EXHIBIT 4. ENGINEERING REPORTS

4a. Traffic Impact Study

4b. Sewer Design Report

4c. Water Design Report

4d. Concept Drainage Report

4e. Geotechnical Report

EXHIBIT 4a. Traffic Impact Study

Jordan Townhomes

Traffic Impact Study

NEC Jordan Road and NavaHopi Road
Sedona, Arizona

March 2023
Project No. 21-1970

Prepared For:
MICM Sedona Jordan Lofts Project LP
102 South Mikes Pike
Flagstaff, AZ 86001

For Submittal to:
City of Sedona

Prepared By:

CivTech

10605 North Hayden Road Suite 140
Scottsdale, Arizona 85260
480-659-4250

JORDAN TOWNHOMES
TRAFFIC IMPACT STUDY

NEC JORDAN ROAD AND NAVAHOPI ROAD
SEDONA

Prepared for:

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102 South Mikes Pike
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CivTech Inc.
10605 North Hayden Road, Suite 140
Scottsdale, Arizona 85260

Office: 480-659-4250
Fax: 480-659-0566
info@civtech.com

March 2023
CIVTECH PROJECT NO. 21-1970

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INTRODUCTION

The Jordan Townhomes project are 24 townhomes proposed on 89,558-square foot/2.06-acre Coconino County Assessor Parcel Number (APN) 40158001A in the City of Sedona, Arizona. The proposed project will be located on the northeast corner of the intersection of Jordan Road and Navahopi Road. A new local east-west street, one-block long Harris Court, will be constructed to provide a paved access to the 12 dwelling units (DUs) to be located on either side of the road and a connection between Jordan Road and Quail Tail Trail and Wilson Canyon Road.

The 24 townhomes will consist of 14 full-size townhomes and 10 smaller townhomes, each of which, due to its floor area, can be considered the equivalent of one-half (½) of a dwelling unit under Sedona Zoning. Thus, the 14 full DUs plus 10 half DUs yields an equivalent of 19 DUs for determining the project density. The City's 2017 Future Land Use Map shows the parcel planned for Medium & High Density Multi Family land use of 4 to 12 DUs/acre. An easement for Harris Court through the site is expected to be 19.252 square feet/0.44 acres, leaving the net area on which the equivalent of 19 DUs will be provided to be 1.614 acres, yielding a proposed density of approximately 11.77 DUs/net acre. One site access, Harris Court, is proposed and each townhome will have its own driveway.

STUDY PURPOSE AND REQUIREMENTS

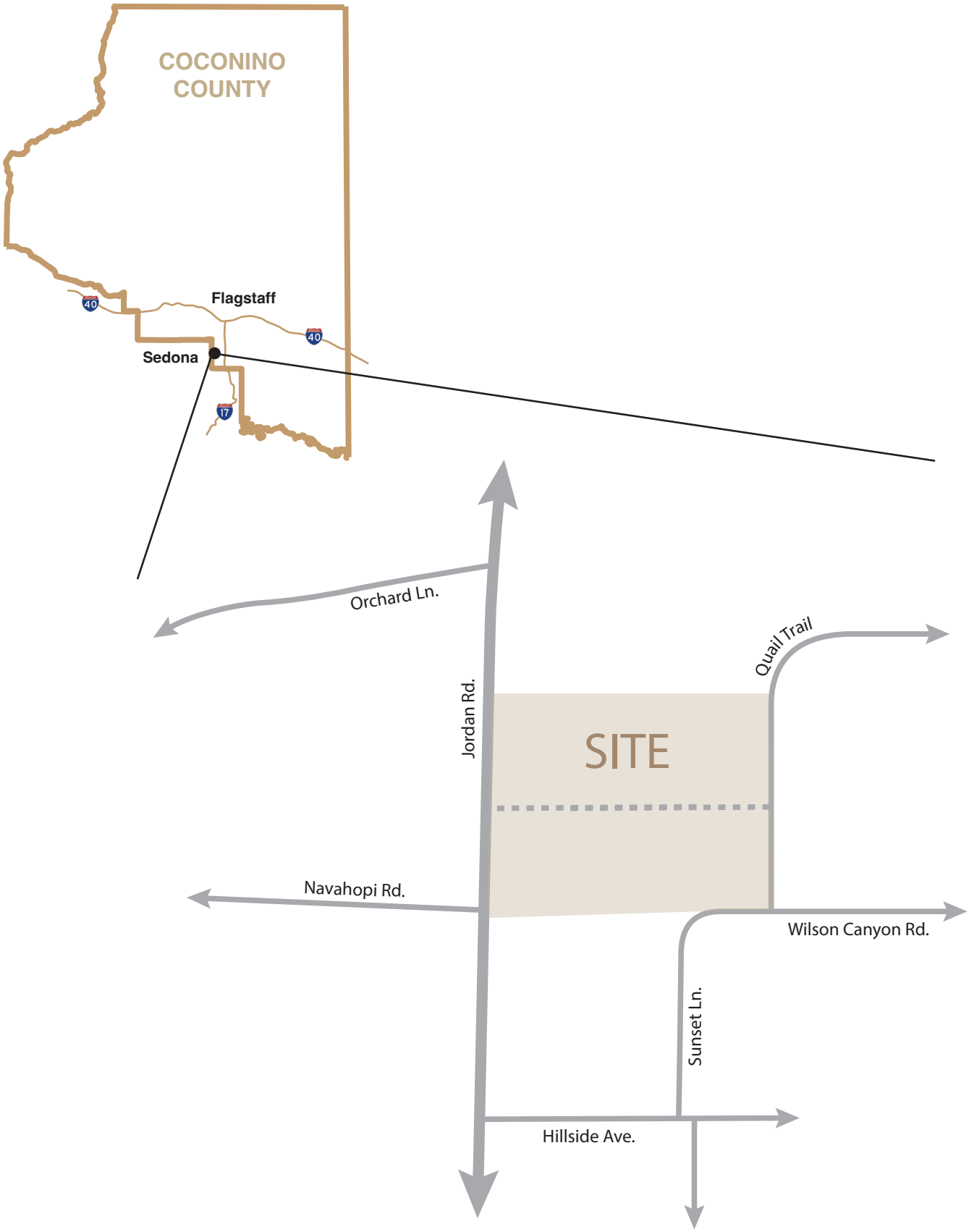
CivTech was retained by MICM Sedona Jordan Lofts Project LP to prepare this traffic study. The purpose of this study is to address traffic and transportation impacts of the proposed development on the surrounding streets and intersections. This report was prepared in conformance to the City's Traffic Impact Study (TIS) requirements, which are found in Section 14.10 of the Sedona City Code. Since the Client proposes more than 10 dwelling units (DUs), per subsection 14.10.050A, a TIS *shall* be submitted for the project.

STUDY AREA

Sedona requires that the study area include "Adjacent intersections and roadway access points with 300 feet of the parcel being developed." Sedona also requires the study to consider "Existing and likely pedestrian and vehicular traffic patterns between proposed and existing business and residential areas within 500 feet minimum of the parcel being developed." Therefore, the study area has been defined as the segment of Jordan Road from 500 feet south of Navahopi Road (i.e., the south property line) to 500 feet north of the northern site property line. This segment of road includes three intersections: at Hillside Avenue on the south, at Navahopi Road, and at Orchard Lane on the north. **Figure 1** is a map of the vicinity that shows the existing study intersections described below.

HORIZON YEAR

To allow adequate time for the City's approval process, CivTech has assumed an opening year of 2024.



NORTH
N.T.S.

Figure 1: Vicinity Map

EXISTING CONDITIONS

A. PHYSICAL ROADWAY FEATURES

1. GENERAL DESCRIPTION OF LOCATION

CivTech conducted one (1) site visit of the proposed development location on February 7, 2022 to document the existing physical roadway features. Per City guidelines, the following were observed and/or measured and then documented.

Site. The site of the proposed development is on the northeast corner of Jordan Road and Navahopi Road. The site is currently undeveloped land.

Surrounding Land Uses. Directly north, south, and west of the site are single family and multi-family residential homes. Directly east of the site is undeveloped land.

2. TYPE OF EXISTING ROADWAYS

The existing roadway network within the study area includes Jordan Road, Orchard Lane, Navahopi Road, and Hillside Avenue. Jordan Road is classified by the city as a major collector roadway; the others are all local roads. These roadway classifications were obtained from the City of Sedona *Transportation Master Plan*, dated 2018. All are public roads.

3. EXISTING ROADWAY GEOMETRICS

Jordan Road is a paved north-south two-lane roadway with one lane in each direction of travel. Within the vicinity of the site, Jordan Road provides sidewalk, curb, and gutter facilities on the west side of the road and no edge treatment on the east side of the road. Jordan Road begins to the south at State Route 89A (SR 89A), where it is wider to allow on-street parking for the Uptown commercial area establishments it serves on both sides of the road. Jordan Road narrows to the above cross-section after crossing Schnebly Road. Commercial uses end and residential uses begin along Jordan Road south of Capital Butte Road. Jordan Road continues to the north, terminating at Park Ridge Drive.

Orchard Lane is a paved east-west two-lane roadway with one lane in each direction of travel. Within the vicinity of the site Orchard Lane provides curb and gutter facilities on both sides of the roadway. Orchard Lane begins to the west at Tonto Road and continues east terminating at Jordan Road.

Navahopi Road is a paved east-west two-lane local roadway with one lane in each direction of travel. Within the vicinity of the site Navahopi Road does not provides curb or gutter facilities on either side of the roadway. Navahopi Road begins to the west at Coronado Trail/Eagle Nest Lane and continues east terminating at Jordan Jordan Road.

Hillside Avenue is a paved east-west two-lane local roadway with one lane in each direction of travel. Within the vicinity of the site, Hillside Avenue does not provide curb or gutter facilities on either side of the roadway. Hillside Avenue begins at Jordan Road and continues west terminating at Mountain View Drive.

4. EXISTING TYPE AND CONDITION OF PAVEMENT SURFACE

All study roadways are surfaced with asphalt and appeared to be in good condition when observed on February 7, 2022. CivTech reviewed historical online aerial photography and discovered that Orchard Lane was in poor condition with a lot of cracking as recently as the summer of 2017 and that it has since received a new surface. Navahopi Road was also resurfaced in the late spring/early summer on 2017. CivTech cannot report on the pavement structural sections of these roadways, which, as public roadways should be a matter of record at the city.

5. EXISTING TRAFFIC CONTROLS

Existing traffic controls along the study roadways are described in detail below in their own section of the report.

6. AVAILABLE AND REQUIRED STOPPING SIGHT DISTANCES FROM POINT OF ACCESS TO HIGHWAY

Adequate sight distance must be provided at intersections. A sight triangle is the area encompassed by the line of sight from a stopped vehicle on the minor roadway to the approaching vehicle on the major roadway; there must be sufficient unobstructed sight distance along both approaches of a street or driveway intersection and across their included corners to allow operators of vehicles to see each other in time to prevent a collision. There must also be sufficient sight distance along the major street to allow a driver intending to turn left into the site to see a vehicle approaching in the opposite direction.

CivTech found online a city permit form referencing Article 910.9 and Figure 9.43 of the city's Land Development Code. Dated March 2011, the requirement clearly spelled out that sight triangles of 30 feet per side were required from the property lines at intersections, such as Harris Court. CivTech could find the same requirement in the current City Code in Article 10.15.120 without an accompanying diagram. Article 10.15.120.A.1 defines it thus, "There shall be provided an unobstructed view across the triangle formed by joining points measured 30 feet distance along the property lines from the intersection of two streets."

To supplement the City Code, CivTech used the methodology of the latest (7th) edition of the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* (the AASHTO "Green Book")guidelines outlined in the AASHTO Green Book, to calculate the appropriate sight distances for the left- and right-turn movements from Harris Court onto Jordan Road and from southbound Jordan Road into the site entrance, Harris Court/ Access A.

Recommended sight distances per the AASHTO for movements to and from the site entrances are summarized in **Table 1**. The AASHTO calculations are included in **Appendix B**.

TABLE 1 – REQUIRED SIGHT DISTANCES (FEET)

Intersection	Posted/ Design Speed	Stopping Sight Distance on Jordan Road	Case B1 On Harris Court to Right	Case B2/B3 On Harris Court to Left	Case F On Jordan Road Ahead)
Jordan Road at Harris Court	25 mph/40 mph	305	475	415	355

CivTech recommends that sight visibility triangles at the site driveway be provided per AASHT0 guidelines, with 475 feet to the right of Harris Court, the site access, and 415 feet to the left of Harris

Court. Per AASHTO guidelines, there should be a sight distance of 355 feet in front of a vehicle approaching to make a left turn from Jordan Road into Harris Court.

Also, per Article 10.15.120.A.2, "Within the area of the triangle there shall be no sight-obscuring or partly obscuring earthen material, wall, fence, sign, foliage or other obstruction higher than 24 inches above curb grade or, in the case of trees, foliage lower than six feet."

7. ADJACENT INTERSECTIONS AND ROADWAY ACCESS POINTS WITH 300 FEET OF THE PARCEL BEING DEVELOPED

The intersection of **Jordan Road and Orchard Lane** operates as an unsignalized three-legged intersection with stop control on the eastbound approach and free movement on the northbound and southbound approaches. The northbound approach consists of one (1) shared left-turn/through lane. The southbound approach consists of one (1) shared through/right-turn lane. The eastbound approach consists of one (1) shared left-turn/right-turn lane. Designated pedestrian crosswalks are not provided along any legs of the intersection.

The intersection of **Jordan Road and Navahopi Road** operates as an unsignalized three-legged intersection with stop control on the eastbound approach and free movement on the northbound and southbound approaches. The northbound approach consists of one (1) shared left-turn/through lane. The southbound approach consists of one (1) shared through/right-turn lane. The eastbound approach consists of one (1) shared left-turn/right-turn lane. Designated pedestrian crosswalks are not provided along any legs of the intersection.

The intersection of **Jordan Road and Hillside Avenue** operates as an unsignalized three-legged intersection with stop control on the westbound approach and free movement on the northbound and southbound approaches. The northbound approach consists of one (1) shared through/right-turn lane. The southbound approach consists of one (1) shared left-turn/through lane. The westbound approach consists of one (1) shared left-turn/right-turn lane. Designated pedestrian crosswalks are not provided along any legs of the intersection.

The existing intersection lane configurations and traffic controls are illustrated in **Figure 2**.

B. TRAFFIC CHARACTERISTICS

1. EXISTING ANNUALIZED AVERAGE DAILY TRAFFIC (AADT)

AADT is defined as the average 24-hour traffic volume at a given location over a full 365 days (i.e., 1 year). No transportation agency actually records such data on every one of its streets: to do so would be cost prohibitive for any agency. The City of Sedona does, however, require such data to be reported in traffic studies for new development. In lieu of recording data for a full year, after a discussion with the Assistant City Engineer, CivTech engaged Field Data Services of Arizona, Inc. (FDS-AZ) to record traffic volumes three days of bi-directional traffic volumes on Jordan Road south of Navahopi Road from January 27-29, 2022 and to assume that the results were on an order-of-magnitude basis representative of the AADT on Jordan Road. The three-day average was 941 vehicles per day (vpd) on Jordan Road south of Navahopi Road with a nearly even split northbound and southbound. Of the three days of data, the highest volume was recorded on Saturday, January 29, with 1,005 vpd and the lowest volume recorded on Thursday, January 27. Data sheets for all traffic volume data obtained for this study have been included in **Appendix C**.

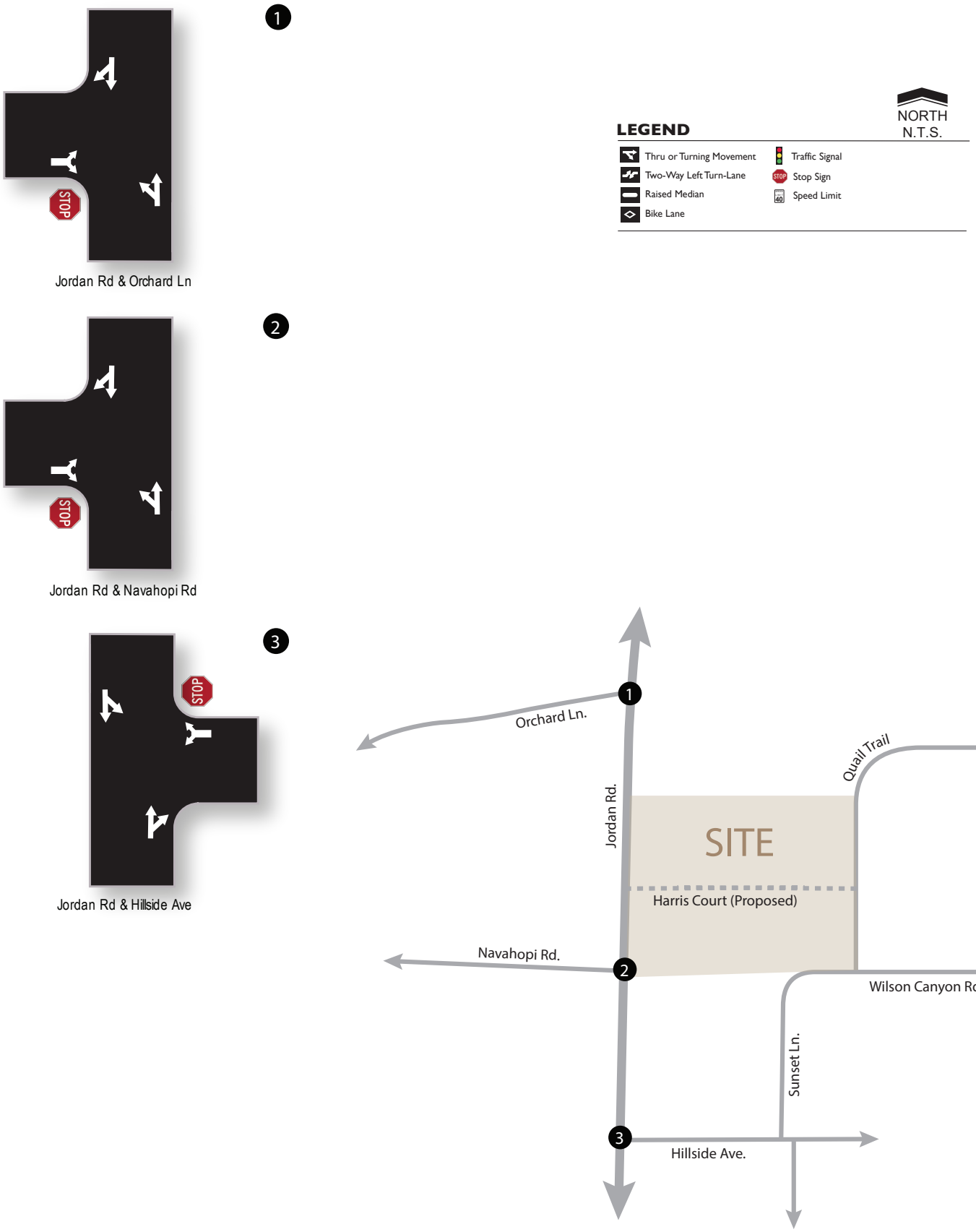


Figure 2: Existing Lane Configurations and Traffic Controls

2. EXISTING VEHICLE CLASSIFICATIONS

CivTech noted previously that Jordan Road terminates at Park Ridge Drive north of the site. Park Ridge Drive is not a through street, serving approximately 20 large-lot/custom homes to the east of Jordan Road and fewer than ten homes to the west. However, beyond the homes to the west, the Brins Mesa Trailhead is approximately one-half mile north of the cul-de-sac that marks the end of Park Ridge Drive. Visitors and local residents use Jordan Road to access the trailhead. Few medium-sized trucks and even fewer heavy trucks or tractor trailers could be expected to use Jordan Road adjacent to the development site and the recorded data bears this out. A review of the vehicle classification data found in **Appendix B** reveals that 81.4% of the vehicles traveling along Jordan Road are cars or cars with trailers. The remaining vehicles were two-axle vehicles: 10.1% were long 2-axle vehicles, 8.2% were 6-tire vehicles with two axles, and 0.3% (9 vehicles total) were classified as buses.

3. EXISTING PEDESTRIAN AND BICYCLE ACTIVITY

FDS-AZ also recorded for CivTech at three (3) study intersections within the project vicinity peak hour volume turning movement counts. These counts (see next section) were recorded from 7:00-9:00 AM and 4:00-6:00 PM on Thursday, January 27, 2022. The daily counts (recorded by machine with hoses across the roadway) did not detect any bicycles; however, bicycles and pedestrians were recorded during the peak hours at two of the three study intersections. During the observed peak hours, the data of which is also in **Appendix C**, there were 22 pedestrians observed between 4 and 6 PM on Thursday January 27 crossing Orchard Lane along Jordan Road; 6 pedestrians were observed earlier that day (7-9 AM) at the same intersection. On Saturday January 29, during the 4 hours recorded, there were 39 pedestrians and 2 bicycles recorded crossing Orchard Lane along Jordan Road. At Navahopi Road, no bicycles were observed on either day; 20 and 14 pedestrians were recorded on Thursday and Saturday during the observed time periods.

Additionally, Pedestrian traffic was also observed during a one-hour site visit on Monday February 7, 2022; these pedestrians included joggers and people walking pets. During the hour starting at 8:00 AM four (4) pedestrians were observed, all traveling from south to north.

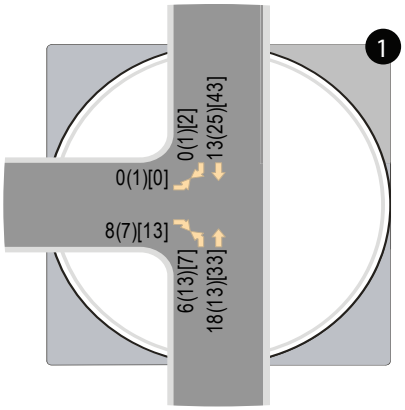
4. EXISTING PEAK HOUR TURNING MOVEMENTS

As noted, weekday AM and PM peak period turning movement counts were conducted on Thursday, January 27, 2022 at three study intersections along Jordan Road within 500 feet of the proposed development, as identified previously: at Navahopi Road, at Orchard Lane, and at Hillside Avenue. FDS-AZ also recorded traffic volumes at these intersections from 11:00 AM to 3:00 PM on Saturday, January 29, 2022.

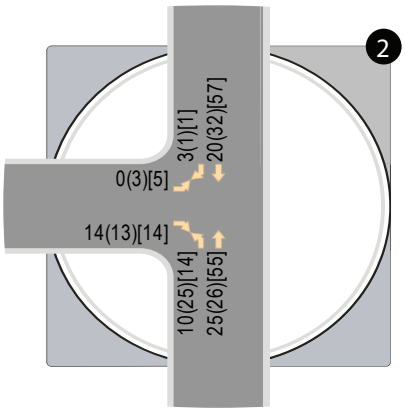
The existing traffic volumes observed for this study are presented in **Figure 3** for the weekday AM and PM peak hours and the weekend peak hour. All traffic observed during site visit where personal vehicles with the exception of garbage collecting trucks.

5. EXISTING ROADWAY OR INTERSECTION CAPACITY

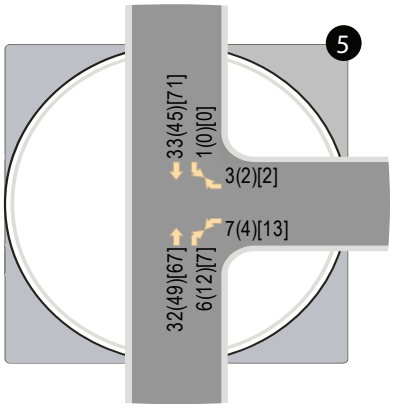
The ITE publication, *Guidelines for Residential Subdivision Street Design* (1983) describes a local street, the function of which is to serve abutting residential land uses, as typically carrying average daily traffic volumes (ADTs) of 100 to 1,500 vpd. The primary purpose of a collector street, such as



Jordan Rd & Orchard Ln



Jordan Rd & Navahopi Rd



Jordan Rd & Hillside Ave

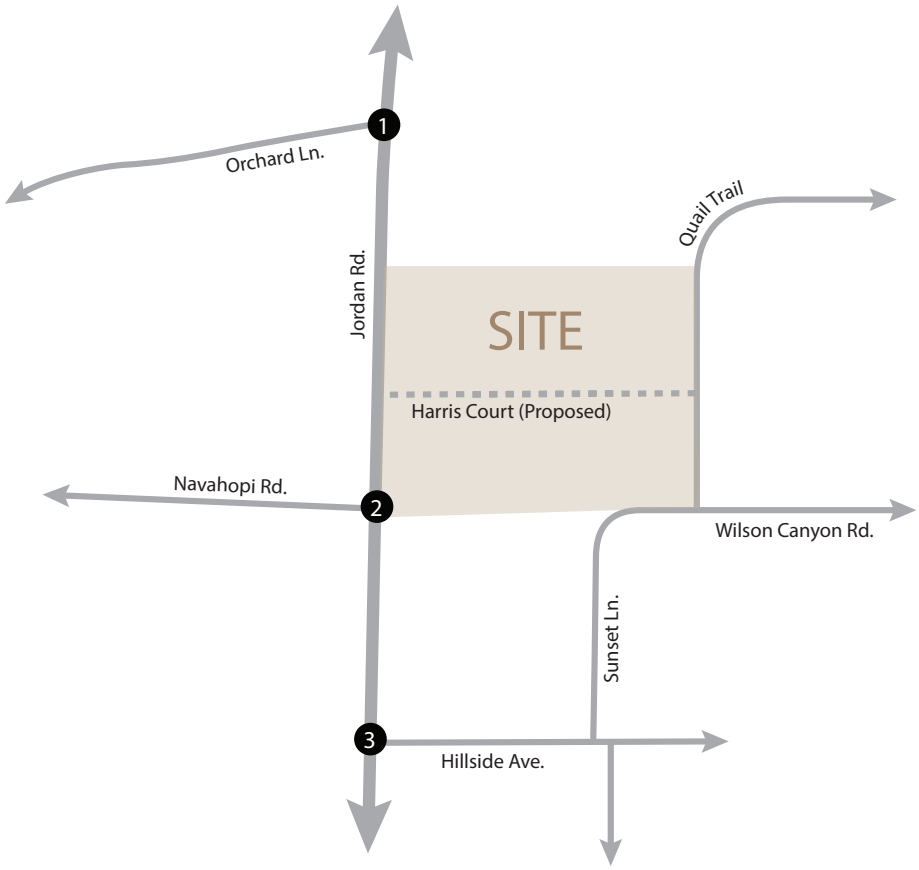


Figure 3: Existing Traffic Volumes

Jordan Road, is to intercept traffic from local streets and carry it to the nearest major street. A secondary purpose of a collector street is to serve abutting land uses. The typical ADT on a collector street ranges from 1,500 to 3,500 vpd. As noted, Jordan Road carries approximately 950 to 1,000 vpd; thus, there is capacity for the expected additional trips generated by the Jordan Townhomes documented below.

6. EXISTING ROADWAY OR INTERSECTION CAPACITY AND LEVEL OF SERVICE, INCLUDING ALL MOVEMENTS ANALYSIS

The concept of level of service (LOS) uses qualitative measures that characterize operational conditions within the traffic stream. The individual levels of service are described by factors that include speed, travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations A through F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions. Levels of service for intersections are defined within ranges of average control delay per vehicle, the number of seconds a vehicle can expect to wait due to the presence of a traffic control device. **Table 2** lists the level of service criteria for signalized and unsignalized intersections.

TABLE 2 – INTERSECTION LEVEL OF SERVICE CRITERIA

Level of Service	Control Delay (sec/veh)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80 (or v/c>1)	> 50 (or v/c>1)

Source: Exhibits 19-8, 20-2, 21-8, and 22-8, Highway Capacity Manual, 6th Edition (2016)

Synchro 11 software using the methodologies of the latest (6th) edition of the *Highway Capacity Manual* (HCM 2016) were used to calculate average per-vehicle control delays, from which movement, approach, and overall intersection levels of service are determined. The methods take into account lane geometry, traffic volumes, and traffic control (two-way stop, all-way stop, or signal). Synchro's analysis worksheets report individual movement delay/LOS and overall delay/LOS for signalized intersections and the worst-case delay/LOS and the average overall intersection delay for unsignalized intersections. Results of the existing, no build, and build scenarios level of service analyses conducted for the proposed development are summarized in **Table 3** for the AM and PM peak hours. The analysis worksheets are included in **Appendix D.**

TABLE 3 – EXISTING PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach/ Movement	2022 LOS AM(PM)[Saturday]
1	Jordan Road & Orchard Lane	One-Way Stop (Westbound)	NB Shared Left/Thru EB Shared Left/Right	A (A) [A] A (A) [A]
2	Jordan Road & Navahopi Road	One-Way Stop (Westbound)	NB Shared Left/Thru EB Shared Left/Right	A (A) [A] A (A) [A]
3	Jordan Road & Hillside Avenue	One-Way Stop (Eastbound)	SB Shared Left/Thru WB Shared Left/Right	A (A) [A] A (A) [A]

The results of the capacity analysis of existing conditions summarized in **Table 3** indicate that the study intersections currently operate at overall and approach acceptable levels of service with the existing lane configurations and traffic controls.

7. THREE YEARS OF HISTORICAL CRASH DATA

Each summer CivTech obtains from the Arizona Department of Transportation crash data for the entire State for the prior calendar year. CivTech conducted its research for the years of 2018, 2019, or 2020, the latest calendar year for which data is available and could find *no* crashes reported on Jordan Road or at any of the three study intersections.

