

Cathedral Rock Church

Traffic Impact Study

Prepared for:
Mr. Joe Butler
Hammers Construction
1411 Woolsey Heights
Colorado Springs, CO 80915

OCTOBER 22, 2024

LSC Transportation Consultants
Prepared by: Jeffrey C. Hodsdon, P.E.

LSC # S244310



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October 22, 2024

Mr. Joe Butler
Hammers Construction
1411 Woolsey Heights
Colorado Springs, CO 80915

RE: Cathedral Rock Church
Traffic Impact Study
El Paso County, CO
LSC # S244310

Dear Mr. Butler,

LSC Transportation Consultants, Inc. has prepared this traffic impact study for the proposed Cathedral Rock Church in El Paso County, Colorado. The 5.08-acre site is located on the northeast corner of the intersection of Struthers Road/Struthers Ranch Road (El Paso County parcel ID 7136301013).

The proposed land use for the site is an 8,125-square-foot church with 276 seats in the main worship sanctuary. The site plan also shows a future 10,000 square-foot building on the site. One access is proposed to Struthers Ranch Road, located approximately 340 feet northeast of Struthers Road/Struthers Ranch Road (centerline spacing). No direct access is proposed to Struthers Road.

This report has been prepared for submittal to El Paso County.

REPORT CONTENTS

The preparation of this report included the following:

- Inventory of existing adjacent and nearby area street system. This included surface conditions, functional classifications, roadway widths, lane configurations, traffic control, posted speed limits, pavement markings, intersection and access spacing, roadway and intersection alignments, auxiliary left- and right-turn lanes, sight distances, etc.;
- Summary of Sunday morning peak-hour turning-movement traffic counts at the “study-area” intersection of Struthers Road/Struthers Ranch Road.
- Estimates of average Sunday (24-hour) and weekday (24-hour) and peak-hour trip generation for the proposed development;

- Estimation of directional distribution of site-generated vehicle trips on the area street system, at the study-area intersections;
- Projections of Sunday morning peak hour site-generated turning-movement traffic volumes at the study-area intersections;
- Estimates of short- and long-term Sunday morning peak hour background traffic volumes at the study-area intersections;
- Total traffic (site-generated traffic-plus-background traffic) projections at these intersections for the short term and long term;
- Level of service (LOS) analysis at the study-area intersections for the Sunday morning peak hour;
- Queuing analysis to determine if queues on the southwest-bound approach to Struthers Road on Struthers Ranch Road will extend back from the stop sign at Struthers Road to the proposed site access intersection;
- Evaluation of short-term and long-term projected Sunday morning peak hour intersection volumes to determine the potential need for any new or improved auxiliary right-/left-turn lanes based on the criteria in El Paso County's *Engineering Criteria Manual (ECM)*;
- Identification of the El Paso County Road Impact Fee program fee amounts;
- Summary of compiled data, analysis, findings, and recommendations.

LAND USE AND ACCESS

Figure 1 shows the site location relative to the adjacent and nearby streets. The 5.08-acre site is located on the northeast corner of the intersection of Struthers Road/Struthers Ranch Road (El Paso County parcel ID 7136301013). A copy of the site plan is depicted on Figure 2.

The proposed land use for the site is an 8,125-square-foot church with 276 seats in the main worship sanctuary. The site plan also shows a future 10,000 square-foot building on the site.

One access is proposed to Struthers Ranch Road, located approximately 340 feet northeast of Struthers Road/Struthers Ranch Road (centerline spacing). No direct access is proposed to Struthers Road.

INTERSECTION SIGHT DISTANCE

Struthers Road/Struthers Ranch Road

Regarding the Intersection sight distance at the intersection of Struthers Road/Struthers Ranch Road, the following has been taken from the TIS report for EPC PCD File No. PPR2248 (Link here: <https://epcdevplanreview.com/Public/ProjectDetails/180332>). The applicable figures are 3a and 3b, which are modified copies of these same figures from the TIS report for PPR2248.

*Intersection sight distance for the intersection of Struthers Road/Struthers Ranch Road has been based Table 2-21 of the Engineering Criteria Manual (ECM). This table has a footnote that special design considerations for situations other than intersecting two-lane roads are required. Please refer to **Appendix A** of this report for detailed calculations and application of criteria. [copy attached to **this** Cathedral Rock Church report]*

*Based on the calculations presented in **Appendix A** of this report,*

- *590 feet – calculated intersection sight distance to the left (south)*
- *640 feet – calculated intersection sight distance to the right (north)*

*Field-measured **sight distance to the south**, in conjunction with the site plan/grading plan, would meet the calculated 590 feet of sight distance, as shown in Figure 3a.*

*Sight distance **to the south** will be met, provided the intersection line of sight “triangle” is kept free of site improvements (that would limit the line of sight needed to maintain 590 feet of prescribed sight distance). Examples of site improvements include buildings, landscaping, monument signs, parking areas, berms, etc. Obstruction height to maintain line of sight is 18-30 inches above the flow line of the adjacent road per ECM 2.3.6.G.2. LSC reviewed the grading plan and the height of the section of the retaining wall at the point where the line-of-sight traverses across the site, is such that it would not impede the line of sight for the 590’ of sight distance.*

*Sight distance **to the north** is shown in Figure 3b. Field-measured sight distance **to the north** at this intersection is 450 feet. Given that the field-measured sight distance is less than the calculated sight distance of 640 feet, LSC recommends posting an “intersection ahead” warning sign (MUTCD W2-2) on the southbound approach to this intersection. Note: ECM (and AASHTO) **stopping** sight distance for a 50-mph design speed is 425 feet.*

Also, consideration could be given to modifying the posted speed limit zones on Struthers Road near this intersection to shift the 40-mph zone north such that a 40-mph speed limit sign is posted for southbound traffic between Spanish Bit Drive and Struthers Ranch Road.

Based on LSC’s field sight-distance check, temporary sight-distance line-of-sight limitations to the south are shown marked on Figure 3b. This shows parked vehicles and roadside weeds within the line-of-sight triangle, which limit sight distance to a substandard length along Struthers Road.

The required sight distance for the access point onto Struthers Ranch Road is met at 280 feet. The line of sight extends into the intersection of Struthers Road/Struthers Ranch Road. Looking east along Struthers Ranch Road, the line of sight extends beyond the intersection with Blue Wings Way, or over 600 feet.

ROAD AND TRAFFIC CONDITIONS

Area Roadways

Figure 1 shows the streets adjacent to and in the vicinity of the site. Adjacent streets serving the site are identified below followed by a brief description of each:

Struthers Road is a four-lane, median-divided road that extends north from North Gate Boulevard to the intersection of Baptist Road and Jackson Creek Parkway. Struthers Road is classified as a four-lane Urban Minor Arterial on the El Paso County Major Transportation Corridors Plan and has a speed limit of 45 miles per hour (mph) about 325 feet north of Air Garden Lane. South of this point, the posted speed limit is 40 mph.

Struthers Ranch Road is classified as a local roadway. Struthers Ranch Road is an east/west road that extends from Struthers Road into the Struthers Ranch residential development. The roadway has a posted speed limit of 25 mph. The intersection with Struthers Road is unsignalized. The roadway at the intersection with Struthers Road is 32.7 feet wide, which only allows for a shared westbound left/right lane on the minor street approach. Struthers Road has a 340-foot southbound left-turn deceleration lane and a 260-foot northbound right-turn deceleration lane at the intersection with Struthers Ranch Road.

Existing Traffic Volumes

Vehicle turning-movement counts were conducted on the following dates and times:

- Struthers Road/Struthers Ranch Road
 - Sunday, September 8, 2024 from 9:00 a.m. – 11:30 a.m.
 - Tuesday, November 1, 2022 from 6:30 a.m. – 8:30 a.m.
 - Tuesday, November 1, 2022 from 4:00 p.m. – 6:00 p.m.

Figure 4 shows these turning-movement volumes, as well as the estimated current average weekday traffic volumes on the study-area streets. Raw count data is attached.

