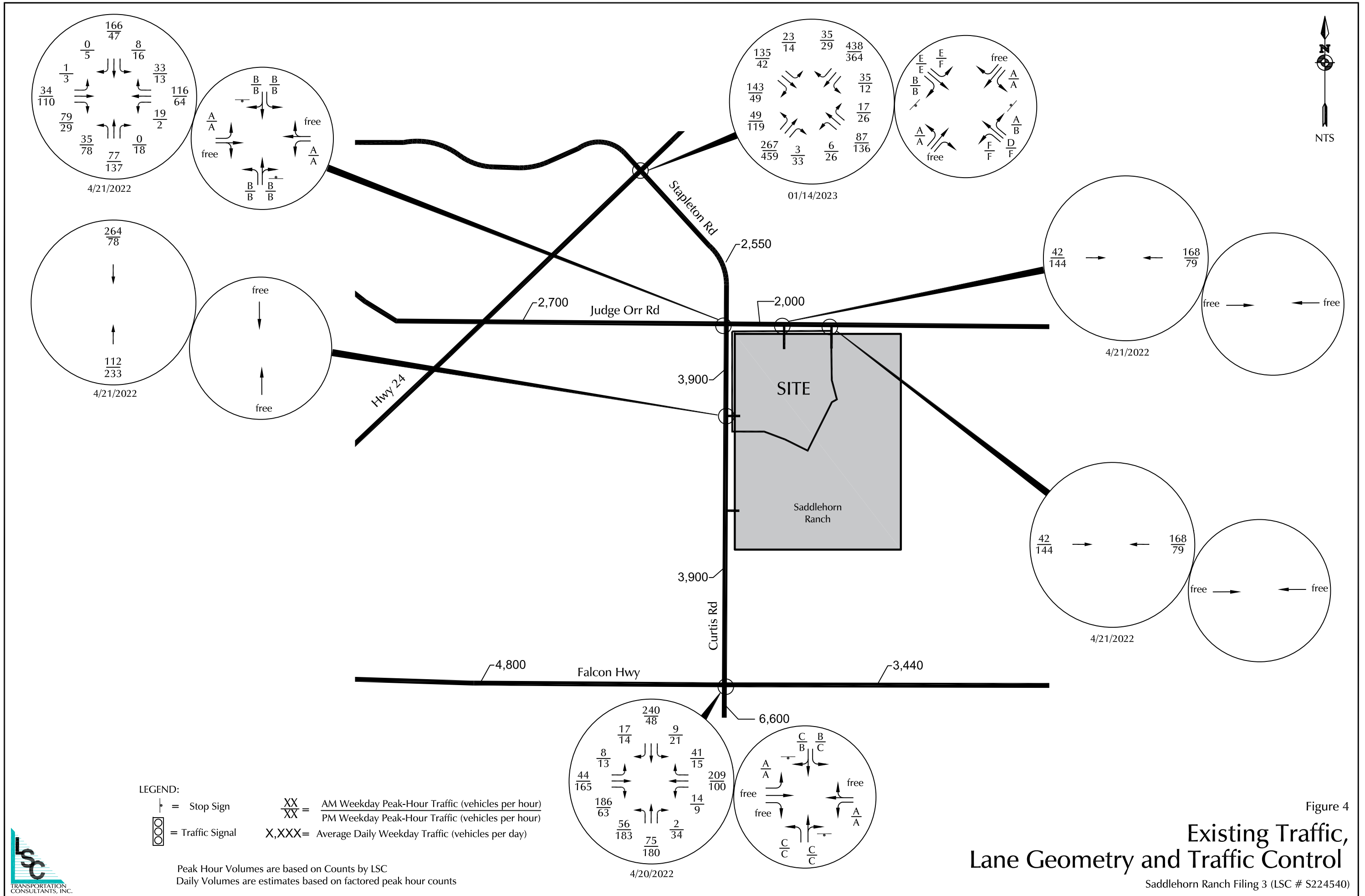
-  Filing 1
-  Filing 2
-  Filing 3
-  Filing 4
-  Filing 5

Figure 3

Roadways to be Constructed by Subdivision Filing

Saddlehorn Ranch Filing 3 (LSC # S224540)