8. EXISTING AND LIKELY PEDESTRIAN AND VEHICULAR TRAFFIC PATTERNS

The full description of this issue in the City's traffic impact study (TIS) requirements is "Existing and likely pedestrian and vehicular traffic patterns between proposed and existing business and residential areas within 500 feet minimum of the parcel being developed" with a following note indicating that, "The city engineer may expand the minimum size area to be included in this analysis if the size and/or type of the proposed development warrants such expansion." To address this, CivTech notes the following:

The only non-residential land use along Jordan Road within 500 feet of the development site is the Sedona heritage Museum/Jordan Historical Park on the west side of Jordan Road north of orchard Lane. Residents of the new development will be able to walk there, using the sidewalk being constructed by the developer for part of the way and/or crossing Jordan Road and using the existing sidewalk on the west side that extends north to the museum driveway. To visit friends that live in the immediate area, they will be able to use the sidewalk on the west side of Jordan Road: it extends south all the way to SR 89A. South of Schnebly Road, there is also sidewalk on the east side of Jordan Road. For friends that live to the east, they will be able to walk along Harris Court to Quail Tail Trail, which will have sidewalk only at the intersection. Access to businesses, such as supermarkets will be via personal motor vehicle using Jordan Road, since the use of other side streets is inconvenient since they all lead back to Jordan Road.

C. SPEED CHARACTERISTICS

1. PREVAILING 85TH PERCENTILE SPEED

FDS-AZ recorded for CivTech the speeds of vehicles on Jordan Road. The prevailing 85th percentile speed, the speed at which speed limits are often set, was 30 mph, which means 85% of the vehicles

traveled at 30 mph or less. The 95th percentile speed was 35 mph. Of the 2,823 vehicles recorded over the three days January 27-29, only 13 vehicles traveled at 41 mph or greater and another 101 traveled between 36 and 41 mph.

2. POSTED SPEED LIMITS

As noted previously under the subject of traffic controls, where posted, speed limits are 25 mph. The results revealed that the average speed on Jordan Road was 26 mph; however, nearly half (48.7%) of the vehicles were traveling at greater than the posted 25 mph speed limit.

D. EXISTING TRAFFIC CONTROLS

1. PASSIVE CONTROLS (SUCH AS SIGNS AND MARKERS)

Jordan Road. The speed limit of 25 miles per hour (mph) on Jordan Road within the vicinity of the site is posted southbound south of Park Ridge Drive and is again posted just south of Navahopi Road; northbound, it is posted just north of Capital Butte Road. The only other traffic controls on the segment of Jordan Road in the vicinity of the project are double-yellow centerline striping and a "Watch for Animals" warning sign northbound across from the driveway to 615 Jordan Road and approximately where Harris Court. The sign will have to be relocated and replaced when Harris Court is constructed. The corresponding southbound sign is located between the wash bridge and the common driveway serving 735 and 773 Jordan Road and will not be affected by the development.

Navahopi Road. The speed limit of 25 mph on Navahopi Road is posted westbound at its intersection with Van Deren Road; eastbound it is posted just east of Ridge Road. The only other traffic controls on the segment of Navahopi Road in the vicinity of the project are double-yellow centerline striping and, as noted above, a stop sign on eastbound Navahopi Road approaching Jordan Road.

Orchard Lane and Hillside Avenue. There is no posted speed limit on either Orchard Lane or Hillside Road. Under Arizona Revised Statutes 28-701, "any speed in excess of the following speeds is prima facie evidence that the speed is too great and therefore unreasonable…twenty-five miles per hour in a business or residential district." Therefore, CivTech assumes each has a speed limit of 25 mph within the vicinity of the site. Neither is striped longitudinally. As noted above, both have stop signs on their approaches to Jordan Road; only Orchard Lane has a striped stop bar on it approach.

2. ACTIVE CONTROLS (SUCH AS TRAFFIC SIGNALS)

As can be seen from the above descriptions of the study roadways and intersections, there are no active traffic controls in place within the study area.

3. LIGHTING

There is no roadway lighting along Jordan Road or at any of the three study intersections.

4. CROSSWALKS

Designated pedestrian crosswalks are not provided along any legs of the three study intersections.

5. BICYCLE PATHS OR LANES

There are no marked bicycle paths provided along any of the three study roadways. Per Figure 5 of the City's 2020 *GO! Sedona Pathways Plan*, the entire length of Jordan Road is a proposed pathway. Another proposed pathway is shown along the south side of the development site, linking Jordan Road to Wilson Canyon Road.

PROPOSED DEVELOPMENT

E. TRAFFIC GENERATOR CHARACTERISTICS

1. DESCRIPTION OF TRAFFIC GENERATOR

The proposed development is a residential use as described in further detail below.

2. GROSS LAND AREA OF TRAFFIC GENERATOR

The project will be developed on an 89,558-SF (2.06 acre) parcel. An easement of 19,252 SF (or 0.44 acres) is required for the construction of Harris Court, leaving a net area of 70,306 SF or 1.614 acres on which the homes will be built.

3. SQUARE FEET OF COMMERCIAL BUILDING SPACE

The proposed development will provide *no* commercial building space.

4. NUMBER OF COMMERCIAL PARKING SPACES.

As a residential use without any commercial building space, there is no need to provide any commercial parking spaces.

5. NUMBER OF DWELLING UNITS, INCLUDING TYPE.

The Jordan Townhomes project consists of 24 townhomes, 14 full-size townhomes and 10 smaller townhomes, each of which, due to its floor area, can be considered the equivalent of one-half (½) of a dwelling unit under Sedona Zoning, yielding an equivalent of 19 DUs for determining the project density. Twelve units will flank either side of the proposed Harris Court, which will be flanked by two (2) buildings on each side. With 19 equivalent units on a net of 1.614 ares, this is a density of 11.77 dwelling units per acre. Each townhome will have a driveway the proposed Harris Court. Harris Court will intersect Jordan Road in the west and Quail Tail Trail in the east. Each intersection is analyzed as a part of this study. The proposed development site plan is provided in **Figure 4**.

6. TOTAL NUMBER OF TRIPS PER DAY ANTICIPATED FROM COMPLETED DEVELOPMENT

The potential trip generation for the proposed development was estimated utilizing the latest (11th) edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* (TripGen11) and the 3rd edition of the *Trip Generation Handbook*. TripGen11 contains data collected by various transportation professionals for a wide range of different land uses. The data are summarized in the report and average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized land use. The report provides information for daily and peak hour trips.

The anticipated trip generation is summarized in **Table 4** after **Figure 4**. Detailed trip generation calculations are provided in **Appendix E**. *Please note that CivTech calculated the trip generation based on the individual 24 dwelling units expected, not the 19 equivalent units, which is/was only for zoning purposes and for calculating the density.*

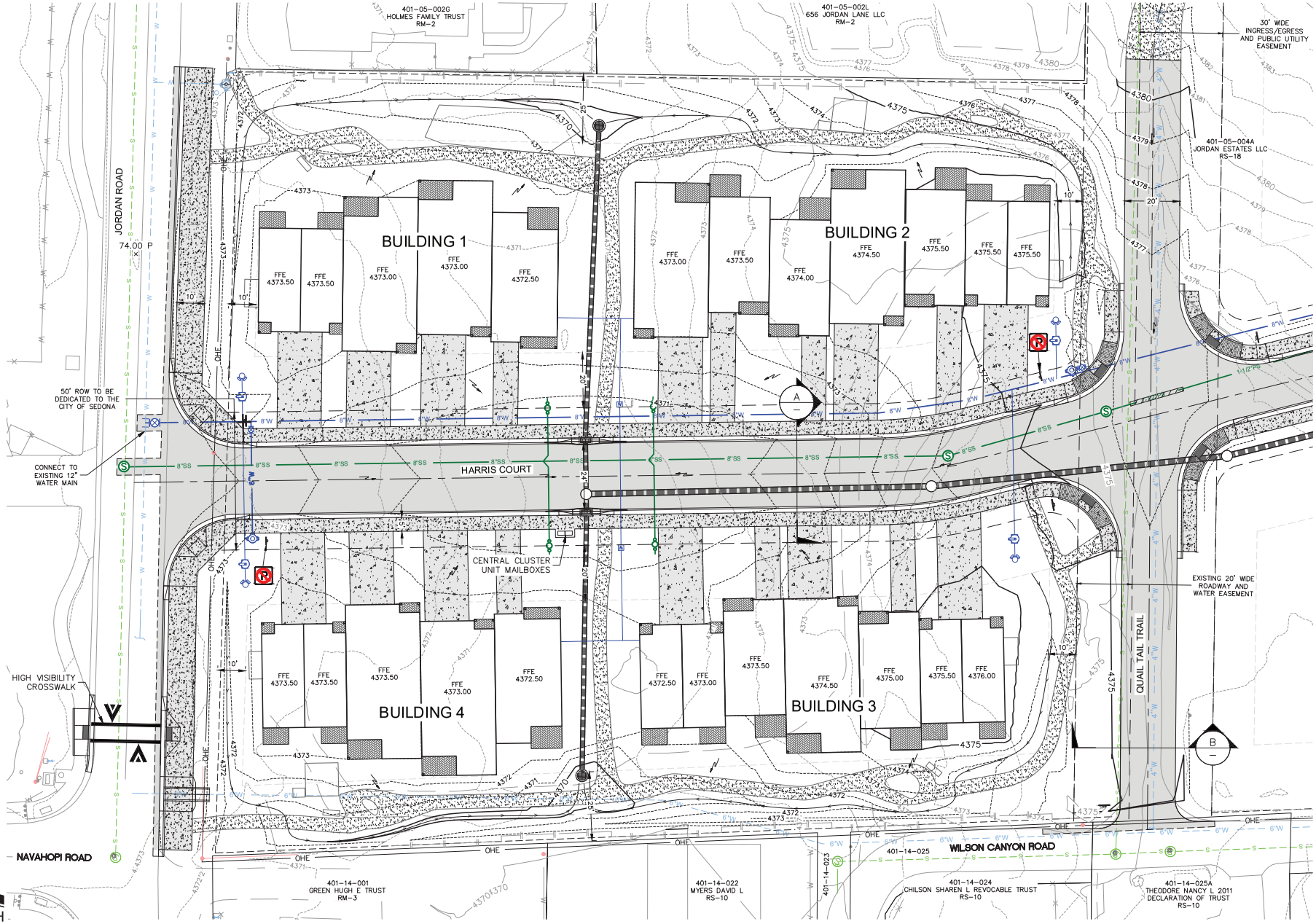


Figure 4: Site Plan and Access

Table 4 – Trip Generation Summary – Entire Development

Land Use	ITE Code	ITE Land Use Name	Quantity Units+	AM Distribution		PM Distribution		Sat Distribution	
				In	Out	In	Out	In	Out
Townhomes	220	Apartments(Low-Rise) Not Close to Rail	24 DUs	24%	76%	63%	37%	54%†	46%†
Townhomes Pedestrian	220	Multifamily Housing (Low-Rise Not Close to Rail)	24DUs	43%	57%	50%	50%		

Land Use	ADT		AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	Avg. Rate	Total	Avg. Rate	In	Out	Total	Avg. Rate	In	Out	Total	Avg. Rate	In	Out	Total
Townhomes	9.55*	230	1.26*	7	23	30	1.29*	20	11	31	1.27*†	16	14	30
Townhomes Pedestrian	-	-	0.03	0	1	1	0.03	1	0	1				

Notes: *Average rate was calculated by dividing total trips generated using regression equation by the number of units. (See **Appendix D** for details.)

+DUs = Dwelling Units †Value represents that of single-family detached housing (Land Use Code 210)

A review of the results of the vehicle trip generation calculations summarized in **Table 4** for the 2024 analysis year reveals that the new development could generate 230 total vehicle trips each weekday. Adding these weekday trips to the approximately 1,000 vpd on Jordan Road yields a total of 1,200 to 1,250 vpd, which is well within the range of volumes (1,500-3,500 vpd) expected on a collector roadway.

7. NUMBER OF WEEKDAY PEAK HOUR TRIPS ANTICIPATED FROM COMPLETED DEVELOPMENT

The development could generate 30 trips (7 in/23 out) during the weekday AM peak hour and 31 total vehicle trips (20 in/11 out) during the weekday PM peak hour.

8. NUMBER OF WEEKEND PEAK HOUR TRIPS ANTICIPATED FROM COMPLETED DEVELOPMENT

The development could generate 30 trips (16 in/14 out) during the Saturday peak hour, which typically occurs midday (i.e., between 11 AM and 3 PM).

Please note that, for the Saturday peak hour trip generation, the published ITE average rate is based on only a single data source. Therefore, CivTech applied the Saturday peak hour data from a typical single-family detached housing development to generate conservative and reasonable Saturday peak hour volumes.

9. ANTICIPATED PEAK HOUR TURNING MOVEMENT VOLUME TO OR FROM STREET OR HIGHWAY, AND TO OR FROM TRAFFIC GENERATOR.

A review of the overall area road network reveals that the most direct and, therefore, most convenient route to/from Uptown Sedona and/or to SR 89A is via Jordan Road. Any routes east of the site are through existing neighborhoods with private streets or narrow, low-volume/low-speed public streets not intended for through traffic. Therefore, CivTech has assumed that all site generated trips will depart to or arrive from Jordan Road. Thus, with a single access point proposed (Harris Court at Jordan Road) and Jordan Road having no outlet to the north, all trips will be to and from the south. As a result, the anticipated peak hour turning movements to Jordan Road are the outbound AM, PM, and Saturday peak hour trips noted above: 23 AM out, 11 PM out, 14 Saturday out. Inbound, northbound right turns from Jordan are the inbound trips noted above: 7 AM, 19 PM, 16 Saturday. CivTech notes that the weekday AM and PM peak hour directional splits reflect a typical commuting pattern for residential land uses. CivTech also notes that, since there are streets/routes that link Jordan Road to SR 89A (Apple Avenue, Schnebly Road/Owenby Road) north of its own intersection

with SR 89A, that there may be some dispersion of the site trips on those streets; All trips will begin or end at the new intersection of Jordan Road and Harris Court, designated herein as **Access A**.

10. VOLUME AND DIRECTION OF ANTICIPATED PEDESTRIAN AND BICYCLE TRAFFIC DURING THE PEAK HOUR.

A review of the results of the pedestrian trip generation summarized in **Table 4** for the 2024 analysis year reveals the proposed development could generate 1 total pedestrian trip going south in the AM and 1 total pedestrian trips going back from the south in the PM.

11. DESCRIPTION OF VEHICLE CLASSIFICATIONS ANTICIPATED FOR THE TRAFFIC GENERATOR

The sizable majority, if not all of the vehicles owned and garaged at the Jordan Townhomes are expected to be passenger vehicles, cars, SUVs, pick-ups, etc. No resident is expected to own anything larger and park it in the development. Deed restrictions will prohibit the parking of such vehicles.

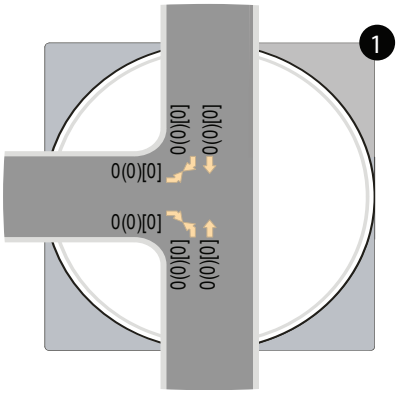
12. LEVEL OF SERVICE OF ROADWAY OR INTERSECTION, INCLUDING ALL MOVEMENTS

The full description of this item in the City's TIS requirements is "Level of service of roadway or intersection, including all movements, combining existing and development-generated traffic volumes" noting that "Such levels shall be delineated both without [and with] consideration of roadway and traffic control improvements." However, before *any* such analysis can be conducted, there are intervening steps that must be taken by the traffic engineer after the trip generation is completed in order to develop the turning movements through the study intersections required for the analysis.

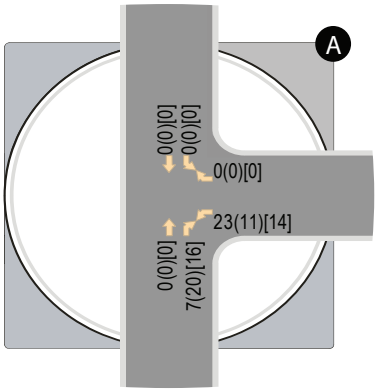
Site Trip Assignment. With Jordan Road having no outlet to the north, as noted above, all site trips are assumed to use Jordan Road to the south to depart from and arrive to the site. This trip distribution percentage of 100% of the trips to/from the south was applied to the generated trips to determine the AM, PM, and Saturday peak hour site traffic through the two intersections within the study area that are south of proposed Harris Court: no site trips are expected through the third study intersection, that of Jordan Road and Orchard Lane. The resulting opening year 2024 site trips as distributed to the roadway network are illustrated in **Figure 5**.

No-Build Volumes. CivTech referred to the published ADOT traffic recorded along SR 89A and calculated a negative growth rate between 2018 and 2022. Therefore, CivTech applied an estimated growth factor of 5% per year to the 2022 recorded traffic counts to project turning movements three years hence (2024), or a factor of 1.158 (= 1.05^3). These projected non-site peak hour volumes for the "no-build" scenario for the 2024 analysis year are illustrated in **Figure 6**.

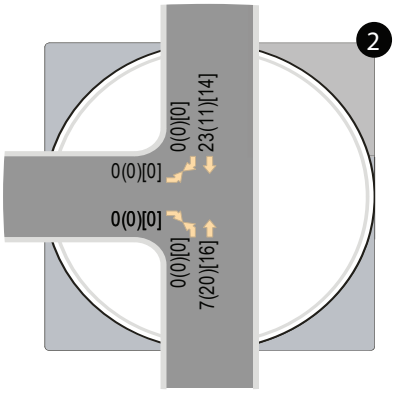
Future Total Traffic Volumes. Summing the site trips and the projected background/non-site peak hour yields "build" scenario or total, with-development traffic volumes. These are illustrated in **Figure 7**.



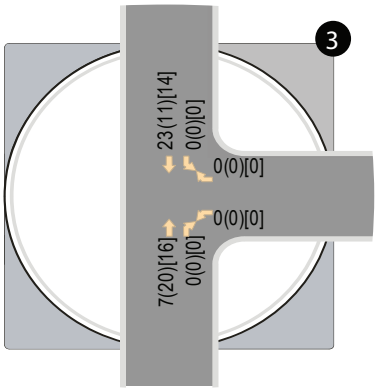
Jordan Rd & Orchard Ln



Jordan Rd & Harris Crt



Jordan Rd & Navahopi Rd



Jordan Rd & Hillside Ave

LEGEND

NORTH
N.T.S.

XX(XX)[XX] AM(PM)[Saturday] Peak Hour Traffic Volumes

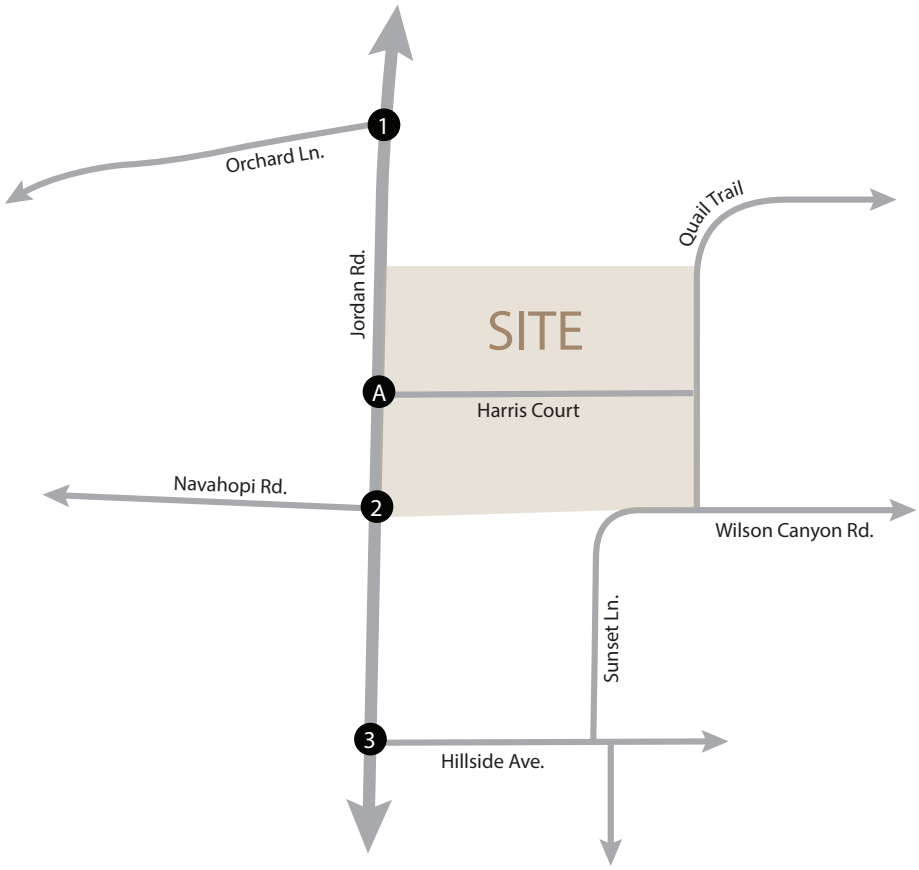
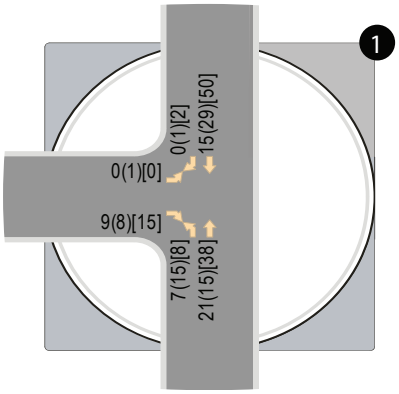
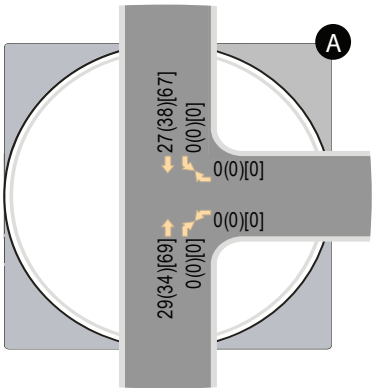


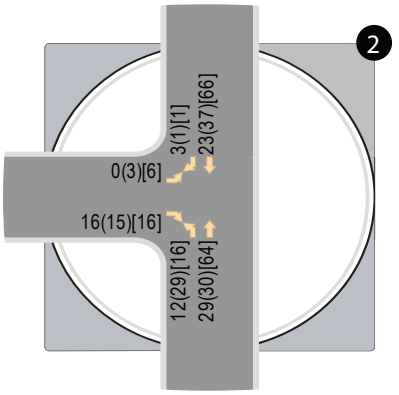
Figure 5: Site Generated Traffic Volumes



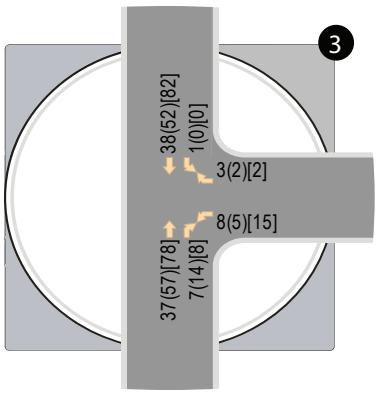
Jordan Rd & Orchard Ln



Jordan Road & Harris Crt



Jordan Rd & Navahopi Rd



Jordan Rd & Hillside Ave

LEGEND

NORTH
N.T.S.

XX(XX)[XX] AM(PM)[Saturday] Peak Hour Traffic Volumes

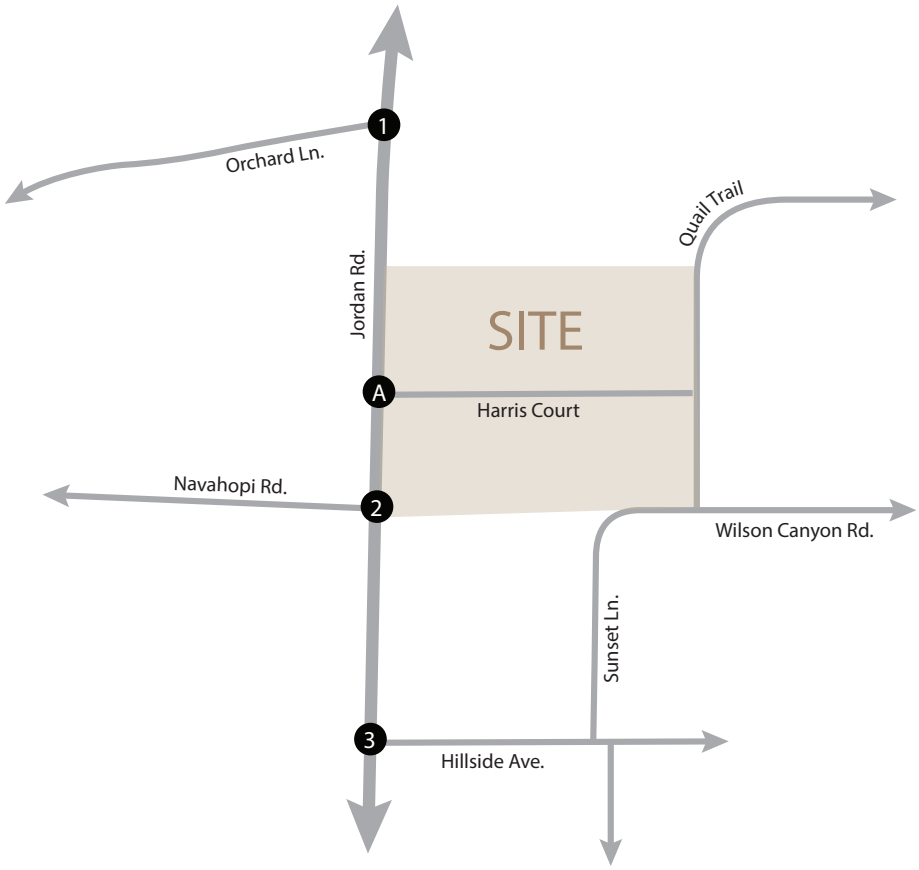
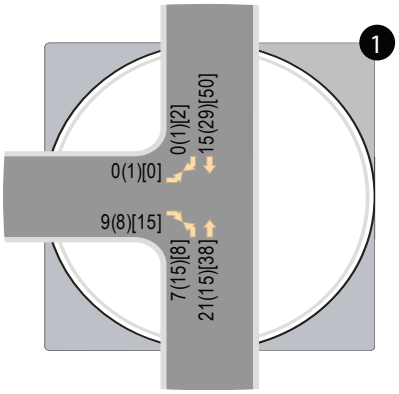
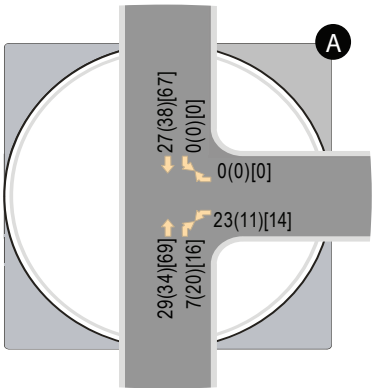


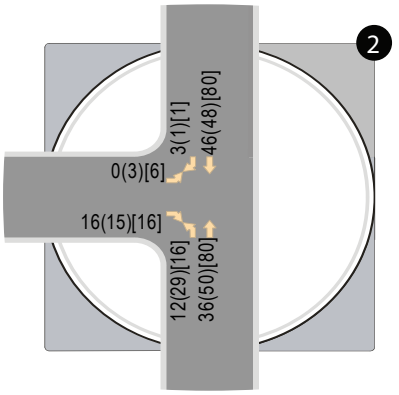
Figure 6: Background Traffic Volumes



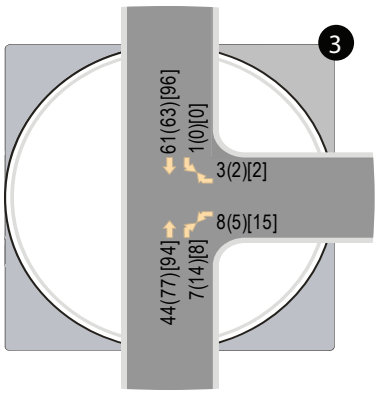
Jordan Rd & Orchard Ln



Jordan Road & Harris Crt



Jordan Rd & Navahopi Rd



Jordan Rd & Hillside Ave

LEGEND

NORTH
N.T.S.