Crash History

Three years of crash data were collected at the intersection of Struthers Road/Struthers Ranch Road (October 2021 through September 2024). Four crashes were reported during that study period. No correctable crash patterns were identified.

TRIP GENERATION

Estimates of the vehicle trips projected to be generated by the proposed Cathedral Rock Church development have been made using the nationally published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Corresponding trip-generation rates from ITE Land Use Category “560 – Church” have been used to develop the trip-generation estimates for the proposed site.

Table 1 below presents a summary of the estimated site trip generation during both Sunday and weekday peak hours. A detailed trip-generation estimate for the development, including ITE rates for the proposed development is presented in Table 3 (attached).

Table 1: Estimated Site Vehicle-Trip Generation

Sundays			
Short Term			
Analysis Period	In	Out	Total
Church Peak Hour	69	72	141
Daily/24-hour	305	305	610
Long Term			
Analysis Period	In	Out	Total
Church Peak Hour	119	126	244
Daily/24-hour	462	462	925
Weekdays			
Short Term			
Analysis Period	In	Out	Total
Morning Peak Hour	12	8	19
Afternoon Peak Hour	12	15	28
Daily/24-hour	124	124	248
Long Term			
Analysis Period	In	Out	Total
Morning Peak Hour	14	9	22
Afternoon Peak Hour	15	18	33
Daily/24-hour	162	162	324

Sunday

Short Term

During the short term, the proposed church is projected to generate about 610 total vehicle trips on the average Sunday during a 24-hour period, with approximately half entering and half exiting

the site. During the church's Sunday peak hour, approximately 69 entering 72 exiting vehicles are estimated to be generated.

Long Term

During the long term, the proposed church is projected to generate about 925 total vehicle trips on the average Sunday during a 24-hour period, with approximately half entering and half exiting the site. Approximately 119 entering and 126 exiting vehicles are estimated to be generated by the site during the church's Sunday peak hour.

Weekday

Short Term

During the short term, the proposed church is projected to generate about 324 total vehicle trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site. During the weekday morning peak hour, approximately 14 entering 9 exiting vehicles are estimated to be generated. Approximately 12 entering and 15 exiting vehicles are estimated to be generated by the site during the weekday afternoon peak hour.

Long Term

During the short term, the proposed church is projected to generate about 248 total vehicle trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site. During the weekday morning peak hour, approximately 12 entering 8 exiting vehicles are estimated to be generated. Approximately 15 entering and 18 exiting vehicles are estimated to be generated by the site during the weekday afternoon peak hour.

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Directional Distribution

Estimating the directional distribution of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Table 3 (attached) shows the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: the anticipated land uses, the area street and road system serving the site, the access plan, and the site's geographic location relative the greater El Paso County area.

Site-Generated Traffic

Figure 7 shows projected site-generated traffic volumes for the proposed church. Site-generated traffic volumes at the study-area intersections have been calculated by applying

directional-distribution percentages (from Figure 6) to the trip-generation estimates (from Table 3).

Short-Term Total Traffic Volumes

Figure 8 shows the sum of existing 2024 traffic volumes (from Figure 4) and site-generated peak-hour traffic volumes (shown in Figure 7). These volumes represent the estimated short-term total traffic following completion and buildout of the development.

Estimated Future 2044 Background Traffic Volumes

Figure 9 shows the projected 20-year background traffic volumes for the year 2044. Projected 20-year background traffic volumes do **not** include projected traffic to be generated by the proposed church development. An annual growth rate of approximately 4.5 percent per year has been assumed for Struthers Road, which is consistent with the growth rates used by LSC in recent traffic studies along Struthers Road. Approximately 10,750 square feet of retail space was assumed for the currently-vacant Lots 3 and 4 within the Struthers Ranch development. The recently-constructed ATV sales site on Lots 1 and 2 is not open on Sundays, so Sunday trips from that development were not included with future background traffic.

Future 2044 Total Traffic Volumes

Figure 10 shows the projected 2044 total traffic volumes, which are the sum of 2044 background traffic volumes (Figure 9) plus the site-generated traffic volumes (from Figure 7).

TRAFFIC OPERATIONS ANALYSIS

LSC has completed intersection levels of service for short- and long-term traffic scenarios for the church's Sunday peak-hour time period. The peak for entering church traffic would not likely overlap within the same hour as the peak for exiting church traffic. These peak periods would remain separate provided:

- The church continues to hold only one Sunday service.
- If multiple services are offered, the time between services would be sufficiently long enough to allow for the peak period of exiting traffic from one service to end before the peak period of entering traffic for the following service would begin.

If multiple services are scheduled too closely together, entering and exiting peak volumes could occur simultaneously or with significant overlap. As such, separate peak periods were analyzed, with a peak-hour factor (PHF) of 0.50 used for entering and exiting site-generated traffic during each of these peak periods:

- Pre-service entering peak period
- Post-service exiting peak period

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 4 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 2: 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.

Detailed Synchro reports are attached. Level of service analysis results are summarized briefly below and shown in the following figures:

- Figure 4: 2024 Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 5: 2025 Short-Term Baseline Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2025 Existing + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 9: 2044 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 10: 2044 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

Struthers Road/Struthers Ranch Road

Short Term

All individual turning movements and single-lane approaches at the intersection of Struthers Road/Struthers Ranch Road currently operate at and are projected to remain at LOS B or better during the short term, with or without the addition of site-generated traffic.

Long Term

All individual turning movements and single-lane approaches at the intersection of Struthers Road/Struthers Ranch Road are projected to remain at LOS C or better during the long term, with or without the addition of site-generated traffic.

Struthers Ranch Road/Proposed Site Access

All movements at the proposed site access on Struthers Ranch Road are projected to operate at LOS B or better during all peak hours through the 20-year horizon, based on the projected short-term total and long-term total traffic volumes.

VEHICLE QUEUEING ANALYSIS

A SimTraffic queueing analysis was performed to determine if queues on the southwest-bound approach to Struthers Road on Struthers Ranch Road will extend back from the stop sign at Struthers Road to the proposed site-access intersection.

Queuing Analysis Terminology

“Upstream block time” represents the percentage of time during the peak hour in which the entry point for a turn lane upstream of the subject intersection is blocked by a queue in the adjacent through lane. “Storage block time” is the proportion of time in which the turn lane’s queue exceeds the available storage length and left-turning vehicles overspill the turn lane in the model and into the adjacent through lane.

“Maximum queue” represents the maximum queue length observed for each individual lane during the 15-minute analysis period. SimTraffic records the maximum back of queue observed for every two-minute period. In SimTraffic, a vehicle is considered queued whenever it is behind another vehicle traveling at less than 10 feet/second (approximately 7 mph) or at a stop bar. The maximum observed queue may not occur during the same interval in which the highest upstream block time (percent) or storage block time (percent) occurs. SimTraffic reports have reported the highest value for each metric for each turn lane/approach, regardless of if they occur in the same 15-minute interval.

Queuing Analysis Results

Westbound Approach

There are approximately 240 feet available for vehicle queueing between the stop sign at the intersection of Struthers Road/Struthers Ranch Road and the site access on Struthers Ranch Road. The worst-case queue from the church’s Sunday morning peak hour is reported below. Please refer to the attached SimTraffic queue reports for additional details. SimTraffic simulations assumed no modifications to the existing turn-lane lengths on Struthers Road or Struthers Ranch Road. Projected queues are projected to extend to the site access about 4 percent of the time during the 2044 Sunday exiting peak 15-minute period.

- Maximum queue – 169 feet
- 95th-percentile queue – 201 feet
- Upstream block time – 4 percent
- Storage block time – 0 percent

Southbound Left Turn

The Simtraffic analysis results show projected maximum and 95th percentile queues below the *ECM* storage length of 100 feet (from Table 2-30) for the Sunday morning peak hour. The existing turn lane can accommodate either.

