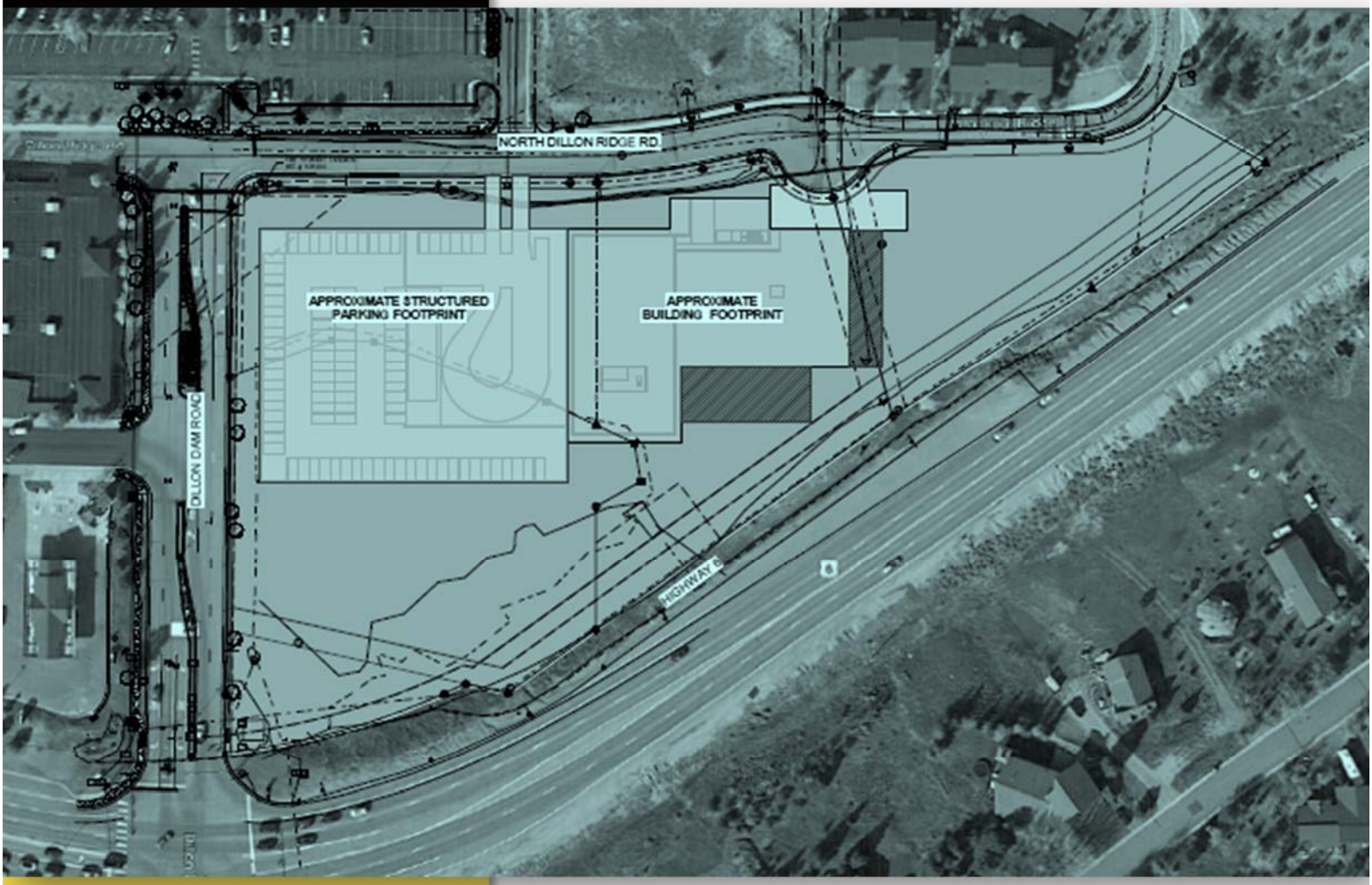
Dillon Medical Building

Traffic Impact Analysis



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TRAFFIC IMPACT STUDY

1.0 INTRODUCTION

The Fox Tuttle Hernandez Transportation Group prepared this traffic impact study for the development of the Dillon Medical Building in Dillon, CO. The project proposes to construct a medical center and parking garage on vacant property to accommodate an urgent care, outpatient surgery, and medical offices. The hospital is located just north of US Highway 6 and east of N. Dillon Dam Road, as shown to the right. Lookout Ridge Drive will provide access to the medical facility.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of this project. The traffic study addresses existing, short-term (Year 2022), and long-term (Year 2038) peak hour intersection conditions in the study area with and without the project generated traffic. The information contained in this study is anticipated to be used by the Town of Dillon in identifying any intersection or roadway deficiencies and potential improvements for both the short-term and long-term future scenarios. This study focused on the weekday Midday and PM and Saturday peak hours which historically has been the periods of highest traffic on N. Dillon Dam Road. This traffic study is consistent with Town of Dillon requirements.

2.0 PROJECT DESCRIPTION

The new building will be located in the northeast corner of US Highway 6 and N. Dillon Dam Road with the parking structure on the west side of the property and the medical building on the east side of the property. Dillon Medical Building proposes to construct one building within two phases, with approximately 75,000± gross square feet (sq. ft.) in the first phase and an additional 25,000± sq. ft. in the second phase. Initially, a parking structure that will be constructed with roughly 293 parking spaces. Based on the conceptual plan, the new building will provide the following services:

- Outpatient surgery center
- Sports Medicine, Orthopedic, and Physical Therapy Clinical services
- Urgent Care
- 72-Hour Care (inpatient)
- Retail Pharmacy

It is anticipated that the pharmacy will support the health center staff and patients with infrequent visits from outside customers. A vicinity map is shown on **Figure 1**. The site and access plan is provided on **Figure 2**.

3.0 STUDY CONSIDERATIONS

The traffic analysis addressed the signalized and unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*[1]. Study intersections were evaluated using Synchro (version 9) software for signalized and stop-controlled intersections.

3.1 Data Collection

Town staff provided historic count data for N. Dillon Dam Road to determine the most appropriate time periods to gather data. During the weekday, the historic data indicated that the peak traffic periods accorded at 11:00am to 1:00pm and 4:00pm to 6:00pm. The Town

[1] Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2010.

requested additional count data to be collected over Labor Weekend; therefore, count data was also collected on Saturday afternoon to capture holiday traffic.

Traffic counts were collected on Saturday, September 1, 2018 (Labor Day Weekend) and Thursday, September 6, 2018 (typical weekday). Intersection turning movement counts were collected for the three study intersections during the peak periods. The data indicated that the Saturday peak is 4:00 to 5:00 PM, the weekday midday peak hour is 12:00 to 1:00 PM and the evening peak hour is 4:45 to 5:45 PM.

Volumes through the intersection on US Highway 6 are similar between the Saturday and weekday evening peaks. On N. Dillon Dam Road, the highest peak hour intersection and roadway volumes occurred on Saturday afternoon. Evaluating the holiday weekend peak hour and a typical weekday peak hour provides the opportunity to understand if there are traffic impacts related to the proposed medical office at varying traffic levels.

The existing traffic volumes are illustrated on **Figure 3**. The existing intersection geometry and traffic control are also shown on this figure. Signal timing for the intersection of US Highway 6 at N. Dillon Dam Road was provided by Colorado Department of Transportation (CDOT) and utilized within the analysis. Count data is provided in the **Appendix**.

3.2 Level-of-Service Criteria

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as “Level-of-Service” (LOS) that is defined by the *HCM.* LOS characterizes the operational conditions of an intersections traffic flow, ranging from LOS A (indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement. Criteria contained in the *HCM* was applied for these analyses in order to determine peak hour LOS. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference. Typically, an acceptable level-of-service is LOS D or better in the peak hours.

4.0 EXISTING CONDITIONS

4.1 Roadways

The study area boundaries are based on the amount of traffic to be generated by the project and potential impact to the existing roadway network. The existing study area street network consists of arterials and local streets. The primary public roadways that serve the project site are discussed in the following text. The existing study area roadway network is illustrated on **Figure 1**.

US Highway 6 is an east-west principal arterial that connects Dillon to Keystone to the Loveland Ski Area. The highway provides access to I-70 on both sides of the Continental Divide/Eisenhower-Johnson Tunnels. US Highway 6 becomes Loveland Pass between Keystone and Loveland Ski Area, which is the alternative route to I-70 for trucks carrying hazardous materials to bypass the tunnels. West of N. Dillon Dam Road, US Highway 6 is classified by CDOT as a Non-Rural Rural Arterial (NR-B) with three lanes per direction and services approximately 17,900 vehicles per day (vpd). East of N. Dillon Dam Road, the highway changes classification to Non-Rural Principal Highway (NR-A) with two lanes per direction and services approximately 12,000 vpd. The posted speed limit also changes on either side of N. Dillon Dam Road; west of the intersection the speed limit is 35 miles per hour (mph) and increases to 45 mph east of the intersection.

Adjacent to the project property, the highway is 60-feet wide and increasing to 94-feet as it approaches the intersection with N. Dillon Dam Road. The cross-section includes 12-foot through lanes, two per direction; 6-foot shoulders; and 12-foot auxiliary lanes at the intersection. US Highway 6 is the southern boundary of the project study area.

N. Dillon Dam Road is a four-lane collector that serves as the east access to the existing Dillon Ridge Marketplace, while also serving the vehicles destined for Skyline Cinema and the Lookout Ridge Townhomes. The roadway width is 66-feet with 12-foot travel lanes (two per direction and 18-foot median/center turn lane. It has a posted speed limit 25 mph. N. Dillon Dam Road, north of US Highway 6, served 9,650 vpd on Saturday of Labor Day weekend and 8,900 vpd on a weekday. This roadway is the western boundary of the project study area.