XX(XX)[XX] AM(PM)[Saturday] Peak Hour Traffic Volumes

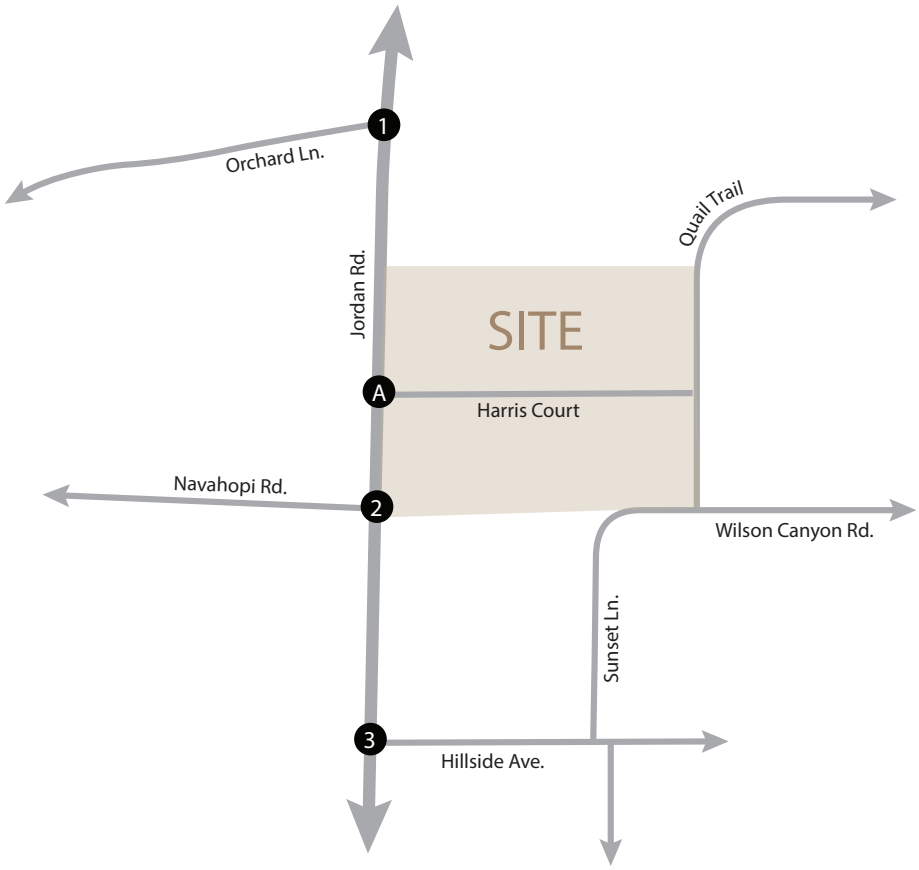


Figure 7: Total Traffic Volumes

Peak hour capacity analyses were conducted for all of the major intersections within the study area. All study area intersections were analyzed using Synchro traffic analysis software and the methodologies previously presented. The overall intersection and approach levels of service are summarized in **Table 5** for the 2024 study year analysis. Detailed analysis worksheets can be found in **Appendix G**.

TABLE 5 – FUTURE PEAK HOUR LEVELS OF SERVICE

ID	Intersection	Intersection Control	Approach/ Movement	2025 LOS AM(PM) [Saturday] No Build	2025 LOS AM(PM) [Saturday] Build
1	Jordan Road & Orchard Lane	One-Way Stop (Westbound)	NB Left EB Shared	A (A) [A] A (A) [A]	A (A) [A] A (A) [A]
2	Jordan Road & Navahopi Road	One-Way Stop (Eastbound)	NB Left EB Shared	A (A) [A] A (A) [A]	A (A) [A] A (A) [A]
3	Jordan Road & Hillside Avenue	One-Way Stop (Westbound)	SB Left WB Shared	A (A) [A] A (A) [A]	A (A) [A] A (A) [A]
A	Jordan Road & Harris Court	One-Way Stop (Westbound)	SB Left WB Left	A (A) [A] A (A) [A]	A (A) [A] A (A) [A]

A. WITHOUT CONSIDERATION OF ROADWAY AND TRAFFIC CONTROL IMPROVEMENTS

The results of the future intersection capacity analysis indicate that all of the study intersections are anticipated to operate at overall and by-approach acceptable levels of service of LOS C or better during the peak hours without consideration of any roadway or traffic control improvements in both the no-build and build scenarios.

B. WITH CONSIDERATION OF ROADWAY AND TRAFFIC CONTROL IMPROVEMENTS

Given the results reported in the prior item, no roadway or traffic control improvements are required at any of the existing study intersections, only those required along the site frontages by the city.

The recommended lane configurations and traffic controls are depicted in **Figure 8** for 2024. *Please note that the only difference between **Figure 8** and **Figure 2** is that the new intersection of Jordan Road and Harris Court has been added.*

13. PEDESTRIAN GENERATION AND PEDESTRIAN TRAFFIC PATTERNS.

As already noted, the site is expected to generate a single pedestrian during the typical weekday AM and PM peak hours. Saturday data is not available. Given that there are a trailhead less than a mile to the north, a museum almost just across the street, and other residences within walking distances in which a friend may live, it is not possible to identify with any specificity where this one person may be walking to or arriving from. Since he/she is only one person, there is little chance that the sidewalk facilities along Jordan Road or any of the area roadways would be taxed to their capacity, as might happen in a commercial/retail/restaurant area such as Uptown Sedona.

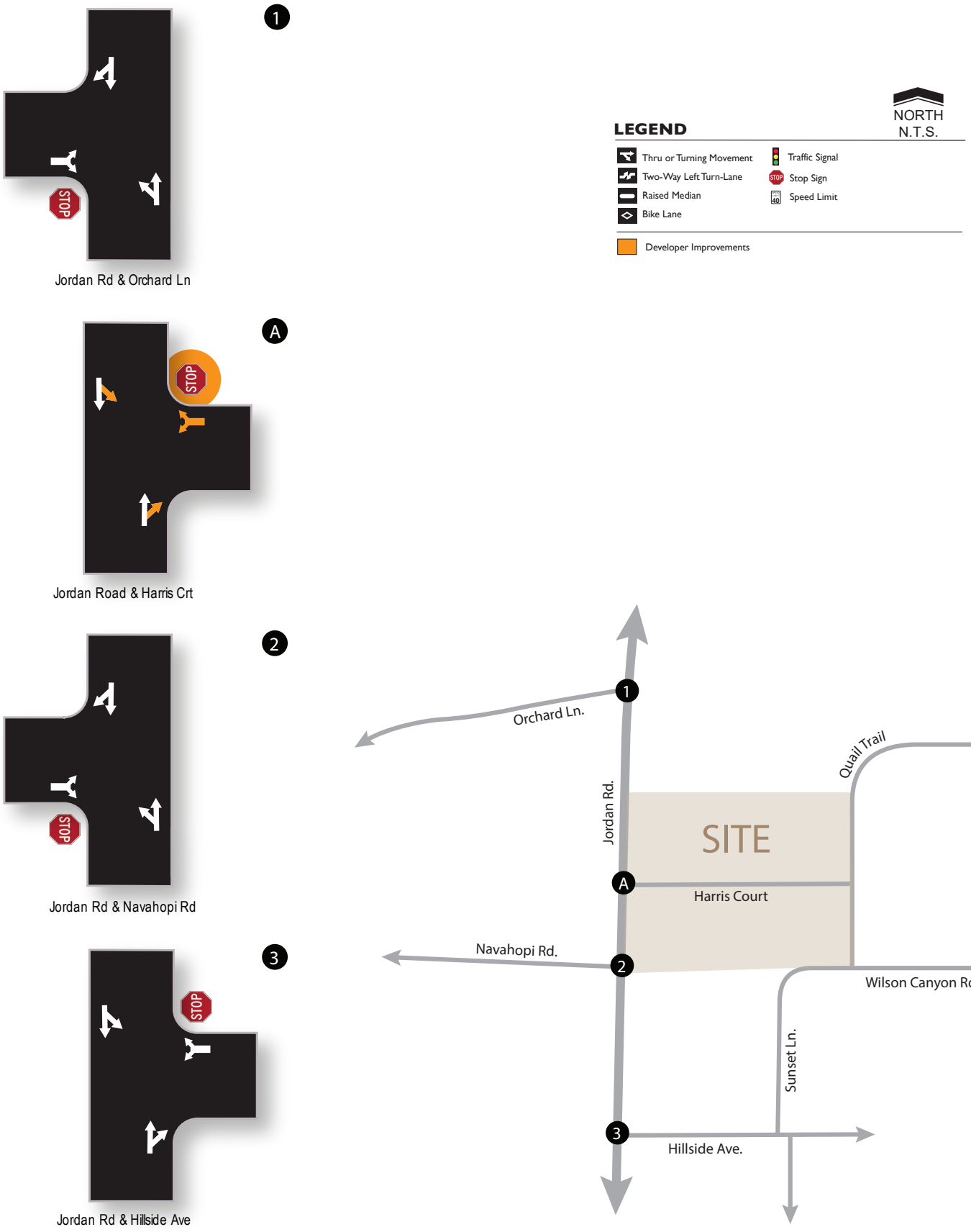


Figure 8: Proposed Lane Configurations and Traffic Controls

F. SUMMARY

1. PERTINENT DISCUSSION.

- The Jordan Townhomes project are 24 townhomes proposed on 89,558-square foot/2.06-acre Coconino County Assessor Parcel Number (APN) 40158001A in the City of Sedona, Arizona. The proposed project will be located on the northeast corner of the intersection of Jordan Road and Navahopi Road. A new local east-west street, one-block long Harris Court, will be constructed to provide a paved access to the 12 dwelling units (DUs) to be located on either side of the road and a connection between Jordan Road and Quail Tail Trail and Wilson Canyon Road.
  - The 24 townhomes will consist of 14 full-size townhomes and 10 smaller townhomes, each of which, due to its floor area, can be considered the equivalent of one-half (½) of a dwelling unit under Sedona Zoning. Thus, the 14 full DUs plus 10 half DUs yields an equivalent of 19 DUs for determining the project density. The City's 2017 Future Land Use Map shows the parcel planned for Medium & High Density Multi Family land use of 4 to 12 DUs/acre. An easement for Harris Court through the site is expected to be 19.252 square feet/0.44 acres, leaving the net area on which the equivalent of 19 DUs will be provided to be 1.614 acres, yielding a proposed density of approximately 11.77 DUs/net acre. One site access, Harris Court, is proposed and each townhome will have its own driveway.
- Three intersections along Jordan Road are located within 300 feet of the proposed Jordan Townhomes (i.e., Orchard Lane, Navahopi Road, and Hillside Avenue), The study area is comprised of these three intersections.
- CivTech recommends that sight visibility triangles at the site driveway be provided per AASHT0 guidelines, with 475 feet to the right of Harris Court, the site access, and 415 feet to the left of Harris Court. Per AASHTO guidelines, there should be a sight distance of 355 feet in front of a vehicle approaching to make a left turn from Jordan Road into Harris Court.
- Within the area of the triangle there shall be no sight-obscuring or partly obscuring earthen material, wall, fence, sign, foliage or other obstruction higher than 24 inches above curb grade or, in the case of trees, foliage lower than six feet.
- No crashes occurred within the study area in the years 2018, 2019, and 2020.
- The prevailing 85th percentile speed on Jordan Road recorded January 27-29, 2022 was 30 mph; the posted speed limit is 25 mph. The average speed on Jordan Road was 26 mph. Nearly half (48.7%) of the vehicles were traveling at greater than the posted 25 mph speed limit.
- A review of the vehicle classification data reveals that 81.4% of the vehicles traveling along Jordan Road are cars or cars with trailers. The remaining vehicles were two-axle vehicles: 10.1% were long 2-axle vehicles, 8.2% were 6-tire vehicles with two axles, and 0.3% (9 vehicles total) were classified as buses
- The new development could generate 230 total vehicle trips each weekday, with 30 trips (7 in/23 out) generated during the weekday AM peak hour, 31 total vehicle trips (20 in/11 out) generated during the weekday PM peak hour, and 30 trips (16 in/14 out) generated during the Saturday peak hour, which typically occurs midday (i.e., between 11 AM and 3 PM). *These trips were calculated based on the 24 individual dwelling unts expected and not on the 19 equivalent units calculated for zoning purposes and density calculations.*

- Adding the weekday trips to the approximately 1,000 vpd on Jordan Road yields a total of 1,200 to 1,250 vpd, which is well within the range of volumes (1,500-3,500 vpd) expected on a collector roadway.
- During the observed peak hours, there were 22 pedestrians observed between 4 and 6 PM on Thursday January 27 crossing Orchard Lane along Jordan Road; 6 pedestrians were observed earlier that day (7-9 AM) at the same intersection. On Saturday January 29, during the 4 hours recorded, there were 39 pedestrians and 2 bicycles recorded crossing Orchard Lane along Jordan Road. At Navahopi Road, no bicycles were observed on either day; 20 and 14 pedestrians were recorded on Thursday and Saturday during the observed time periods.

2. RESULTS OF ANALYSIS

- The results of the capacity analysis of existing conditions conducted by CivTech revealed that the three study intersections currently operate at overall and approach acceptable levels of service with the existing lane configurations and traffic controls.
- The results of the future intersection capacity analysis indicate that all of the study intersections are anticipated to operate at overall and by-approach acceptable levels of service of LOS C or better during the peak hours without consideration of any roadway or traffic control improvements in both the no-build and build scenarios.

3. RECOMMENDATIONS ADDRESSING THE ITEMS LISTED

a. Maintenance of Existing Levels of Traffic Operations and Traffic Safety
As there were no degradations in the overall levels of service or of any movement at the three study intersections, CivTech has no recommendations of mitigation measures to maintain the current levels of service or to improve traffic safety.

b. Safety Impacts of Vehicles Associated with the Development
During the peak hours, the proposed development is expected to add 30 or fewer trips to Jordan Road, an average of just 1 new vehicle every two minutes. The additional trips are not expected to impact the safe operation of Jordan Road, either as a motorway or as a route for pedestrians and bicyclists.

c. Timing, Funding and Construction Necessary to Implement These Improvements
No improvements are recommended; thus, this item requires no further response.

d. All such recommendations shall be consistent with the recommendations and conclusions of the city's Sedona Area Transportation Study as adopted by the council. The recommendations of any traffic impact study submitted prior to the adoption of the Sedona Area Transportation Study shall be consistent with the draft current at the time the traffic impact study is submitted.
CivTech could find at the City's website no document bearing the title *Sedona Area Transportation Study*, either in draft or final form. In January 2018, the City adopted the *City of Sedona Transportation Master Plan* (TMP), a document cited in the study text. Since no mitigation measures are needed or recommended, there is nothing that will be inconsistent with the recommendations and conclusions of the TMP.

LIST OF REFERENCES

A Policy on Geometric Design of Highways and Streets, 7th Edition. American Association of State Highway and Transportation Officials, 2019.

City of Sedona Traffic Impact Study Requirements. – Sedona City Code Section 14.10, City of Sedona, Arizona, Updated through January 2021.

City of Sedona Transportation Master Plan – Final Report. Kimley-Horn and Associates, January 2018

Guidelines for Residential Subdivision Street Design. Institute of Transportation Engineers, Washington, D.C., 1983

Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis. Transportation Research Board, Washington, D.C., 2018.

Manual on Uniform Traffic Control Devices. U.S. Department of Transportation, Federal Highways Administration, Washington, D.C., 2009.

Trip Generation Manual, 11th Edition. Institute of Transportation Engineers, Washington, D.C., 2021.

Trip Generation Handbook, 3rd Edition. Institute of Transportation Engineers, Washington, D.C., 2014.

TECHNICAL APPENDICES

APPENDIX A: REVIEW COMMENTS AND RESPONSES (RESERVED)

APPENDIX B: SIGHT DISTANCE CALCULATIONS

APPENDIX C: EXISTING TRAFFIC COUNTS

APPENDIX D: EXISTING PEAK HOUR ANALYSIS

APPENDIX E: TRIP GENERATION CALCULATIONS

APPENDIX F: 2024 NO BUILD PEAK HOUR ANALYSIS

APPENDIX G: 2024 BUILD PEAK HOUR ANALYSIS

APPENDIX A

REVIEW COMMENTS AND RESPONSES (Reserved)

APPENDIX B

SIGHT DISTANCE CALCULATIONS

Location: Jordan Road, Sedona

Assumptions and/or Givens

Elements of Design from AASHTO	*6th Edition*		*AASHTO Ref*
Driver Eye Height			
Passenger Vehicle	3.50	ft	§3.2.6.1, p 3-15
Truck	7.60	ft	§3.2.6.1, p 3-15
Object Height			
Stopping Sight Distance	2.00	ft	§3.2.6.2, p 3-15
Passing Sight Distance	3.50	ft	§3.2.6.2, p 3-15
Vehicle Height	4.25	ft	§3.2.6.1, p 3-15
Driver Eye Location			
From Edge of Major Rd Traveled Way	14.50	ft	§9.5.3.2.1, p 9-43
Deceleration Rate (a)			
Passenger Vehicle	11.20	ft/sec^2	§3.2.2.2, p 3-4
Truck	N/A	ft	
Brake reaction time (t)	2.50	sec	§3.2.2.1, p 3-3

Site Specific Data (Bike & turn lanes are outside traveled way and are not considered)

Major Street Design Speed (V_{major})		40	MPH	
Grades - Approaching Minor Street from: (– = approaching downhill)				
Left (G_L)			%	
Right (G_R)			%	
Approach Grade Adjustment Factor	Left	1.0		Tbl 9-5, p 9-42
	Right	1.0		
Major Road Through Lanes on Each Approach		1.0	(Use 1 for RI/RO[/LI] only)	
Median Width (in "Lane Equivalents")		1.0	(Use 0 for RI/RO[/LI] only)	
Minor Road Approach Upgrade, if >3%			%	
Minor Road Access (check restricted)	LI	LO/Th	RO	

Stopping Sight Distance = Brake Reaction Distance + Braking Distance

Neglecting Effect of Grade

$$d = 1.47Vt + 1.075\frac{V^2}{a}$$ Eq 3-2, p 3-5

Calculated d= 300.6 ft

Design d= 305 ft

With Effect of Grade

$$d = 1.47Vt + \frac{V^2}{30\left(\left(\frac{a}{32.2}\right) \pm G\right)}$$ Eq 3-3, p 3-5

Calculated d= 300.3 ft - left
305 ft - right

Design d= 300.3 ft - left
305 ft - right

SSD's do not consider design for truck operations, since better visibility is considered to offset longer braking distance. §3.2.2.5, p 3-6

Location: Jordan Road, Sedona

Intersection Sight Distances

Case B—Intersections with Stop Control on the Minor Road §9.5.3.2, p 9-42

Case B1—Left Turn from the Minor Road §9.5.3.2.1, p 9-43

Design Vehicle	Time Gap (t_g)		
Passenger Car	7.5	sec	Tbl 9-6, p 9-44
Single-Unit Tuck	9.5	sec	Tbl 9-6, p 9-44
Combination Truck	11.5	sec	Tbl 9-6, p 9-44
Time gap adjustments			
Add'l lanes to cross (1st is assumed)			
Passenger Car	0.5	sec	See Notes
Trucks	0.7	sec	below
Minor Approach Upgrade (Per each 1%>3%)	0.2	sec	Tbl 9-5, p 9-37
Site data			
Major Road Lanes on Left Approach	1.0		§9.5.3.2.1, p 9-44
Minor Road Approach Upgrade, if >3%	0	%	§9.5.3.2.1, p 9-44

Time Gap based on site data

Design Vehicle Gap+Adj for Approach Grade>3%+Adjs for Add'l Lanes & Median

Passenger Car	8.0	sec
Single-Unit Tuck	10.2	sec
Combination Truck	12.2	sec

ISD to left & right along Major Road $ISD = 1.47V_{major}t_g$ (ft) Eq 9-1, p 9-45

			ISD to Left and Right	
Passenger Car	calculated	ISD=	470.4	ft
	design	ISD=	475	ft
Single-Unit Tuck	calculated	ISD=	599.8	ft
	design	ISD=	600	ft
Combination Truck	calculated	ISD=	717.4	ft
	design	ISD=	720	ft

Location: Jordan Road, Sedona

Intersection Sight Distances (cont'd)

				AASHTO Ref
Case B2–Right Turn from the Minor Road				§9.5.3.2.2, p 9-47
&				
Case B3–Crossing Maneuver from the Minor Road				§9.5.3.2.3, p 9-48
Design Vehicle	Time Gap (t_g)			
Passenger Car	6.5	sec		Tbl 9-8, p 9-47
Single-Unit Tuck	8.5	sec		&
Combination Truck	10.5	sec		Tbl 9-10, p 9-49
Time gap adjustments				
Add'l lanes to cross (1st is assumed) - Case B-3 Only*				
Passenger Car	0.5	sec		See Notes
Trucks	0.7	sec		below
Minor Approach Upgrade (Per each 1%>3%)				
Case B-2 Only	0.1	sec		Tbl 9-8, p 9-47
Case B-3 Only	0.2	sec		Tbl 9-10, p 9-49
Site data				
Major Road Lanes on Left Approach	1.0			§9.5.3.2.2, p 9-47
Minor Road Approach Upgrade, if >3%	0	%		§9.5.3.2.2, p 9-47

Time Gap based on site data (sec)	B2 & B3	B3 Only
Design Vehicle Gap+Adj for Approach Grade>3%(+Adjs for Add'l Lanes & Median for B3)		
Passenger Car	7.0	7.0
Single-Unit Tuck	9.2	9.2
Combination Truck	11.2	11.2

ISD to left (B2/B3) & right (B3) along Major Rd $SD=1.47V_{major}t_g$ (ft) — Eq 9-1, p 9-45

			ISD to Left (B2 & B3)	ISD to right (B3 Only)
Passenger Car	calculated	ISD=	411.6	411.6
	design	ISD=	415	415
Single-Unit Tuck	calculated	ISD=	541.0	541.0
	design	ISD=	545	545
Combination Truck	calculated	ISD=	658.6	658.6
	design	ISD=	660	660

*Number of major road lanes is irrelevant in Case B2.

The differences between Case B1 and Cases B2 & B3 are reduced time gaps and time gap adjustment for the minor approach upgrade. §9.5.3.2.3, p 9-48

Location: Jordan Road, Sedona

Intersection Sight Distances (cont'd)

				AASHTO Ref
Case F–Left Turns from the Major Road				§9.5.3.6, p 9-56
Design Vehicle	Time Gap (t_g)			
Passenger Car	5.5	sec		Tbl 9-16, p 9-57
Single-Unit Tuck	6.5	sec		Tbl 9-16, p 9-57
Combination Truck	7.5	sec		Tbl 9-16, p 9-57
Time gap adjustments				
Add'l lanes to cross (1 assumed)				
Passenger Car	0.5	sec		See Notes to
Trucks	0.7	sec		Tbl 9-16, p 9-57
Site data				
Opposing Lanes (adj'd for x-wide median)	1.0			
Time Gap based on site data				
Design Vehicle Gap+Adj for Add'l Opposing Lanes				
Passenger Car	6.0	sec		
Single-Unit Tuck	7.2	sec		
Combination Truck	8.2	sec		

ISD to front along Major Road $ISD=1.47V_{major}t_g$ (ft) — Eq 9-1, p 9-45

Passenger Car	calculated	ISD=	352.8	ft
	design	ISD=	355	ft
Single-Unit Tuck	calculated	ISD=	423.4	ft
	design	ISD=	425	ft
Combination Truck	calculated	ISD=	482.2	ft
	design	ISD=	485	ft

The differences between Case F and Cases B1, B2 & B3 are reduced time gaps and no time gap adjustment for any minor approach upgrade. §9.5.3.6, p 9-58

SIGHT DISTANCE SUMMARY

Sight Distance Type	Governing Case	Car	SU Truck	Combo Truck
Stopping				
Without effect of grade		305	N/A	N/A
With effect of grade on left		305	N/A	N/A
With effect of grade on right		305	N/A	N/A
Intersection				
To Right	B1	475	600	720
To Left	B2/B3	415	545	660
On Major Road	F	355	425	485

APPENDIX C

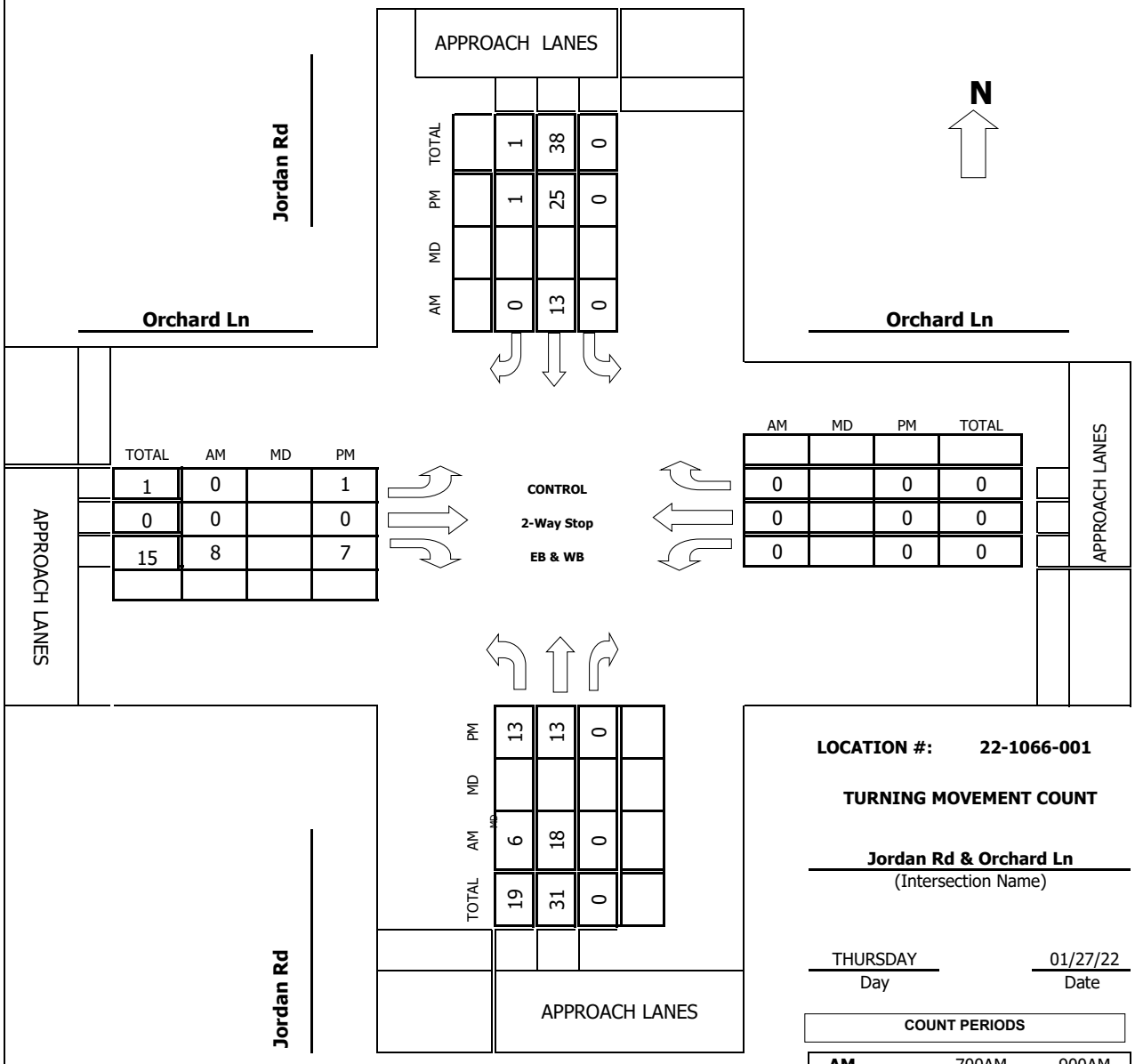
EXISTING TRAFFIC COUNTS

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 22-1066-001

TMC SUMMARY OF Jordan Rd & Orchard Ln



LOCATION #: 22-1066-001

TURNING MOVEMENT COUNT

Jordan Rd & Orchard Ln
(Intersection Name)

THURSDAY (Day) 01/27/22 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 415 PM

Intersection Turning Movement

Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Jordan Rd | DATE: 01/27/22 | LOCATION: Sedona

E-W STREET: Orchard Ln | DAY: THURSDAY | PROJECT#: 22-1066-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	2	0	0	0	0	0	0	2	0	0	0	4
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	2	0	0	0	1	0	0	0	0	0	0	0	3
7:45 AM	1	1	0	0	3	0	0	0	2	0	0	0	7
8:00 AM	2	2	0	0	4	0	0	0	0	0	0	0	8
8:15 AM	1	2	0	0	3	0	0	0	3	0	0	0	9
8:30 AM	1	7	0	0	3	0	0	0	3	0	0	0	14
8:45 AM	2	7	0	0	3	0	0	0	2	0	0	0	14
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	9	22	0	0	17	0	0	0	12	0	0	0	60
Approach %	29.03	70.97	0.00	0.00	100.00	0.00	0.00	0.00	100.00	####	####	####	
App/Depart	31	/	22	17	/	29	12	/	0	0	/	9	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	6	18	0	0	13	0	0	0	8	0	0	0	45
Approach %	25.00	75.00	0.00	0.00	100.00	0.00	0.00	0.00	100.00	####	####	####	
PEAK HR. FACTOR:	0.667			0.813			0.667			0.000			0.804

CONTROL: 2-Way Stop (EB & WB)
COMMENT 1:
GPS: 34.877337, -111.761037

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Jordan Rd 0 | DATE: 01/27/22 | LOCATION: Sedona

E-W STREET: Orchard Ln | DAY: THURSDAY | PROJECT#: 22-1066-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	3	1	0	0	1	0	0	0	3	0	0	0	8
4:15 PM	3	5	0	0	5	1	0	0	3	0	0	0	17
4:30 PM	4	3	0	0	8	0	0	0	2	0	0	0	17
4:45 PM	3	4	0	0	7	0	1	0	0	0	0	0	15
5:00 PM	3	1	0	0	5	0	0	0	2	0	0	0	11
5:15 PM	3	4	0	0	6	0	0	0	1	0	0	0	14
5:30 PM	2	3	0	0	6	2	0	0	1	0	0	0	14
5:45 PM	0	4	0	0	4	0	0	0	3	0	0	0	11
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	21	25	0	0	42	3	1	0	15	0	0	0	107
Approach %	45.65	54.35	0.00	0.00	93.33	6.67	6.25	0.00	93.75	####	####	####	
App/Depart	46	/	26	45	/	57	16	/	0	0	/	24	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	13	13	0	0	25	1	1	0	7	0	0	0	60
Approach %	50.00	50.00	0.00	0.00	96.15	3.85	12.50	0.00	87.50	####	####	####	
PEAK HR. FACTOR:	0.813			0.813			0.667			0.000			0.882