AUXILIARY TURN-LANE NEEDS ANALYSIS

Struthers Road

Southbound-Left-Turn Deceleration Lane

As mentioned previously, there is a 340-foot southbound left-turn deceleration lane at the intersection of Struthers Road/Struthers Ranch Road. This lane meets the *ECM* auxiliary-lane criteria and does not need to be modified with the development.

Northbound-Right-Turn Deceleration Lane

There is a 385-foot northbound right-turn deceleration lane (combined lane plus taper length) at this intersection of Struthers Road/Struthers Ranch Road. This auxiliary lane, although it exists, is not currently required per the *ECM* based on existing or projected short-term (Phase 1) site-generated traffic. However, the lane would be required with buildout site-generated traffic as the 50-vph turning-volume threshold is projected to be exceeded on Sunday mornings with future buildout (future phase) church traffic. The turn lane already exists and is about 405 feet (270-foot lane plus 135-foot taper). The *ECM* requirement is 435 feet (less any length adjustment for an upgrade of greater than three percent), or a 235' lane plus 200' taper (for a 50-mph design speed).

Westbound-to-Northbound-Right-Turn Acceleration Lane

Struthers Ranch Road shown on the *Major Transportation Corridors Plan (MTCP)* as a Minor Arterial. Based on this roadway classification, a northbound-right-turn acceleration lane is **not** required on Struthers Road, as acceleration lanes are not required on Minor Arterials.

Struthers Ranch Road/Proposed Site Access

Based on projected long-term total volumes, no auxiliary turn lanes are required at the proposed site-access intersection on Struthers Road. Traffic would mainly only be impacted on Sunday mornings before church services begin and opposing southwest-through traffic volumes would be low.

TRAFFIC CONTROL

LSC recommends stop-sign traffic control for the northbound approach (and the future southeast-bound approach) at the Struthers Ranch Road/site-access “intersection.”

PEDESTRIAN AND BICYCLE ACCOMMODATION

A sidewalk exists along Struthers Road adjacent to the site. However, there are currently no sidewalks along Struthers Ranch Road adjacent to the site. It is recommended that a sidewalk be constructed adjacent to the site on Struthers Ranch Road.

There are no designated bike lanes on Struthers Road and the roadway is not planned to have bike lanes. However, there are sections of Struthers Road that have paved outside shoulders to accommodate cyclists.

COUNTY DEVIATION REQUESTS

A deviation request for limited intersection sight distance to the north from Struthers Ranch Road has been included with this submittal, as this is being required by staff. However, note that this is an existing condition regardless of this development. Please refer to the deviation request form (separate document).

COUNTY ROAD IMPROVEMENT FEE PROGRAM

Transportation Impact Fees

Per ECM Appendix B: *State what the current applicable Transportation Impact Fees are and what option the developer will be selecting for payment.*

The applicant intends to opt out of the PID options and will pay the full-fee amount at the time of building permit. The current “full-fee” is \$3,372 per 1,000 square feet of building floor area. The total fee amount for the **initial** 8,125 square foot of church building is \$27,398.

Reimbursable MTCP Improvements

There are no apparent reimbursable improvements programmed in the *MTCP* in the general vicinity of this site.

SUMMARY

- The site is projected to generate about 610 and 925 vehicle trips on the average Sunday during the short term (phase 1) and long term (buildout), respectively.
- During the short-term Sunday peak hour, approximately 69 vehicles would enter and 72 vehicles would exit the site.
- During the long-term Sunday peak hour, approximately 119 vehicles would enter and 126 vehicles would exit the site.
- Please refer to the “Level of Service” section above for detailed LOS analysis results for individual turning movements and approaches at all studied intersections, during the peak hours through the 2044 horizon year.
- Please refer to the “Queuing Analysis” section for details regarding the vehicular queuing evaluation at the study-area intersections.
- No additional auxiliary turn lanes are required and no modifications to existing turn lanes are needed. Please refer to the “Auxiliary Turn-Lane Analysis” section for details regarding the auxiliary turn-lane needs evaluation at the study-area intersections.

* * * * *

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: Tables 2 and 3
Figures 1-7
Traffic Count Reports
Synchro LOS Reports
Queuing Reports
Appendix A from the TIS for EPC PCD File No. PPR2248

Tables 2 and 3

DRAFT



Table 3: Trip Generation Estimate

ITE						Trip Generation Rates ²		Trips Generated		
Code	Description	Building Type	Value	Units ¹	Average Sunday	Sunday Peak Hour of the Generator ³		Average Sunday	Sunday Peak Hour of the Generator ³	
						In	Out		In	Out
Short Term										
560	Church	Initial Church Building	276	Seats	2.21	0.25	0.26	610	69	72
Long Term										
560	Church	Initial Church Building	276	Seats	2.21	0.25	0.26	610	69	72
560	Church	Potential Future Expansion	10.000	KSF	31.46	4.97	5.39	315	50	54
Total								925	119	126

¹ Seats = available seats in the church; KSF = 1,000 square feet

² Source: *Trip Generation, 11th Edition (2021)* by the Institute of Transportation Engineers (ITE)

³ Average Sunday trips are likely conservative, as only 1 Sunday service is anticipated initially. Assuming 1 service initially, the peak-hour "in" and "out" trips would occur during separate hours. This estimate assumes 1 hour between 2 services. It is most likely that the peak 15-minute period of "in" trips would not overlap with the peak 15-minute period of "out" trips.

Updated: 09/13/2024

DRAFT

Figures 1-7

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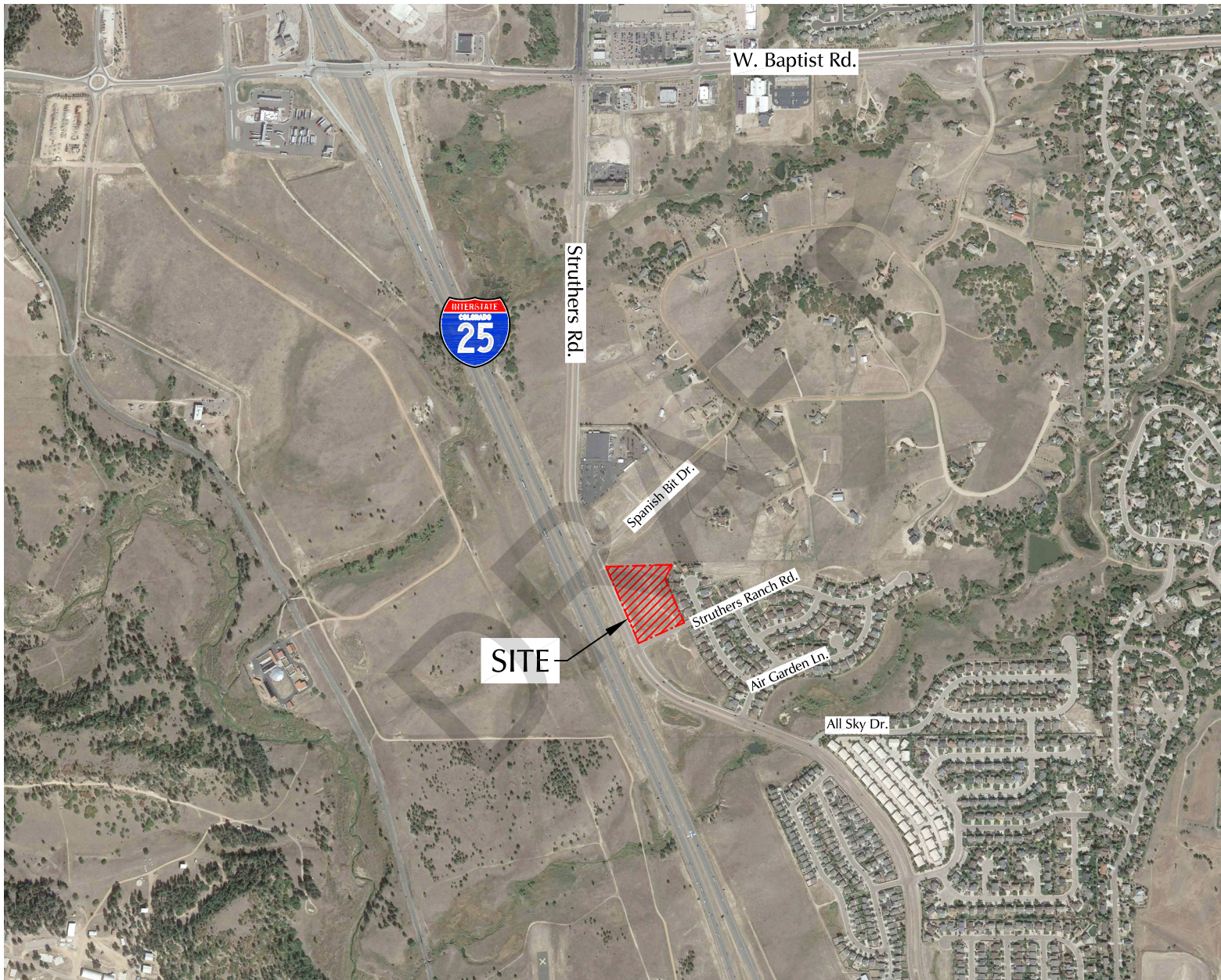