Dillon Ridge Way, Dillon Ridge Road, and Lookout Ridge Drive are two-lane local roadways that serve commercial and residential properties. Dillon Ridge Way and Dillon Ridge Road lead into the Dillon Ridge Marketplace. Lookout Ridge Drive leads to

townhomes and is proposed be the primary roadway for access to the Dillon Medical Building.

4.2 Intersections

The study area was developed from discussions with Town staff and includes three existing intersections as listed below with the current traffic control:

1. US Highway 6 at Dillon Dam Road (signalized)
2. N. Dillon Dam Road at Dillon Ridge Way (side-street stop-controlled)
3. N. Dillon Dam Road at Dillon Ridge Road/Lookout Ridge Drive (all-way stop)

The lane configuration at each of the study intersections is illustrated on **Figure 3**.

4.3 Pedestrian and Bicycle Access

There are sidewalks on the west side of N. Dillon Dam Road, north side of Lookout Ridge Drive, and both sides of Dillon Ridge Road. Across from the highway, there is a multi-use path that circulates Dillon Reservoir and leads to the center of the Town, as well as to the adjacent communities of Frisco, Silverthorne, and Keystone.

There are no on-street bike lanes on the study area roadways.

4.4 Transit Access

Currently, the project area is served by Summit Stage and there is one bus route that has a stop near the project site. Silverthorne-Dillon-Keystone Route connects the Silverthorne Station to River Run in Keystone via US Highway 6. The bus route travels through Dillon Ridge Marketplace via Dillon Dam Way, with a covered shelter bus stop just east of Ruby Tuesday's.

The Town plans to provide an enhanced bus stop within or near the study area that will serve the existing commercial uses, as well as the future staff and visitors of the proposed Dillon Medical Building. The exact location and design of the enhanced bus stop is to be determined.

4.5 Existing Intersection Capacity Analysis

The results of the LOS calculations for the intersections are summarized in **Table 1**. The intersection level-of-service worksheets are attached in the **Appendix**. **All of the study intersections operate overall at acceptable level-of-service, LOS D or better.**

The intersection of US Highway 6 at Dillon Dam Road has two movements operating at LOS E: northbound left and northbound left+through. The side-street delay is a result of the signal needing to operate as split phasing for the northbound and southbound approaches. The left-turn storage is limited; therefore, both side-street approaches have added left-turn capacity by sharing the through lane with a second left-turn lane.

No mitigation measures are recommended. It is common that side-street movements, especially left-turns, to operate below acceptable levels during peak hours, and shifting time to accommodate these movements would be at the expense of the heavy through traffic on US Highway 6.

5.0 FUTURE BACKGROUND TRAFFIC CONDITIONS

5.1 Annual Growth Factor and Future Volume Methodology

In order to forecast the future peak hour traffic volumes, background traffic growth assumptions were based on CDOT's 20-year factor for US Highway 6 available on their Online Transportation Information System (OTIS). West of Dillon Dam Road the 20-year factor is 1.19 (equates to 0.9% annual growth) and east of Evergreen Road the 20-year factor is 1.24 (equates to 1.1% annual growth). Therefore, the average annual growth rate on the highway adjacent to the project property is anticipated to be 1.0%. This rate was applied to all the intersections within the study area.

The 2022 background traffic is summarized on **Figure 4** and the 2038 background traffic is summarized on **Figure 5**.

5.2 Year 2022 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the 2022 background scenario and to identify any capacity constraints associated with background traffic. The level-of-service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes.

The results of the LOS calculations for the intersections are summarized in **Table 1**. The intersection level-of-service worksheets are attached in the **Appendix**.

All of the study intersections operate overall at acceptable levels-of-service and perform similarly to the existing conditions. The movements that operated at LOS E in the weekday Midday peak hour in the existing condition will continue to operate at that level in the 2022 background scenario.

5.3 Year 2038 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the 2038 background scenario and to identify any capacity constraints associated with background traffic. The level-of-service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term background volumes.

The results of the LOS calculations for the intersections are summarized in **Table 1**. The intersection level-of-service worksheets are attached in the **Appendix**.

All of the study intersections operate overall at acceptable levels-of-service and perform similarly to the existing conditions. The movements that operated at LOS E in the weekday Midday peak hour in the existing and short-term background conditions will continue to operate at that level in the 2038 background scenario.

6.0 PROPOSED DEVELOPMENT TRAFFIC

6.1 Trip Generation

To establish the volume of new trips that will be added to the roadway network from the proposed Dillon Medical Building, trip generation rates were gathered from the *Institute of Transportation Engineers (ITE) Trip Generation Manual*[2]. A trip generation estimate was performed to determine the traffic increase based on land use types. It is proposed that the first phase will provide a building of 75,000± sq. ft. for hospital type uses, including sports medicine, orthopedics, surgery center, urgent care, 72-hour stay, and pharmacy. The parking garage will be built in the first phase and will include approximately 293 parking spaces. The second phase

2 Trip Generation 10th Edition, Institute of Transportation Engineers, 2017.

will increase the building size by 25,000± sq. ft. with additional surgical operating rooms and outpatient care.

For the purpose of this traffic study, the various uses were combined into these three medical land uses that are most appropriate based on the ITE *Trip Generation Manual*:

- ITE #610: Hospital
- ITE #720: Medical-Dental Office
- ITE #650: Free-Stranding Emergency Room

It is anticipated that the pharmacy will mainly service the hospital patrons and any new trips will be estimated within the hospital land use. The following square footage per land use type were assumed for the traffic study:

Land Use	Phase 1	Phase 2
Hospital	41,700	9,000
Medical Office	29,200	16,000
Urgent Care	4,100	0
Total Sq. Ft.	*75,000*	*25,000*

Majority of land uses within the ITE *Trip Generation Manual* do not have separate trip rates for midday peak hours; therefore, the AM peak hour rates were utilized for the Midday peak hour in this traffic study. The trip generation estimates are shown in **Table 2A (Phase 1)** and **Table 2B (Phase 2)**.

Trip Types

The proposed Dillon Medical Building will create new trips, also known as 'primary trips', which is discussed in detail below:

> Primary Trips. These trips are made specifically to visit the medical center and are considered "new" trips. Primary trips would not have been made if the proposed project

did not exist. Therefore, this is the only trip type that increases the total number of trips made on a regional basis.

Multi-Use/Non-Auto Trips. These internal trips occur from one land use or office to another within the subject property. For example, a person who works at the hospital may purchase an item from the pharmacy or visit another office within the building. Non-auto trips are those that are completed by walking, biking, or using transit. Multi-use and non-auto trips do not affect the exterior site access points, nor add any additional traffic volumes to the adjacent street network. It was assumed multi-use/non-auto trips would be minimal due to the nature of the land use and patrons/employees coming from various locations within the mountains; for conservative purposes the trips were not reduced for multi-use/non-auto trips.

These assumptions are shown within the trip generation estimates in **Table 2A (Phase 1)** and **Table 2B (Phase 2)**. The trips are summarized below:

Period	Phase 1	Phase 2	Total (Full Build-out)
Weekday Daily	1,565	653	2,218
Weekday Midday	126	52	178
Weekday PM	147	64	211
Saturday Daily	647	206	853
Saturday PM	78	25	103

6.2 Trip Distribution and Assignment

The distribution percentages are based on regional land use destinations, existing travel patterns, and proximity to I-70 and neighboring mountain communities. The overall distribution is as follows, as well as presented on **Figure 6**:

- 40% to/from US Highway 6 (west)
- 38% to/from US Highway 6 (east)
- 20% to/from Dillon Dam Road (south)
- 2% to/from Dillon Ridge Marketplace

Using these distribution assumptions, the projected site traffic was assigned to the study area roadway network for the Saturday and weekday Midday and PM peak hour periods. The phase 1 site-generated volumes are shown on **Figure 7A** and phase 2 site-generated volumes are shown on **Figure 7B.**

6.3 Proposed Access

The project proposes to have two accesses on Lookout Ridge Drive: (1) into the parking garage and near the front door and (2) serving the loading docks. The access locations are shown on **Figure 2**.

7.0 FUTURE TRAFFIC CONDITIONS WITH SITE DEVELOPMENT

This section discusses impacts associated with the development of the Dillon Medical Building in the short-term and long-term scenarios.

7.1 Phase 1 – Year 2022 Background + Project Intersection Capacity Analysis

The phase 1 site-generated traffic volumes were added to the 2022 background volumes to analyze potential site impacts in the short-term, phase 1 scenario. The 2022 background + phase 1 site-generated traffic volumes are illustrated on **Figure 8**. The level-of-service criteria discussed in prior sections was applied to the study area intersections to determine impacts with the addition of site-build out traffic volumes in the short-term. The results of the LOS calculations for the intersections are summarized in **Table 1**.

The project trips do not significantly impact the study intersections for the short-term (phase 1) scenario. The study intersections and all movements will operate with the same LOS letter grade or within two seconds of additional delay when compared to the Year 2022 background scenario.

7.2 Phase 2 – Year 2038 Background + Project Intersection Capacity Analysis

The phase 1 & 2 site-generated traffic volumes were added to the 2038 background volumes to analyze potential site impacts in the long-term build-out scenario. The 2038 background + phase 1 & 2 site-generated traffic volumes are illustrated on **Figure 9**. The level-of-service criteria discussed in prior sections was applied to the study area intersections to determine impacts with the addition of site-build out traffic volumes in the long-term. The results of the LOS calculations for the intersections are summarized in **Table 1**.

The project trips do not significantly impact the study intersections for the long-term (phase 2) build-out scenario. The study intersections and all movements will operate with the same LOS letter grade or within six seconds of additional delay when compared to the 2038 background scenario.