CONTROL: 2-Way Stop (EB & WB)
COMMENT 1: 0
GPS: 34.877337, -111.761037

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Jordan Rd
E-W STREET: Orchard Ln

Date: 01/27/22
Day: THURSDAY

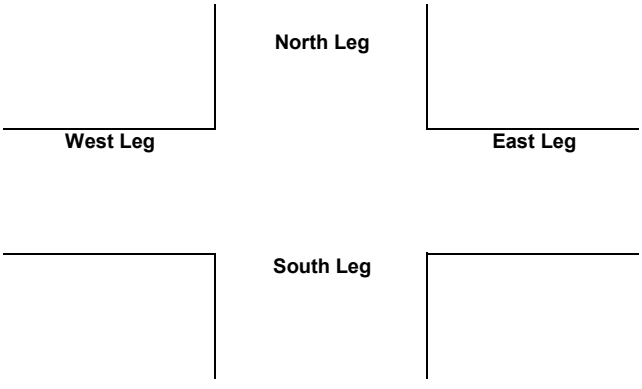
City: Sedona
Project #: 22-1066-001

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	1
8:00 AM	0	0	0	2
8:15 AM	0	0	0	0
8:30 AM	0	0	0	1
8:45 AM	0	0	0	2
TOTAL	**0**	**0**	**0**	**6**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	2
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	2
5:30 PM	0	0	0	8
5:45 PM	0	0	0	10
TOTAL	**0**	**0**	**0**	**22**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

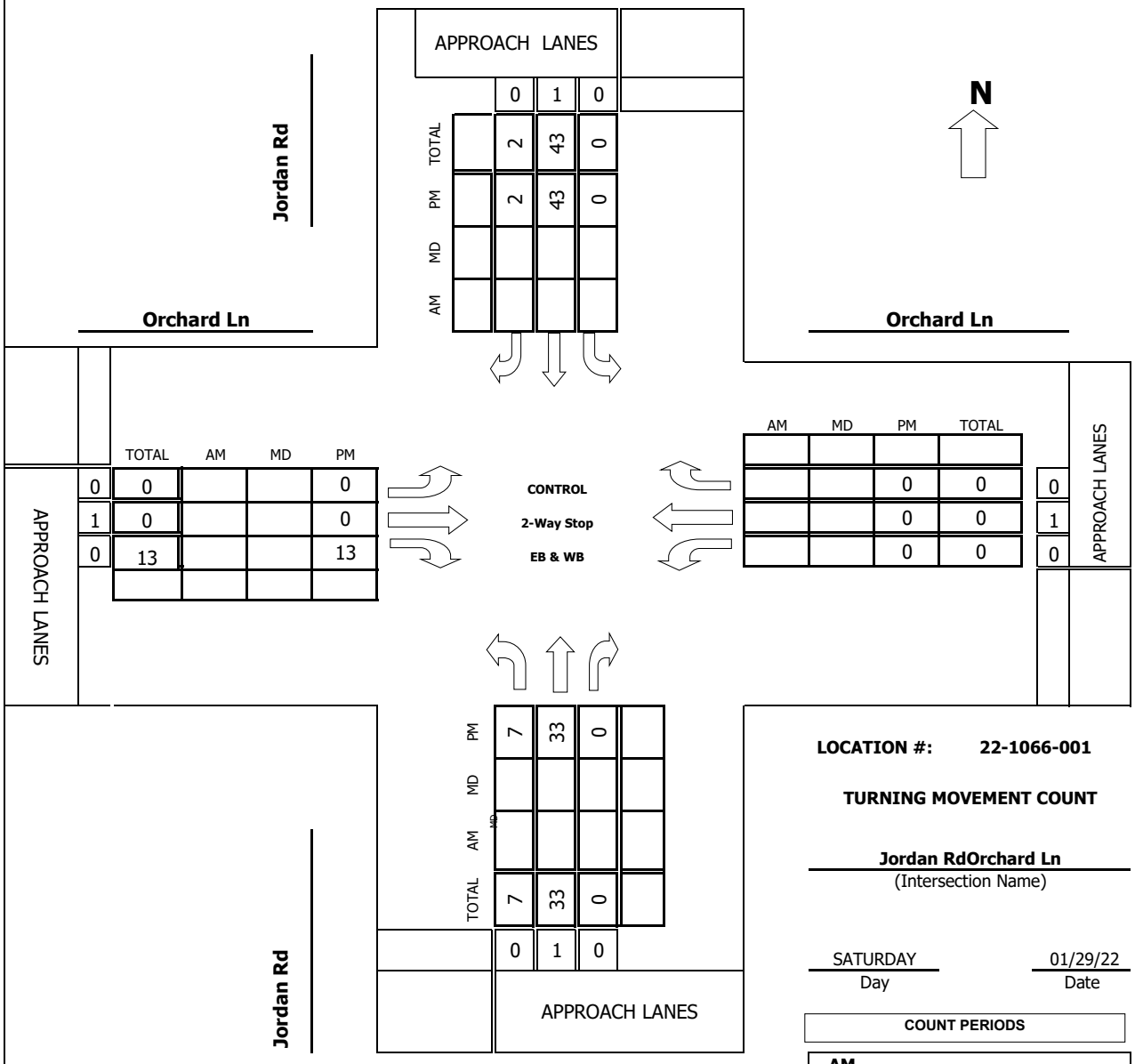


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 22-1066-001

TMC SUMMARY OF Jordan RdOrchard Ln



LOCATION #: 22-1066-001

TURNING MOVEMENT COUNT

Jordan RdOrchard Ln
(Intersection Name)

SATURDAY (Day) 01/29/22 (Date)

COUNT PERIODS	
AM	
NOON	
PM	11:00 AM - 3:00 PM

AM PEAK HOUR _____

NOON PEAK HOUR _____

PM PEAK HOUR 1230 PM

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Jordan Rd	DATE:	01/29/22	LOCATION:	Sedona
E-W STREET:	Orchard Ln	DAY:	SATURDAY	PROJECT#	22-1066-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM	4	6	0	0	5	0	1	0	2	0	0	0	18
11:15 AM	2	8	0	0	5	0	0	0	2	0	0	0	17
11:30 AM	1	5	0	0	13	0	0	0	6	0	0	0	25
11:45 AM	2	12	0	0	6	0	0	0	3	0	0	0	23
12:00 PM	2	6	0	0	10	1	0	0	2	0	0	0	21
12:15 PM	0	11	0	0	4	0	0	0	2	0	0	0	17
12:30 PM	0	10	0	0	11	0	0	0	4	0	0	0	25
12:45 PM	3	7	0	0	14	0	0	0	5	0	0	0	29
1:00 PM	2	8	0	0	10	1	0	0	3	0	0	0	24
1:15 PM	2	8	0	0	8	1	0	0	1	0	0	0	20
1:30 PM	0	9	0	0	11	0	0	0	3	0	0	0	23
1:45 PM	6	6	0	0	6	0	1	0	4	0	0	0	23
2:00 PM	0	11	0	0	8	0	0	0	1	0	0	0	20
2:15 PM	3	10	0	0	8	0	0	0	0	0	0	0	21
2:30 PM	1	7	0	0	14	2	0	0	1	0	0	0	25
2:45 PM	3	12	0	0	9	0	0	0	2	0	0	0	26
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	31	136	0	0	142	5	2	0	41	0	0	0	357
Approach %	18.56	81.44	0.00	0.00	96.60	3.40	4.65	0.00	95.35	####	####	####	
App/Depart	167	/	138	147	/	183	43	/	0	0	/	36	

PM Peak Hr Begins at: 1230 PM

PEAK													
Volumes	7	33	0	0	43	2	0	0	13	0	0	0	98
Approach %	17.50	82.50	0.00	0.00	95.56	4.44	0.00	0.00	100.00	####	####	####	
PEAK HR. FACTOR:		1.000			0.804			0.650			0.000		0.845

CONTROL: 2-Way Stop (EB & WB)
COMMENT 1:
GPS: 34.877337, -111.761037

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

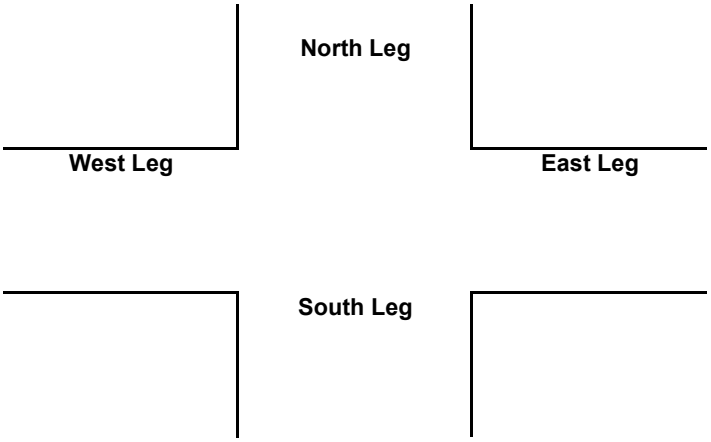
N-S STREET: Jordan Rd
E-W STREET: Orchard Ln

Date: 01/29/22
Day: SATURDAY

City: Sedona
Project #: 22-1066-001

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
11:00 AM	0	0	0	1
11:15 AM	0	0	0	2
11:30 AM	0	0	0	4
11:45 AM	0	0	0	0
12:00 PM	0	0	0	2
12:15 PM	0	0	0	4
12:30 PM	0	0	0	2
12:45 PM	0	0	0	1
1:00 PM	0	0	0	2
1:15 PM	0	0	0	3
1:30 PM	0	0	0	3
1:45 PM	0	0	0	4
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	5
2:45 PM	0	0	0	6
TOTAL	**0**	**0**	**0**	**39**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	0
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	2
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**2**

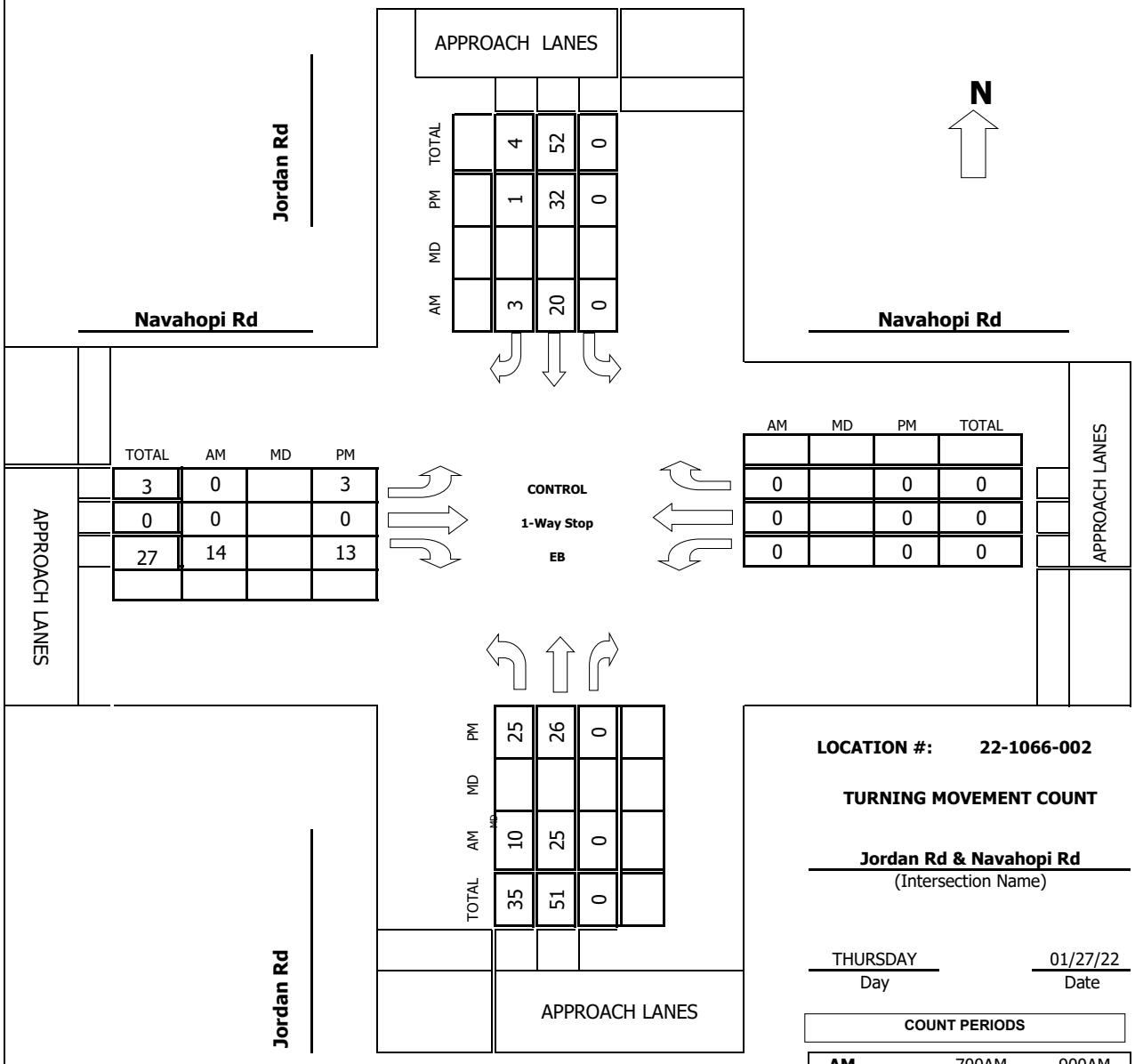


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 22-1066-002

TMC SUMMARY OF Jordan Rd & Navahopi Rd



LOCATION #: 22-1066-002

TURNING MOVEMENT COUNT

Jordan Rd & Navahopi Rd
(Intersection Name)

THURSDAY (Day) 01/27/22 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 415 PM

Intersection Turning Movement

Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Jordan Rd
E-W STREET: Navahopi Rd
DATE: 01/27/22
DAY: THURSDAY
LOCATION: Sedona
PROJECT#: 22-1066-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 0	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	1	2	0	0	2	0	0	0	0	0	0	0	5
7:15 AM	3	0	0	0	0	0	1	0	1	0	0	0	5
7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:45 AM	2	3	0	0	6	0	1	0	4	0	0	0	16
8:00 AM	3	4	0	0	3	1	0	0	2	0	0	0	13
8:15 AM	1	5	0	0	5	2	0	0	2	0	0	0	15
8:30 AM	3	7	0	0	6	0	0	0	3	0	0	0	19
8:45 AM	3	9	0	0	6	0	0	0	7	0	0	0	25
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	16	32	0	0	29	3	2	0	19	0	0	0	101
Approach %	33.33	66.67	0.00	0.00	90.63	9.38	9.52	0.00	90.48	####	####	####	
App/Depart	48	/	34	32	/	48	21	/	0	0	/	19	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	10	25	0	0	20	3	0	0	14	0	0	0	72
Approach %	28.57	71.43	0.00	0.00	86.96	13.04	0.00	0.00	100.00	####	####	####	
PEAK HR. FACTOR:	0.729			0.821			0.500			0.000			0.720

CONTROL: 1-Way Stop (EB)
COMMENT 1:
GPS: 34.876123, -111.761076

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Jordan Rd
0
E-W STREET: Navahopi Rd
DATE: 01/27/22
DAY: THURSDAY
LOCATION: Sedona
PROJECT#: 22-1066-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 0	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	2	3	0	0	4	0	1	0	3	0	0	0	13
4:15 PM	6	8	0	0	8	0	1	0	4	0	0	0	27
4:30 PM	9	7	0	0	9	1	1	0	1	0	0	0	28
4:45 PM	5	7	0	0	9	0	0	0	5	0	0	0	26
5:00 PM	5	4	0	0	6	0	1	0	3	0	0	0	19
5:15 PM	2	6	0	0	7	0	1	0	2	0	0	0	18
5:30 PM	4	8	0	0	7	0	0	0	2	0	0	0	21
5:45 PM	0	4	0	0	8	1	1	0	3	0	0	0	17
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	33	47	0	0	58	2	6	0	23	0	0	0	169
Approach %	41.25	58.75	0.00	0.00	96.67	3.33	20.69	0.00	79.31	####	####	####	
App/Depart	80	/	53	60	/	81	29	/	0	0	/	35	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	25	26	0	0	32	1	3	0	13	0	0	0	100
Approach %	49.02	50.98	0.00	0.00	96.97	3.03	18.75	0.00	81.25	####	####	####	
PEAK HR. FACTOR:	0.797			0.825			0.800			0.000			0.893

CONTROL: 1-Way Stop (EB)
COMMENT 1: 0
GPS: 34.876123, -111.761076

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Jordan Rd
E-W STREET: Navahopi Rd

Date: 01/27/22
Day: THURSDAY

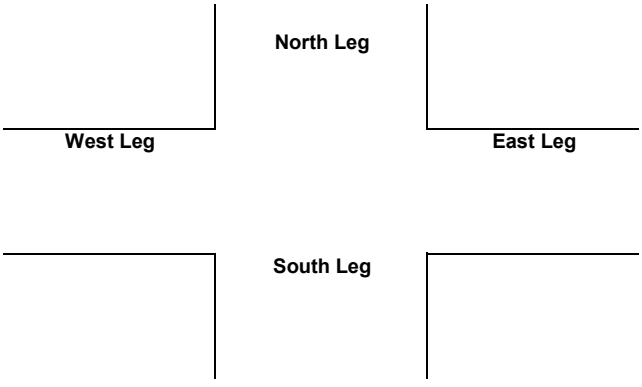
City: Sedona
Project #: 22-1066-002

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	1	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**1**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	2
5:30 PM	0	0	0	8
5:45 PM	0	0	0	10
TOTAL	**0**	**0**	**0**	**20**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

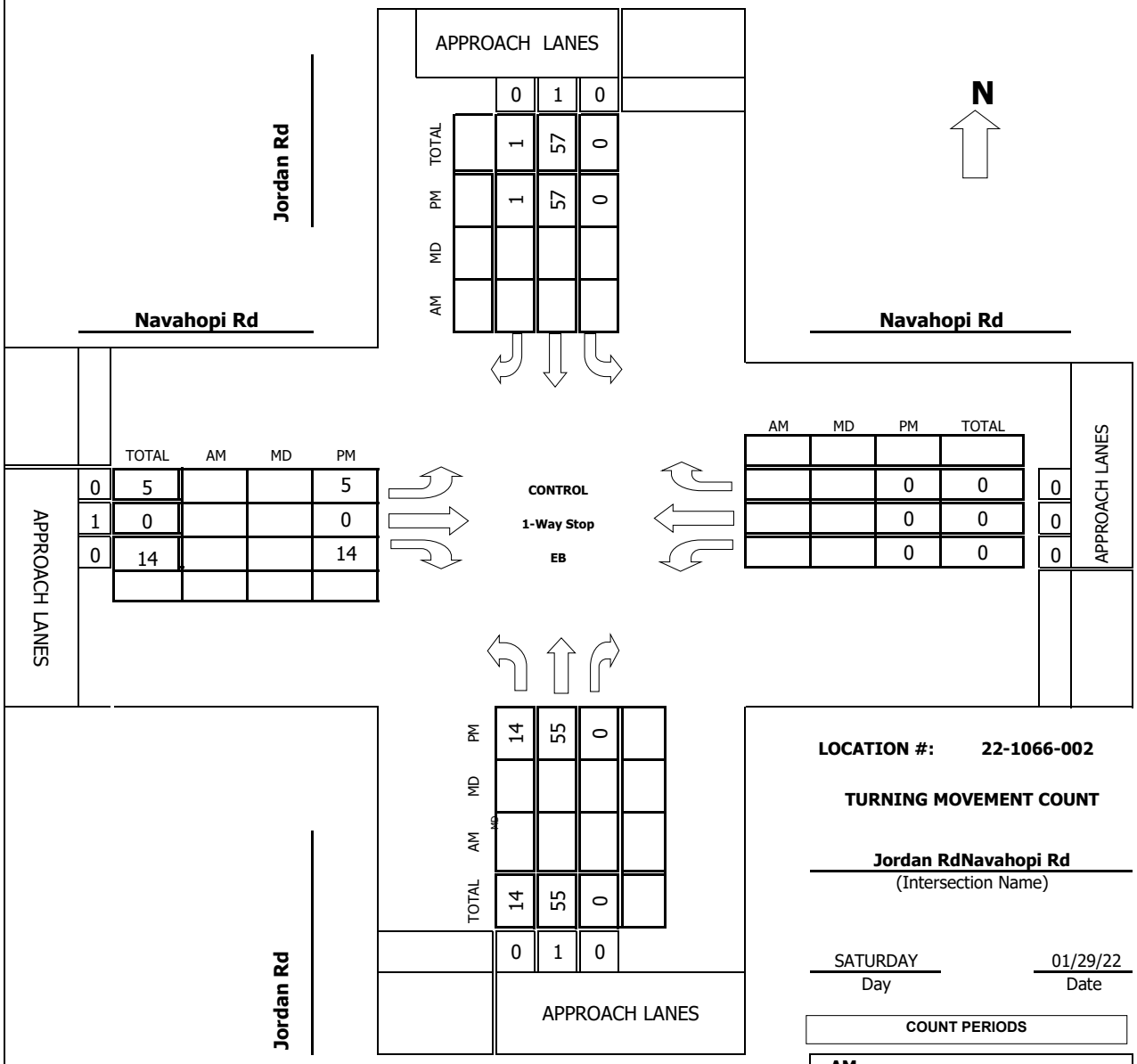


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 22-1066-002

TMC SUMMARY OF Jordan RdNavahopi Rd



LOCATION #: 22-1066-002

TURNING MOVEMENT COUNT

Jordan RdNavahopi Rd
(Intersection Name)

SATURDAY (Day) 01/29/22 (Date)

COUNT PERIODS	
AM	
NOON	
PM	11:00 AM - 3:00 PM

AM PEAK HOUR _____

NOON PEAK HOUR _____

PM PEAK HOUR 200 PM

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Jordan Rd	DATE:	01/29/22	LOCATION:	Sedona
E-W STREET:	Navahopi Rd	DAY:	SATURDAY	PROJECT#	22-1066-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	0	0	
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM	3	19	0	0	8	0	2	0	3	0	0	0	35
11:15 AM	1	13	0	0	7	0	1	0	2	0	0	0	24
11:30 AM	4	8	0	0	9	0	0	0	3	0	0	0	24
11:45 AM	3	13	0	0	24	0	0	0	4	0	0	0	44
12:00 PM	3	11	0	0	14	0	0	0	2	0	0	0	30
12:15 PM	3	8	0	0	12	0	1	0	5	0	0	0	29
12:30 PM	0	6	0	0	10	0	2	0	4	0	0	0	22
12:45 PM	4	11	0	0	12	0	3	0	3	0	0	0	33
1:00 PM	2	8	0	0	14	0	1	0	4	0	0	0	29
1:15 PM	1	7	0	0	7	0	0	0	1	0	0	0	16
1:30 PM	3	15	0	0	8	1	2	0	1	0	0	0	30
1:45 PM	3	7	0	0	22	0	1	0	1	0	0	0	34
2:00 PM	3	12	0	0	2	0	2	0	2	0	0	0	21
2:15 PM	2	18	0	0	17	0	1	0	3	0	0	0	41
2:30 PM	4	9	0	0	16	0	0	0	3	0	0	0	32
2:45 PM	5	16	0	0	22	1	2	0	6	0	0	0	52
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	44	181	0	0	204	2	18	0	47	0	0	0	496
Approach %	19.56	80.44	0.00	0.00	99.03	0.97	27.69	0.00	72.31	####	####	####	
App/Depart	225	/	199	206	/	251	65	/	0	0	/	46	

PM Peak Hr Begins at: 200 PM

PEAK													
Volumes	14	55	0	0	57	1	5	0	14	0	0	0	146
Approach %	20.29	79.71	0.00	0.00	98.28	1.72	26.32	0.00	73.68	####	####	####	
PEAK HR. FACTOR:		0.821			0.630			0.594			0.000		0.702

CONTROL: 1-Way Stop (EB)
COMMENT 1:
GPS: 34.876123, -111.761076

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

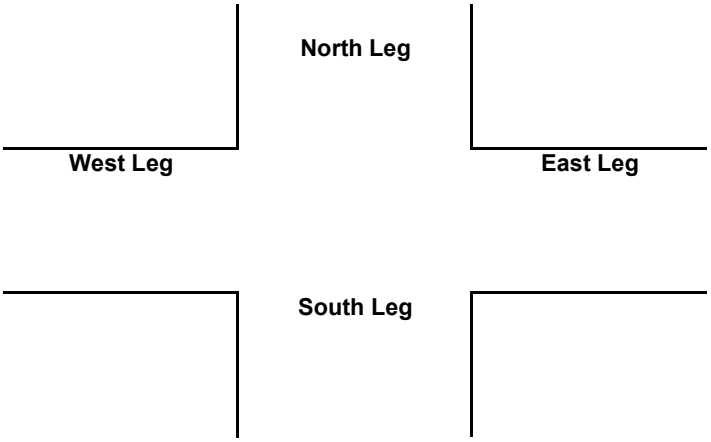
N-S STREET: Jordan Rd
E-W STREET: Navahopi Rd

Date: 01/29/22
Day: SATURDAY

City: Sedona
Project #: 22-1066-002

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	2
12:00 PM	0	0	0	0
12:15 PM	0	0	0	5
12:30 PM	0	0	0	0
12:45 PM	0	0	0	4
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	2
2:30 PM	0	0	0	1
2:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**14**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	0
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

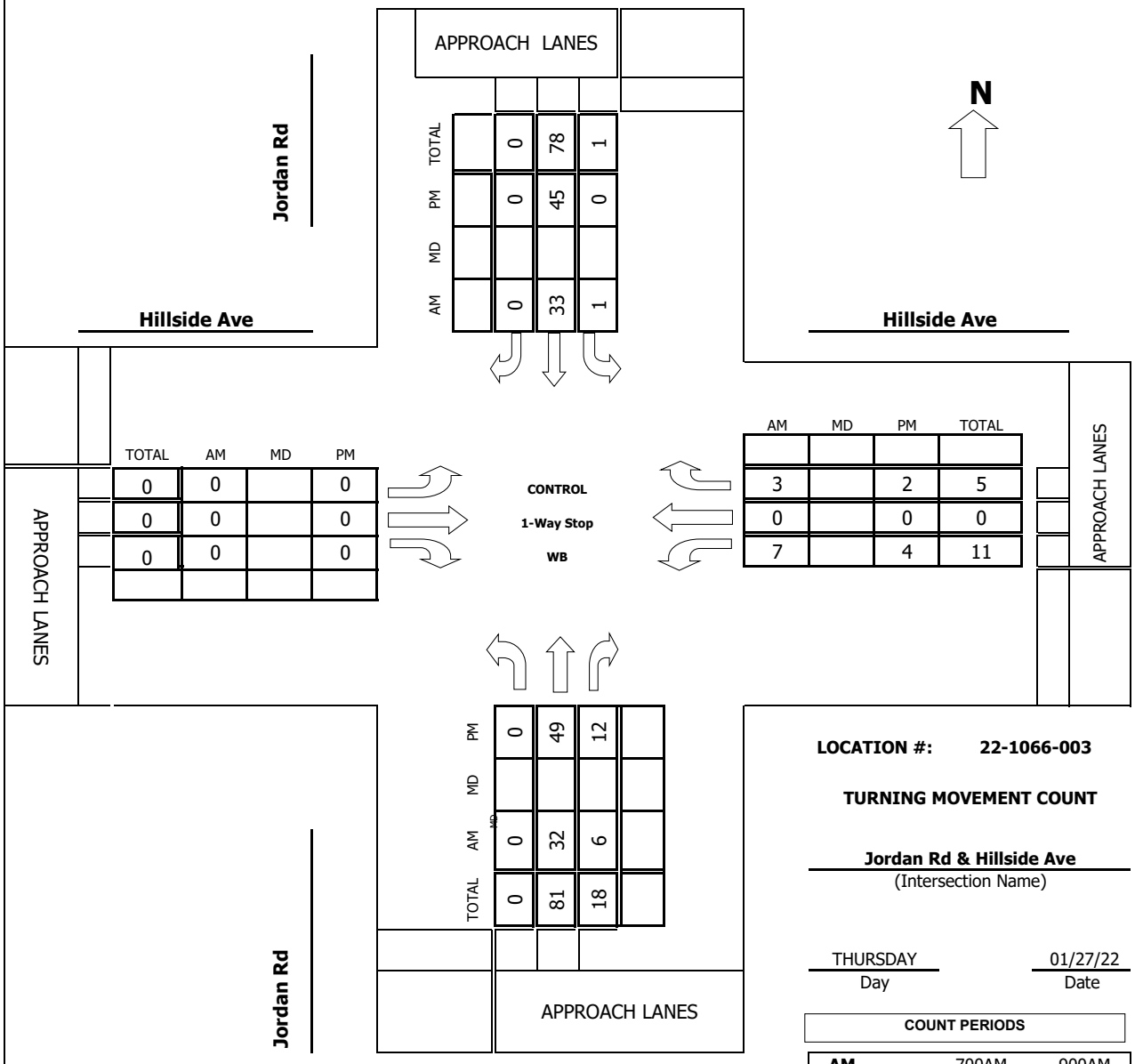


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 22-1066-003

TMC SUMMARY OF Jordan Rd & Hillside Ave



LOCATION #: 22-1066-003

TURNING MOVEMENT COUNT

Jordan Rd & Hillside Ave
(Intersection Name)