Figure 1
**Vicinity
Map**

Cathedral Rock Church (LSC #244310)

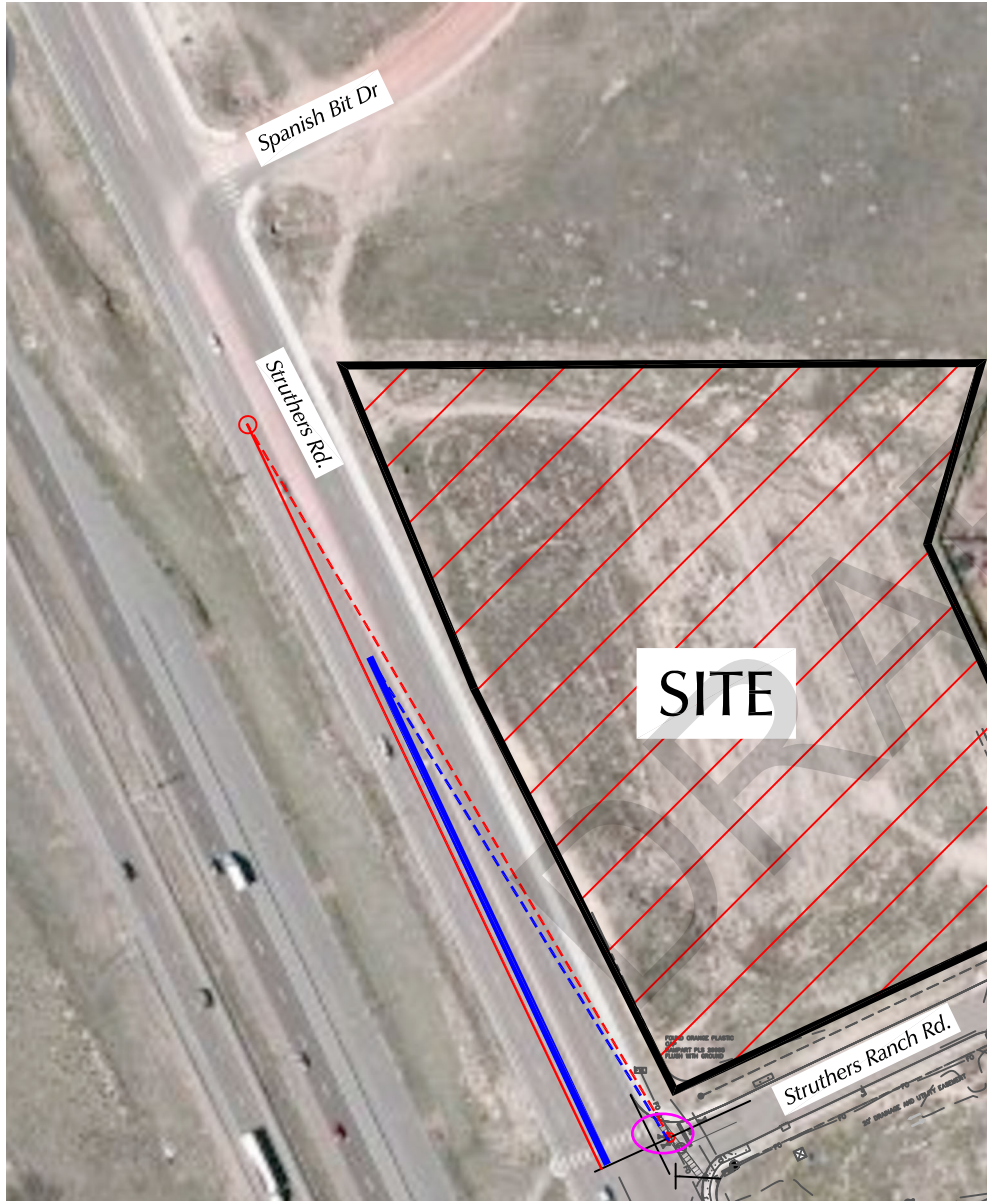


North Arrow
 Approximate Scale:
 1" = 100'

Figure 2
Site Plan

Cathedral Rock Church (LSC #244310)





Approximate Scale
1" = 150'

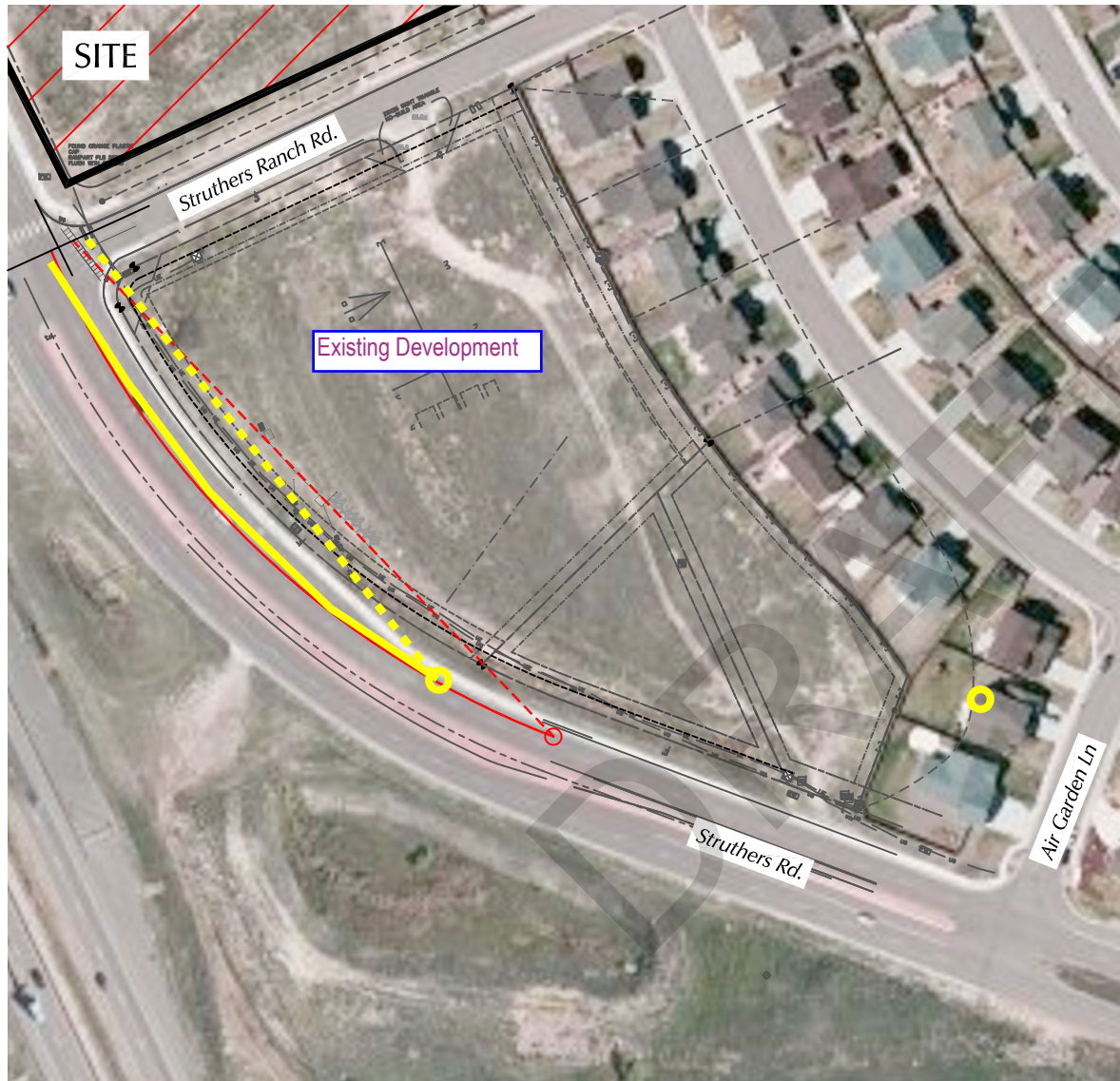
- = 645' Required Intersection Sight Distance
- - - = Line of Sight for 590' of Intersection Sight Distance
- = 450' Field-Measured Sight Distance
- - - = Line of sight for existing field measured sight distance