8.0 QUEUE ANALYSIS

A queuing analysis was performed to determine if the queues would be accommodated by the existing storage length and if any of the queues impact an upstream intersection/access. **Table 3** provides the existing storage lengths or distance to nearest intersection/access, and the 95th percentile[3] and average queues for the three peak hours within each evaluation scenario.

As shown in **Table 3**, the majority of the 95th percentile queues are shorter than the provided storage length or nearest upstream intersection/access, except those highlighted with **blue bold** font. The 95th percentile queues exceed the existing storage length during the existing and background conditions for the following movements:

- **US Highway 6 at N. Dillon Dam Road**
    - Northbound Left-turn
    - Southbound Left-turn

Both side street movements have limited length to accommodate the turn lane storage needs. The northbound and southbound through lanes have become shared lanes with the left-turn to increase turning capacity. The signal timing is constrained by the progression needed on the highway and side street split phase operations. No mitigation measure is recommended.

It should be noted that **the project trips only slightly increase queues at the study intersections.** The largest increase related to the phase 1 trips (Year 2022) is on the eastbound and southbound left-turns at US Highway 6 and Dillon Dam Road during the weekday peak hours. It was estimated that the 95th percentile queues will be lengthened by up to 1.5 vehicles (assumes each vehicle utilizes 25 feet of space). The additional trips from phase 2 will increase

[3] It should be noted that the 95th percentile queue length is a theoretical queue that is 1.65 standard deviations above the average queue length. In theory, the 95th percentile queue would be exceeded 5% of the time based on the average queue length, but it is also possible that a queue this long may not occur.

the 95th percentile queues in the Year 2038 background scenario by 0.5 to 2.5 vehicles on the following lanes at the intersection of US Highway 6 and Dillon Dam Road: eastbound left-turn, southbound left-turn, and southbound left/through.

At the all-way stop intersection of N. Dillon Dam Road at Lookout Ridge Drive, the westbound approach and the northbound right-turn lane will experience longer queues; however, the queues are not anticipated to be more than 40 feet (less than two vehicles). Increased queues related to the trips associates with the proposed Dillon Medical Building will not exceed existing storage lengths.

9.0 CONCLUSIONS

The Dillon Medical Building proposes to construct a medical building with 75,000± sq. ft. in phase 1 to include an urgent care, outpatient surgery center, sports medicine, orthopedic clinic, and physical therapy, 72-hour care (inpatient), and a retail pharmacy. During the second phase of this project, it is anticipated that the building will increase by 25,000± sq. ft. to expand upon the phase 1 services. Access to the site is planned via two proposed driveways on Lookout Ridge Drive. The primary access for staff and visitors will be the access nearest to N. Dillon Dam Road as it will lead to the parking structure and front door of the medical center. The secondary access will serve loading and unloading operations.

Phase 1 of the project is estimated to generate approximately 1,565 weekday daily trips with 126 trips occurring in the Midday peak hour and 147 trips occurring in the PM peak hour at build-out. Saturday is estimated to have 647 daily trips with 78 trips in the Saturday PM peak hour. Phase 2 will add approximately 653 weekday daily trips, 52 Midday peak hour trips, and 64 PM peak hour trips, as well as 206 daily Saturday trips and 25 weekend peak hour trips. **It was determined that the existing roadway and intersection network can serve the site added traffic volumes in the short-term and long-term scenarios**. No mitigation measures are needed.

The proposed site access and circulation will adequately serve the estimated vehicular trips and loading operations.

Tables and Figures:

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Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Lanes Groups	2018 Existing						2022 Background						2022 Background + Project						2038 Background						2038 Background + Project					
	Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL																														
Dillon Dam Rd. at Dillon Ridge Way	**7**	**A**	**8**	**A**	**7**	**A**	**7**	**A**	**9**	**A**	**7**	**A**	**7**	**A**	**8**	**A**	**7**	**A**	**8**	**A**	**10**	**A**	**9**	**A**	**7**	**A**	**10**	**A**	**9**	**A**
Eastbound Left+Right	*11*	*B*	*12*	*B*	*13*	*B*	*11*	*B*	*12*	*B*	*13*	*B*	*12*	*B*	*14*	*B*	*14*	*B*	*13*	*B*	*14*	*B*	*17*	*C*	*14*	*B*	*18*	*C*	*20*	*C*
Northbound Left	*8*	*A*	*9*	*A*	*9*	*A*	*8*	*A*	*9*	*A*	*9*	*A*	*8*	*A*	*9*	*A*	*9*	*A*	*8*	*A*	*9*	*A*	*9*	*A*	*9*	*A*	*10*	*B*	*9*	*A*
Northbound Through	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Southbound Through+Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Dillon Dam Rd. at Dillon Ridge Rd. / Lookout Ridge Dr.	**8**	**A**	**8**	**A**	**9**	**A**	**8**	**A**	**8**	**A**	**9**	**A**	**8**	**A**	**9**	**A**	**10**	**A**	**8**	**A**	**8**	**A**	**10**	**A**	**9**	**A**	**9**	**A**	**10**	**B**
Eastbound Through+Right	*7*	*A*	*7*	*A*	*8*	*A*	*7*	*A*	*7*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*	*7*	*A*	*7*	*A*	*9*	*A*	*8*	*A*	*8*	*A*	*9*	*A*
Westbound Left+Through	*8*	*A*	*8*	*A*	*9*	*A*	*8*	*A*	*8*	*A*	*9*	*A*	*8*	*A*	*9*	*A*	*10*	*A*	*8*	*A*	*8*	*A*	*9*	*A*	*9*	*A*	*10*	*A*	*11*	*B*
Northbound Left	*9*	*A*	*9*	*A*	*10*	*B*	*9*	*A*	*9*	*A*	*10*	*B*	*9*	*A*	*9*	*A*	*11*	*B*	*9*	*A*	*9*	*A*	*11*	*B*	*9*	*A*	*10*	*A*	*12*	*B*
Northbound Right	*7*	*A*	*7*	*A*	*8*	*A*	*7*	*A*	*7*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*	*7*	*A*	*7*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*
Lookout Ridge Dr. at Skyline Cinema / Access 1													**3**	**A**	**6**	**A**	**6**	**A**							**3**	**A**	**6**	**A**	**6**	**A**
Eastbound Left+Through+Right													*2*	*A*	*1*	*A*	*4*	*A*							*1*	*A*	*1*	*A*	*4*	*A*
Westbound Left+Through+Right													*0*	*A*	*0*	*A*	*0*	*A*							*0*	*A*	*0*	*A*	*0*	*A*
Northbound Left+Through+Right													*10*	*A*	*10*	*A*	*11*	*B*							*10*	*B*	*10*	*B*	*12*	*B*
Southbound Left+Through+Right													*9*	*A*	*9*	*A*	*9*	*A*							*9*	*A*	*9*	*A*	*9*	*A*
Lookout Ridge Dr. at Access 2													**0**	**A**	**0**	**A**	**0**	**A**							**0**	**A**	**0**	**A**	**0**	**A**
Eastbound Through+Right													*0*	*A*	*0*	*A*	*0*	*A*							*0*	*A*	*0*	*A*	*0*	*A*
Westbound Left+Through													*0*	*A*	*0*	*A*	*0*	*A*							*0*	*A*	*0*	*A*	*0*	*A*
Northbound Left+Right													*0*	*A*	*9*	*A*	*0*	*A*							*0*	*A*	*9*	*A*	*0*	*A*
SIGNAL CONTROL																														
Highway 6 at Dillon Dam Road	**29**	**C**	**33**	**C**	**31**	**C**	**30**	**C**	**34**	**C**	**32**	**C**	**31**	**C**	**35**	**D**	**32**	**C**	**32**	**C**	**37**	**D**	**36**	**D**	**34**	**C**	**41**	**D**	**37**	**D**
Eastbound Left	*13*	*B*	*17*	*B*	*14*	*B*	*13*	*B*	*18*	*B*	*15*	*B*	*13*	*B*	*19*	*B*	*16*	*B*	*15*	*B*	*22*	*C*	*18*	*B*	*16*	*B*	*25*	*C*	*20*	*B*
Eastbound Through	*19*	*B*	*25*	*C*	*23*	*C*	*19*	*B*	*27*	*C*	*24*	*C*	*20*	*C*	*29*	*C*	*25*	*C*	*23*	*C*	*33*	*C*	*29*	*C*	*25*	*C*	*36*	*D*	*31*	*C*
Eastbound Right	*17*	*B*	*22*	*C*	*20*	*B*	*18*	*B*	*23*	*C*	*20*	*C*	*18*	*B*	*24*	*C*	*21*	*C*	*20*	*C*	*26*	*C*	*24*	*C*	*22*	*C*	*29*	*C*	*25*	*C*
Westbound Left	*12*	*B*	*17*	*B*	*16*	*B*	*13*	*B*	*18*	*B*	*17*	*B*	*14*	*B*	*20*	*B*	*18*	*B*	*15*	*B*	*22*	*C*	*23*	*C*	*19*	*B*	*26*	*C*	*25*	*C*
Westbound Through	*19*	*B*	*25*	*C*	*24*	*C*	*19*	*B*	*27*	*C*	*25*	*C*	*21*	*C*	*30*	*C*	*27*	*C*	*23*	*C*	*34*	*C*	*34*	*C*	*29*	*C*	*41*	*D*	*38*	*D*
Westbound Right	*17*	*B*	*24*	*C*	*22*	*C*	*18*	*B*	*24*	*C*	*23*	*C*	*20*	*B*	*27*	*C*	*25*	*C*	*20*	*C*	*29*	*C*	*30*	*C*	*25*	*C*	*34*	*C*	*33*	*C*
Northbound Left	*60*	*E*	*53*	*D*	*55*	*D*	*60*	*E*	*54*	*D*	*55*	*D*	*61*	*E*	*54*	*D*	*55*	*D*	*60*	*E*	*52*	*D*	*54*	*D*	*59*	*E*	*51*	*D*	*54*	*D*
Northbound Left+Through	*60*	*E*	*53*	*D*	*55*	*D*	*60*	*E*	*53*	*D*	*55*	*D*	*60*	*E*	*54*	*D*	*55*	*D*	*59*	*E*	*52*	*D*	*54*	*D*	*59*	*E*	*51*	*D*	*53*	*D*
Northbound Right	*50*	*D*	*45*	*D*	*46*	*D*	*50*	*D*	*45*	*D*	*46*	*D*	*49*	*D*	*45*	*D*	*46*	*D*	*49*	*D*	*44*	*D*	*45*	*D*	*48*	*D*	*44*	*D*	*44*	*D*
Southbound Left	*54*	*D*	*53*	*D*	*52*	*D*	*54*	*D*	*52*	*D*	*52*	*D*	*55*	*D*	*52*	*D*	*52*	*D*	*54*	*D*	*53*	*D*	*52*	*D*	*54*	*D*	*55*	*D*	*53*	*D*
Southbound Left+Through	*54*	*D*	*52*	*D*	*51*	*D*	*54*	*D*	*52*	*D*	*52*	*D*	*54*	*D*	*53*	*D*	*52*	*D*	*54*	*D*	*53*	*D*	*52*	*D*	*55*	*D*	*54*	*D*	*52*	*D*
Southbound Right	*49*	*D*	*40*	*D*	*41*	*D*	*49*	*D*	*40*	*D*	*41*	*D*	*48*	*D*	*38*	*D*	*40*	*D*	*48*	*D*	*38*	*D*	*39*	*D*	*47*	*D*	*36*	*D*	*39*	*D*