THURSDAY (Day) 01/27/22 (Date)

COUNT PERIODS			
AM	700AM	-	900AM
NOON		-	
PM	400PM	-	600PM

AM PEAK HOUR 800 AM

NOON PEAK HOUR

PM PEAK HOUR 415 PM

Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Jordan Rd | DATE: 01/27/22 | LOCATION: Sedona
E-W STREET: Hillside Ave | DAY: THURSDAY | PROJECT#: 22-1066-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
7:15 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:45 AM	0	5	2	0	10	0	0	0	0	0	0	0	17
8:00 AM	0	6	2	0	5	0	0	0	0	0	0	1	14
8:15 AM	0	6	2	0	7	0	0	0	0	1	0	0	16
8:30 AM	0	8	1	1	8	0	0	0	0	4	0	2	24
8:45 AM	0	12	1	0	13	0	0	0	0	2	0	0	28
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	45	8	1	47	0	0	0	0	7	0	3	111
Approach %	0.00	84.91	15.09	2.08	97.92	0.00	####	####	####	70.00	0.00	30.00	
App/Depart	53	/	48	48	/	54	0	/	9	10	/	0	

AM Peak Hr Begins at: 800 AM

PEAK													
Volumes	0	32	6	1	33	0	0	0	0	7	0	3	82
Approach %	0.00	84.21	15.79	2.94	97.06	0.00	####	####	####	70.00	0.00	30.00	
PEAK HR. FACTOR:		0.731			0.654			0.000			0.417		0.732

CONTROL: 1-Way Stop (WB)
COMMENT 1:
GPS: 34.875417, -111.761075

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET: Jordan Rd 0 | DATE: 01/27/22 | LOCATION: Sedona
E-W STREET: Hillside Ave | DAY: THURSDAY | PROJECT#: 22-1066-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	4	4	0	7	0	0	0	0	1	0	1	17
4:15 PM	0	13	3	0	12	0	0	0	0	2	0	1	31
4:30 PM	0	16	1	0	10	0	0	0	0	1	0	0	28
4:45 PM	0	12	5	0	14	0	0	0	0	0	0	0	31
5:00 PM	0	8	3	0	9	0	0	0	0	1	0	1	22
5:15 PM	0	8	0	0	9	0	0	0	0	0	0	0	17
5:30 PM	0	12	2	0	9	0	0	0	0	4	0	0	27
5:45 PM	0	4	3	0	11	0	0	0	0	1	0	0	19
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	77	21	0	81	0	0	0	0	10	0	3	192
Approach %	0.00	78.57	21.43	0.00	100.00	0.00	####	####	####	76.92	0.00	23.08	
App/Depart	98	/	80	81	/	91	0	/	21	13	/	0	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	0	49	12	0	45	0	0	0	0	4	0	2	112
Approach %	0.00	80.33	19.67	0.00	100.00	0.00	####	####	####	66.67	0.00	33.33	
PEAK HR. FACTOR:		0.897			0.804			0.000			0.500		0.903

CONTROL: 1-Way Stop (WB)
COMMENT 1: 0
GPS: 34.875417, -111.761075

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

N-S STREET: Jordan Rd
E-W STREET: Hillside Ave

Date: 01/27/22
Day: THURSDAY

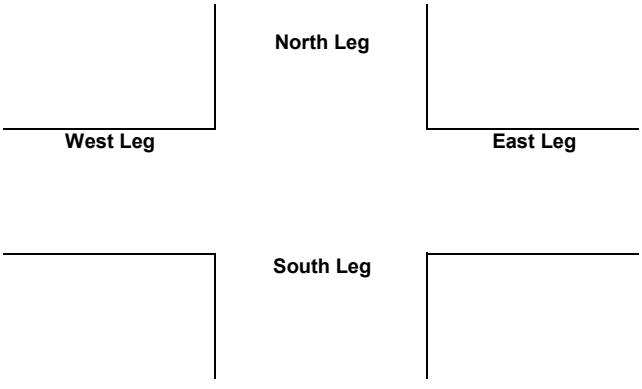
City: Sedona
Project #: 22-1066-003

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

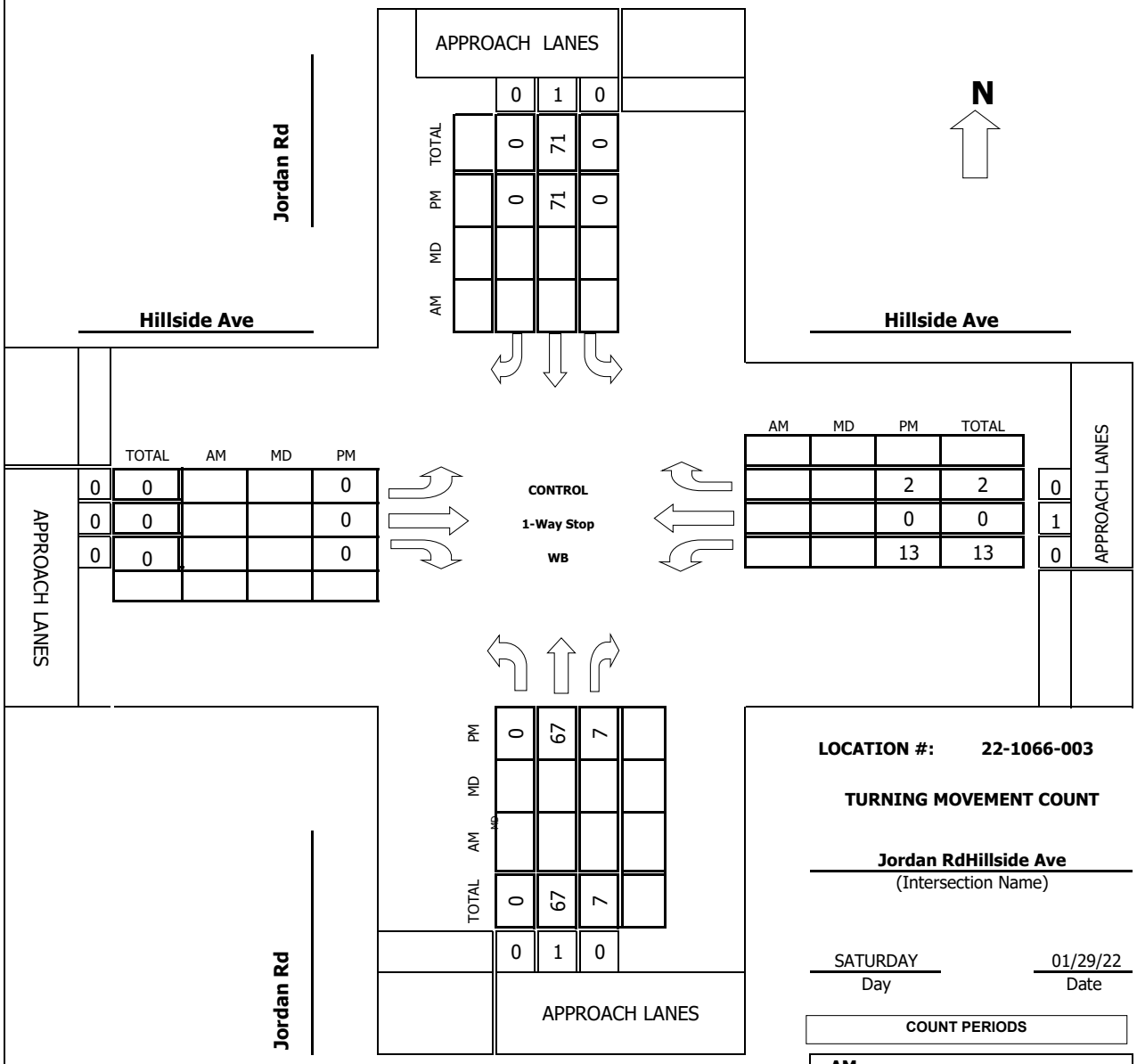


Intersection Turning Movement
Prepared by:

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

Project #: 22-1066-003

TMC SUMMARY OF Jordan RdHillside Ave



LOCATION #: 22-1066-003

TURNING MOVEMENT COUNT

Jordan RdHillside Ave
(Intersection Name)

SATURDAY
Day

01/29/22
Date

COUNT PERIODS	
AM	
NOON	
PM	11:00 AM - 3:00 PM

AM PEAK HOUR

NOON PEAK HOUR

PM PEAK HOUR 200 PM

Intersection Turning Movement

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

N-S STREET:	Jordan Rd	DATE:	01/29/22	LOCATION:	Sedona
E-W STREET:	Hillside Ave	DAY:	SATURDAY	PROJECT#	22-1066-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	0	0	0	1	0	
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM	0	22	1	0	11	0	0	0	0	0	0	0	34
11:15 AM	0	14	0	0	9	0	0	0	0	3	0	0	26
11:30 AM	0	12	1	0	12	0	0	0	0	1	0	0	26
11:45 AM	0	16	2	1	27	0	0	0	0	1	0	0	47
12:00 PM	0	13	6	0	16	0	0	0	0	3	0	1	39
12:15 PM	0	11	2	0	17	0	0	0	0	2	0	0	32
12:30 PM	0	6	3	0	14	0	0	0	0	1	0	0	24
12:45 PM	0	15	2	1	14	0	0	0	0	1	0	0	33
1:00 PM	0	10	2	0	18	0	0	0	0	4	0	0	34
1:15 PM	0	8	4	0	8	0	0	0	0	2	0	0	22
1:30 PM	0	17	0	0	9	0	0	0	0	2	0	1	29
1:45 PM	0	10	3	0	23	0	0	0	0	3	0	0	39
2:00 PM	0	15	3	0	4	0	0	0	0	4	0	0	26
2:15 PM	0	20	3	0	20	0	0	0	0	4	0	0	47
2:30 PM	0	12	0	0	19	0	0	0	0	4	0	1	36
2:45 PM	0	20	1	0	28	0	0	0	0	1	0	1	51
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	221	33	2	249	0	0	0	0	36	0	4	545
Approach %	0.00	87.01	12.99	0.80	99.20	0.00	####	####	####	90.00	0.00	10.00	
App/Depart	254	/	225	251	/	285	0	/	35	40	/	0	

PM Peak Hr Begins at: 200 PM

PEAK													
Volumes	0	67	7	0	71	0	0	0	0	13	0	2	160
Approach %	0.00	90.54	9.46	0.00	100.00	0.00	####	####	####	86.67	0.00	13.33	
PEAK HR. FACTOR:		0.804			0.634			0.000			0.750		0.784

CONTROL:	1-Way Stop (WB)
COMMENT 1:	
GPS:	34.875417, -111.761075

FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745

veracitytrafficgroup

Pedestrian & Bicycle Study

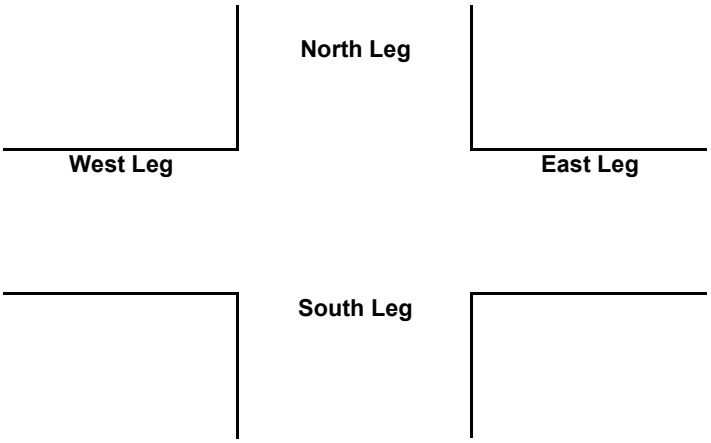
N-S STREET: Jordan Rd
E-W STREET: Hillside Ave

Date: 01/29/22
Day: SATURDAY

City: Sedona
Project #: 22-1066-003

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	0
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	0
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**



Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, January 27, 2022 **City:** Sedona **Project#** 22-1066-004

Location : Jordan Rd south of Navahopi Rd

DAY 1

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	0		0					12:00	13		9				
00:15	0		0					12:15	9		10				
00:30	1		0					12:30	6		9				
00:45	0	1	1	1			2	12:45	12	40	10	38			78
01:00	0		0					13:00	8		12				
01:15	0		0					13:15	4		15				
01:30	0		0					13:30	15		9				
01:45	0	0	0	0				13:45	10	37	10	46			83
02:00	0		0					14:00	12		9				
02:15	0		0					14:15	12		13				
02:30	0		0					14:30	8		16				
02:45	0	0	0	0				14:45	8	40	13	51			91
03:00	0		0					15:00	5		11				
03:15	0		0					15:15	10		12				
03:30	0		0					15:30	6		8				
03:45	0	0	0	0				15:45	5	26	6	37			63
04:00	0		1					16:00	5		7				
04:15	0		0					16:15	14		12				
04:30	0		0					16:30	16		10				
04:45	1	1	0	1			2	16:45	12	47	14	43			90
05:00	0		0					17:00	9		9				
05:15	0		1					17:15	8		9				
05:30	0		0					17:30	12		9				
05:45	0	0	1	2			2	17:45	4	33	11	38			71
06:00	0		0					18:00	3		5				
06:15	0		1					18:15	5		5				
06:30	1		1					18:30	4		4				
06:45	0	1	3	5			6	18:45	2	14	4	18			32
07:00	3		2					19:00	2		0				
07:15	3		1					19:15	3		3				
07:30	2		1					19:30	3		2				
07:45	5	13	10	14			27	19:45	2	10	1	6			16
08:00	7		5					20:00	1		0				
08:15	6		7					20:15	1		0				
08:30	10		9					20:30	1		1				
08:45	12	35	13	34			69	20:45	4	7	0	1			8
09:00	3		4					21:00	2		2				
09:15	5		8					21:15	0		0				
09:30	6		5					21:30	1		0				
09:45	18	32	6	23			55	21:45	0	3	2	4			7
10:00	14		6					22:00	0		0				
10:15	12		7					22:15	0		0				
10:30	5		3					22:30	0		0				
10:45	10	41	9	25			66	22:45	0	0	0	0			
11:00	12		7					23:00	0		0				
11:15	7		13					23:15	0		0				
11:30	12		11					23:30	0		0				
11:45	9	40	4	35			75	23:45	0	0	0	0			
Total Vol.		164		140			**304**			257		282			**539**
GPS Coordinates:		**34.875825, -111.761082**													

Daily Totals	NB	SB	EB	WB	Combined
	421	422			**843**

	AM			PM		
Split %	53.9%	46.1%	**36.1%**	47.7%	52.3%	**63.9%**
Peak Hour	09:30	10:45	**10:45**	16:15	14:15	**16:15**
Volume	50	40	**81**	51	53	**96**
P.H.F.	0.69	0.77	**0.88**	0.80	0.83	**0.92**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Friday, January 28, 2022 **City:** Sedona **Project#** 22-1066-004

Location : Jordan Rd south of Navahopi Rd

DAY 2

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	0		0					12:00	10		14				
00:15	0		0					12:15	9		12				
00:30	0		0					12:30	7		9				
00:45	0	0	0	0				12:45	14	40	13	48			88
01:00	0		0					13:00	9		12				
01:15	0		0					13:15	7		6				
01:30	1		0					13:30	14		9				
01:45	0	1	0	0			1	13:45	9	39	21	48			87
02:00	0		0					14:00	14		2				
02:15	0		0					14:15	17		17				
02:30	0		0					14:30	9		17				
02:45	1	1	0	0			1	14:45	16	56	23	59			115
03:00	0		0					15:00	11		15				
03:15	0		0					15:15	11		12				
03:30	0		1					15:30	9		11				
03:45	0	0	0	1			1	15:45	8	39	14	52			91
04:00	0		0					16:00	10		11				
04:15	0		0					16:15	10		15				
04:30	0		0					16:30	10		11				
04:45	1	1	0	0			1	16:45	5	35	6	43			78
05:00	0		0					17:00	8		15				
05:15	0		1					17:15	11		7				
05:30	0		0					17:30	3		7				
05:45	0	0	0	1			1	17:45	5	27	6	35			62
06:00	0		0					18:00	7		7				
06:15	0		0					18:15	5		2				
06:30	0		1					18:30	2		8				
06:45	0	0	1	2			2	18:45	3	17	5	22			39
07:00	3		1					19:00	3		5				
07:15	2		1					19:15	3		2				
07:30	5		3					19:30	6		8				
07:45	8	18	9	14			32	19:45	1	13	1	16			29
08:00	5		10					20:00	3		1				
08:15	7		5					20:15	3		1				
08:30	6		8					20:30	1		1				
08:45	9	27	2	25			52	20:45	3	10	1	4			14
09:00	11		4					21:00	5		2				
09:15	14		5					21:15	1		1				
09:30	13		4					21:30	2		0				
09:45	10	48	13	26			74	21:45	0	8	0	3			11
10:00	12		10					22:00	1		0				
10:15	10		12					22:15	0		0				
10:30	12		10					22:30	1		0				
10:45	14	48	11	43			91	22:45	1	3	0	0			3
11:00	23		8					23:00	0		0				
11:15	11		9					23:15	0		0				
11:30	9		8					23:30	0		0				
11:45	12	55	22	47			102	23:45	0	0	0	0			
Total Vol.		199		159			**358**			287		330			**617**
GPS Coordinates:		**34.875825, -111.761082**													

Daily Totals	NB	SB	EB	WB	Combined
	486	489			**975**

	AM			PM		
Split %	55.6%	44.4%	**36.7%**	46.5%	53.5%	**63.3%**
Peak Hour	10:30	11:45	**11:00**	14:00	14:15	**14:15**
Volume	60	57	**102**	56	72	**125**
P.H.F.	0.65	0.65	**0.75**	0.82	0.78	**0.80**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Saturday, January 29, 2022 **City:** Sedona **Project#** 22-1066-004

Location : Jordan Rd south of Navahopi Rd

DAY 3

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
00:00	0		0							12:00	14		16						
00:15	0		0							12:15	11		17						
00:30	0		1							12:30	6		14						
00:45	0	0	0	1					1	12:45	15	46	15	62					108
01:00	0		0							13:00	10		18						
01:15	0		0							13:15	8		8						
01:30	0		0							13:30	18		9						
01:45	1	1	0	0					1	13:45	10	46	23	58					104
02:00	0		0							14:00	15		4						
02:15	0		0							14:15	20		20						
02:30	0		0							14:30	13		19						
02:45	0	0	0	0						14:45	21	69	28	71					140
03:00	0		0							15:00	7		16						
03:15	0		0							15:15	8		18						
03:30	0		0							15:30	11		9						
03:45	0	0	1	1					1	15:45	4	30	9	52					82
04:00	0		0							16:00	12		11						
04:15	0		0							16:15	8		11						
04:30	0		0							16:30	9		8						
04:45	0	0	0	0						16:45	3	32	6	36					68
05:00	0		0							17:00	5		11						
05:15	0		0							17:15	3		13						
05:30	0		1							17:30	2		6						
05:45	0	0	0	1					1	17:45	6	16	6	36					52
06:00	1		0							18:00	9		12						
06:15	0		0							18:15	4		5						
06:30	0		0							18:30	3		4						
06:45	1	2	0	0					2	18:45	4	20	1	22					42
07:00	0		1							19:00	3		6						
07:15	3		2							19:15	2		2						
07:30	1		3							19:30	5		2						
07:45	2	6	2	8					14	19:45	2	12	2	12					24
08:00	7		3							20:00	2		2						
08:15	5		5							20:15	4		2						
08:30	1		2							20:30	4		3						
08:45	7	20	4	14					34	20:45	6	16	1	8					24
09:00	9		3							21:00	4		5						
09:15	12		6							21:15	0		1						
09:30	15		10							21:30	1		0						
09:45	8	44	9	28					72	21:45	1	6	0	6					12
10:00	14		5							22:00	1		0						
10:15	12		12							22:15	0		3						
10:30	14		9							22:30	2		0						
10:45	11	51	10	36					87	22:45	0	3	0	3					6
11:00	22		11							23:00	3		1						
11:15	14		9							23:15	1		0						
11:30	12		12							23:30	0		1						
11:45	16	64	28	60					124	23:45	0	4	0	2					6
Total Vol.		188		149					**337**			300		368					**668**

GPS Coordinates: 34.875825, -111.761082

Daily Totals				
NB	SB	EB	WB	**Combined**
488	517			**1005**

	AM			PM		
Split %	55.8%	44.2%	**33.5%**	44.9%	55.1%	**66.5%**
Peak Hour	11:00	11:45	**11:30**	14:00	14:15	**14:15**
Volume	64	75	**126**	69	83	**144**
P.H.F.	0.73	0.67	**0.72**	0.82	0.74	**0.73**

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, January 27, 2022 - Saturday, January 29, 2022 **City:** Sedona **Project#** 22-1066-004

Location : Jordan Rd south of Navahopi Rd

3-DAY AVERAGE

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
00:00	0		0		0		0			12:00	12		13		0		0		
00:15	0		0		0		0			12:15	10		13		0		0		
00:30	0		0		0		0			12:30	6		11		0		0		
00:45	0	0	0	1	0	0	0	0	1	12:45	14	42	13	49	0	0	0	0	91
01:00	0		0		0		0			13:00	9		14		0		0		
01:15	0		0		0		0			13:15	6		10		0		0		
01:30	0		0		0		0			13:30	16		9		0		0		
01:45	0	1	0	0	0	0	0	0	1	13:45	10	41	18	51	0	0	0	0	91
02:00	0		0		0		0			14:00	14		5		0		0		
02:15	0		0		0		0			14:15	16		17		0		0		
02:30	0		0		0		0			14:30	10		17		0		0		
02:45	0	0	0	0	0	0	0	0	0	14:45	15	55	21	60	0	0	0	0	115
03:00	0		0		0		0			15:00	8		14		0		0		
03:15	0		0		0		0			15:15	10		14		0		0		
03:30	0		0		0		0			15:30	9		9		0		0		
03:45	0	0	0	1	0	0	0	0	1	15:45	6	32	10	47	0	0	0	0	79
04:00	0		0		0		0			16:00	9		10		0		0		
04:15	0		0		0		0			16:15	11		13		0		0		
04:30	0		0		0		0			16:30	12		10		0		0		
04:45	1	1	0	0	0	0	0	0	1	16:45	7	38	9	41	0	0	0	0	79
05:00	0		0		0		0			17:00	7		12		0		0		
05:15	0		1		0		0			17:15	7		10		0		0		
05:30	0		0		0		0			17:30	6		7		0		0		
05:45	0	0	0	1	0	0	0	0	1	17:45	5	25	8	36	0	0	0	0	62
06:00	0		0		0		0			18:00	6		8		0		0		
06:15	0		0		0		0			18:15	5		4		0		0		
06:30	0		1		0		0			18:30	3		5		0		0		
06:45	0	1	1	2	0	0	0	0	3	18:45	3	17	3	21	0	0	0	0	38
07:00	2		1		0		0			19:00	3		4		0		0		
07:15	3		1		0		0			19:15	3		2		0		0		
07:30	3		2		0		0			19:30	5		4		0		0		
07:45	5	12	7	12	0	0	0	0	24	19:45	2	12	1	11	0	0	0	0	23
08:00	6		6		0		0			20:00	2		1		0		0		
08:15	6		6		0		0			20:15	3		1		0		0		
08:30	6		6		0		0			20:30	2		2		0		0		
08:45	9	27	6	24	0	0	0	0	52	20:45	4	11	1	4	0	0	0	0	15
09:00	8		4		0		0			21:00	4		3		0		0		
09:15	10		6		0		0			21:15	0		1		0		0		
09:30	11		6		0		0			21:30	1		0		0		0		
09:45	12	41	9	26	0	0	0	0	67	21:45	0	6	1	4	0	0	0	0	10
10:00	13		7		0		0			22:00	1		0		0		0		
10:15	11		10		0		0			22:15	0		1		0		0		
10:30	10		7		0		0			22:30	1		0		0		0		
10:45	12	47	10	35	0	0	0	0	81	22:45	0	2	0	1	0	0	0	0	3
11:00	19		9		0		0			23:00	1		0		0		0		
11:15	11		10		0		0			23:15	0		0		0		0		
11:30	11		10		0		0			23:30	0		0		0		0		
11:45	12	53	18	47	0	0	0	0	100	23:45	0	1	0	1	0	0	0	0	2
Total Vol.		184		149					**333**			281		327					**608**

GPS Coordinates: 34.875825, -111.761082

Daily Totals				
NB	SB	EB	WB	**Combined**
465	476			**941**

	AM			PM		
Split %	55.2%	44.8%	**35.4%**	46.3%	53.7%	**64.6%**
Peak Hour	11:00	11:45	**11:00**	13:30	14:15	**14:15**
Volume	53	55	**100**	55	69	**118**
P.H.F.	0.70	0.76	**0.83**	0.85	0.81	**0.81**

Field Data Services of Arizona

31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

Site Code: 01/27/22-01/29/22
Station ID: 22-1066-004
Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/27/22	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	8	3	**1**	1	0	0	0	0	0	0	0	0	13
08:00	0	26	5	1	3	0	0	0	0	0	0	0	0	35
09:00	0	16	**11**	0	5	0	0	0	0	0	0	0	0	32
10:00	0	**33**	4	0	4	0	0	0	0	0	0	0	0	**41**
11:00	0	31	2	0	**7**	0	0	0	0	0	0	0	0	40
12 PM	0	26	**9**	**1**	4	0	0	0	0	0	0	0	0	40
13:00	0	23	7	0	**7**	0	0	0	0	0	0	0	0	37
14:00	0	27	6	0	7	0	0	0	0	0	0	0	0	40
15:00	0	20	3	0	3	0	0	0	0	0	0	0	0	26
16:00	0	**42**	4	0	1	0	0	0	0	0	0	0	0	**47**
17:00	0	30	3	0	0	0	0	0	0	0	0	0	0	33
18:00	0	11	2	0	1	0	0	0	0	0	0	0	0	14
19:00	0	8	0	0	2	0	0	0	0	0	0	0	0	10
20:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	311	61	3	46	0	0	0	0	0	0	0	0	421
Percent	0.0%	73.9%	14.5%	0.7%	10.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	09:00	07:00	11:00									10:00
Vol.		33	11	1	7									41
PM Peak		16:00	12:00	12:00	13:00									16:00
Vol.		42	9	1	7									47

Field Data Services of Arizona
31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

Site Code: 01/27/22-01/29/22
Station ID: 22-1066-004
Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	11	3	**1**	3	0	0	0	0	0	0	0	0	18
08:00	0	18	5	1	3	0	0	0	0	0	0	0	0	27
09:00	0	33	**9**	0	**6**	0	0	0	0	0	0	0	0	48
10:00	0	37	7	0	4	0	0	0	0	0	0	0	0	48
11:00	0	**47**	3	0	5	0	0	0	0	0	0	0	0	**55**
12 PM	0	30	**7**	0	3	0	0	0	0	0	0	0	0	40
13:00	0	29	4	0	**6**	0	0	0	0	0	0	0	0	39
14:00	0	**44**	6	0	6	0	0	0	0	0	0	0	0	**56**
15:00	0	31	3	0	5	0	0	0	0	0	0	0	0	39
16:00	0	26	5	**1**	3	0	0	0	0	0	0	0	0	35
17:00	0	23	3	0	1	0	0	0	0	0	0	0	0	27
18:00	0	14	2	0	1	0	0	0	0	0	0	0	0	17
19:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13
20:00	0	7	1	0	2	0	0	0	0	0	0	0	0	10
21:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
22:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	372	61	3	50	0	0	0	0	0	0	0	0	486
Percent	0.0%	76.5%	12.6%	0.6%	10.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00	07:00	09:00									11:00
Vol.		47	9	1	6									55
PM Peak		14:00	12:00	16:00	13:00									14:00
Vol.		44	7	1	6									56

Field Data Services of Arizona
31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

Site Code: 01/27/22-01/29/22
Station ID: 22-1066-004
Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/29/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
08:00	0	15	2	0	3	0	0	0	0	0	0	0	0	20
09:00	0	32	**5**	0	**7**	0	0	0	0	0	0	0	0	44
10:00	0	42	5	0	4	0	0	0	0	0	0	0	0	51
11:00	0	**56**	4	0	4	0	0	0	0	0	0	0	0	**64**
12 PM	0	39	4	0	**3**	0	0	0	0	0	0	0	0	46
13:00	0	37	**6**	0	3	0	0	0	0	0	0	0	0	46
14:00	0	**62**	5	0	2	0	0	0	0	0	0	0	0	**69**
15:00	0	29	0	0	1	0	0	0	0	0	0	0	0	30
16:00	0	26	3	0	3	0	0	0	0	0	0	0	0	32
17:00	0	14	1	0	1	0	0	0	0	0	0	0	0	16
18:00	0	15	4	0	1	0	0	0	0	0	0	0	0	20
19:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
20:00	0	13	2	0	1	0	0	0	0	0	0	0	0	16
21:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Day Total	0	411	43	0	34	0	0	0	0	0	0	0	0	488
Percent	0.0%	84.2%	8.8%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00		09:00									11:00
Vol.		56	5		7									64
PM Peak		14:00	13:00		12:00									14:00
Vol.		62	6		3									69
Grand Total	0	1094	165	6	130	0	0	0	0	0	0	0	0	1395
Percent	0.0%	78.4%	11.8%	0.4%	9.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Field Data Services of Arizona
31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