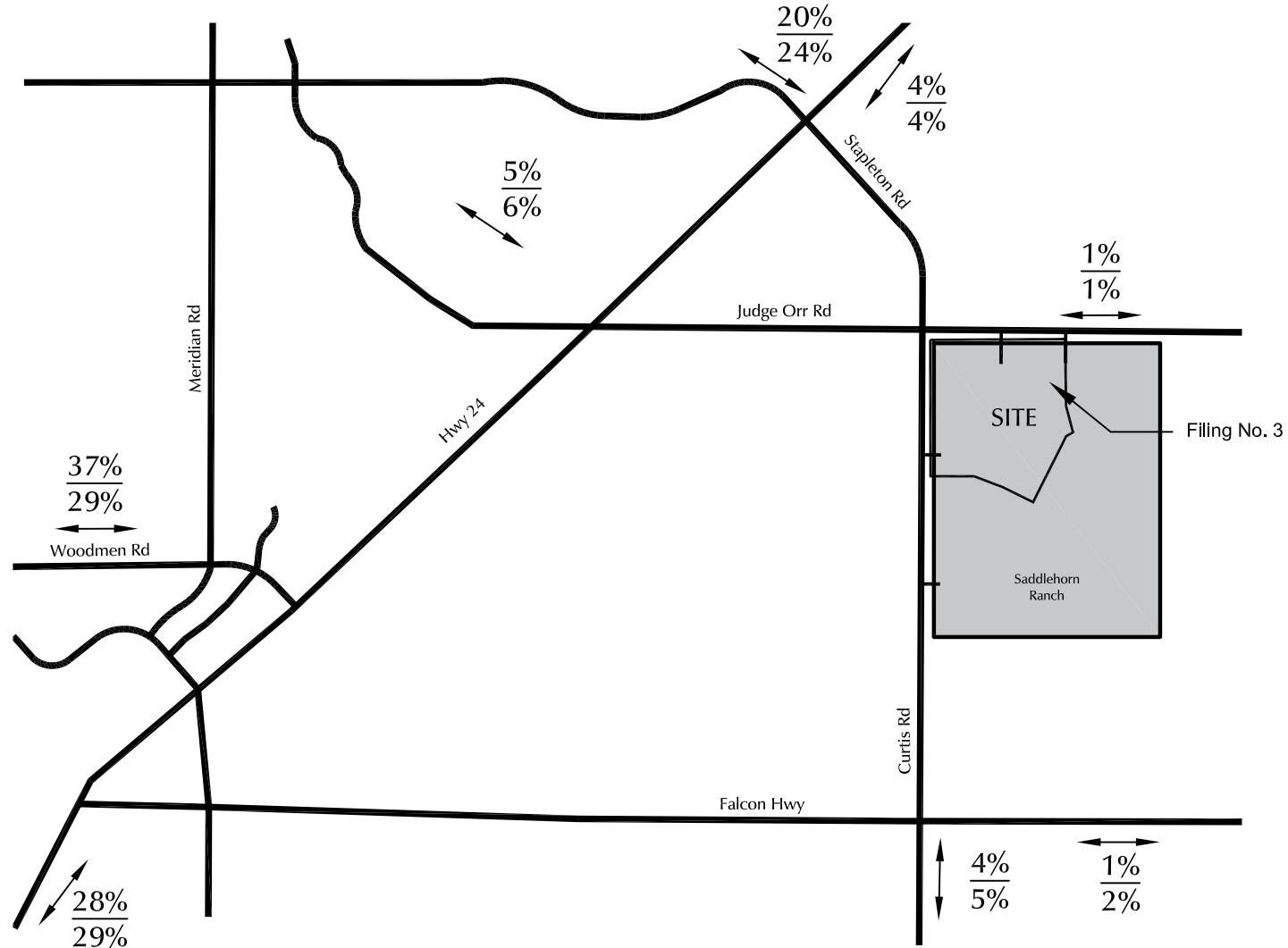


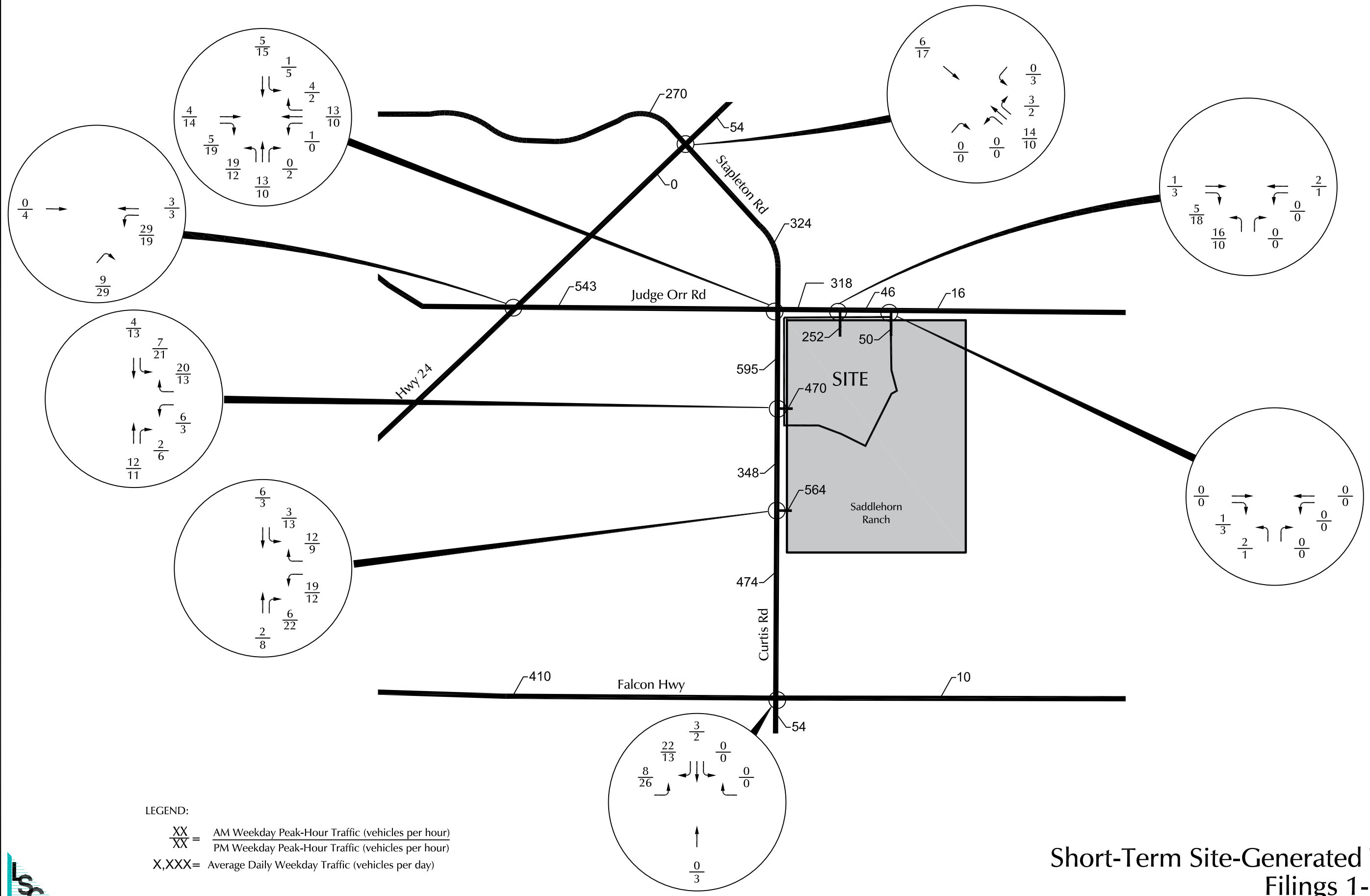
Figure 5

Estimated Directional Distribution of Site-Generated Traffic

Saddlehorn Ranch Filing 3 (LSC # S224540)