Note: Delay represented in average seconds per vehicle.

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Table 2A - Trip Generation Summary [Phase 1]

Land Use	Size	Unit	Internal Capture	Non-Auto Factor	Average Daily Trips				Midday Peak Hour Trips				PM Peak Hour Trips			
					Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Weekday																
ITE 610: Hospital	41.70	ksf	1.00	1.00	10.72	447	224	223	0.89	37	25	12	0.97	40	13	27
ITE 720: Medical-Dental Office	29.20	ksf	1.00	1.00	34.80	1016	508	508	2.78	81	63	18	3.46	101	28	73
ITE 650 - Free-Standing Emergency Room *[Urgent Care]*	4.1	ksf	1.00	1.00	24.94	102	51	51	2.06	8	5	3	1.52	6	3	3
Total Weekday New Trips:	***75.000***	***ksf***				***1,565***	***783***	***782***	***MD >***	***126***	***93***	***33***	***PM >***	***147***	***44***	***103***
Saturday																
ITE 610: Hospital	41.70	ksf	1.00	1.00	7.72	322	161	161					[a]	39	19	20
ITE 720: Medical-Dental Office	29.20	ksf	1.00	1.00	8.57	250	125	125					[a]	30	16	14
ITE 650 - Free-Standing Emergency Room *[Urgent Care]*	4.1	ksf	1.00	1.00	[b]	75	38	37					2.24	9	4	5
Total Saturday New Trips:						***647***	***324***	***323***					***PM >***	***78***	***39***	***39***

Source : ITE Trip Generation 10th Edition, 2017.

[a] ITE has limited data for Saturday peak hour for hospital and medical offices since there are only two sites; therefore, it was assumed that the Saturday peak hour is 12% of the Saturday daily traffic. Typically, a weekday peak hour is between 9% and 12% of the daily total. It was assumed the Saturday peak is 12% of the daily total which maybe conservative a mountain community and health center that is not anticipated to be opened on the weekend (except the urgent care).

[b] ITE does not provide a Saturday daily or peak hour rates for #650. Therefore, the rate for PM peak hour generator was used for the Saturday peak and it was assumed that the peak is 12% of the daily traffic.

FOX TUTTLE HERNANDEZ TRANSPORTATION GROUP

Table 2B - Trip Generation Summary [Phase 2]

Land Use	Size	Unit	Internal Capture	Non-Auto Factor	Average Daily Trips				Midday Peak Hour Trips				PM Peak Hour Trips			
					Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Weekday																
ITE 610: Hospital	9.00	ksf	1.00	1.00	10.72	96	48	48	0.89	8	5	3	0.97	9	3	6
ITE 720: Medical-Dental Office	16.00	ksf	1.00	1.00	34.80	557	279	278	2.78	44	34	10	3.46	55	15	40
ITE 650 - Free-Standing Emergency Room *[Urgent Care]*	0.0	ksf	1.00	1.00	24.94	0	0	0	2.06	0	0	0	1.52	0	0	0
Total Weekday New Trips:	***25.000***	***ksf***				***653***	***327***	***326***	***MD >***	***52***	***39***	***13***	***PM >***	***64***	***18***	***46***
Saturday																
ITE 610: Hospital	9.00	ksf	1.00	1.00	7.72	69	35	34					[a]	8	4	4
ITE 720: Medical-Dental Office	16.00	ksf	1.00	1.00	8.57	137	69	68					[a]	16	9	7
ITE 650 - Free-Standing Emergency Room *[Urgent Care]*	0.0	ksf	1.00	1.00	[b]	0	0	0					2.24	0	0	0
Total Saturday New Trips:						***206***	***104***	***102***					***PM >***	***25***	***13***	***11***

Source : ITE Trip Generation 10th Edition, 2017.

[a] ITE has limited data for Saturday peak hour for hospital and medical offices since there are only two sites; therefore, it was assumed that the Saturday peak hour is 12% of the Saturday daily traffic. Typically, a weekday peak hour is between 9% and 12% of the daily total. It was assumed the Saturday peak is 12% of the daily total which maybe conservative a mountain community and health center that is not anticipated to be opened on the weekend (except the urgent care).

[b] ITE does not provide a Saturday daily or peak hour rates for #650. Therefore, the rate for PM peak hour generator was used for the Saturday peak and it was assumed that the peak is 12% of the daily traffic.

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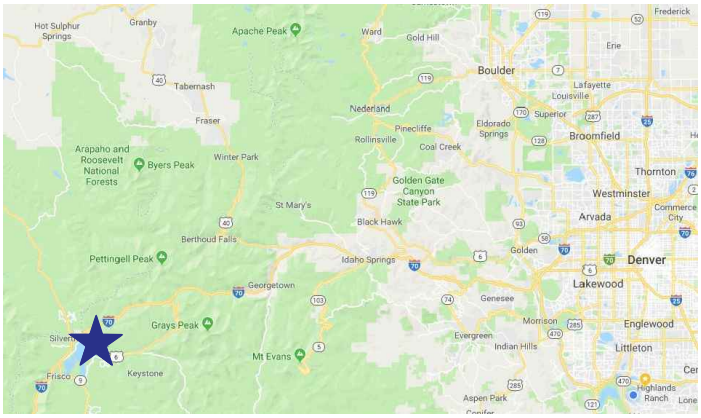
Table 3 - Queue Length Summary