Sight Distance Exhibit No. 1
 This exhibit has been taken from the TIS report for EPC PCD File No. PPR2248 (Figure 3a from that report) and modified with the current site labeled.

Figure 3a
*Intersection Sight Distance
 (Struthers Ranch Rd to the North)*

Cathedral Rock Church (LSC #244310)





Approximate Scale
1" = 150'

From prior TIS report:

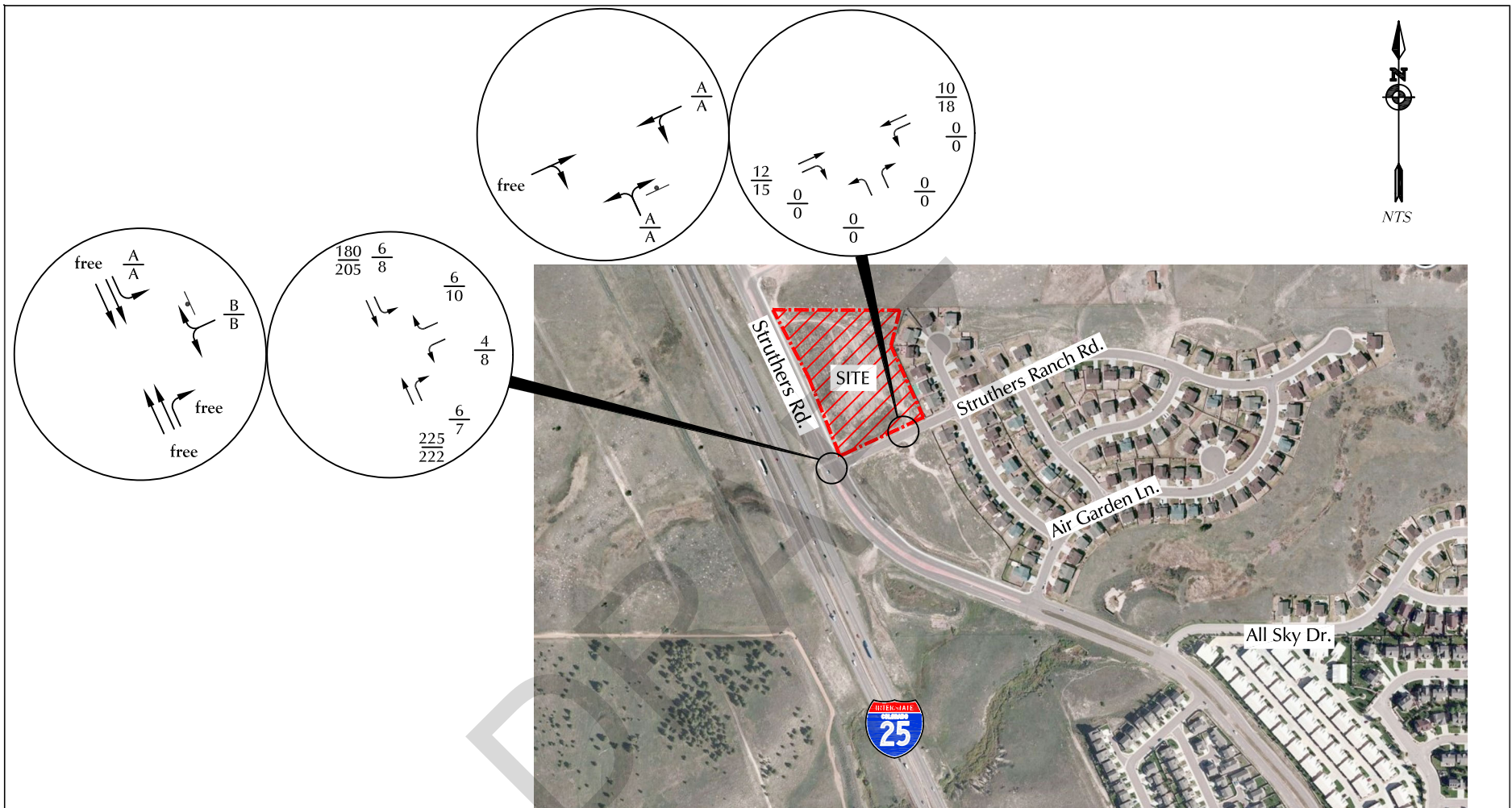
- = 590' Required Sight Distance
- - - = Line of Sight for 590' of Intersection Sight Distance

470' existing sight distance

Field Measured - 10/18/2024

This figure has been taken from the TIS report for EPC PCD File No. PPR2248 (Figure 3a from that report) and modified with the current site labeled. Also, the current (fall 2024) sight distance field measurement has been added.

Figure 3b
*Intersection Sight Distance
(Struthers Ranch Rd to the South)*



LEGEND:

⊥ = Stop Sign

$\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour) 9:45-10:45am

$\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour) 10:30-11:30pm

$\frac{A}{A}$ = Sunday Pre-Church Service Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = Sunday Post-Church Service Individual Movement Peak-Hour Level of Service