Site Code: 01/27/22-01/29/22
Station ID: 22-1066-004
Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Southbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/27/22	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
07:00	0	13	0	0	1	0	0	0	0	0	0	0	0	14
08:00	0	**29**	5	0	0	0	0	0	0	0	0	0	0	34
09:00	0	18	3	0	2	0	0	0	0	0	0	0	0	23
10:00	0	17	4	0	**4**	0	0	0	0	0	0	0	0	25
11:00	0	25	**7**	0	3	0	0	0	0	0	0	0	0	**35**
12 PM	0	29	6	0	3	0	0	0	0	0	0	0	0	38
13:00	0	34	6	**2**	4	0	0	0	0	0	0	0	0	46
14:00	0	35	**7**	0	**9**	0	0	0	0	0	0	0	0	**51**
15:00	0	35	2	0	0	0	0	0	0	0	0	0	0	37
16:00	0	**38**	4	0	1	0	0	0	0	0	0	0	0	43
17:00	0	35	3	0	0	0	0	0	0	0	0	0	0	38
18:00	0	15	1	0	2	0	0	0	0	0	0	0	0	18
19:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
20:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	340	50	2	30	0	0	0	0	0	0	0	0	422
Percent	0.0%	80.6%	11.8%	0.5%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		08:00	11:00		10:00									11:00
Vol.		29	7		4									35
PM Peak		16:00	14:00	13:00	14:00									14:00
Vol.		38	7	2	9									51

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34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Southbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	9	1	0	4	0	0	0	0	0	0	0	0	14
08:00	0	20	4	0	1	0	0	0	0	0	0	0	0	25
09:00	0	18	4	0	4	0	0	0	0	0	0	0	0	26
10:00	0	31	**6**	**1**	**5**	0	0	0	0	0	0	0	0	43
11:00	0	**44**	1	0	2	0	0	0	0	0	0	0	0	**47**
12 PM	0	43	3	0	2	0	0	0	0	0	0	0	0	48
13:00	0	41	5	0	2	0	0	0	0	0	0	0	0	48
14:00	0	**54**	2	0	3	0	0	0	0	0	0	0	0	**59**
15:00	0	44	**6**	0	2	0	0	0	0	0	0	0	0	52
16:00	0	38	3	0	2	0	0	0	0	0	0	0	0	43
17:00	0	26	2	0	**7**	0	0	0	0	0	0	0	0	35
18:00	0	16	4	0	2	0	0	0	0	0	0	0	0	22
19:00	0	14	0	0	2	0	0	0	0	0	0	0	0	16
20:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	407	42	1	39	0	0	0	0	0	0	0	0	489
Percent	0.0%	83.2%	8.6%	0.2%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	10:00	10:00	10:00									11:00
Vol.		44	6	1	5									47
PM Peak		14:00	15:00		17:00									14:00
Vol.		54	6		7									59

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34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Southbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/29/22	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
08:00	0	10	**3**	0	1	0	0	0	0	0	0	0	0	14
09:00	0	22	2	0	**4**	0	0	0	0	0	0	0	0	28
10:00	0	30	3	0	3	0	0	0	0	0	0	0	0	36
11:00	0	**55**	2	0	3	0	0	0	0	0	0	0	0	**60**
12 PM	0	57	2	0	**3**	0	0	0	0	0	0	0	0	62
13:00	0	52	3	0	3	0	0	0	0	0	0	0	0	58
14:00	0	**64**	**4**	0	3	0	0	0	0	0	0	0	0	**71**
15:00	0	46	4	0	2	0	0	0	0	0	0	0	0	52
16:00	0	33	0	0	3	0	0	0	0	0	0	0	0	36
17:00	0	33	1	0	2	0	0	0	0	0	0	0	0	36
18:00	0	16	3	0	3	0	0	0	0	0	0	0	0	22
19:00	0	11	0	0	1	0	0	0	0	0	0	0	0	12
20:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
21:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	0	457	28	0	32	0	0	0	0	0	0	0	0	517
Percent	0.0%	88.4%	5.4%	0.0%	6.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	08:00		09:00									11:00
Vol.		55	3		4									60
PM Peak		14:00	14:00		12:00									14:00
Vol.		64	4		3									71
Grand Total	0	1204	120	3	101	0	0	0	0	0	0	0	0	1428
Percent	0.0%	84.3%	8.4%	0.2%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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Latitude: 0' 0.0000 Undefined

Northbound, Southbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/27/22	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
07:00	0	21	3	**1**	2	0	0	0	0	0	0	0	0	27
08:00	0	55	10	1	3	0	0	0	0	0	0	0	0	69
09:00	0	34	**14**	0	7	0	0	0	0	0	0	0	0	55
10:00	0	50	8	0	8	0	0	0	0	0	0	0	0	66
11:00	0	**56**	9	0	**10**	0	0	0	0	0	0	0	0	**75**
12 PM	0	55	**15**	1	7	0	0	0	0	0	0	0	0	78
13:00	0	57	13	**2**	11	0	0	0	0	0	0	0	0	83
14:00	0	62	13	0	**16**	0	0	0	0	0	0	0	0	**91**
15:00	0	55	5	0	3	0	0	0	0	0	0	0	0	63
16:00	0	**80**	8	0	2	0	0	0	0	0	0	0	0	90
17:00	0	65	6	0	0	0	0	0	0	0	0	0	0	71
18:00	0	26	3	0	3	0	0	0	0	0	0	0	0	32
19:00	0	14	0	0	2	0	0	0	0	0	0	0	0	16
20:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
21:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	651	111	5	76	0	0	0	0	0	0	0	0	843
Percent	0.0%	77.2%	13.2%	0.6%	9.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00	07:00	11:00									11:00
Vol.		56	14	1	10									75
PM Peak		16:00	12:00	13:00	14:00									14:00
Vol.		80	15	2	16									91

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Latitude: 0' 0.0000 Undefined

Northbound, Southbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	20	4	**1**	7	0	0	0	0	0	0	0	0	32
08:00	0	38	9	1	4	0	0	0	0	0	0	0	0	52
09:00	0	51	**13**	0	**10**	0	0	0	0	0	0	0	0	74
10:00	0	68	13	1	9	0	0	0	0	0	0	0	0	91
11:00	0	**91**	4	0	7	0	0	0	0	0	0	0	0	**102**
12 PM	0	73	**10**	0	5	0	0	0	0	0	0	0	0	88
13:00	0	70	9	0	8	0	0	0	0	0	0	0	0	87
14:00	0	**98**	8	0	**9**	0	0	0	0	0	0	0	0	**115**
15:00	0	75	9	0	7	0	0	0	0	0	0	0	0	91
16:00	0	64	8	**1**	5	0	0	0	0	0	0	0	0	78
17:00	0	49	5	0	8	0	0	0	0	0	0	0	0	62
18:00	0	30	6	0	3	0	0	0	0	0	0	0	0	39
19:00	0	26	0	0	3	0	0	0	0	0	0	0	0	29
20:00	0	11	1	0	2	0	0	0	0	0	0	0	0	14
21:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
22:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	779	103	4	89	0	0	0	0	0	0	0	0	975
Percent	0.0%	79.9%	10.6%	0.4%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00	07:00	09:00									11:00
Vol.		91	13	1	10									102
PM Peak		14:00	12:00	16:00	14:00									14:00
Vol.		98	10	1	9									115

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Northbound, Southbound

Start Time	Bikes	Cars & Tlrs	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total
01/29/22	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	11	1	0	2	0	0	0	0	0	0	0	0	14
08:00	0	25	5	0	4	0	0	0	0	0	0	0	0	34
09:00	0	54	7	0	**11**	0	0	0	0	0	0	0	0	72
10:00	0	72	**8**	0	7	0	0	0	0	0	0	0	0	87
11:00	0	**111**	6	0	7	0	0	0	0	0	0	0	0	**124**
12 PM	0	96	6	0	**6**	0	0	0	0	0	0	0	0	108
13:00	0	89	**9**	0	6	0	0	0	0	0	0	0	0	104
14:00	0	**126**	9	0	5	0	0	0	0	0	0	0	0	**140**
15:00	0	75	4	0	3	0	0	0	0	0	0	0	0	82
16:00	0	59	3	0	6	0	0	0	0	0	0	0	0	68
17:00	0	47	2	0	3	0	0	0	0	0	0	0	0	52
18:00	0	31	7	0	4	0	0	0	0	0	0	0	0	42
19:00	0	22	1	0	1	0	0	0	0	0	0	0	0	24
20:00	0	20	3	0	1	0	0	0	0	0	0	0	0	24
21:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
Day Total	0	868	71	0	66	0	0	0	0	0	0	0	0	1005
Percent	0.0%	86.4%	7.1%	0.0%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	10:00		09:00									11:00
Vol.		111	8		11									124
PM Peak		14:00	13:00		12:00									14:00
Vol.		126	9		6									140
Grand Total	0	2298	285	9	231	0	0	0	0	0	0	0	0	2823
Percent	0.0%	81.4%	10.1%	0.3%	8.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Field Data Services of Arizona

31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

Site Code: 01/27/22-01/29/22
Station ID: 22-1066-004
Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/27/22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	34
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
06:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	34
07:00	0	0	1	3	5	3	1	0	0	0	0	0	0	0	13	28	33
08:00	0	**1**	0	7	15	9	3	0	0	0	0	0	0	0	35	29	33
09:00	0	1	0	6	18	4	3	0	0	0	0	0	0	0	32	28	32
10:00	0	0	0	10	**19**	**10**	2	0	0	0	0	0	0	0	**41**	28	32
11:00	0	1	**3**	**14**	12	6	**4**	0	0	0	0	0	0	0	40	27	33
12 PM	0	2	2	15	14	6	1	0	0	0	0	0	0	0	40	26	30
13:00	0	0	2	13	12	8	**2**	0	0	0	0	0	0	0	37	27	32
14:00	0	0	**4**	**22**	10	3	1	0	0	0	0	0	0	0	40	25	28
15:00	0	0	4	12	6	3	1	0	0	0	0	0	0	0	26	25	30
16:00	0	0	2	14	**22**	**9**	0	0	0	0	0	0	0	0	**47**	27	31
17:00	0	**3**	3	8	13	5	1	0	0	0	0	0	0	0	33	26	31
18:00	0	0	3	6	4	1	0	0	0	0	0	0	0	0	14	24	28
19:00	0	0	1	3	3	1	2	0	0	0	0	0	0	0	10	28	36
20:00	0	0	0	3	4	0	0	0	0	0	0	0	0	0	7	26	28
21:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	23	24
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	0	8	25	140	157	70	21	0	0	0	0	0	0	0	421		
Percent	0.0%	1.9%	5.9%	33.3%	37.3%	16.6%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak		08:00	11:00	11:00	10:00	10:00	11:00								10:00		
Vol.		1	3	14	19	10	4								41		
PM Peak		17:00	14:00	14:00	16:00	16:00	13:00								16:00		
Vol.		3	4	22	22	9	2								47		

Field Data Services of Arizona

31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

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34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	29
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	34
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
07:00	0	0	0	6	9	3	0	0	0	0	0	0	0	0	18	27	30
08:00	0	**1**	0	6	12	6	2	0	0	0	0	0	0	0	27	28	33
09:00	0	0	0	**20**	18	9	1	0	0	0	0	0	0	0	48	27	31
10:00	0	0	**1**	12	23	9	3	0	0	0	0	0	0	0	48	28	32
11:00	0	0	1	10	**24**	**16**	**4**	0	0	0	0	0	0	0	**55**	29	33
12 PM	0	**1**	2	12	**17**	4	3	**1**	0	0	0	0	0	0	40	27	32
13:00	0	0	**3**	11	12	6	**6**	1	0	0	0	0	0	0	39	29	35
14:00	0	0	3	**22**	17	**10**	4	0	0	0	0	0	0	0	**56**	27	32
15:00	0	0	3	16	10	7	1	1	0	0	0	0	0	**1**	39	27	32
16:00	0	0	3	15	14	2	1	0	0	0	0	0	0	0	35	26	29
17:00	0	0	2	9	10	4	2	0	0	0	0	0	0	0	27	27	32
18:00	0	0	2	6	5	4	0	0	0	0	0	0	0	0	17	26	31
19:00	0	0	1	6	4	0	2	0	0	0	0	0	0	0	13	26	35
20:00	0	0	0	4	4	2	0	0	0	0	0	0	0	0	10	27	31
21:00	**1**	0	0	1	5	1	0	0	0	0	0	0	0	0	8	25	29
22:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	26	28
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	1	2	21	158	187	84	29	3	0	0	0	0	0	1	486		
Percent	0.2%	0.4%	4.3%	32.5%	38.5%	17.3%	6.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%			
AM Peak		08:00	10:00	09:00	11:00	11:00	11:00								11:00		
Vol.		1	1	20	24	16	4								55		
PM Peak	21:00	12:00	13:00	14:00	12:00	14:00	13:00	12:00						15:00	14:00		
Vol.	1	1	3	22	17	10	6	1						1	56		

Field Data Services of Arizona

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520.316.6745

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Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/29/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
06:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	31	33
07:00	0	0	**2**	1	1	1	1	0	0	0	0	0	0	0	6	26	35
08:00	0	0	0	4	7	6	2	**1**	0	0	0	0	0	0	20	30	35
09:00	0	0	2	**9**	18	13	2	0	0	0	0	0	0	0	44	28	33
10:00	0	0	1	8	30	7	5	0	0	0	0	0	0	0	51	29	33
11:00	0	0	2	8	**34**	**14**	**6**	0	0	0	0	0	0	0	**64**	29	33
12 PM	0	0	1	13	21	9	1	**1**	0	0	0	0	0	0	46	28	32
13:00	0	0	1	15	15	**11**	**4**	0	0	0	0	0	0	0	46	28	33
14:00	0	1	2	**17**	**37**	8	4	0	0	0	0	0	0	0	**69**	27	31
15:00	0	0	1	12	9	7	1	0	0	0	0	0	0	0	30	27	32
16:00	**1**	1	**6**	7	9	4	4	0	0	0	0	0	0	0	32	26	34
17:00	0	0	0	10	4	1	1	0	0	0	0	0	0	0	16	26	29
18:00	0	**2**	2	7	4	5	0	0	0	0	0	0	0	0	20	25	32
19:00	0	0	3	4	5	0	0	0	0	0	0	0	0	0	12	24	28
20:00	0	0	0	8	5	2	0	0	0	0	**1**	0	0	0	16	28	31
21:00	0	1	2	1	2	0	0	0	0	0	0	0	0	0	6	21	27
22:00	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3	23	27
23:00	0	0	0	3	0	0	0	1	0	0	0	0	0	0	4	28	42
Total	1	5	26	129	203	89	31	3	0	0	1	0	0	0	488		
Percent	0.2%	1.0%	5.3%	26.4%	41.6%	18.2%	6.4%	0.6%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%			
AM Peak			07:00	09:00	11:00	11:00	11:00	08:00							11:00		
Vol.			2	9	34	14	6	1							64		
PM Peak	16:00	18:00	16:00	14:00	14:00	13:00	13:00	12:00			20:00				14:00		
Vol.	1	2	6	17	37	11	4	1			1				69		
Total	2	15	72	427	547	243	81	6	0	0	1	0	0	1	1395		
Percent	0.1%	1.1%	5.2%	30.6%	39.2%	17.4%	5.8%	0.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%			

15th Percentile :	21 MPH
50th Percentile :	26 MPH
85th Percentile :	32 MPH
95th Percentile :	36 MPH

Statistics

10 MPH Pace Speed :	21-30 MPH
Number in Pace :	974
Percent in Pace :	69.8%
Number of Vehicles > 25 MPH :	879
Percent of Vehicles > 25 MPH :	63.0%
Mean Speed(Average) :	27 MPH

Field Data Services of Arizona
31894 Whitetail Ln.
Temecula, CA 92592
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Southbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/27/22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	18	19
06:00	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5	21	23
07:00	0	0	1	8	4	0	**1**	0	0	0	0	0	0	0	14	25	28
08:00	0	0	3	13	**13**	**4**	1	0	0	0	0	0	0	0	34	26	29
09:00	0	1	5	5	9	2	1	0	0	0	0	0	0	0	23	25	29
10:00	0	2	2	13	5	3	0	0	0	0	0	0	0	0	25	24	29
11:00	0	**3**	**8**	**14**	8	2	0	0	0	0	0	0	0	0	**35**	23	27
12 PM	0	1	13	13	9	2	0	0	0	0	0	0	0	0	38	23	27
13:00	0	1	**17**	17	9	1	**1**	0	0	0	0	0	0	0	46	22	27
14:00	0	0	12	**30**	6	1	1	**1**	0	0	0	0	0	0	**51**	23	26
15:00	0	**2**	4	21	8	1	1	0	0	0	0	0	0	0	37	24	27
16:00	0	0	5	20	**13**	5	0	0	0	0	0	0	0	0	43	25	29
17:00	0	2	6	17	6	**7**	0	0	0	0	0	0	0	0	38	24	30
18:00	0	0	8	8	2	0	0	0	0	0	0	0	0	0	18	21	24
19:00	0	0	2	4	0	0	0	0	0	0	0	0	0	0	6	21	23
20:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	34
21:00	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4	22	24
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	0	12	92	190	92	29	6	1	0	0	0	0	0	0	422		
Percent	0.0%	2.8%	21.8%	45.0%	21.8%	6.9%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak		11:00	11:00	11:00	08:00	08:00	07:00								11:00		
Vol.		3	8	14	13	4	1								35		
PM Peak		15:00	13:00	14:00	16:00	17:00	13:00	14:00							14:00		
Vol.		2	17	30	13	7	1	1							51		

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Southbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
06:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	26	28
07:00	0	0	3	7	3	0	**1**	0	0	0	0	0	0	0	14	24	28
08:00	0	0	8	14	2	1	0	0	0	0	0	0	0	0	25	22	24
09:00	0	0	5	11	8	**2**	0	0	0	0	0	0	0	0	26	24	28
10:00	0	0	**11**	17	13	2	0	0	0	0	0	0	0	0	43	24	28
11:00	0	**1**	6	**22**	**14**	2	0	**1**	**1**	0	0	0	0	0	**47**	25	28
12 PM	0	**3**	6	30	5	3	**1**	0	0	0	0	0	0	0	48	23	26
13:00	0	1	6	21	15	**5**	0	0	0	0	0	0	0	0	48	25	29
14:00	0	1	5	**32**	**17**	4	0	0	0	0	0	0	0	0	**59**	25	28
15:00	0	1	**15**	24	12	0	0	0	0	0	0	0	0	0	52	23	26
16:00	0	0	11	21	7	4	0	0	0	0	0	0	0	0	43	23	28
17:00	0	1	4	21	6	3	0	0	0	0	0	0	0	0	35	24	28
18:00	0	1	8	6	6	1	0	0	0	0	0	0	0	0	22	23	28
19:00	0	0	3	9	3	1	0	0	0	0	0	0	0	0	16	24	27
20:00	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4	24	27
21:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3	25	27
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	0	9	93	241	114	28	2	1	1	0	0	0	0	0	489		
Percent	0.0%	1.8%	19.0%	49.3%	23.3%	5.7%	0.4%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak		11:00	10:00	11:00	11:00	09:00	07:00	11:00	11:00						11:00		
Vol.		1	11	22	14	2	1	1	1						47		
PM Peak		12:00	15:00	14:00	14:00	13:00	12:00								14:00		
Vol.		3	15	32	17	5	1								59		

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01/29/22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
07:00	0	0	1	6	1	0	0	0	0	0	0	0	0	0	8	23	24
08:00	0	0	**6**	5	3	0	0	0	0	0	0	0	0	0	14	22	26
09:00	0	0	2	13	9	3	1	0	0	0	0	0	0	0	28	26	29
10:00	0	0	3	**18**	12	2	1	0	0	0	0	0	0	0	36	25	29
11:00	0	0	6	11	**29**	**10**	**4**	0	0	0	0	0	0	0	**60**	28	32
12 PM	0	1	14	21	18	**7**	1	0	0	0	0	0	0	0	62	25	29
13:00	0	1	7	14	26	7	**3**	0	0	0	0	0	0	0	58	26	30
14:00	0	0	9	**24**	**31**	6	1	0	0	0	0	0	0	0	**71**	26	29
15:00	0	1	**15**	22	12	2	0	0	0	0	0	0	0	0	52	23	27
16:00	0	**2**	4	21	8	1	0	0	0	0	0	0	0	0	36	23	27
17:00	0	1	8	19	8	0	0	0	0	0	0	0	0	0	36	23	26
18:00	0	0	0	15	6	0	0	0	0	0	0	0	**1**	0	22	26	28
19:00	0	0	4	4	4	0	0	0	0	0	0	0	0	0	12	23	27
20:00	0	0	1	3	3	0	0	0	0	**1**	0	0	0	0	8	28	29
21:00	**1**	1	1	2	0	1	0	0	0	0	0	0	0	0	6	19	30
22:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	20	22
23:00	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	31	38
Total	1	7	85	201	170	39	12	0	0	1	0	0	1	0	517		
Percent	0.2%	1.4%	16.4%	38.9%	32.9%	7.5%	2.3%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%			
AM Peak			08:00	10:00	11:00	11:00	11:00								11:00		
Vol.			6	18	29	10	4								60		
PM Peak	21:00	16:00	15:00	14:00	14:00	12:00	13:00			20:00			18:00		14:00		
Vol.	1	2	15	24	31	7	3			1			1		71		
Total	1	28	270	632	376	96	20	2	1	1	0	0	1	0	1428		
Percent	0.1%	2.0%	18.9%	44.3%	26.3%	6.7%	1.4%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%			

15th Percentile :	18 MPH
50th Percentile :	23 MPH
85th Percentile :	28 MPH
95th Percentile :	32 MPH

Statistics

10 MPH Pace Speed :	21-30 MPH
Number in Pace :	1008
Percent in Pace :	70.6%
Number of Vehicles > 25 MPH :	497
Percent of Vehicles > 25 MPH :	34.8%
Mean Speed(Average) :	24 MPH

Field Data Services of Arizona

31894 Whitetail Ln.
Temecula, CA 92592
520.316.6745

Site Code: 01/27/22-01/29/22
Station ID: 22-1066-004
Jordan Rd south of Navahopi Rd
34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound, Southbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/27/22	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	23	24
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	26	33
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	18	19
06:00	0	0	2	3	0	1	0	0	0	0	0	0	0	0	6	23	30
07:00	0	0	2	11	9	3	2	0	0	0	0	0	0	0	27	27	31
08:00	0	1	3	20	**28**	**13**	**4**	0	0	0	0	0	0	0	69	27	32
09:00	0	2	5	11	27	6	4	0	0	0	0	0	0	0	55	27	31
10:00	0	2	2	23	24	13	2	0	0	0	0	0	0	0	66	27	31
11:00	0	**4**	**11**	**28**	20	8	4	0	0	0	0	0	0	0	**75**	25	30
12 PM	0	3	15	28	23	8	1	0	0	0	0	0	0	0	78	24	29
13:00	0	1	**19**	30	21	9	**3**	0	0	0	0	0	0	0	83	25	29
14:00	0	0	16	**52**	16	4	2	**1**	0	0	0	0	0	0	**91**	24	27
15:00	0	2	8	33	14	4	2	0	0	0	0	0	0	0	63	24	28
16:00	0	0	7	34	**35**	**14**	0	0	0	0	0	0	0	0	90	26	30
17:00	0	**5**	9	25	19	12	1	0	0	0	0	0	0	0	71	25	30
18:00	0	0	11	14	6	1	0	0	0	0	0	0	0	0	32	23	26
19:00	0	0	3	7	3	1	2	0	0	0	0	0	0	0	16	26	32
20:00	0	0	0	3	4	1	0	0	0	0	0	0	0	0	8	27	29
21:00	0	0	1	6	0	0	0	0	0	0	0	0	0	0	7	22	24
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	0	20	117	330	249	99	27	1	0	0	0	0	0	0	843		
Percent	0.0%	2.4%	13.9%	39.1%	29.5%	11.7%	3.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak		11:00	11:00	11:00	08:00	08:00	08:00								11:00		
Vol.		4	11	28	28	13	4								75		
PM Peak		17:00	13:00	14:00	16:00	16:00	13:00	14:00							14:00		
Vol.		5	19	52	35	14	3	1							91		

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34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound, Southbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	29
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33	34
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
06:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	26	28
07:00	0	0	3	13	12	3	1	0	0	0	0	0	0	0	32	26	29
08:00	0	**1**	8	20	14	7	2	0	0	0	0	0	0	0	52	25	30
09:00	0	0	5	31	26	11	1	0	0	0	0	0	0	0	74	26	30
10:00	0	0	**12**	29	36	11	3	0	0	0	0	0	0	0	91	26	30
11:00	0	1	7	**32**	**38**	**18**	**4**	**1**	**1**	0	0	0	0	0	**102**	27	32
12 PM	0	**4**	8	42	22	7	4	**1**	0	0	0	0	0	0	88	25	29
13:00	0	1	9	32	27	11	**6**	1	0	0	0	0	0	0	87	26	32
14:00	0	1	8	**54**	**34**	**14**	4	0	0	0	0	0	0	0	**115**	26	30
15:00	0	1	**18**	40	22	7	1	1	0	0	0	0	0	**1**	91	24	28
16:00	0	0	14	36	21	6	1	0	0	0	0	0	0	0	78	24	28
17:00	0	1	6	30	16	7	2	0	0	0	0	0	0	0	62	25	29
18:00	0	1	10	12	11	5	0	0	0	0	0	0	0	0	39	24	29
19:00	0	0	4	15	7	1	2	0	0	0	0	0	0	0	29	25	29
20:00	0	0	0	7	5	2	0	0	0	0	0	0	0	0	14	26	29
21:00	**1**	0	0	3	6	1	0	0	0	0	0	0	0	0	11	25	29
22:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	26	28
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	1	11	114	399	301	112	31	4	1	0	0	0	0	1	975		
Percent	0.1%	1.1%	11.7%	40.9%	30.9%	11.5%	3.2%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%			
AM Peak		08:00	10:00	11:00	11:00	11:00	11:00	11:00	11:00						11:00		
Vol.		1	12	32	38	18	4	1	1						102		
PM Peak	21:00	12:00	15:00	14:00	14:00	14:00	13:00	12:00						15:00	14:00		
Vol.	1	4	18	54	34	14	6	1						1	115		

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34.875825, -111.761062
Latitude: 0' 0.0000 Undefined

Northbound, Southbound

Start Time	0 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 71	Total	Average (Mean)	85th Percent
01/29/22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	24
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	19
06:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	31	33
07:00	0	0	3	7	2	1	1	0	0	0	0	0	0	0	14	24	29
08:00	0	0	6	9	10	6	2	**1**	0	0	0	0	0	0	34	27	33
09:00	0	0	4	22	27	16	3	0	0	0	0	0	0	0	72	27	32
10:00	0	0	4	**26**	42	9	6	0	0	0	0	0	0	0	87	27	31
11:00	0	0	**8**	19	**63**	**24**	**10**	0	0	0	0	0	0	0	**124**	28	33
12 PM	0	1	15	34	39	16	2	**1**	0	0	0	0	0	0	108	26	30
13:00	0	1	8	29	41	**18**	**7**	0	0	0	0	0	0	0	104	27	32
14:00	0	1	11	**41**	**68**	14	5	0	0	0	0	0	0	0	**140**	26	29
15:00	0	1	**16**	34	21	9	1	0	0	0	0	0	0	0	82	24	29
16:00	**1**	**3**	10	28	17	5	4	0	0	0	0	0	0	0	68	24	29
17:00	0	1	8	29	12	1	1	0	0	0	0	0	0	0	52	24	27
18:00	0	2	2	22	10	5	0	0	0	0	0	0	**1**	0	42	26	29
19:00	0	0	7	8	9	0	0	0	0	0	0	0	0	0	24	23	27
20:00	0	0	1	11	8	2	0	0	0	**1**	**1**	0	0	0	24	28	31
21:00	1	2	3	3	2	1	0	0	0	0	0	0	0	0	12	20	28
22:00	0	0	3	2	1	0	0	0	0	0	0	0	0	0	6	21	25
23:00	0	0	0	4	0	0	1	1	0	0	0	0	0	0	6	29	40
Total	2	12	111	330	373	128	43	3	0	1	1	0	1	0	1005		
Percent	0.2%	1.2%	11.0%	32.8%	37.1%	12.7%	4.3%	0.3%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%			
AM Peak			11:00	10:00	11:00	11:00	11:00	08:00							11:00		
Vol.			8	26	63	24	10	1							124		
PM Peak	16:00	16:00	15:00	14:00	14:00	13:00	13:00	12:00		20:00	20:00		18:00		14:00		
Vol.	1	3	16	41	68	18	7	1		1	1		1		140		
Total	3	43	342	1059	923	339	101	8	1	1	1	0	1	1	2823		
Percent	0.1%	1.5%	12.1%	37.5%	32.7%	12.0%	3.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile :	20 MPH
50th Percentile :	24 MPH
85th Percentile :	30 MPH
95th Percentile :	34 MPH

Statistics

10 MPH Pace Speed :	21-30 MPH
Number in Pace :	1982
Percent in Pace :	70.2%
Number of Vehicles > 25 MPH :	1376
Percent of Vehicles > 25 MPH :	48.7%
Mean Speed(Average) :	26 MPH

APPENDIX D

EXISTING PEAK HOUR ANALYSIS

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	6	18	13	0
Future Vol, veh/h	0	8	6	18	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	7	20	14	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	48	14	14	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	34	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	962	1066	1604	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	958	1066	1604	-	-	-
Mov Cap-2 Maneuver	958	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1604	-	1066	-	-
HCM Lane V/C Ratio	0.004	-	0.008	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	7	13	13	25	1
Future Vol, veh/h	1	7	13	13	25	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	8	14	14	27	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	70	28	28	0	-	0
Stage 1	28	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	934	1047	1585	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	926	1047	1585	-	-	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	980	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1585	-	1030	-	-
HCM Lane V/C Ratio	0.009	-	0.008	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	7	33	43	2
Future Vol, veh/h	0	13	7	33	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	14	8	36	47	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	100	48	49	0	-	0
Stage 1	48	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	899	1021	1558	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	895	1021	1558	-	-	-
Mov Cap-2 Maneuver	895	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	1021	-	-
HCM Lane V/C Ratio	0.005	-	0.014	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	10	25	20	3
Future Vol, veh/h	0	14	10	25	20	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	11	27	22	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	73	24	25	0	-	0
Stage 1	24	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	931	1052	1589	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	924	1052	1589	-	-	-
Mov Cap-2 Maneuver	924	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	973	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	2.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1589	-	1052	-	-
HCM Lane V/C Ratio	0.007	-	0.014	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	13	25	26	32	1
Future Vol, veh/h	3	13	25	26	32	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	14	27	28	35	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	118	36	36	0	-	0
Stage 1	36	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	878	1037	1575	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	863	1037	1575	-	-	-
Mov Cap-2 Maneuver	863	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1575	-	999	-	-
HCM Lane V/C Ratio	0.017	-	0.017	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	14	14	55	57	1
Future Vol, veh/h	5	14	14	55	57	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	15	15	60	62	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	153	63	63	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	90	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	839	1002	1540	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	831	1002	1540	-	-	-
Mov Cap-2 Maneuver	831	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1540	-	951	-	-
HCM Lane V/C Ratio	0.01	-	0.022	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	3	32	6	1	33
Future Vol, veh/h	7	3	32	6	1	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	3	35	7	1	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	77	39	0	0	42	0
Stage 1	39	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	926	1033	-	-	1567	-
Stage 1	983	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	925	1033	-	-	1567	-
Mov Cap-2 Maneuver	925	-	-	-	-	-
Stage 1	983	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	955	1567	-
HCM Lane V/C Ratio	-	-	0.011	0.001	-
HCM Control Delay (s)	-	-	8.8	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	49	12	0	45
Future Vol, veh/h	4	2	49	12	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	53	13	0	49

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	60	0	0	66	0
Stage 1	60	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	888	1005	-	-	1536	-
Stage 1	963	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	888	1005	-	-	1536	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	973	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	924	1536	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	2	67	7	0	71
Future Vol, veh/h	13	2	67	7	0	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	2	73	8	0	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	154	77	0	0	81	0
Stage 1	77	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	838	984	-	-	1517	-
Stage 1	946	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	984	-	-	1517	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	946	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	855	1517	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	-	-	9.3	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

APPENDIX E

TRIP GENERATION CALCULATIONS

Methodology Overview

This form facilitates trip generation estimation using data within the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 10th Edition and methodology described within ITE's Trip Generation Handbook, 3rd Edition. These references will be referred to as Manual and Handbook, respectively. The Manual contains data collected by various transportation professionals for a wide range of different land uses, with each land use category represented by a land use code (LUC). Average rates and equations have been established that correlate the relationship between an independent variable that describes the development size and generated trips for each categorized LUC in various settings and time periods. The Handbook indicates an established methodology for how to use data contained within the Manual when to use the fitted curve instead of the average rate and when to adjustments to the volume of trips are appropriate and how to do so. The methodology steps are represented visually in boxes in Figure 3.1. This worksheet applies calculations for each box if applicable.