Intersection and Lanes Groups	Storage Length or Dist. to Adj. Int	2018 Existing						2022 Background						2022 Background + Project						2038 Background						2038 Background + Project					
		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak		Midday Peak		PM Peak		Sat Peak	
		Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th	Avg.	95th
STOP SIGN CONTROL																															
Dillon Dam Rd. at Dillon Ridge Way																															
Eastbound Left+Right	215'	-	40'	-	66'	-	58'	-	43'	-	72'	-	63'	-	47'	-	84'	-	68'	-	62'	-	104'	-	106'	-	72'	-	138'	-	122'
Northbound Left	65'	-	22'	-	35'	-	26'	-	24'	-	38'	-	28'	-	25'	-	43'	-	29'	-	30'	-	50'	-	36'	-	32'	-	62'	-	39'
Northbound Through	510'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'
Southbound Through+Right	175'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'	-	0'
Dillon Dam Rd. at Dillon Ridge Rd. / Lookout Ridge Dr.																															
Eastbound Through+Right	250'	-	8'	-	10'	-	15'	-	8'	-	10'	-	18'	-	8'	-	10'	-	18'	-	10'	-	13'	-	23'	-	10'	-	13'	-	23'
Westbound Left+Through	200'	-	3'	-	3'	-	13'	-	3'	-	3'	-	15'	-	10'	-	20'	-	28'	-	5'	-	3'	-	18'	-	13'	-	30'	-	38'
Northbound Left	175'	-	10'	-	13'	-	25'	-	10'	-	13'	-	25'	-	13'	-	13'	-	28'	-	13'	-	15'	-	35'	-	15'	-	18'	-	35'
Northbound Right	175'	-	3'	-	3'	-	10'	-	3'	-	3'	-	13'	-	15'	-	8'	-	20'	-	5'	-	3'	-	15'	-	23'	-	13'	-	25'
Lookout Ridge Dr. at Skyline Cinema / Access 1																															
Eastbound Left+Through+Right	200'													-	1'	-	1'	-	4'							-	2'	-	1'	-	5'
Westbound Left+Through+Right	265'													-	0'	-	0'	-	0'							-	0'	-	0'	-	0'
Northbound Left+Through+Right	220'													-	3'	-	11'	-	6'							-	5'	-	17'	-	8'
Southbound Left+Through+Right	200'													-	1'	-	1'	-	4'							-	1'	-	1'	-	5'
Lookout Ridge Dr. at Access 2																															
Eastbound Through+Right	200'													-	0'	-	0'	-	0'							-	0'	-	0'	-	0'
Westbound Left+Through	170'													-	0'	-	0'	-	0'							-	0'	-	0'	-	0'
Northbound Left+Right	100'													-	0'	-	0'	-	0'							-	0'	-	0'	-	0'
SIGNAL CONTROL																															
Highway 6 at Dillon Dam Road																															
Eastbound Left	500'	30'	91'	48'	111'	58'	137'	32'	96'	52'	116'	62'	143'	47'	128'	65'	132'	71'	156'	44'	114'	70'	142'	84'	174'	69'	166'	91'	205'	97'	200'
Eastbound Through	5740'	107'	233'	152'	270'	156'	285'	114'	245'	165'	286'	167'	302'	118'	248'	175'	286'	171'	303'	156'	306'	224'	365'	226'	427'	163'	314'	242'	365'	232'	436'
Eastbound Right	5740'	0'	58'	0'	55'	0'	59'	0'	59'	0'	57'	0'	61'	0'	59'	0'	57'	0'	61'	0'	66'	0'	60'	0'	70'	0'	68'	0'	60'	0'	70'
Westbound Left	150'	34'	99'	45'	104'	30'	80'	36'	103'	49'	109'	32'	83'	37'	104'	53'	110'	33'	84'	49'	124'	64'	131'	43'	99'	51'	128'	70'	133'	45'	100'
Westbound Through	2000'	118'	252'	160'	282'	134'	252'	126'	266'	174'	295'	144'	265'	133'	278'	187'	295'	151'	265'	171'	329'	241'	374'	205'	314'	193'	366'	270'	374'	217'	314'
Westbound Right	420'	0'	60'	0'	79'	0'	73'	0'	61'	0'	80'	0'	76'	0'	69'	0'	83'	0'	77'	0'	68'	0'	88'	0'	82'	0'	80'	0'	91'	0'	84'
Northbound Left	110'	115'	166'	115'	152'	104'	160'	120'	170'	122'	157'	109'	165'	128'	181'	125'	161'	111'	167'	138'	193'	141'	175'	126'	184'	149'	202'	146'	178'	131'	190'
Northbound Left+Through	280'	118'	169'	121'	158'	108'	164'	123'	174'	125'	161'	112'	168'	132'	185'	130'	167'	116'	173'	142'	195'	147'	183'	130'	189'	156'	211'	153'	186'	134'	193'
Northbound Right	70'	0'	36'	2'	39'	0'	47'	0'	40'	6'	44'	0'	47'	0'	39'	12'	49'	0'	47'	11'	55'	31'	68'	7'	56'	12'	55'	36'	73'	9'	58'
Southbound Left	120'	106'	143'	173'	227'	157'	214'	110'	149'	177'	234'	162'	221'	118'	158'	201'	269'	171'	233'	127'	171'	208'	277'	188'	260'	138'	187'	241'	331'	201'	277'
Southbound Left+Through	510'	109'	147'	181'	233'	161'	217'	113'	151'	186'	243'	169'	229'	122'	163'	212'	278'	178'	242'	133'	177'	217'	287'	194'	267'	146'	193'	251'	343'	205'	283'
Southbound Right	510'	0'	48'	0'	40'	0'	44'	0'	50'	0'	41'	0'	45'	0'	52'	0'	46'	0'	47'	0'	53'	0'	44'	0'	48'	0'	56'	0'	51'	0'	51'

Note: Delay represented in average seconds per vehicle.

Location Map



Project Site

Vicinity Map

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DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

VICINITY MAP

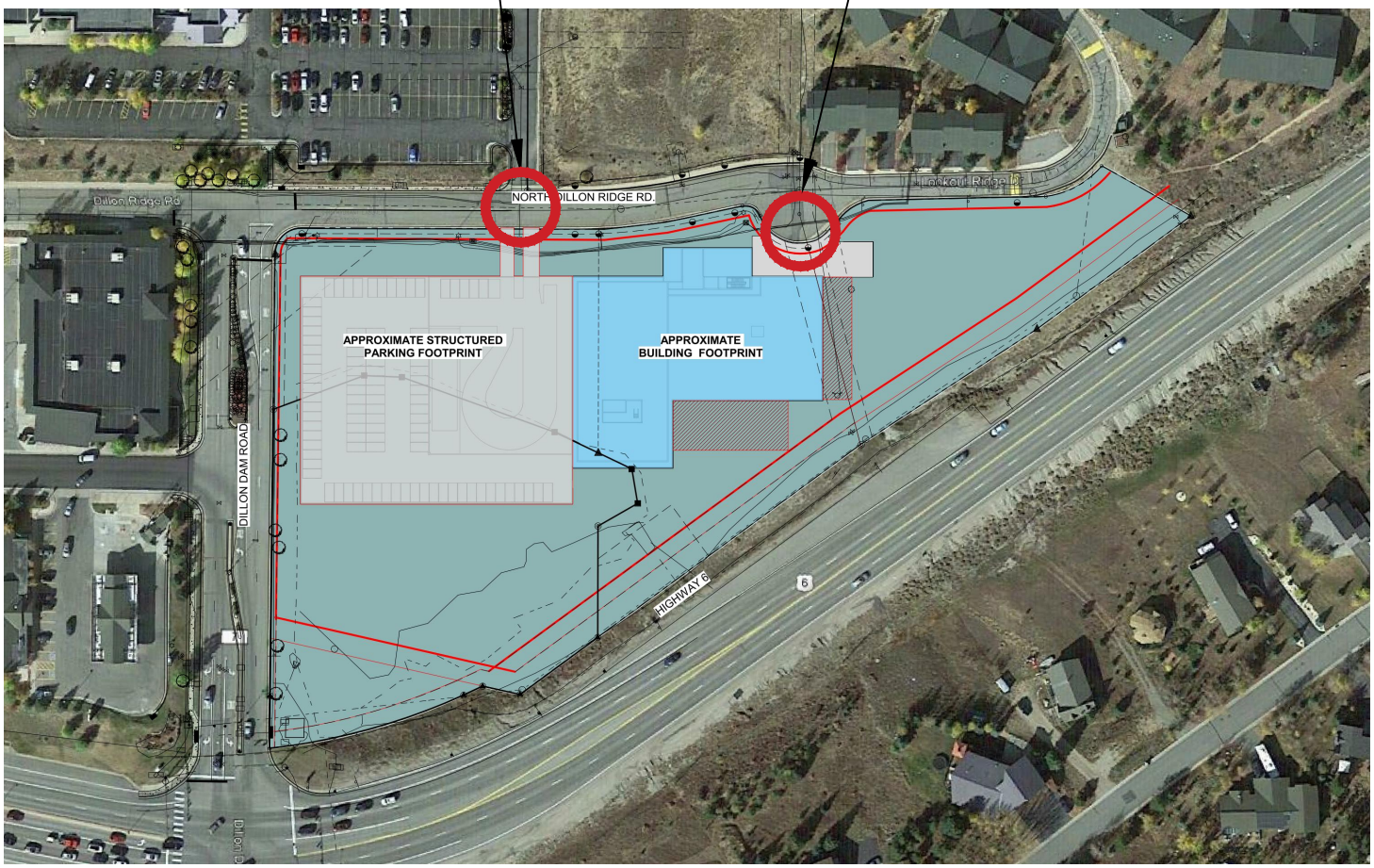
Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	1

Proposed Access 1
Main Access
Leads to Parking Structure

Full Movement
Side-Street Stop-Controlled

Proposed Access 2
Loading

Full Movement
Side-Street Stop-Controlled



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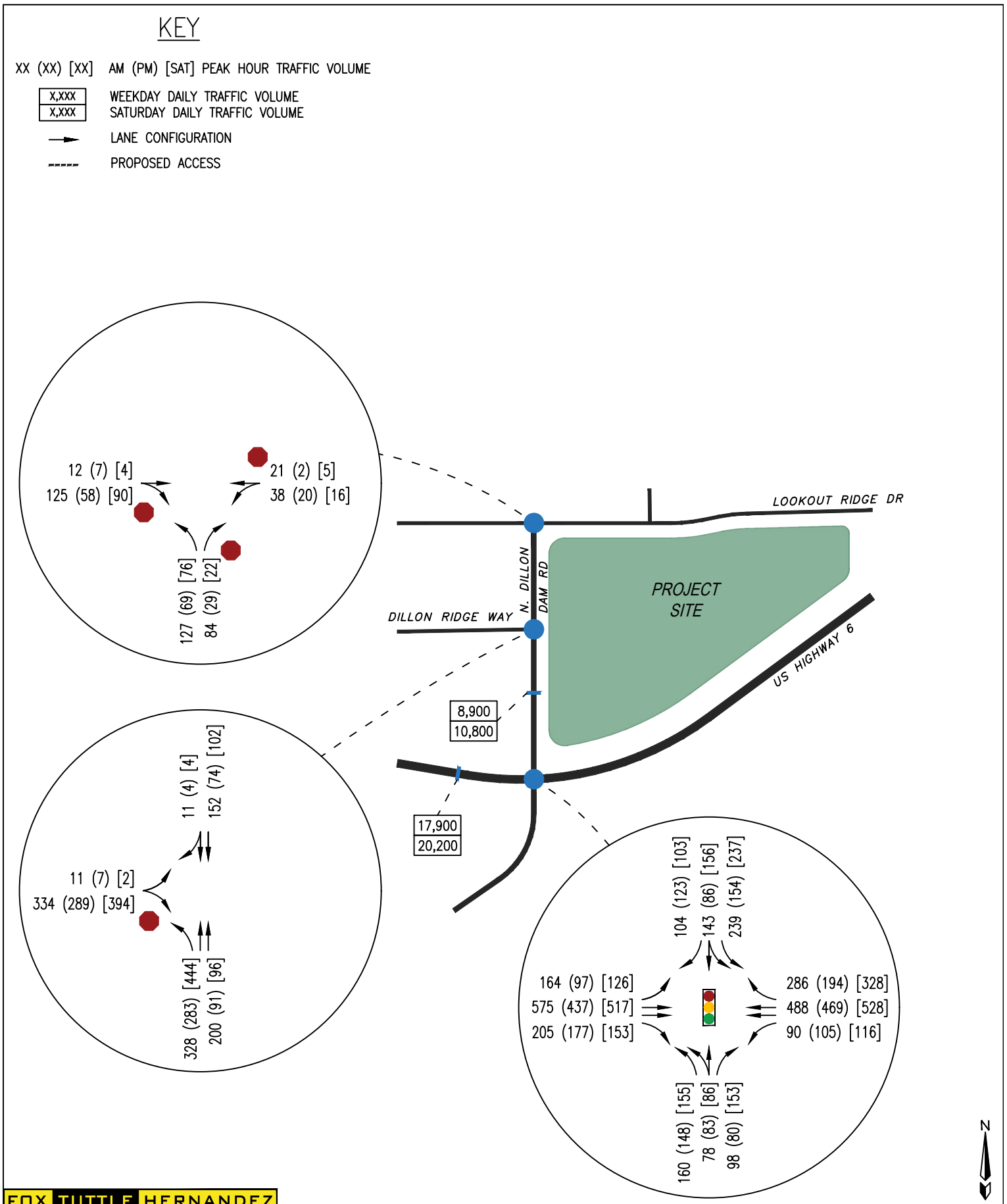
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