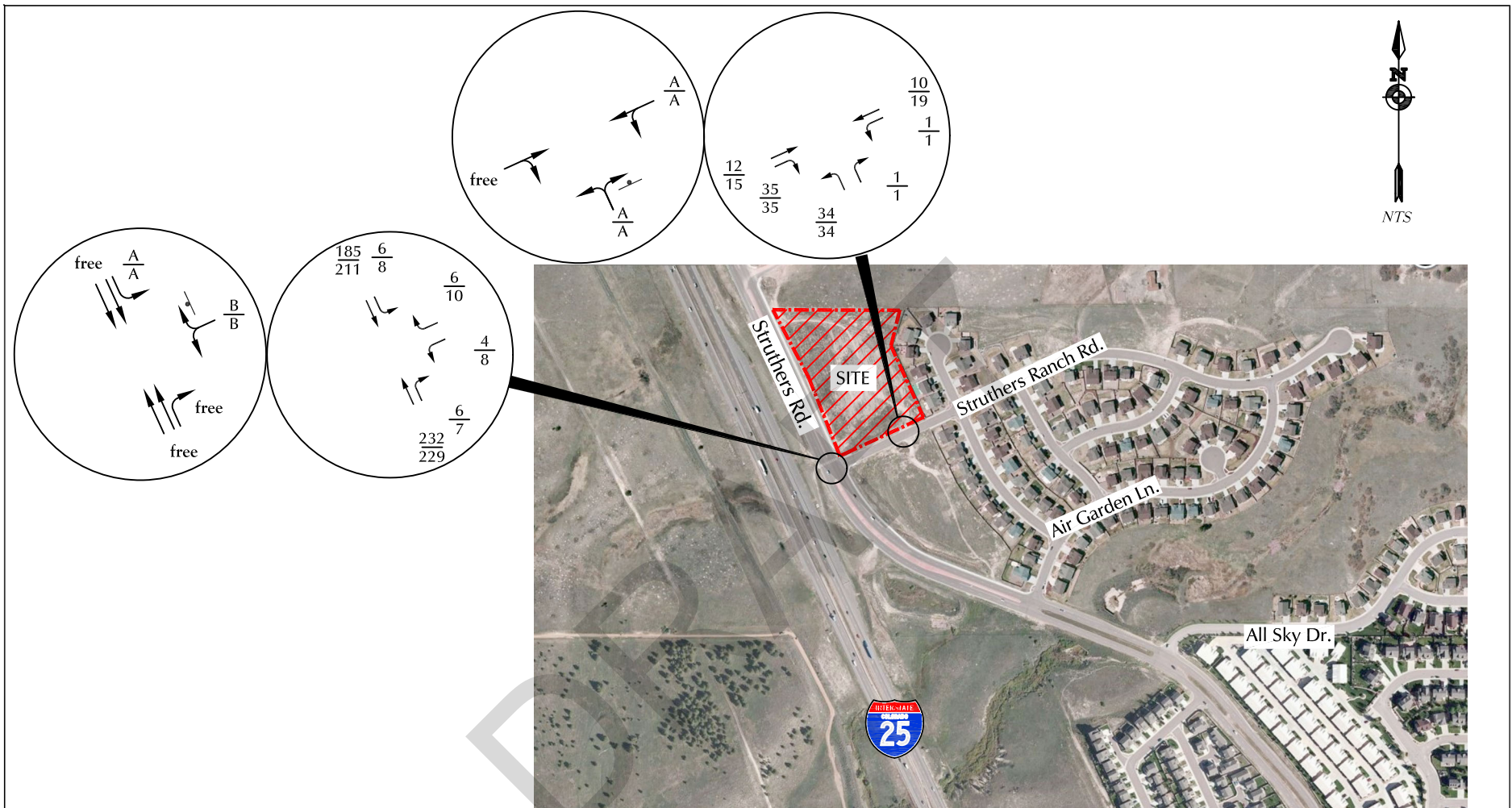
Figure 4

Existing Sunday Morning Traffic Conditions

Cathedral Rock Church (LSC #244310)



Based on counts by LSC Sept 2024



LEGEND:

⌋ = Stop Sign

$\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour)

$\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour)

$\frac{A}{A}$ = Sunday Pre-Church Service Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = Sunday Post-Church Service Individual Movement Peak-Hour Level of Service

Figure 5

2025 Short-Term Baseline Traffic Conditions

Cathedral Rock Church (LSC #244310)



LEGEND:

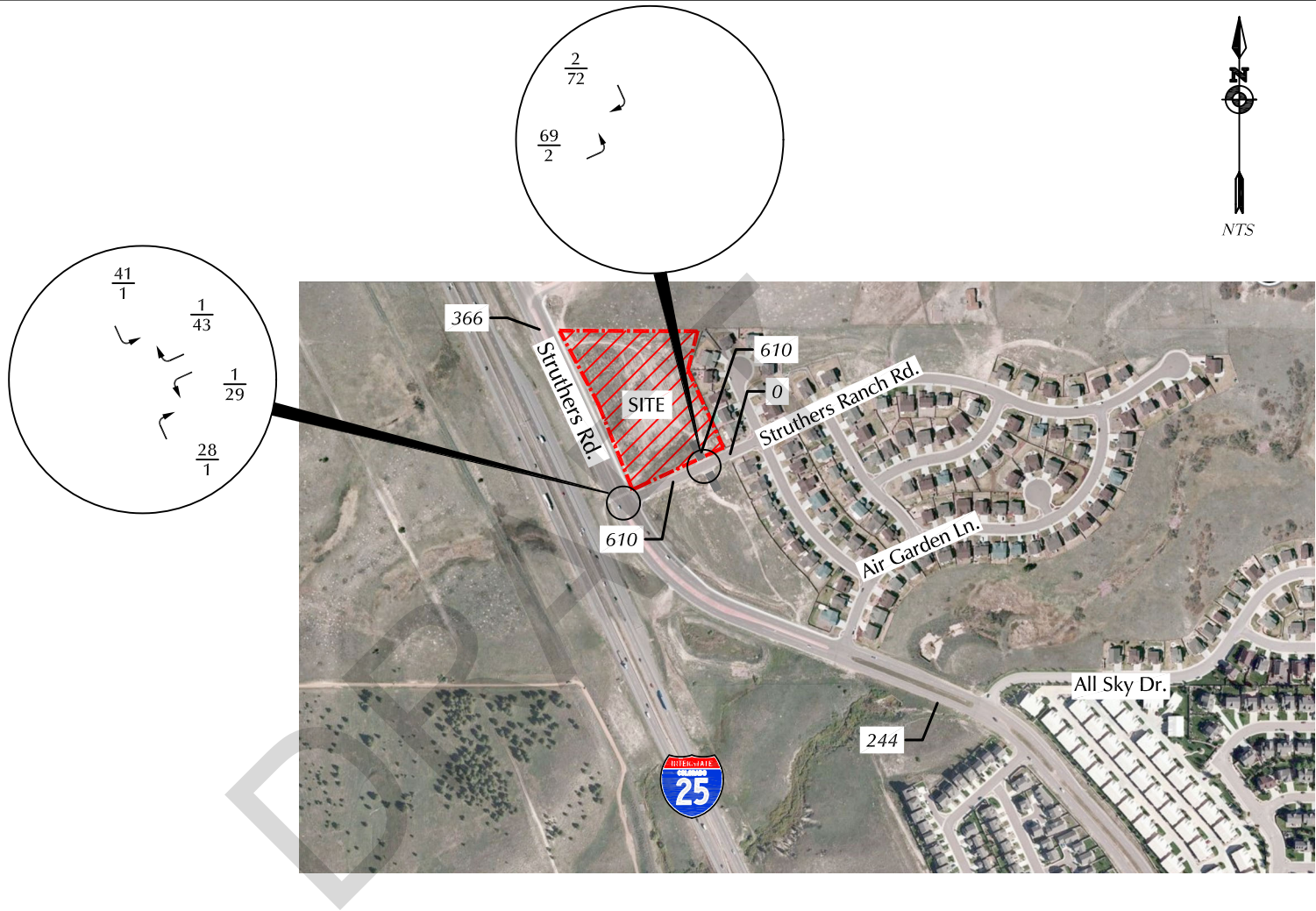
XX% = Percent Directional Distribution



Directional Distribution of Site-Generated Traffic

Figure 6

Cathedral Rock Church (LSC #244310)