Box 1 - Define Study Site Land Use Type&Site Characteristics, | **Box 2 - Define Site Context** | **Box 3 - Define Analysis Objectives** Trip Types&Time Period

The analyst is to pick an appropriate LUC(s) based on the subject's zoning/land use(s)/future land use(s). The size of the land use(s) is described in reference to an independent variable(s) specific to (each) the land use (example: 1,000 square feet of building area is relatively common). Context assessment is to "simply determine whether the study sites is in a multimodal setting" and "could have persons accessing the site by walking, bicycling, or riding transit." This assessment is used in Box 4. The Manual separates data into 4 setting categories - Rural, General Urban/Suburban, Dense Multi-Urban Use and Center City Core. This worksheet uses the following abbreviations, respectively: R, G, D, and C. The Manual does not have data for all settings of all land use codes. The "General Urban/Suburban" setting is used by default.

This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Land Use Types and Size

Proposed Use	Amount	Units	ITE LUC	ITE Land Use Name
Townhomes Vehicles	24	Dwelling Units	220	Multifamily Housing (Low-Rise Not Close to Rail)

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the Handbook has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve **Type: Equation Used [Equated Rate]**

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	Saturday
Townhomes Vehicles	FC: T=6.41*X+75.31 [9.55]	FC: T=0.31*X+22.85 [1.26]	FC: T=0.43*X+20.55 [1.29]	FC: T=0.86*X+9.72 [1.27]

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				Saturday			
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total

Methodology Overview

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This tool will focus on vehicular trips for a 24-hour period on a typical weekday as well as its AM peak hour and PM peak hour. Other time period(s) may be of interest.

Land Use Types and Size

Proposed Use	Amount	Units	ITE LUC	ITE Land Use Name
Townhomes Pedestrian	24	Dwelling Units	220	Multifamily Housing (Low-Rise Not Close to Rail)

Box 4 - Is Study Site Multimodal?

Per the Handbook, "if the objective is to establish a local trip generation rate for a particular land use or study site, the simplified approach (Box 9) may be acceptable but the Box 5 through 8 approach is required if the study site is located in an infill setting, contains a mix of uses on-site, or is near significant transit service."

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Determine Equation)

Vehicle trips are estimated using rates/equations applicable to each LUC. When the appropriate graph has a fitted curve, the Handbook has a process (Figure 4.2) to determine when to use it versus using the weighted average rate or collecting local data. The methodology requires for engineering judgement in some circumstances and permits engineering judgement to override or make adjustments when appropriate to best project (example 1: study site is expected to operate differently than data in the applicable land use code - such as restaurant that is closed in the morning or in the evening; example 2: LUC data in a localized area fails to be represented by the typically selected fitted curve/weighted average rate - a small shop/LUC 820, AM peak hour is skewed by the high y-intercept).

Equation Type: Equation Used [Equated Rate] (Type Abbreviations: Weighted Average Rate ("WA"), Fitted Curve) **Type: Equation Used [Equated Rate]**

Proposed Use	ADT	AM Peak Hour	PM Peak Hour	(not used)
Townhomes Pedestrian		C: T=X*0.03 [0.03]	C: T=X*0.03 [0.03]	

Box 5/Box 9 - Estimate Baseline Trips/Estimate Vehicular Trips (Apply Equations and in/out Distributions)

Baseline Vehicular Trips

Proposed Use	ADT				AM Peak Hour				PM Peak Hour				(not used)			
	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total	% In	In	Out	Total
Townhomes Pedestrian					43%	0	1	1	50%	1	0	1				

APPENDIX F

2024 NO BUILD PEAK HOUR ANALYSIS

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	7	21	15	0
Future Vol, veh/h	0	9	7	21	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	8	23	16	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	55	16	16	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	953	1063	1602	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	948	1063	1602	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1602	-	1063	-	-
HCM Lane V/C Ratio	0.005	-	0.009	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	8	15	15	29	1
Future Vol, veh/h	1	8	15	15	29	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	9	16	16	32	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	81	33	33	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	921	1041	1579	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	912	1041	1579	-	-	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	974	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	1025	-	-
HCM Lane V/C Ratio	0.01	-	0.01	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	8	38	50	2
Future Vol, veh/h	0	15	8	38	50	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	9	41	54	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	114	55	56	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	59	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	882	1012	1549	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	877	1012	1549	-	-	-
Mov Cap-2 Maneuver	877	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1549	-	1012	-	-
HCM Lane V/C Ratio	0.006	-	0.016	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	12	29	23	3
Future Vol, veh/h	0	16	12	29	23	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	13	32	25	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	85	27	28	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	916	1048	1585	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	909	1048	1585	-	-	-
Mov Cap-2 Maneuver	909	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	2.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1585	-	1048	-	-
HCM Lane V/C Ratio	0.008	-	0.017	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	15	29	30	37	1
Future Vol, veh/h	3	15	29	30	37	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	16	32	33	40	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	138	41	41	0	-	0
Stage 1	41	-	-	-	-	-
Stage 2	97	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	855	1030	1568	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	837	1030	1568	-	-	-
Mov Cap-2 Maneuver	837	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	927	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1568	-	992	-	-
HCM Lane V/C Ratio	0.02	-	0.02	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	16	16	64	66	1
Future Vol, veh/h	6	16	16	64	66	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	17	17	70	72	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	177	73	73	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	813	989	1527	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	803	989	1527	-	-	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	920	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1527	-	930	-	-
HCM Lane V/C Ratio	0.011	-	0.026	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	3	37	7	1	38
Future Vol, veh/h	8	3	37	7	1	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	3	40	8	1	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	87	44	0	0	48	0
Stage 1	44	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	914	1026	-	-	1559	-
Stage 1	978	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	913	1026	-	-	1559	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	941	1559	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	2	57	14	0	52
Future Vol, veh/h	5	2	57	14	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2	62	15	0	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	127	70	0	0	77	0
Stage 1	70	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	868	993	-	-	1522	-
Stage 1	953	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	868	993	-	-	1522	-
Mov Cap-2 Maneuver	868	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	900	1522	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s)	-	-	9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	2	78	8	0	82
Future Vol, veh/h	15	2	78	8	0	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	85	9	0	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	179	90	0	0	94	0
Stage 1	90	-	-	-	-	-
Stage 2	89	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	811	968	-	-	1500	-
Stage 1	934	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	811	968	-	-	1500	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	827	1500	-
HCM Lane V/C Ratio	-	-	0.022	-	-
HCM Control Delay (s)	-	-	9.5	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	29	0	0	27
Future Vol, veh/h	0	0	29	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	32	0	0	29

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	61	32	0	0	32	0
Stage 1	32	-	-	-	-	-
Stage 2	29	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	945	1042	-	-	1580	-
Stage 1	991	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	945	1042	-	-	1580	-
Mov Cap-2 Maneuver	945	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	994	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1580	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	34	0	0	38
Future Vol, veh/h	0	0	34	0	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	37	0	0	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	78	37	0	0	37	0
Stage 1	37	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	925	1035	-	-	1574	-
Stage 1	985	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	925	1035	-	-	1574	-
Mov Cap-2 Maneuver	925	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	981	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1574	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	69	0	0	67
Future Vol, veh/h	0	0	69	0	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	75	0	0	73

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	148	75	0	0	75	0
Stage 1	75	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	844	986	-	-	1524	-
Stage 1	948	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	844	986	-	-	1524	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	950	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1524	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

APPENDIX G

2024 BUILD PEAK HOUR ANALYSIS

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	7	21	15	0
Future Vol, veh/h	0	9	7	21	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	8	23	16	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	55	16	16	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	953	1063	1602	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	948	1063	1602	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1602	-	1063	-	-
HCM Lane V/C Ratio	0.005	-	0.009	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	8	15	15	29	1
Future Vol, veh/h	1	8	15	15	29	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	9	16	16	32	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	81	33	33	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	921	1041	1579	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	912	1041	1579	-	-	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	974	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	1025	-	-
HCM Lane V/C Ratio	0.01	-	0.01	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	8	38	50	2
Future Vol, veh/h	0	15	8	38	50	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	9	41	54	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	114	55	56	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	59	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	882	1012	1549	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	877	1012	1549	-	-	-
Mov Cap-2 Maneuver	877	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1549	-	1012	-	-
HCM Lane V/C Ratio	0.006	-	0.016	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	12	36	46	3
Future Vol, veh/h	0	16	12	36	46	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	13	39	50	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	117	52	53	0	-	0
Stage 1	52	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	879	1016	1553	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	871	1016	1553	-	-	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1553	-	1016	-	-
HCM Lane V/C Ratio	0.008	-	0.017	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	15	29	50	48	1
Future Vol, veh/h	3	15	29	50	48	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	16	32	54	52	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	171	53	53	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	118	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	819	1014	1553	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	802	1014	1553	-	-	-
Mov Cap-2 Maneuver	802	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	2.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1553	-	971	-	-
HCM Lane V/C Ratio	0.02	-	0.02	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	16	16	80	80	1
Future Vol, veh/h	6	16	16	80	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	17	17	87	87	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	209	88	88	0	-	0
Stage 1	88	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	779	970	1508	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	770	970	1508	-	-	-
Mov Cap-2 Maneuver	770	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	906	-	-
HCM Lane V/C Ratio	0.012	-	0.026	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	3	44	7	1	61
Future Vol, veh/h	8	3	44	7	1	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	3	48	8	1	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	120	52	0	0	56	0
Stage 1	52	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	876	1016	-	-	1549	-
Stage 1	970	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	875	1016	-	-	1549	-
Mov Cap-2 Maneuver	875	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	954	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	909	1549	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	2	77	14	0	63
Future Vol, veh/h	5	2	77	14	0	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2	84	15	0	68

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	160	92	0	0	99	0
Stage 1	92	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	831	965	-	-	1494	-
Stage 1	932	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	831	965	-	-	1494	-
Mov Cap-2 Maneuver	831	-	-	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	865	1494	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	9.2	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	2	94	8	0	96
Future Vol, veh/h	15	2	94	8	0	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	102	9	0	104

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	211	107	0	0	111	0
Stage 1	107	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	777	947	-	-	1479	-
Stage 1	917	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	777	947	-	-	1479	-
Mov Cap-2 Maneuver	777	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	920	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	794	1479	-
HCM Lane V/C Ratio	-	-	0.023	-	-
HCM Control Delay (s)	-	-	9.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	0	29	7	0	27
Future Vol, veh/h	23	0	29	7	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	0	32	8	0	29

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	65	36	0	0	40	0
Stage 1	36	-	-	-	-	-
Stage 2	29	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	941	1037	-	-	1570	-
Stage 1	986	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	941	1037	-	-	1570	-
Mov Cap-2 Maneuver	941	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	941	1570	-
HCM Lane V/C Ratio	-	-	0.027	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	0	34	20	0	38
Future Vol, veh/h	11	0	34	20	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	37	22	0	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	89	48	0	0	59	0
Stage 1	48	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	912	1021	-	-	1545	-
Stage 1	974	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	912	1021	-	-	1545	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	981	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	912	1545	-
HCM Lane V/C Ratio	-	-	0.013	-	-
HCM Control Delay (s)	-	-	9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	0	69	16	0	67
Future Vol, veh/h	14	0	69	16	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	0	75	17	0	73

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	84	0	0	92	0
Stage 1	84	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	834	975	-	-	1503	-
Stage 1	939	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	975	-	-	1503	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	950	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	834	1503	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	-	-	9.4	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

EXHIBIT 4b. Sewer Design Report

Shephard Wesnitzer, Inc.
An ARDURRA Company

75 Kallof Place
Sedona, AZ 86336

P.O. Box 3924
Sedona, AZ 86340

928.282.1061

www.swiaz.com

Engineering an environment of excellence.

Jordan Townhomes

Sewer Collection System
Preliminary Design Report

APN 401-58-001A
Sedona, Arizona

Prepared for:
MICM Sedona Jordan Lofts Project LP
2502 E River Rd
Tucson, AZ 85718

Prepared by:
Shephard-Wesnitzer, Inc.
an Ardurra Company
75 Kallof Place
Sedona, AZ 86336
(928) 282-1061

March 9, 2023
Job No. 221227

TABLE OF CONTENTS

INTRODUCTION

The project consists of a 24-unit townhome project on a vacant parcel that was previously platted in 1972 as part of The Orchards subdivision and then reverted to acreage in 2019.

The proposed development is located on Jordan Road with Quail Tail Trail on the easterly boundary. The property is situated in Section 05, Township 17 North, Range 6 East, Gila and Salt River Meridian in Coconino County, more specifically defined as Jordan Townhomes Assessor's Parcel Numbers 401-58-001A. The parcel is 2.05 acres and is zoned RM-2.

Property abutting parcel number 401-58-001A to the north, west and part of the south is currently zoned RM-2; remaining property to the south is zoned RS-10 and to the east is the zoning is RS-18. Uses in all directions is private residential, including a bed & breakfast located directly north. Surrounding subdivisions include The Orchards to the west and Sierra Vista to the south.

Sewer treatment is being provided by the City of Sedona. Central water system is provided by Arizona Water Company.

DESIGN FLOW

The wastewater design flow is based on each unit having a daily flow of 220 gallons per day per unit per the City of Sedona Wastewater Master Plan. Total daily design flow generated by this project is 24 x 220 = 5,280 gpd. At the design slope of 0.005 feet per foot an 8" PVC pipe will carry 717,362 gpd.

COLLECTION SYSTEM

The area is served by the City of Sedona sewer system located on Jordan Road along the frontage of the property. Sewer service for the project is proposed to extend an 8" main from Quail Tail Trail to connect to the existing 8" sewer line in Jordan Road.

The sewer collection system is designed per R18-9-E301, for a General Permit Type 4.01 for a Sewage Collection System.

SUMMARY

The sewer system design for collection complies with the requirements of the City of Sedona and the Arizona Department of Environmental Quality.

REFERENCES

Publications

Unified Water Quality Permit Rules, Arizona Department of Environmental Quality, 2019.

Engineering Bulletin No. 11: Minimum Requirements for Design, Submission of Plans and Specifications of Sewage Works, Arizona Department of Environmental Quality, 1978.

Uniform Plumbing Code, International Association of Plumbing and Mechanical Officials, 1994.

Software

FlowMaster, Bentley Version

APPENDIX

8” Gravity Sewer Calculations

Preliminary Grading and Utilities Concept Plan

Jordan Lofts 8" Sewer

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.00500	ft/ft
Normal Depth	0.67	ft
Diameter	0.67	ft
Discharge	718860.15	gal/day

Results

Discharge	718860.15	gal/day
Normal Depth	0.67	ft
Flow Area	0.35	ft²
Wetted Perimeter	2.10	ft
Hydraulic Radius	0.17	ft
Top Width	0.00	ft
Critical Depth	0.50	ft
Percent Full	100.0	%
Critical Slope	0.00601	ft/ft
Velocity	3.18	ft/s
Velocity Head	0.16	ft
Specific Energy	0.82	ft
Froude Number	0.00	
Maximum Discharge	1.20	ft³/s
Discharge Full	1.11	ft³/s
Slope Full	0.00500	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Jordan Lofts 8" Sewer

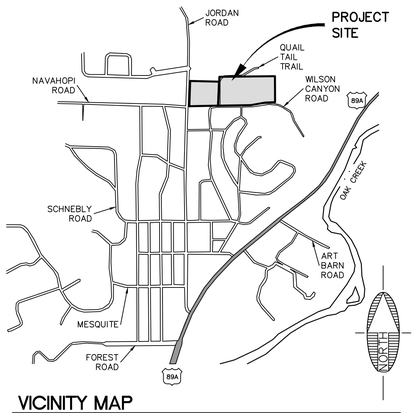
GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.67	ft
Critical Depth	0.50	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00601	ft/ft

PLOTTED: Mar 08, 2023--8:25am

JORDAN TOWNHOMES/JORDAN ESTATES

A PORTION OF SECTION 5, TOWNSHIP 17 NORTH, RANGE 6 EAST
GILA AND SALT RIVER MERIDIAN, YAVAPAI COUNTY, ARIZONA
APN: 401-05-004A, 401-58-001A



VICINITY MAP

NO SCALE

SITE INFORMATION

ASSESSORS PARCEL NO.	401-58-001A	401-05-004A
ZONING	RM-2	RS-18
BUILDINGS	4	
UNITS	24	
EQUIV. UNITS PER SEDONA ZONING	19	
PARCEL AREA	89,558 S.F. (2.06 AC)	190,654 S.F. (4.38 AC)
BUILDING AREA	21,852 S.F.	
PARCEL COVERED BY BUILDINGS	24%	
PARCEL COVERED BY PARKING, DRIVEWAYS & SIDEWALKS	29% (26,256 S.F.)	CURRENTLY 12% (22,154 S.F.)
OPEN SPACE	46% (41,450 S.F.)	
% PARCEL TO BE LANDSCAPED	46%	

NOTE: PAD ELEVATIONS ARE 8" LOWER THAN FINISHED FLOOR ELEVATIONS.

CONTACT INFORMATION

OWNER — MICM SEDONA JORDAN LOFTS PROJECT LP
2502 E. RIVER ROAD
TUCSON, AZ 85718
(520) 615-8900

ENGINEER — SWI AN ARDURRA COMPANY
75 KALLOF PLACE
SEDONA, ARIZONA 86336
(928) 282-1061
ART BECKWITH, PE 28658

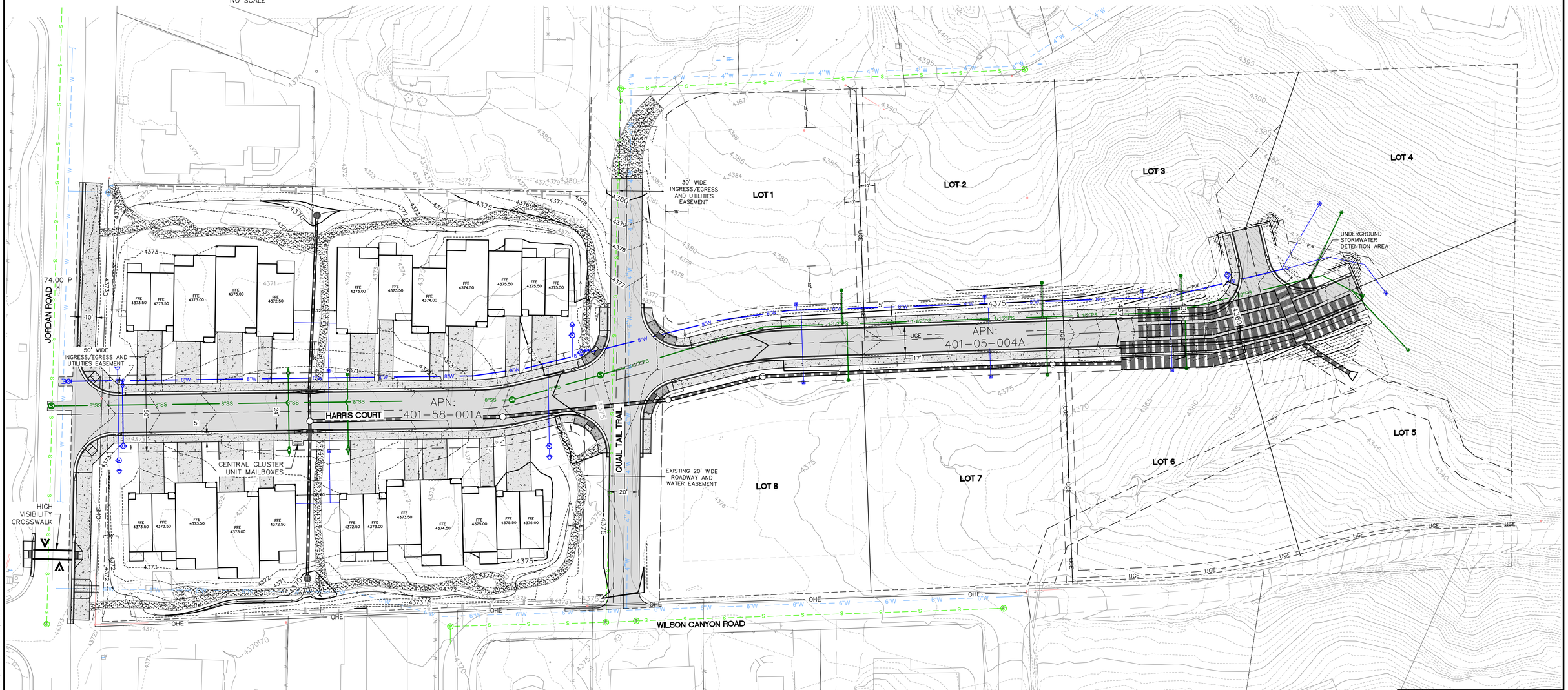
UTILITIES/SERVICES

WATER	ARIZONA WATER COMPANY
SEWER	CITY OF SEDONA
ELECTRIC	APS
GAS	UNISOURCE
CABLE	SUDDENLINK
TELEPHONE	CENTURY LINK
FIRE	SEDONA FIRE DISTRICT
WASTE REMOVAL	TAYLOR WASTE

LEGEND

- EXISTING CONTOURS 1' INTERVAL
- PROPOSED CONTOURS 1' INTERVAL
- PROPOSED SWALE
- PROPERTY BOUNDARY
- EXISTING WATER
- PROPOSED WATER
- EXISTING OVERHEAD UTILITY LINE
- EXISTING SEWER
- PROPOSED SEWER
- SEWER MANHOLE
- CATCH BASIN
- STORM DRAIN PIPE
- FIRE HYDRANT
- CONCRETE
- AC PAVEMENT

SCALE 1" : 30'
0 15 30



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REVISIONS			
NO.	DESCRIPTION	DATE	BY

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Sedona, AZ 86336
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928.282.2058 fax
www.ardurra.com

JOB NO:	221227
DATE:	MAR 23
SCALE:	1"=30'
DRAWN:	EGM / JAT
DESIGN:	AHB
CHECKED:	AHB

JORDAN TOWNHOMES/JORDAN ESTATES — CITY OF SEDONA ARIZONA

PRELIMINARY CONCEPT GRADING AND UTILITES PLAN

PRELIMINARY
NOT FOR CONSTRUCTION, BIDDING OR RECORDING

DRAWING NO. EX2

SHT NO. 1 OF 1

FILE: P:\2022\221227\DRAWINGS\CONCEPT PLANS\221227-CONCEPT PLAN.DWG MJONG

EXHIBIT 4c. Water Design Report

Shephard Wesnitzer, Inc.
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Sedona, AZ 86336

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Sedona, AZ 86340

928.282.1061

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Engineering an environment of excellence.

Jordan Townhomes

Water Distribution System Preliminary Design Report

APN 401-58-001A
Sedona, Arizona

Prepared for:
MICM Sedona Jordan Lofts Project LP
2502 E River Rd
Tucson, AZ 85718

Prepared by:
Shephard-Wesnitzer, Inc.
an Ardurra Company
75 Kallof Place
Sedona, AZ 86336
(928) 282-1061

March 9, 2023
Job No. 221227

TABLE OF CONTENTS

INTRODUCTION

The project consists of development of 24 townhome units a 2.05-acre parcel that was previously platted in 1972 as part of The Orchards subdivision and then reverted to acreage in 2019.

The proposed development is located on Jordan Road with Quail Tail Trail on the easterly boundary. The property is situated in Section 05, Township 17 North, Range 6 East, Gila and Salt River Meridian in Coconino County, more specifically defined as Jordan Townhomes Assessor's Parcel Numbers 401-58-001A. The parcel is 2.05 acres and is zoned RM-2.

Property abutting parcel number 401-58-001A to the north, west and part of the south is currently zoned RM-2; remaining property to the south is zoned RS-10 and to the east is the zoning is RS-18. Uses in all directions is private residential, including a bed & breakfast located directly north. Surrounding subdivisions include The Orchards to the west and Sierra Vista to the south.

Sewer treatment is being provided by the City of Sedona. Central water system is provided by Arizona Water Company.

DESIGN CRITERIA

The following is a summary of the major design criteria utilized in this report:

- Average and peak daily demand calculations and system analysis will assume full buildout and occupancy.
- The average water demand is 100 gallons per capita per day and 2.5 persons per dwelling.
- The fire flow requirements per the Sedona Fire District are 1000 GPM for a minimum of 2 hours.
- A minimum residual pressure of 20 PSI must be maintained at all fire hydrant locations under max day demand with fire flow conditions.
- All townhome units will have fire sprinklers.

DEMANDS

Average Daily Demand

The project water demands were estimated using Sedona's average number of residents per dwelling unit of 2.5 and the 100 GPD per person average water demand. Using this average value yields the following residential demand estimates for full build-out:

250 GPD/DU × 24 DU = 6,000 GPD = 4.2 GPM

Max Day Demand

Using typical water design criteria, max day demand is estimated as 2.5 times the average daily demand, which yielded the following values:

2.5 × 6,000 GPD = 15,000 GPD = 10.4 GPM

Peak Hour Demand

Using typical water design criteria, peak hour demand is estimated as 2.0 times the max day demand, which yielded the following values:

2.0 × 15,000 GPD = 30,000 GPD = 20.8 GPM

Fire Flow

Fire sprinklers are to be installed in all new the townhomes per city code. In the hydraulic model of the proposed system, fire flow at a single hydrant is assumed to coincide with max day flow.

EXISTING FACILITIES & CONDITIONS

The connection to the Arizona Water Company's existing system will be made just north of the Jordan Road and Navahopi Road intersection. The connection will be to an existing 12" ductile iron pipe water line in Jordan Road.

There is an existing fire hydrant at the northwest corner of the of the 2.05 ac parcel on Jordan Road. The Sedona Oak Creek Fire District flow test results for this hydrant are as follows: static pressure of 55 PSI, fire flow of 1025 GPM with a residual pressure of 50 PSI.

PROPOSED IMPROVEMENTS

The proposed water distribution system improvements begin at the existing 12" water main in Jordan Road. The 12" mainline will be tapped with an 8" water main that will enter Jordan Townhomes on parcel number 401-58-001A and be in constructed in the road. The north and south buildings will each share a common meter.