CONCEPTUAL SITE PLAN

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	2



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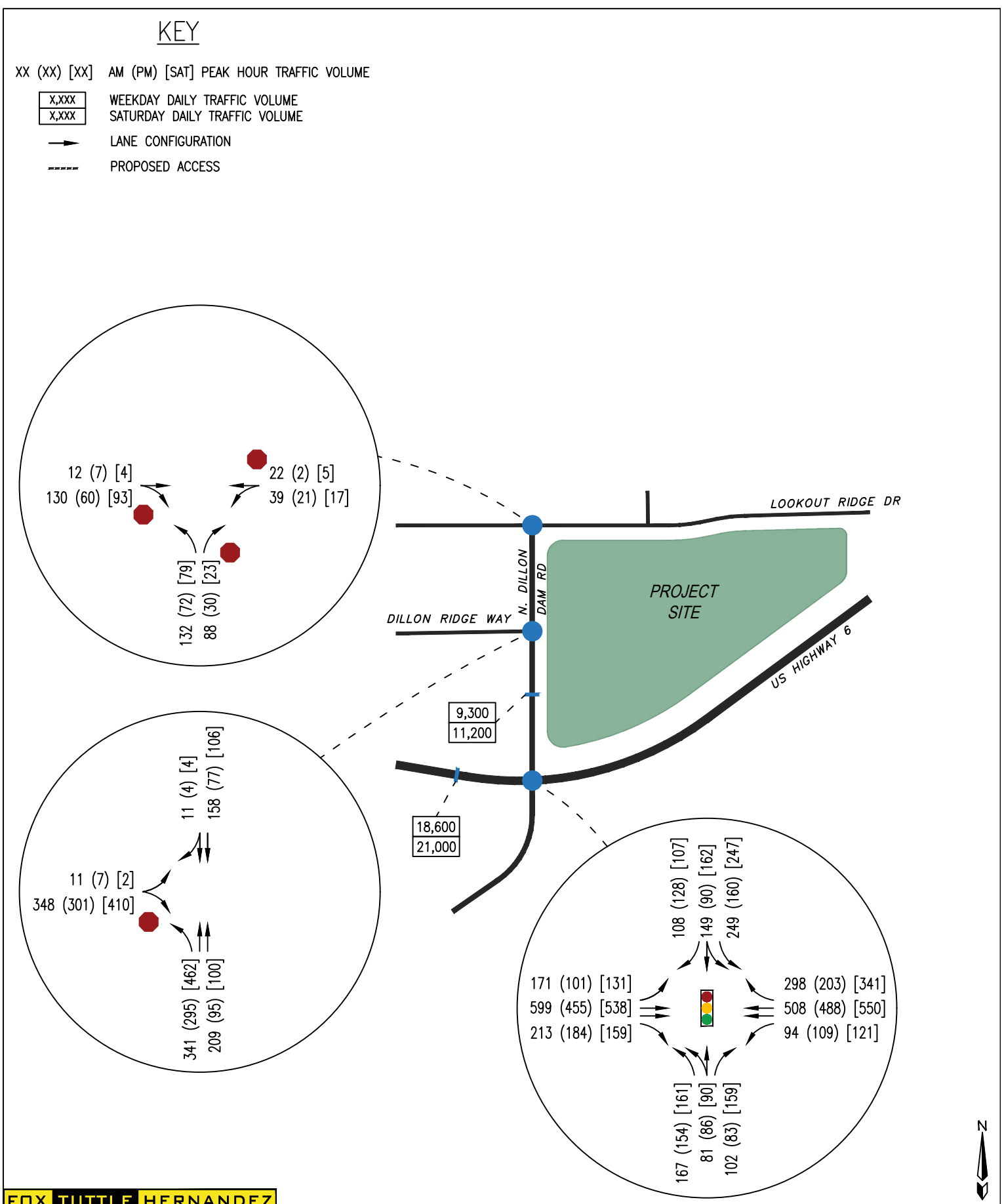
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

YEAR 2018 EXISTING TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	3



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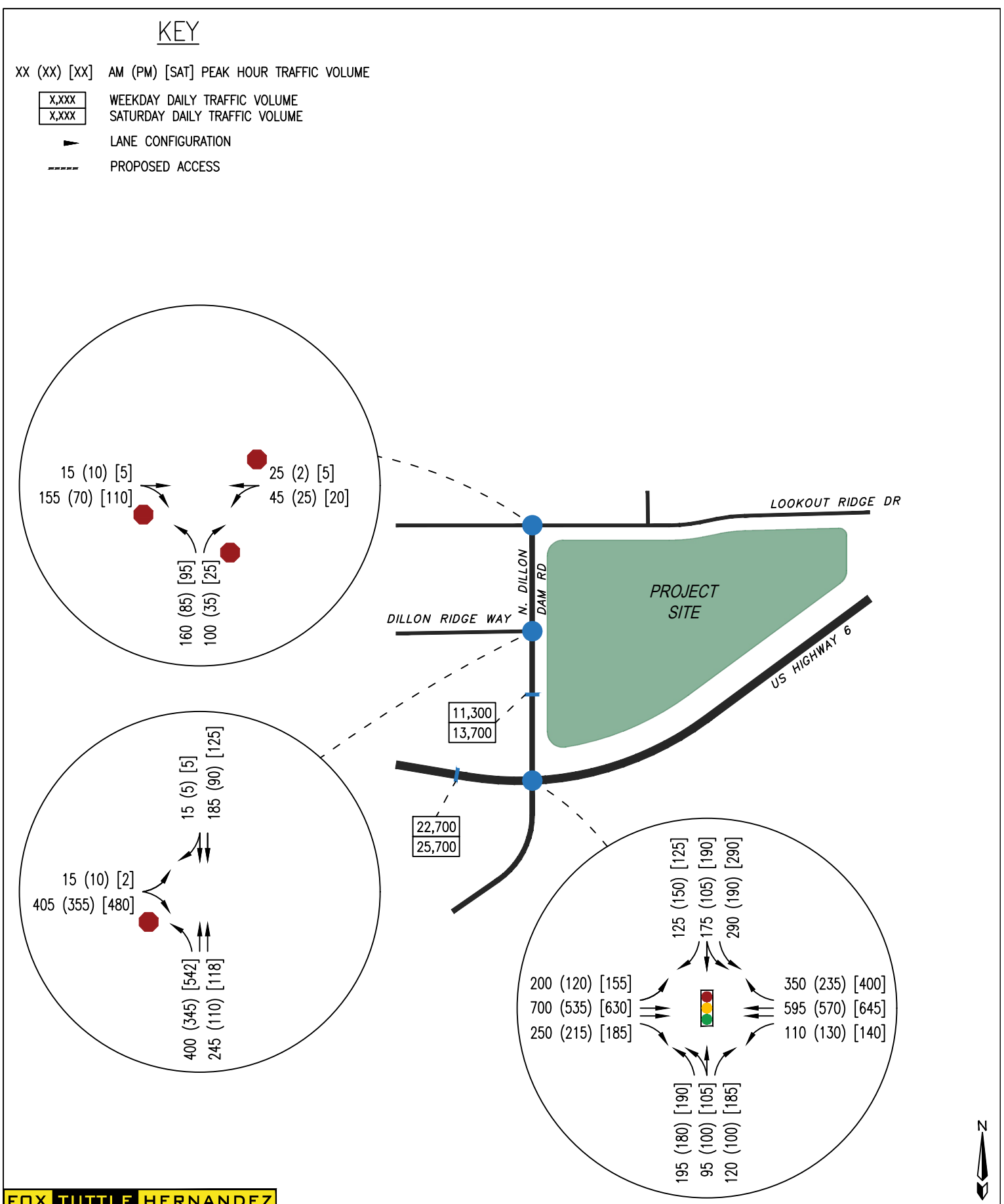
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

YEAR 2022 BACKGROUND WEEKDAY TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	4