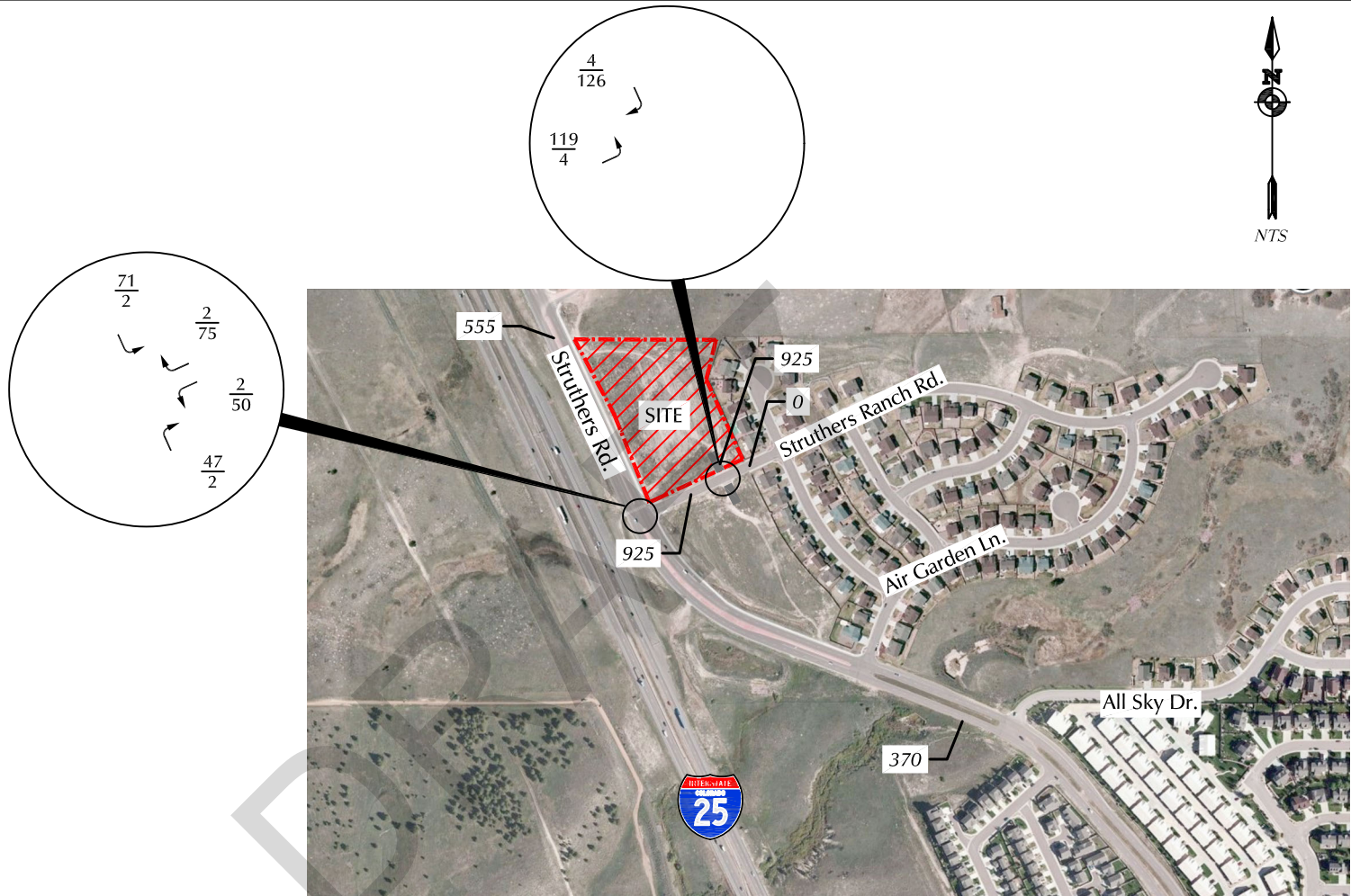
LEGEND:

- $\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour)
- $\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour)
- X,XXX = Average Sunday Traffic (vehicles per day)

Figure 7a

Short-Term Phase 1 Site-Generated Traffic Volumes

Cathedral Rock Church (LSC #244310)



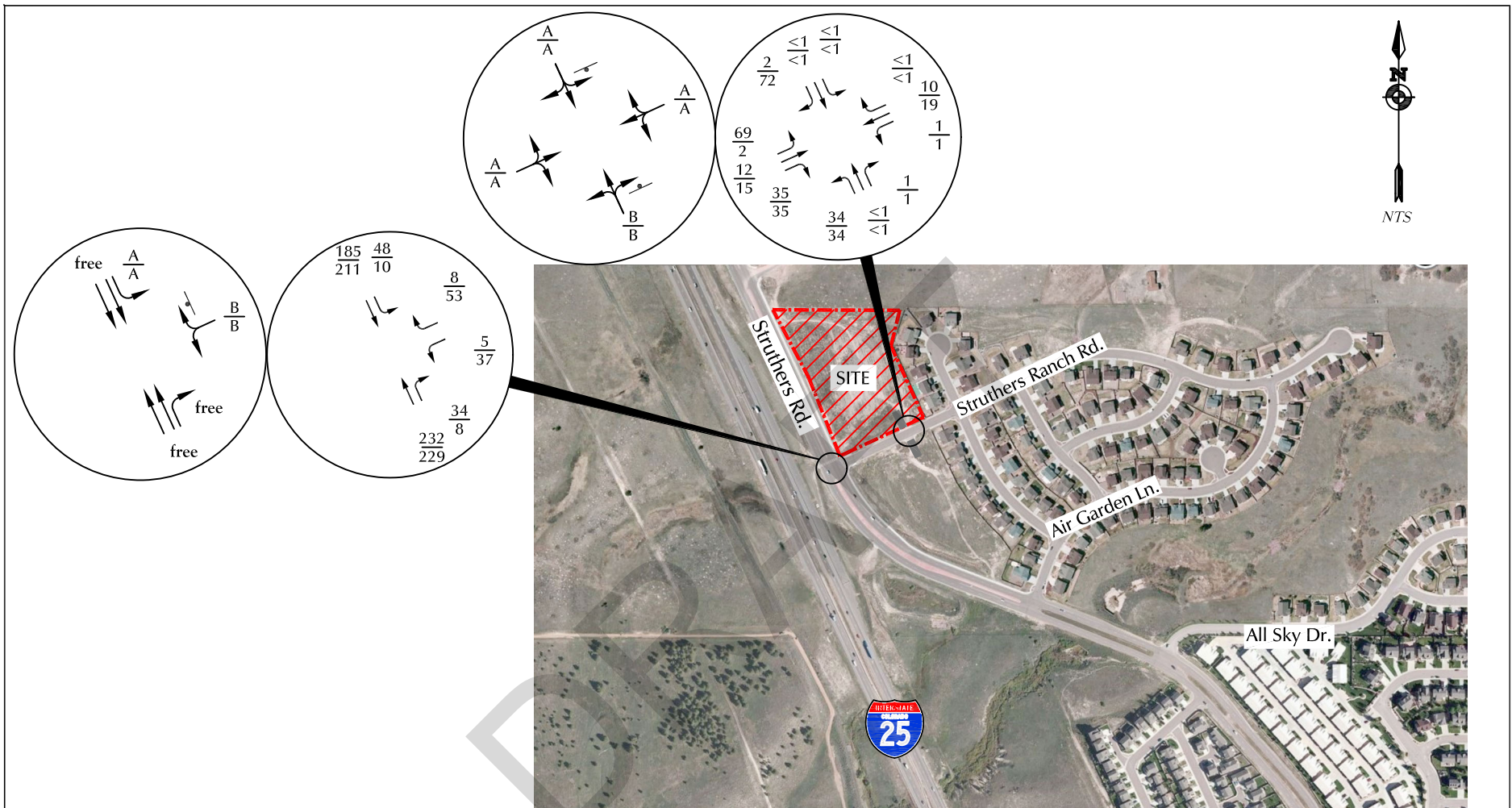
LEGEND:

- $\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour)
- $\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour)
- X,XXX = Average Sunday Traffic (vehicles per day)

Figure 7b

Long-Term Buildout Site-Generated Traffic Volumes

Cathedral Rock Church (LSC #244310)



LEGEND:

⊥ = Stop Sign

$\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour)

$\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour)