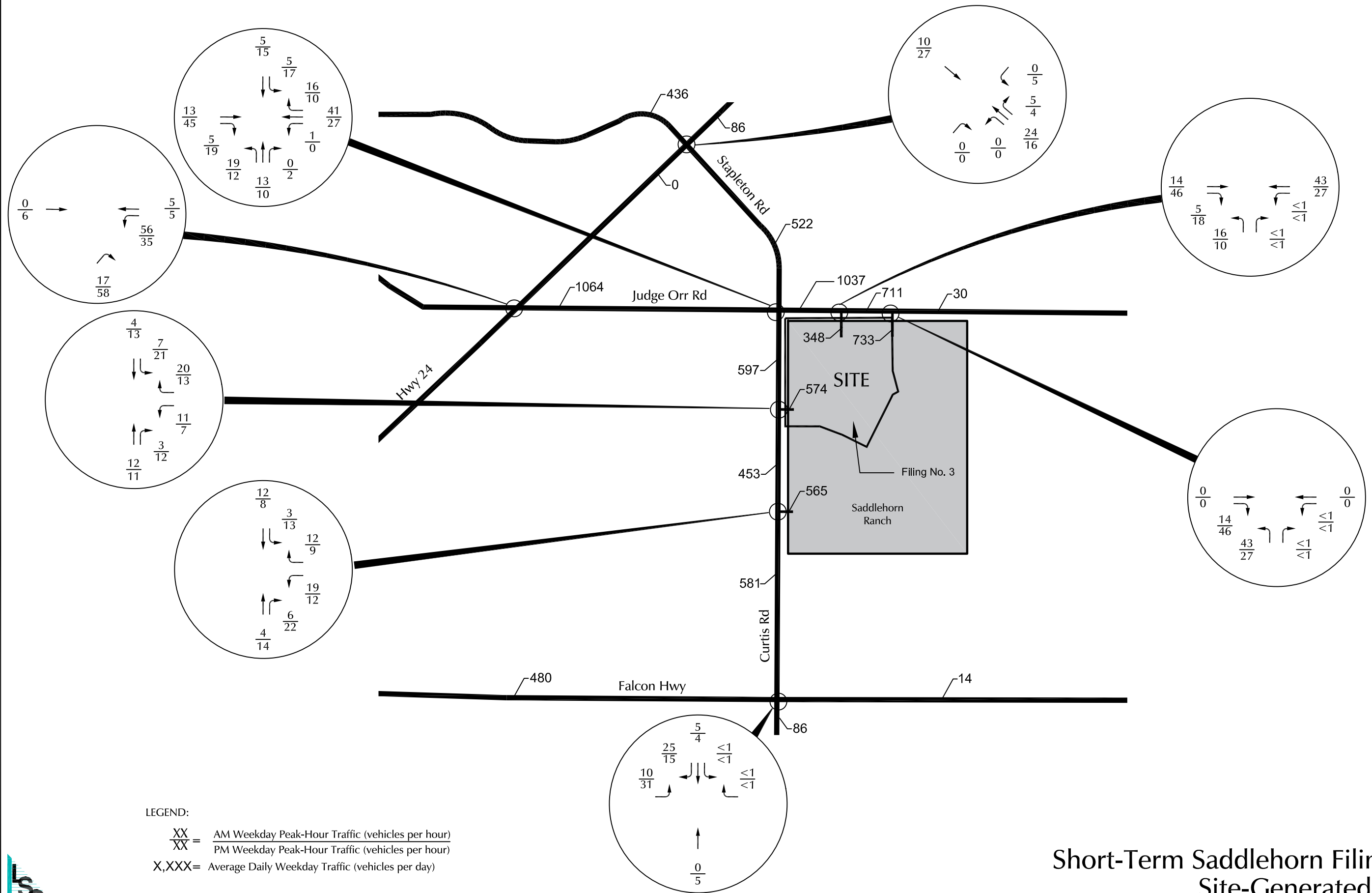
LEGEND:
 $\frac{XX\%}{XX\%} = \frac{\text{Percent Short-Term Distribution}}{\text{Percent Long-Term Distribution}}$