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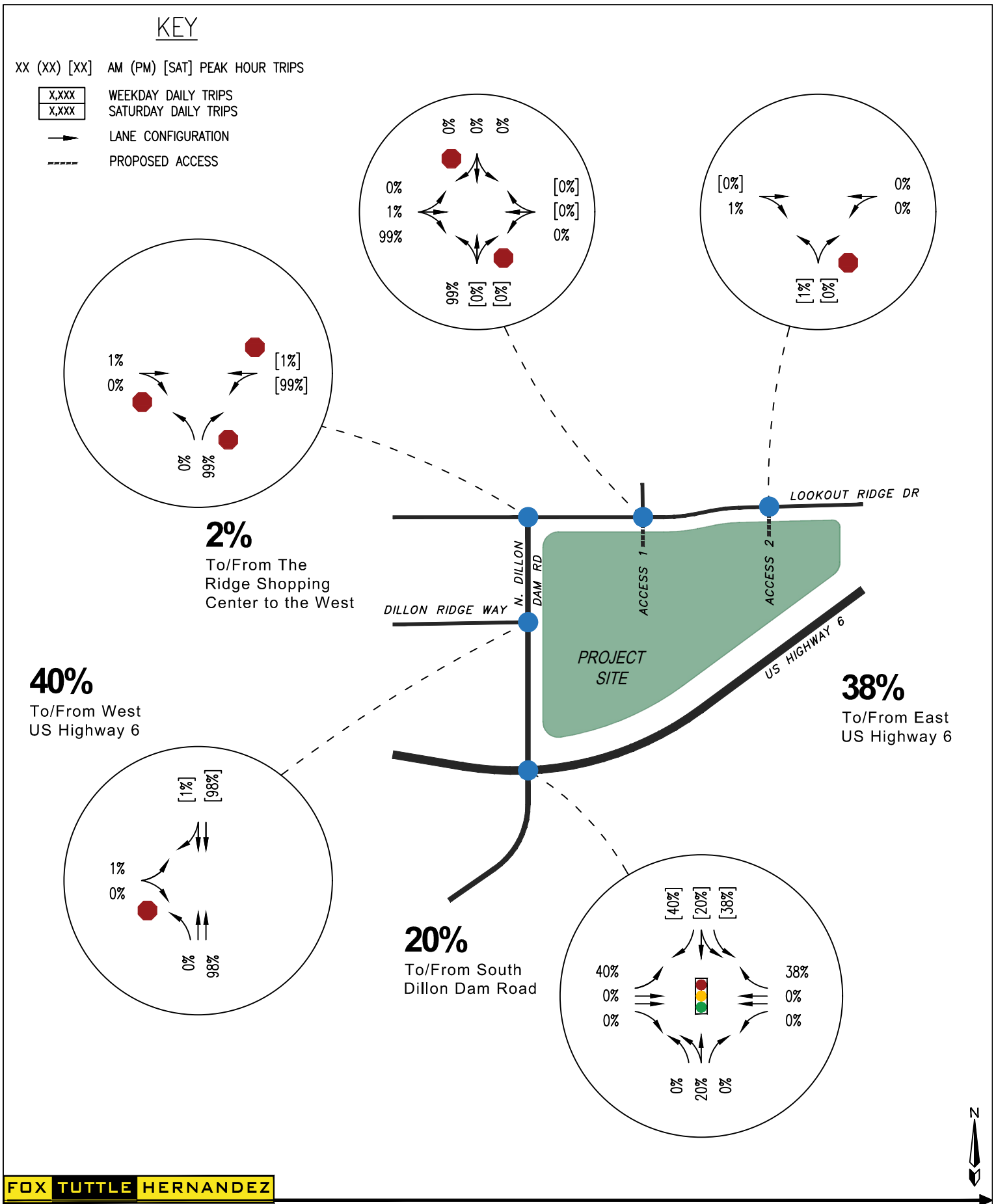
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

YEAR 2038 BACKGROUND WEEKDAY TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	5



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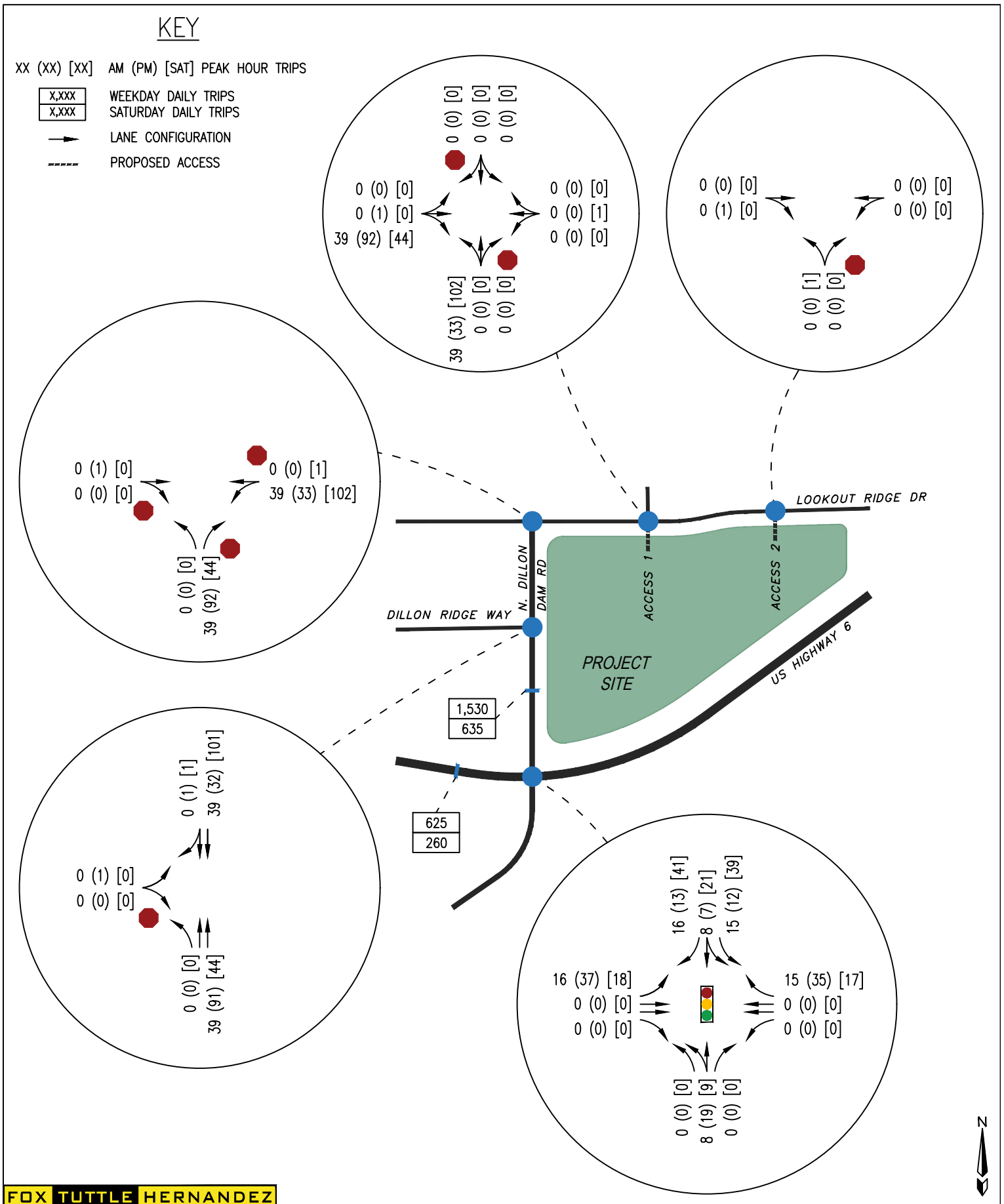
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

SITE TRIP DISTRIBUTION

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	6



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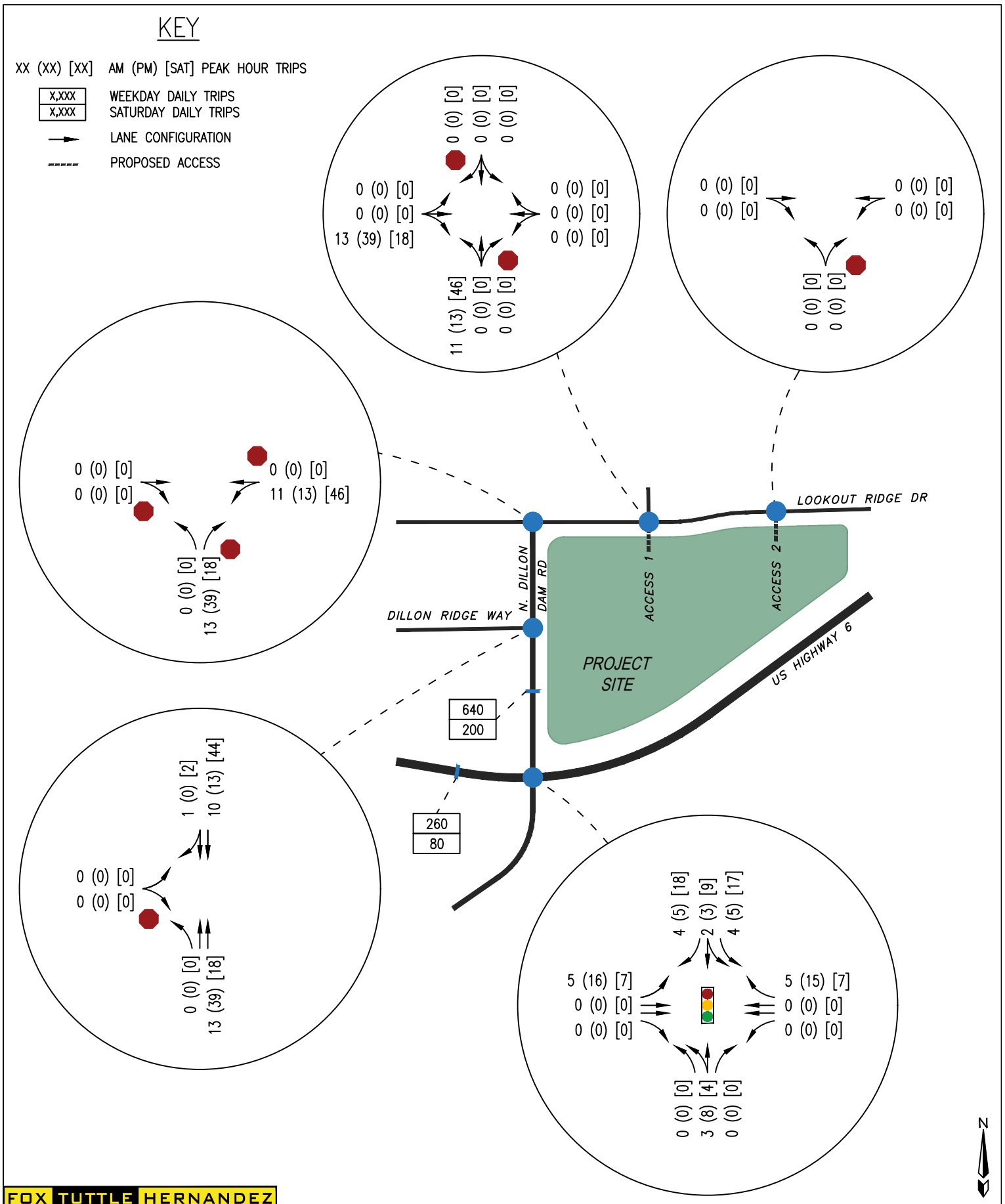
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