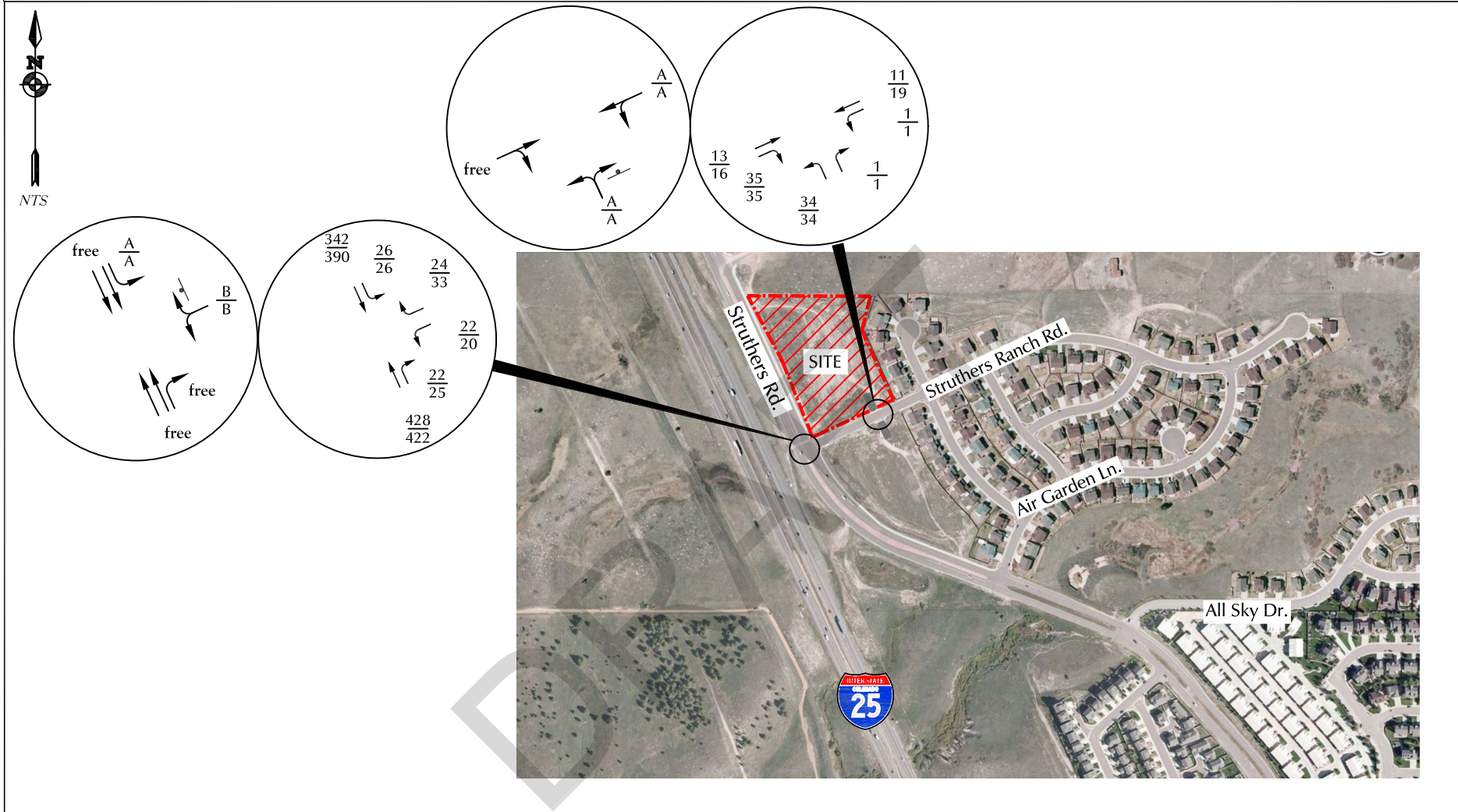
$\frac{A}{A}$ = Sunday Pre-Church Service Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = Sunday Post-Church Service Individual Movement Peak-Hour Level of Service

Figure 8

2025 Short-Term Total Traffic Conditions

Cathedral Rock Church (LSC #244310)



LEGEND:

⊥ = Stop Sign

$\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour)

$\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour)

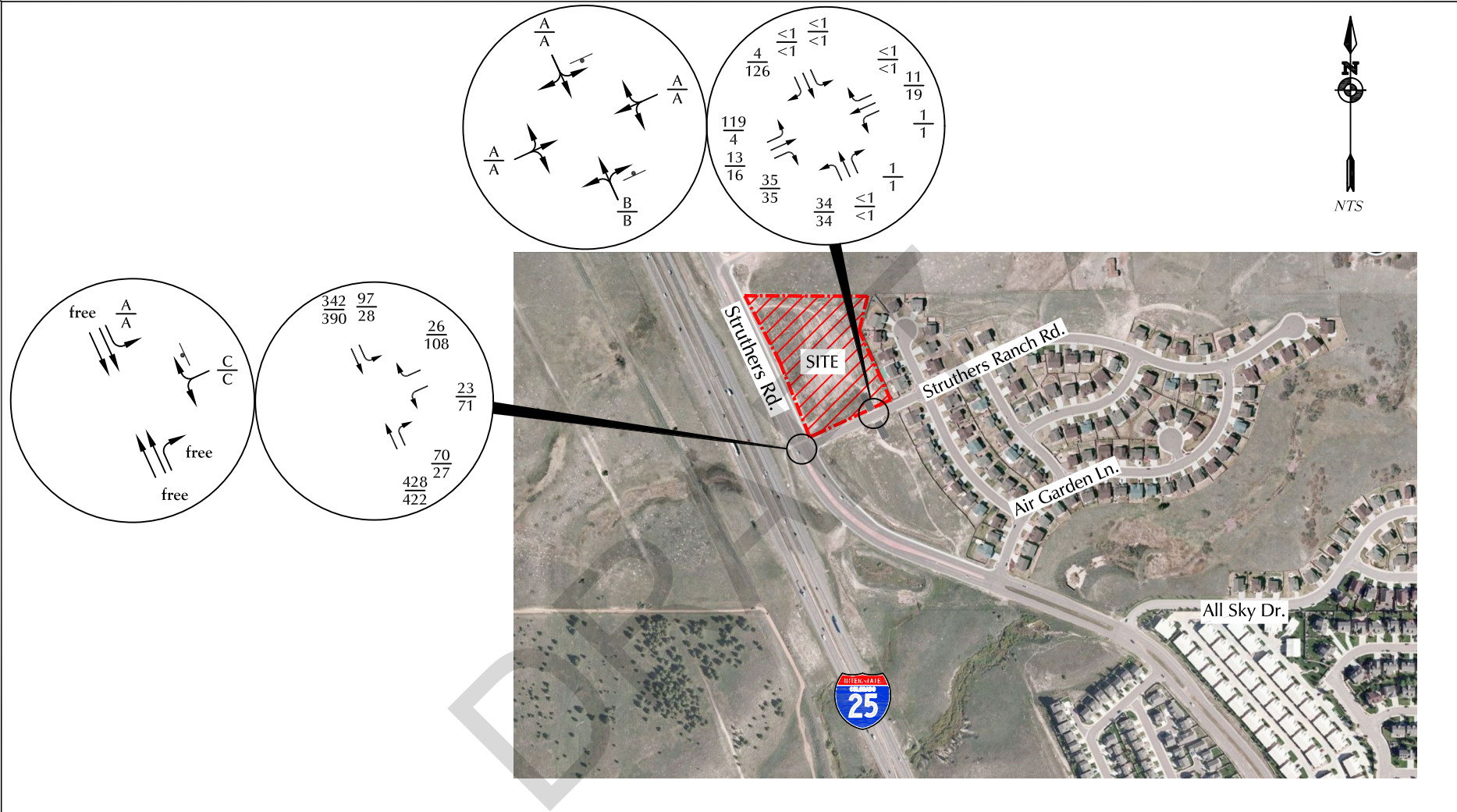
$\frac{A}{A}$ = Sunday Pre-Church Service Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = Sunday Post-Church Service Individual Movement Peak-Hour Level of Service

Long-Term Background Traffic Conditions

Figure 9

Cathedral Rock Church (LSC #244310)



LEGEND:

⊥ = Stop Sign

$\frac{XX}{XX}$ = Sunday Pre-Church Service Peak-Hour Traffic (vehicles per hour)

$\frac{XX}{XX}$ = Sunday Post-Church Service Peak-Hour Traffic (vehicles per hour)

$\frac{A}{A}$ = Sunday Pre-Church Service Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = Sunday Post-Church Service Individual Movement Peak-Hour Level of Service

Figure 10

Long-Term Total Traffic Conditions

Cathedral Rock Church (LSC #244310)

Traffic Counts

DRAFT



Level of Service Reports

DRAFT



Queuing Reports

DRAFT

DRAFT