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



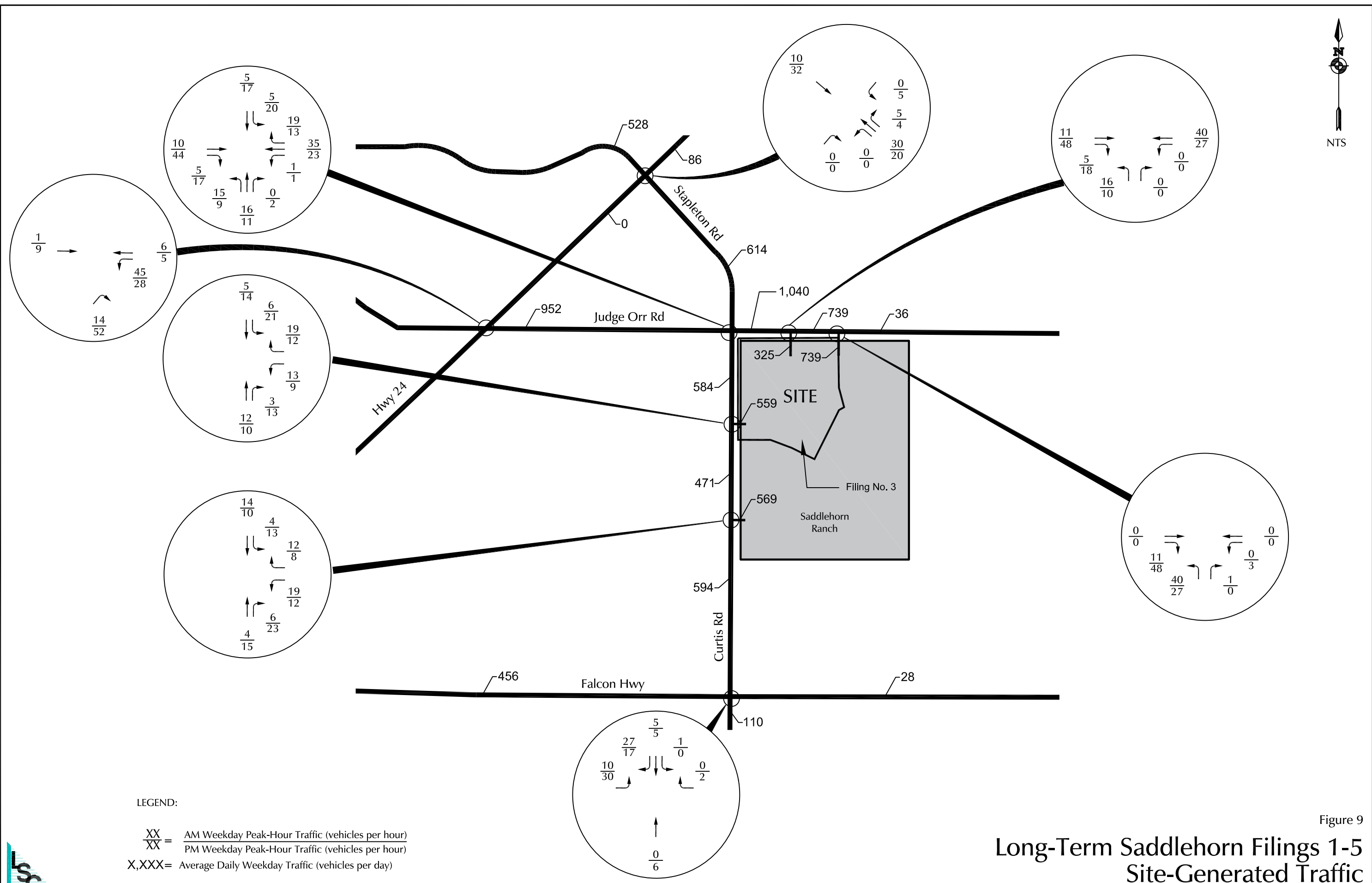
Figure 7
 Short-Term Site-Generated Traffic,
 Filings 1-3 Only
 Saddlehorn Ranch Filing 3 (LSC # S224540)