PHASE 1 SITE-GENERATED TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	7A



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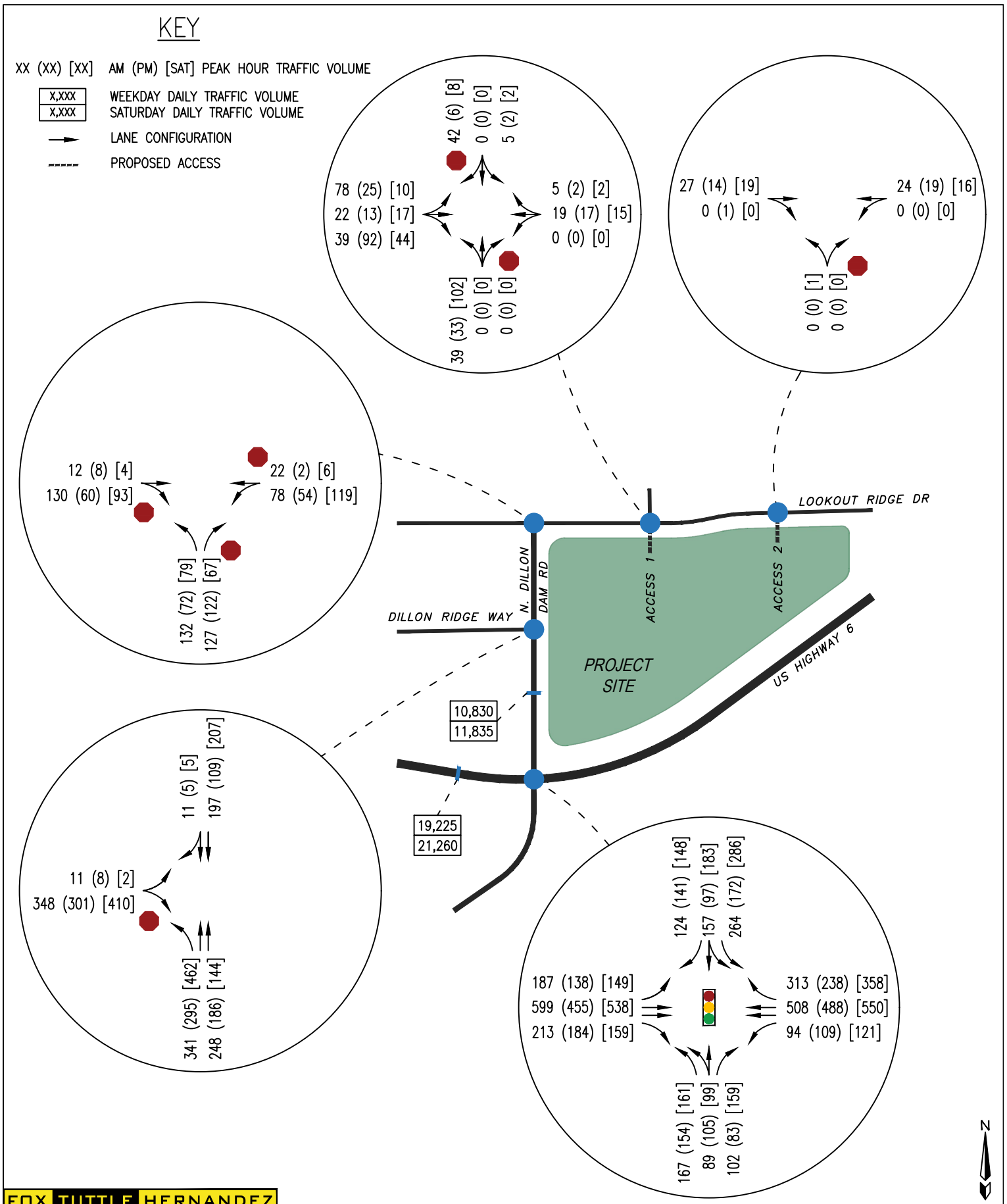
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

PHASE 2 SITE-GENERATED TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	7B



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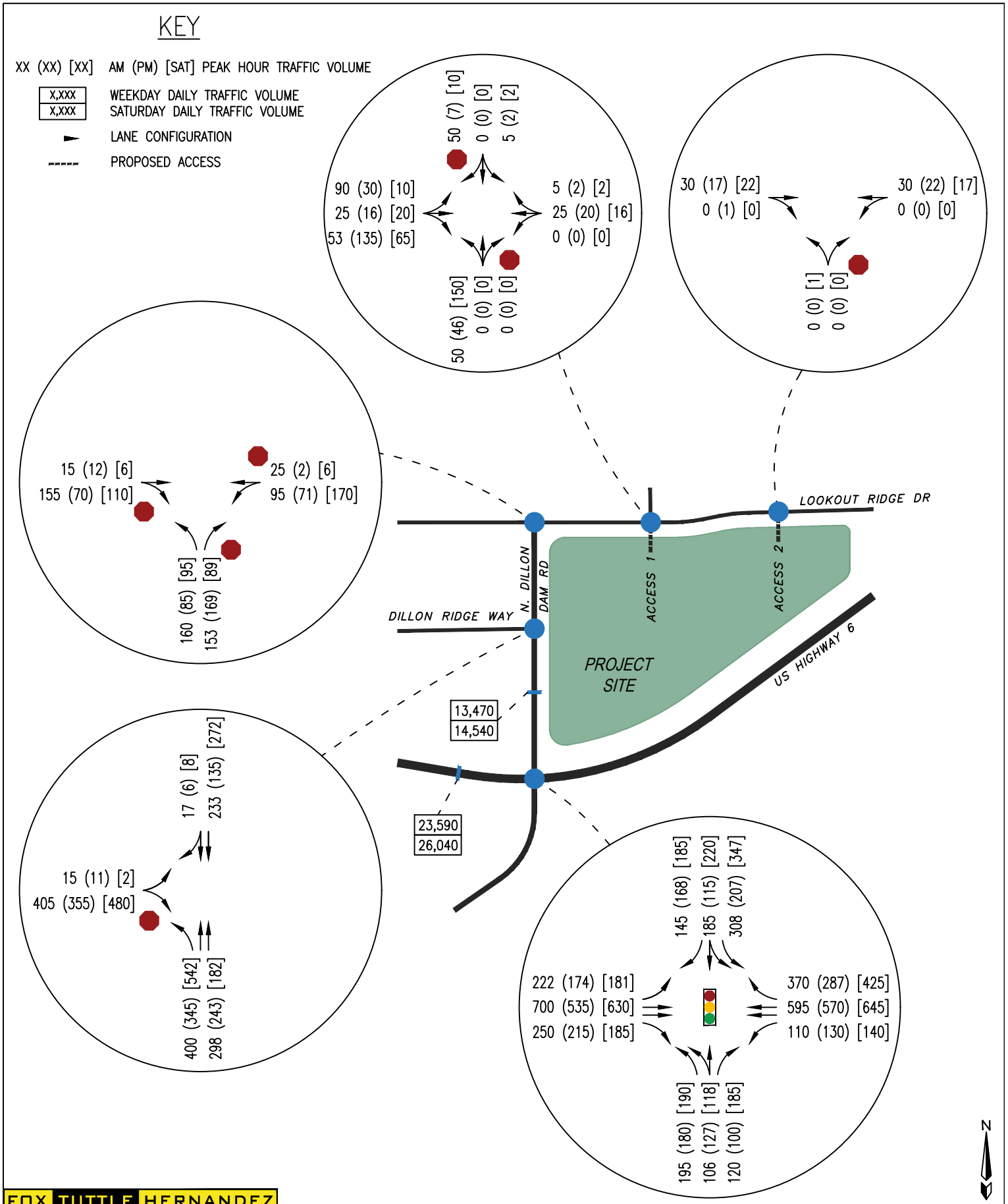
DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

YEAR 2022 BACKGROUND + PHASE 1 SITE-GENERATED TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	8



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DILLON MEDICAL BUILDING (DILLON, CO) TRAFFIC IMPACT STUDY

YEAR 2038 BACKGROUND + PHASE 1 & 2 SITE-GENERATED TRAFFIC VOLUMES

Project #	18069	Original Scale	NTS	Date	11/7/18	Drawn by	CRS	Figure #	9