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



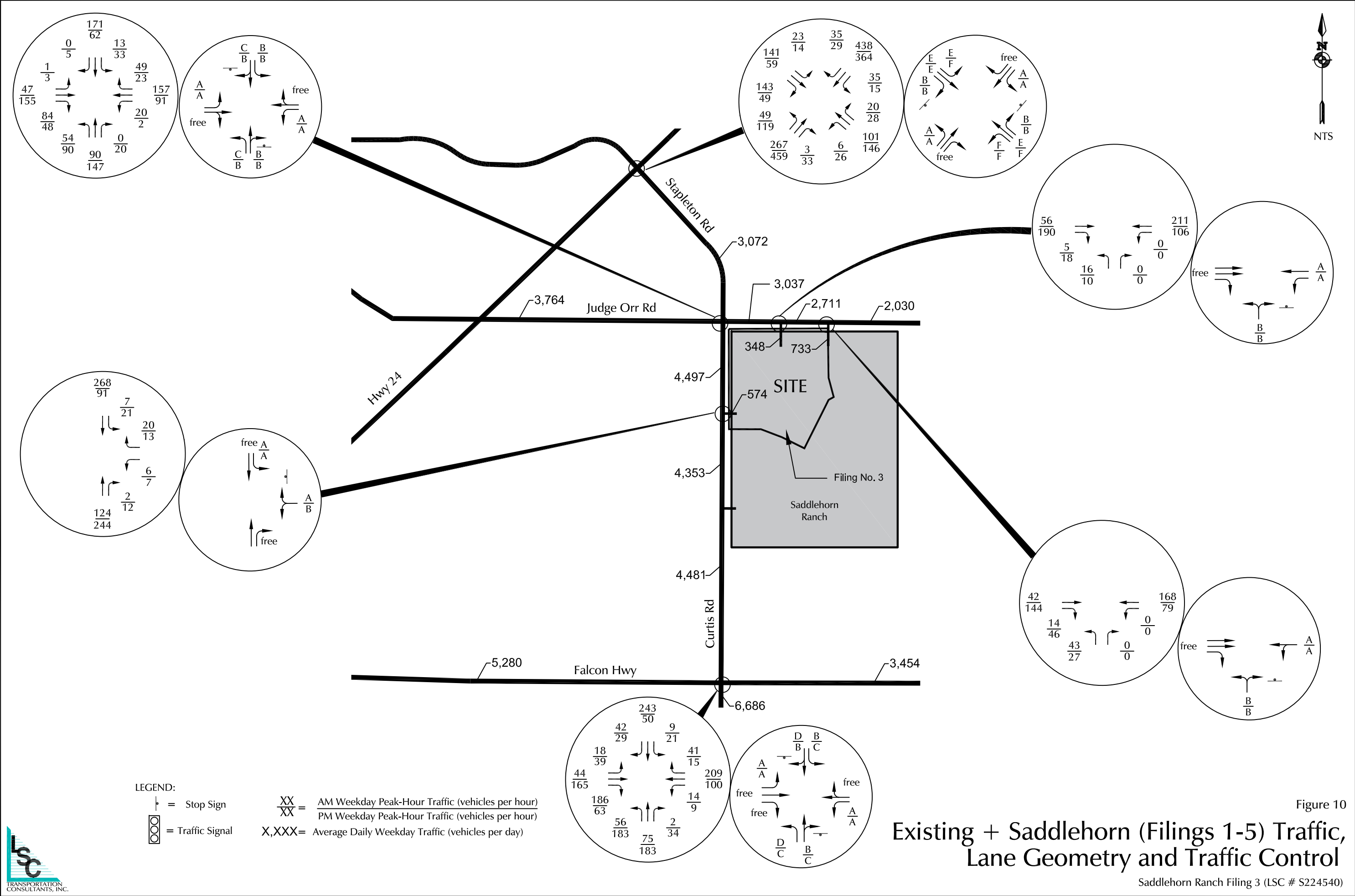
Figure 8
Short-Term Saddlehorn Filings 1-5
Site-Generated Traffic
 Saddlehorn Ranch Filing 3 (LSC # S224540)



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



Figure 9
Long-Term Saddlehorn Filings 1-5
Site-Generated Traffic
 Saddlehorn Ranch Filing 3 (LSC # S224540)



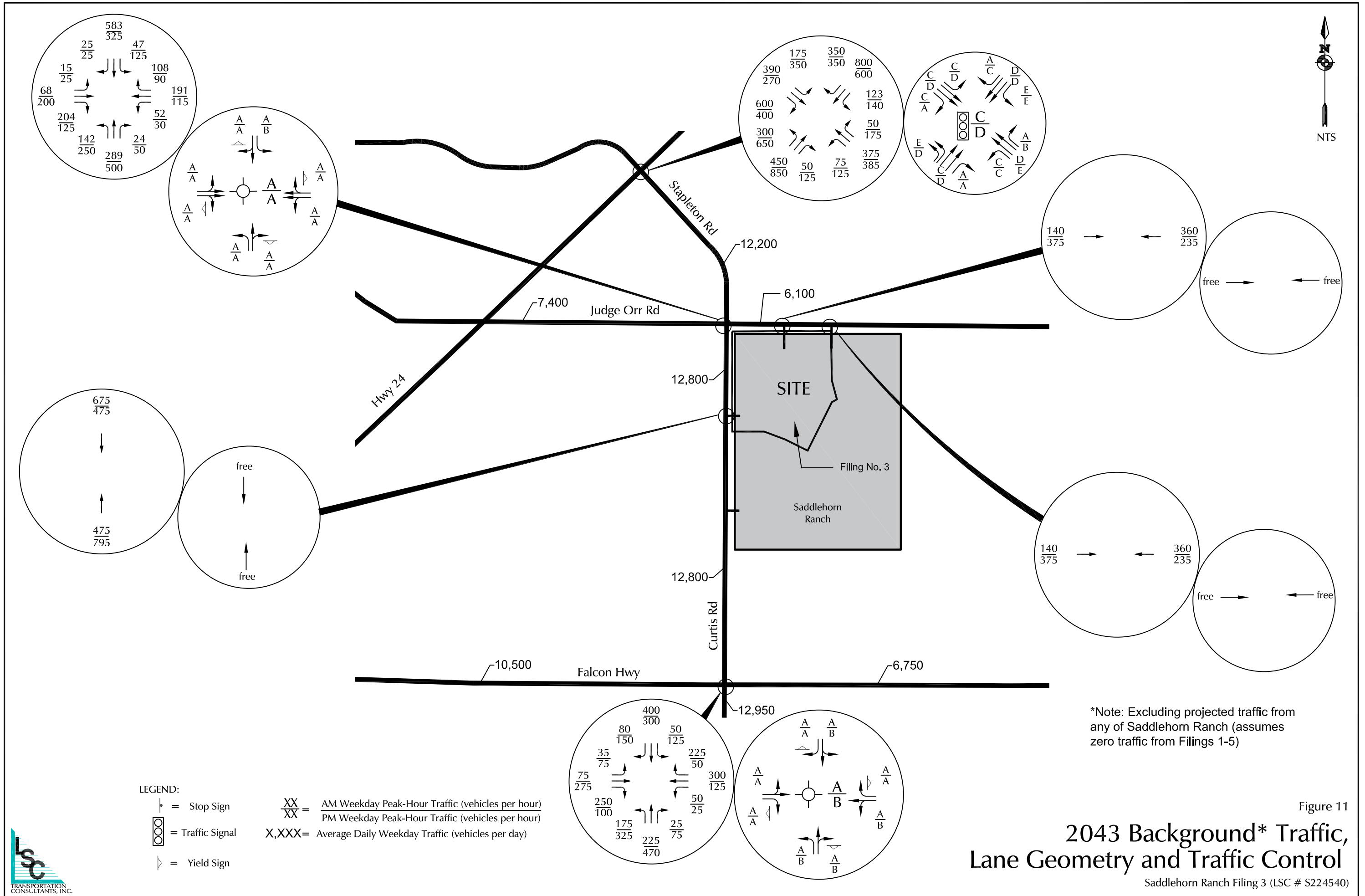
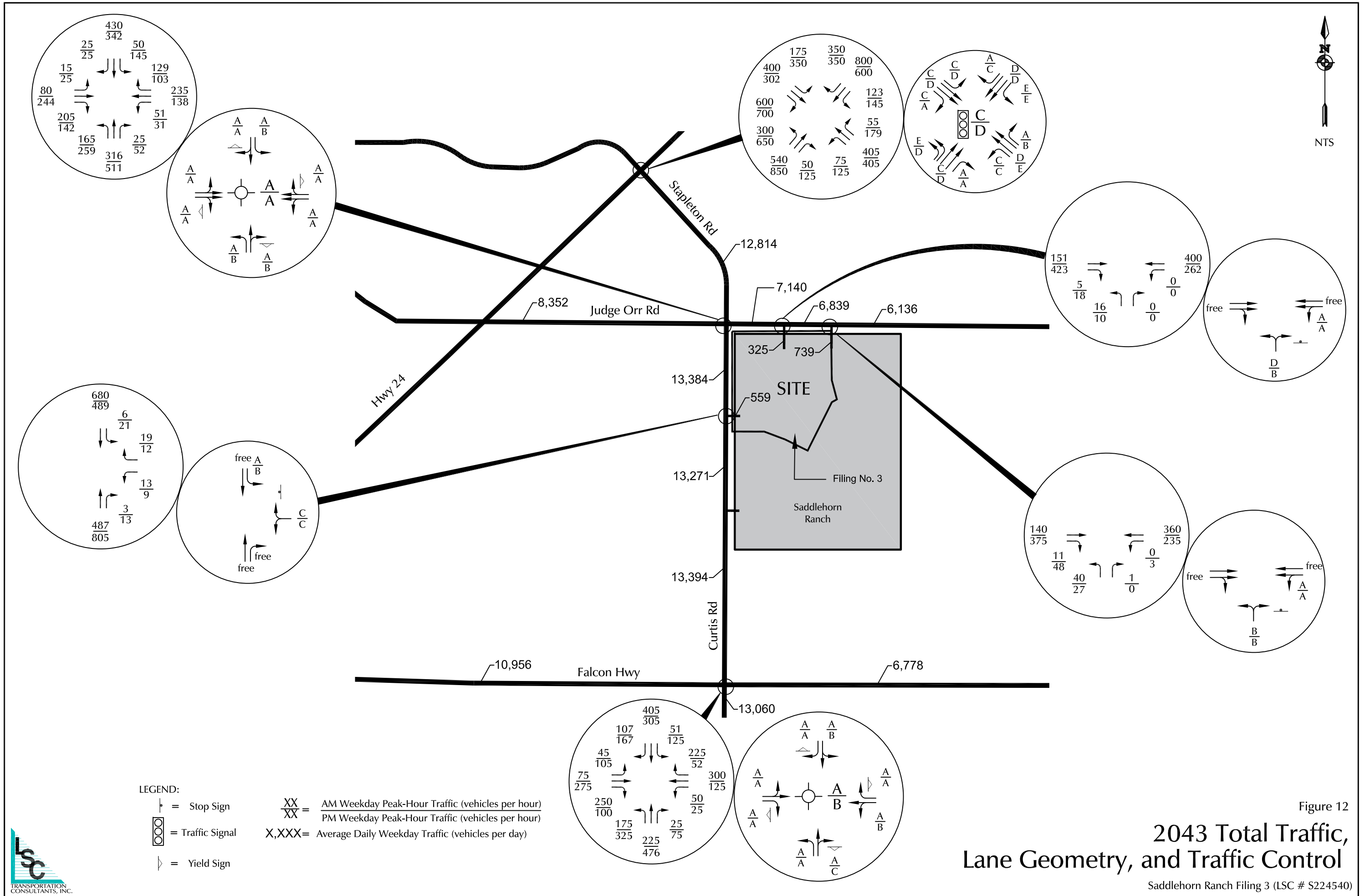


Figure 11

2043 Background* Traffic, Lane Geometry and Traffic Control

Saddlehorn Ranch Filing 3 (LSC # S224540)





V2_TIS.pdf Markup Summary

Callout (3)

Background Traff
2043

042 background tr
nted in the Pre

Subject: Callout
Page Label: 8
Author: CDurham
Date: 6/7/2023 4:42:08 PM
Status:
Color: ■
Layer:
Space:

2043

length). A copy of this deviation reques
just to the west. The development wou
improvement

expand on what the future
improvement would encompass

Subject: Callout
Page Label: 15
Author: CDurham
Date: 6/7/2023 4:48:32 PM
Status:
Color: ■
Layer:
Space:

expand on what the future improvement would
encompass

tal (based on short-term turning volumes)
request is attached for reference. There is a
: would contribute a fair share escrow amou

Deviation request was not
in appendix. Please include
next submittal or revise
statements

Subject: Callout
Page Label: 15
Author: CDurham
Date: 6/7/2023 5:28:38 PM
Status:
Color: ■
Layer:
Space:

Deviation request was not in appendix. Please
include next submittal or revise statement

Text Box (4)

Provide cover sheet
with traffic engineer's &
developer's statements

Subject: Text Box
Page Label: 1
Author: CDurham
Date: 6/7/2023 4:36:34 PM
Status:
Color: ■
Layer:
Space:

Provide cover sheet with traffic engineer's &
developer's statements

Provide table of contents

INC.

Subject: Text Box
Page Label: 1
Author: CDurham
Date: 6/7/2023 4:37:01 PM
Status:
Color: ■
Layer:
Space:

Provide table of contents

Remove page if a duplicate

Subject: Text Box
Page Label: 20
Author: CDurham
Date: 6/7/2023 5:17:09 PM
Status:
Color: ■
Layer:
Space:

Remove page if a duplicate

Sheet was shown earlier in appendix.
Please remove from here.

Subject: Text Box
Page Label: 22
Author: CDurham
Date: 6/7/2023 5:17:51 PM
Status:
Color: ■
Layer:
Space:

Sheet was shown earlier in appendix. Please
remove from here.

Table 5.1

ITE