SUMMARY

The volume and pressure available at the point of connection will provide the project with ample domestic and fire flow demands. The water distribution system design will comply with the requirements of Arizona Water Company, the Sedona Oak Creek Fire District and Arizona Department of Environmental Quality.

REFERENCES

Publications

Engineering Bulletin No. 10: Guidelines for the Construction of Water Systems, Arizona Department of Environmental Quality, 1978.

Arizona Water Company Records, 2004

Uniform Fire Code, International Fire Code Institute, 2012.

Uniform Plumbing Code, International Association of Plumbing and Mechanical Officials, 1994.

Software

WaterCAD, Bentley Version 10.03.03.74

APPENDIX

Preliminary Grading and Utilities Concept Plan

PLOTTED: Mar 08, 2023--8:25am

JORDAN TOWNHOMES/JORDAN ESTATES

A PORTION OF SECTION 5, TOWNSHIP 17 NORTH, RANGE 6 EAST
GILA AND SALT RIVER MERIDIAN, YAVAPAI COUNTY, ARIZONA
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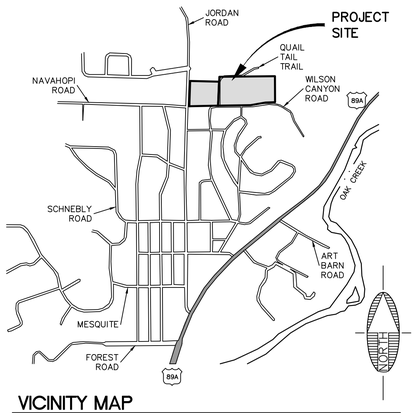

VICINITY MAP

NO SCALE

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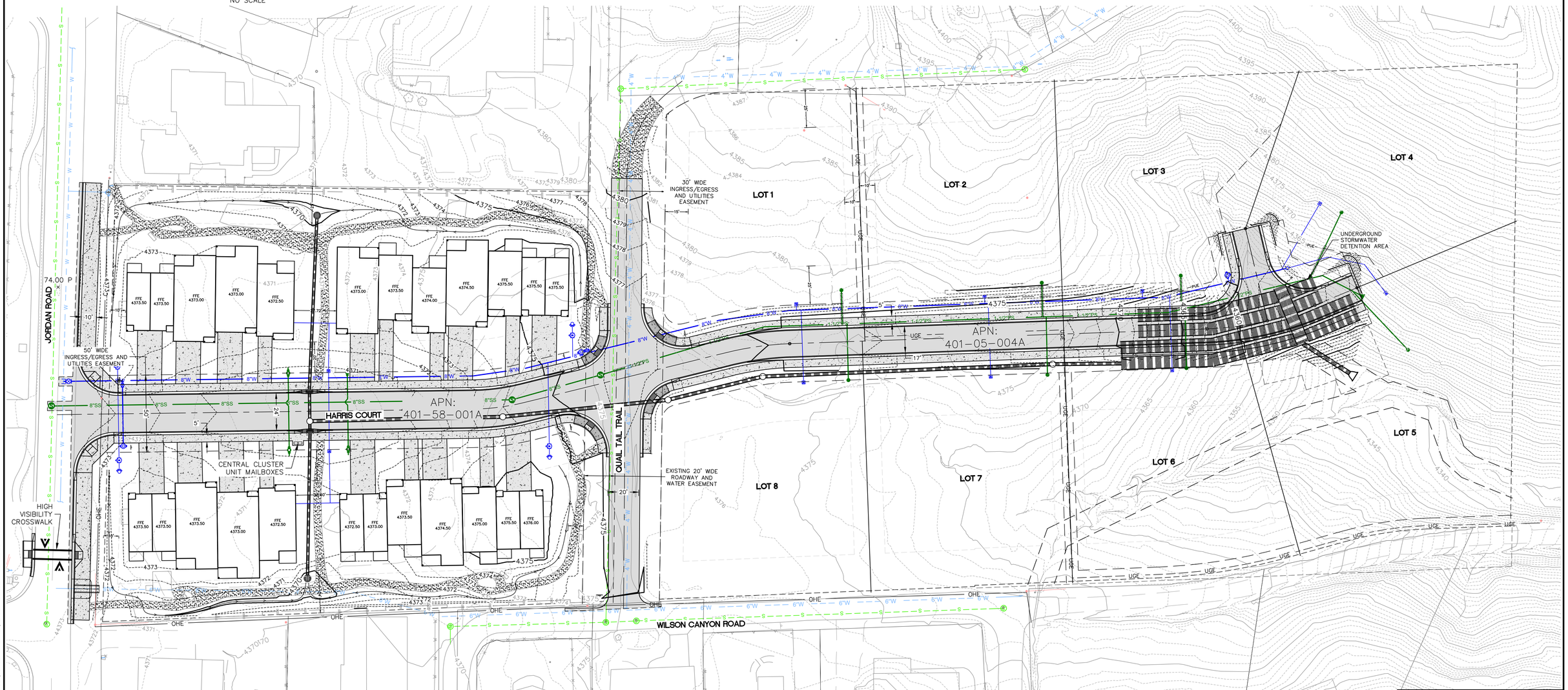

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JOB NO:	221227
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DRAWN:	EGM / JAT
DESIGN:	AHB
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JORDAN TOWNHOMES/JORDAN ESTATES — CITY OF SEDONA ARIZONA

PRELIMINARY CONCEPT GRADING AND UTILITES PLAN

PRELIMINARY
NOT FOR CONSTRUCTION, BIDDING OR RECORDING

DRAWING NO. EX2

SHT NO. 1 OF 1

FILE: P:\2022\221227\DRAWINGS\CONCEPT PLANS\221227-CONCEPT PLAN.DWG MJONG

EXHIBIT 4d. Concept Drainage Report

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Jordan Townhomes

Concept Drainage
Preliminary Design Report

APN 401-58-001A
Sedona, Arizona

Prepared for:
MICM Sedona Jordan Lofts Project LP
2502 E River Rd
Tucson, AZ 85718

Prepared by:
Shephard-Wesnitzer, Inc.
an Ardurra Company
75 Kallof Place
Sedona, AZ 86336
(928) 282-1061

March 9, 2023
Job No. 221227

TABLE OF CONTENTS

APPENDIX

Vicinity Map
FEMA FIRM Maps
City of Sedona Flood Plain Management Study
City of Sedona Storm Water Master Plan
Pre-Development Watershed Map
NOAA Atlas 14 Point Precipitation Frequency Estimates for Sedona
Preliminary Concept Grading and Utilities Plan

Introduction

The proposed project site is located in Sedona, Arizona, bordered by Jordan Road to the west and Wilson Canyon Road to the south. Quail Tail Trail connects to Wilson Canyon Road and crosses through the central portion of the development. The project site is located on approximately 6.52 acres of undeveloped land, positioned in the Southwest ¼ of Section 05, Township 17 North, Range 6 East, of the Gila and Salt River Base Meridian. A vicinity map is included in the Appendix.

The proposed Jordan Townhomes and Jordan Estates project includes the development of 22 townhome units and 8 residential home sites. The design of the project includes the addition of a new access roadway and improvements to Quail Tail Trail. The proposed project is located on parcels 401-58-001A and 401-05-004A. Parcel 401-58-001A (Jordan Townhomes) encompasses the western section of the site and consists of relatively flat terrain, covered with shrubs and native grass. Parcel 401-05-004A (Jordan Estates) makes up the eastern section of the site and has significantly sloping topography to the southeast. The parcel vegetation consists of pinion pine, juniper, shrubs and native grass.

Surrounding developments include the Orchards subdivision and private residential property to the west, private residential property to the north and east, and the Sierra Vista Resubdivision and private residential property to the south.

The project is located in Zone X of the FEMA Flood Insurance Rate Map number 04005C7444G, effective September 3, 2010. Zone X is described as an area determined to be outside the 500-year floodplain. The preliminary FEMA Flood Insurance Rate Map number 04005C7444H, dated June 30, 2020, shows no changes to the flood hazard area designation for the site. The Appendix contains a portion of the FIRM near the project area.

The site is located within the City of Sedona Floodplain Management Study prepared by the Soil Conservation Service in May 1994. The project site is not located within a 100-year floodplain per this study, though neighboring properties to the south are identified as being located within a 100-year floodplain of Profile 2200. The City of Sedona Storm Water Master Plan places the site in two separate basins: D1B of the Mormon Wash basin, and Q2C of the Oak Creek “A” basin. Information from these studies can be found in the Appendix.

Objective

The objective of this report is to determine the impact the proposed development will have on the runoff characteristics of the site and to determine, at a concept level, the detention volume needed to attenuate the additional post-development flows. The design of the proposed drainage control structures will be in

accordance with City of Sedona and Yavapai County drainage criteria.

Procedure

The total project watershed is approximately 14.3 acres and is a mixture of developed residential housing and undeveloped native land. A map of the predevelopment watershed can be found in the Appendix. Off-site flow enters the project area from the north, west, and south. Off-site flows entering the site along the north and west boundaries are conveyed as sheet flow. Off-site runoff from the south is conveyed onto the project site via an 18-inch culvert located at the intersection of Wilson Canyon Road and Mountain View Drive. The area upstream of the culvert is identified and analyzed as Basin 4 in this drainage report. The 18-inch culvert drains into a small channel that conveys the runoff across the project site to the east.

The development of the project site includes the eventual addition of approximately 3.67 acres of impervious surfaces. The resulting storm water runoff is proposed to be routed through a storm drain system from the west side of the project site across the proposed development to the east, where it then outlets into the existing natural channel located near the southeast property boundary. To offset the increased peak flows (from the proposed development), a large underground detention structure is proposed.

The design rainfall data was taken from the site specific NOAA Atlas 14 point precipitation frequency estimate, as shown in the Appendix. The required storage volume for the storm water runoff from the development of the site was determined based on retaining the storm runoff volume for the entire 100-year, 2-hour storm event from all added impervious areas of the project site, per the Yavapai County Drainage Manual.

Off-site sheet flow from the north and west will be conveyed onto the western portion of the proposed project site and into the storm drain system, helping with the existing drainage conditions to the south of the project boundary. The natural channel on the eastern portion of the site which conveys the runoff from Basin 4 to the southeast will be preserved. The development of the Jordan Townhomes and Estates project will not alter the existing off-site flowrate conditions with the proposed detention system.

The proposed drainage improvements will be designed to provide safe and efficient drainage across the project site. The open channels, catch basins, and storm drain structures will be designed to intercept 100% of the estimated 100-year flow for the on and off-site flows.

Results

The underground detention structure is proposed to be located under the fire truck turnaround on the Jordan Estates project site, and will require approximately 36,000 ft^3 of volume to attenuate peak flows to predevelopment rates. The first flush volume of approximately 6,700 ft^3 will be retained below the basin outlet, with the excess storm water runoff being conveyed to the natural channel located near the southeast corner of the Jordan Estates project site. Refer to the Preliminary Concept Grading and Utilities Plan for preliminary details, grades, finished elevations, and locations.

Conclusion

A runoff volume for the 100-year, 2 hour storm event was calculated for the project watershed to conceptually determine a required detention volume of 36,000 ft^3. Runoff from the development of the site will be conveyed into the proposed underground detention basin through a storm drain system. The underground detention structure will discharge to the existing channel located on the southeast section of the project site.

This drainage report is drafted to support the Concept Plan submittal for development of Jordan Townhomes. The current concept drainage design will attenuate the post-development runoff in accordance with City of Sedona and Yavapai County drainage criteria.

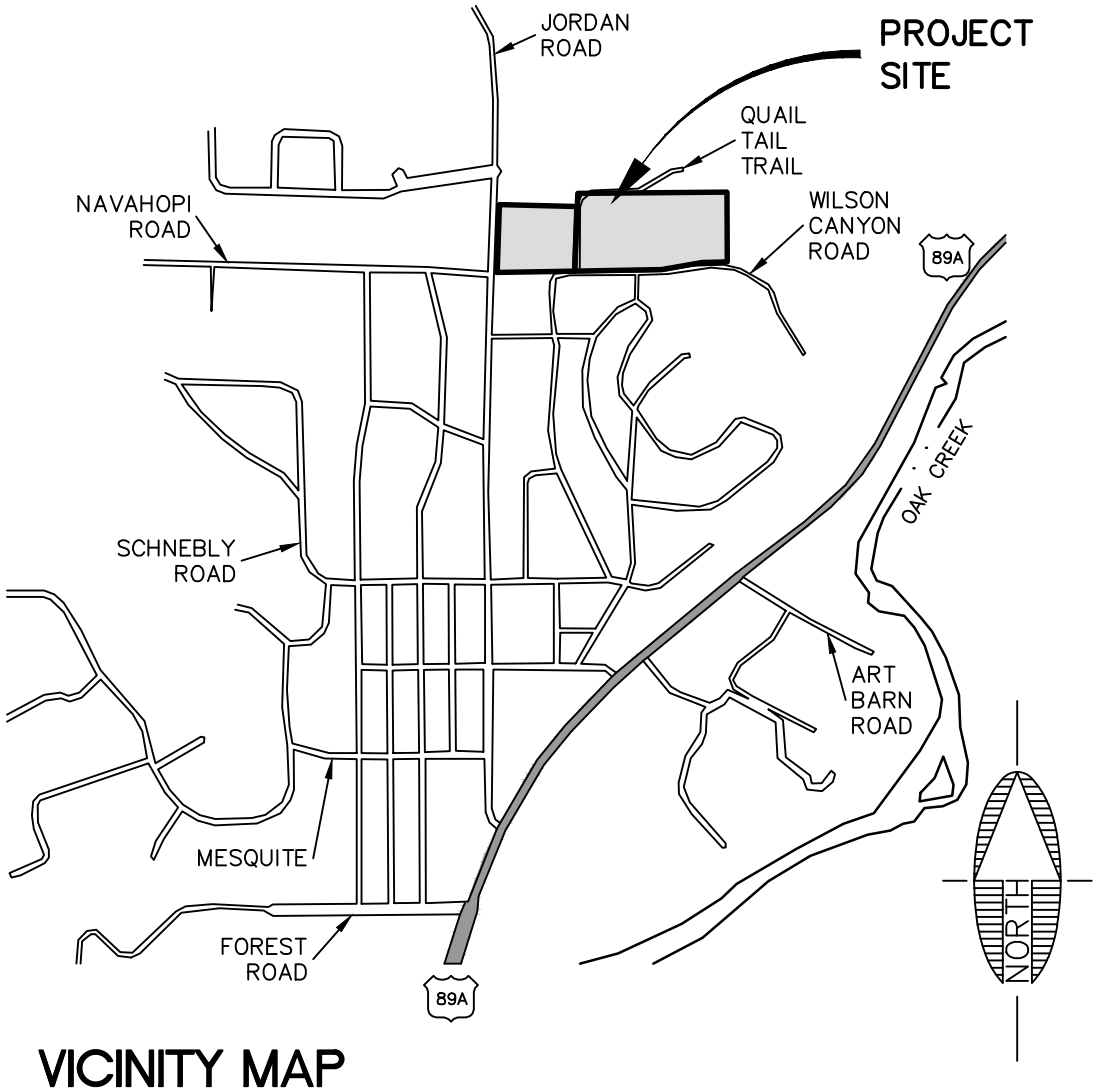
References

Floodplain Management Study, City of Sedona, May 1994

Stormwater Master Plan, City of Sedona, 2005

Yavapai County Drainage Criteria Manual, Yavapai County Flood Control District, July 2015

APPENDIX



VICINITY MAP

NO SCALE

PRELIMINARY

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DESIGN	AHB
CHECKED	AHB

JORDAN TOWNHOMES — SEDONA ARIZONA

VICINITY MAP

SHEET 1 OF 1

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 M

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 7444G

FIRM

FLOOD INSURANCE RATE MAP

COCONINO COUNTY, ARIZONA
AND INCORPORATED AREAS

PANEL 7444 OF 8475

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COCONINO COUNTY	040019	7444	G
SEDONA, CITY OF	040130	7444	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04005C7444G

EFFECTIVE DATE
SEPTEMBER 3, 2010

Federal Emergency Management Agency

National Flood Hazard Layer FIRMette

FEMA

111°45'54"W 34°52'50"N

111°45'17"W 34°52'21"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

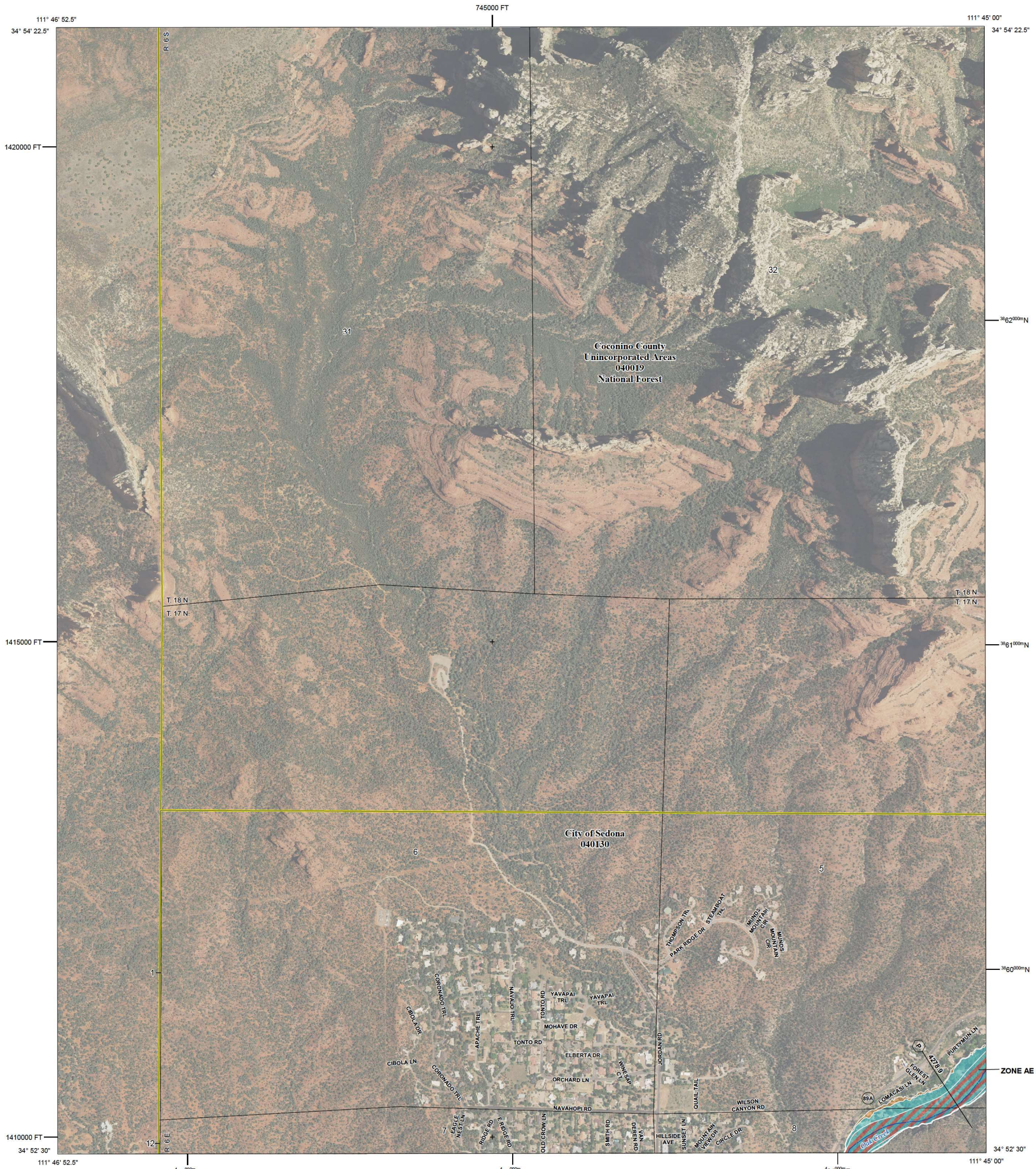
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/5/2021 at 6:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
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OTHER FEATURES
- E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the United States Geological Survey (USGS). This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2017.

SCALE

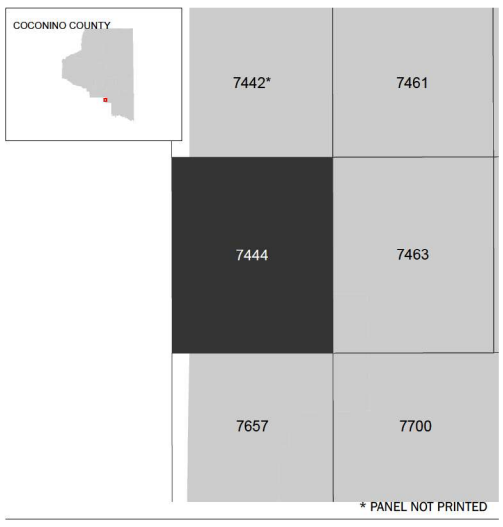
Map Projection:
Universal Transverse Mercator Zone 10N; North American Datum 1983;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

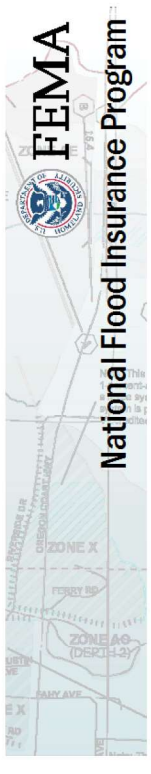
0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

COCONINO COUNTY, ARIZONA
And Incorporated Areas

PANEL 7444 OF 8475

FEMA

Panel Contains:

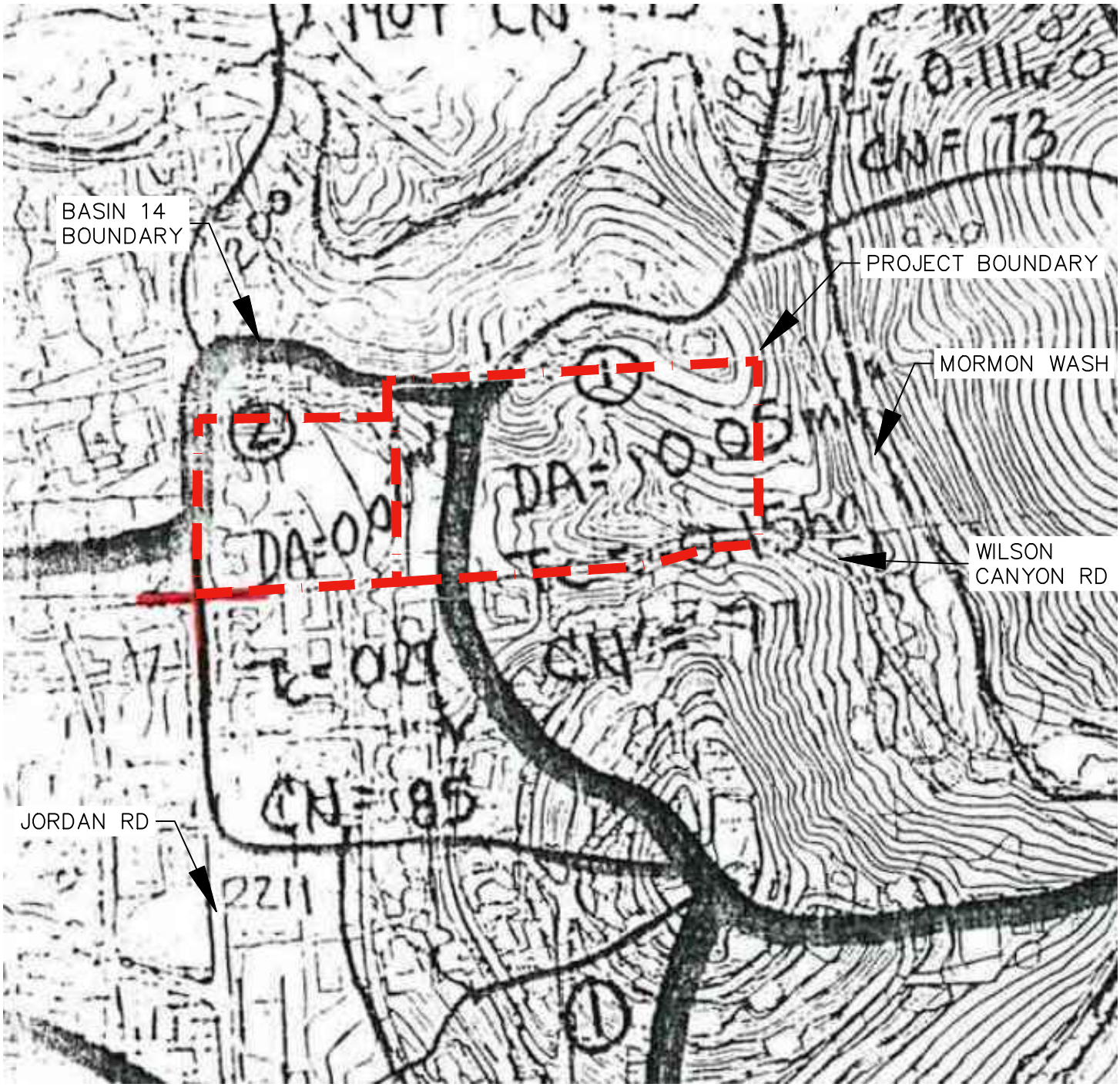
COMMUNITY	NUMBER	PANEL	SUFFIX
COCONINO COUNTY UNINCORPORATED AREAS	040019	7444	H
SEDONA, CITY OF	040130	7444	H

PRELIMINARY
6/30/2020

VERSION NUMBER
2.4.3.5

MAP NUMBER
04005C7444H

MAP REVISED

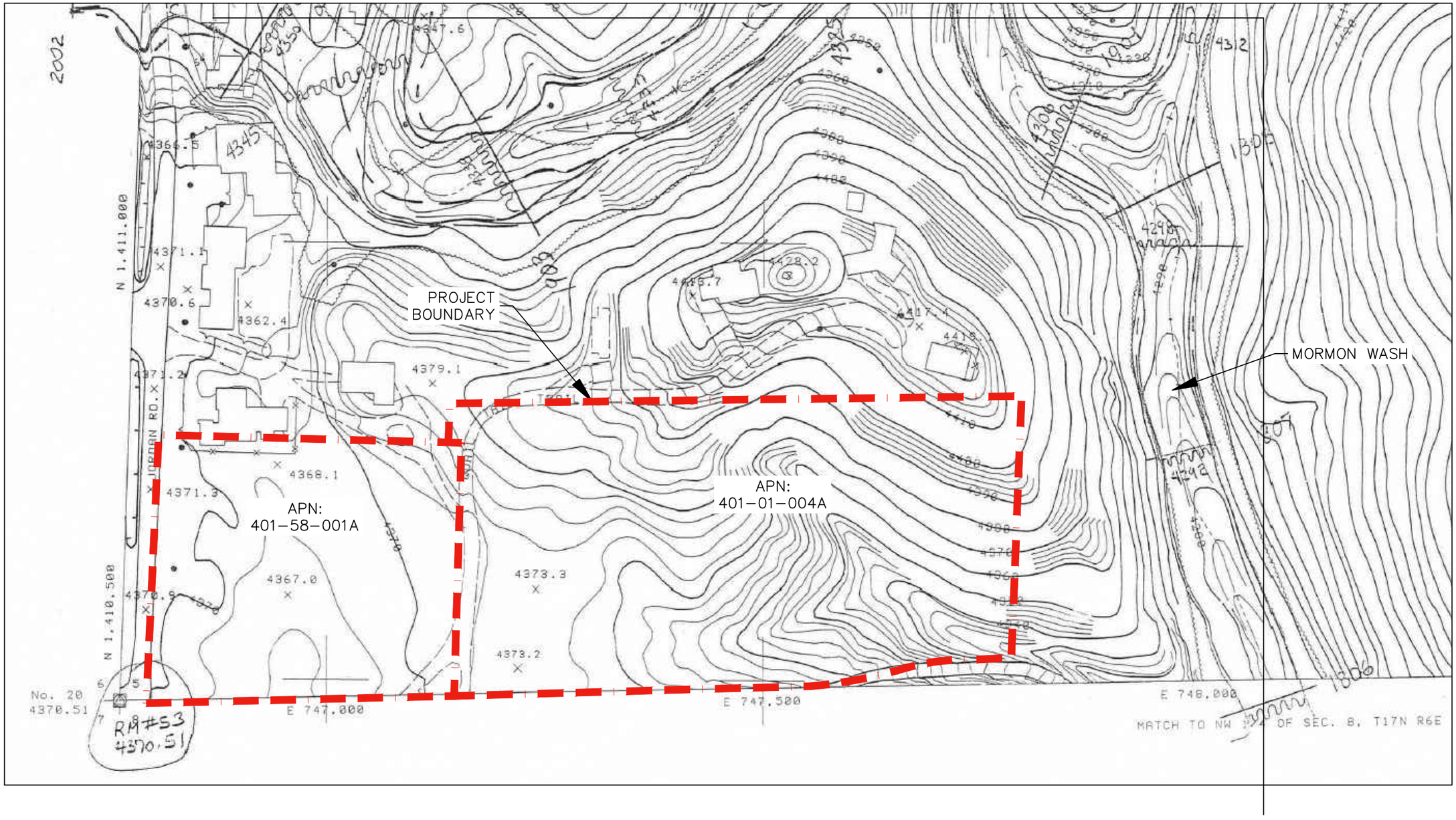


CITY OF SEDONA

FLOODPLAIN MANAGEMENT STUDY, 1994

NO SCALE

PORTION OF OVERALL DRAINAGE BASIN MAP

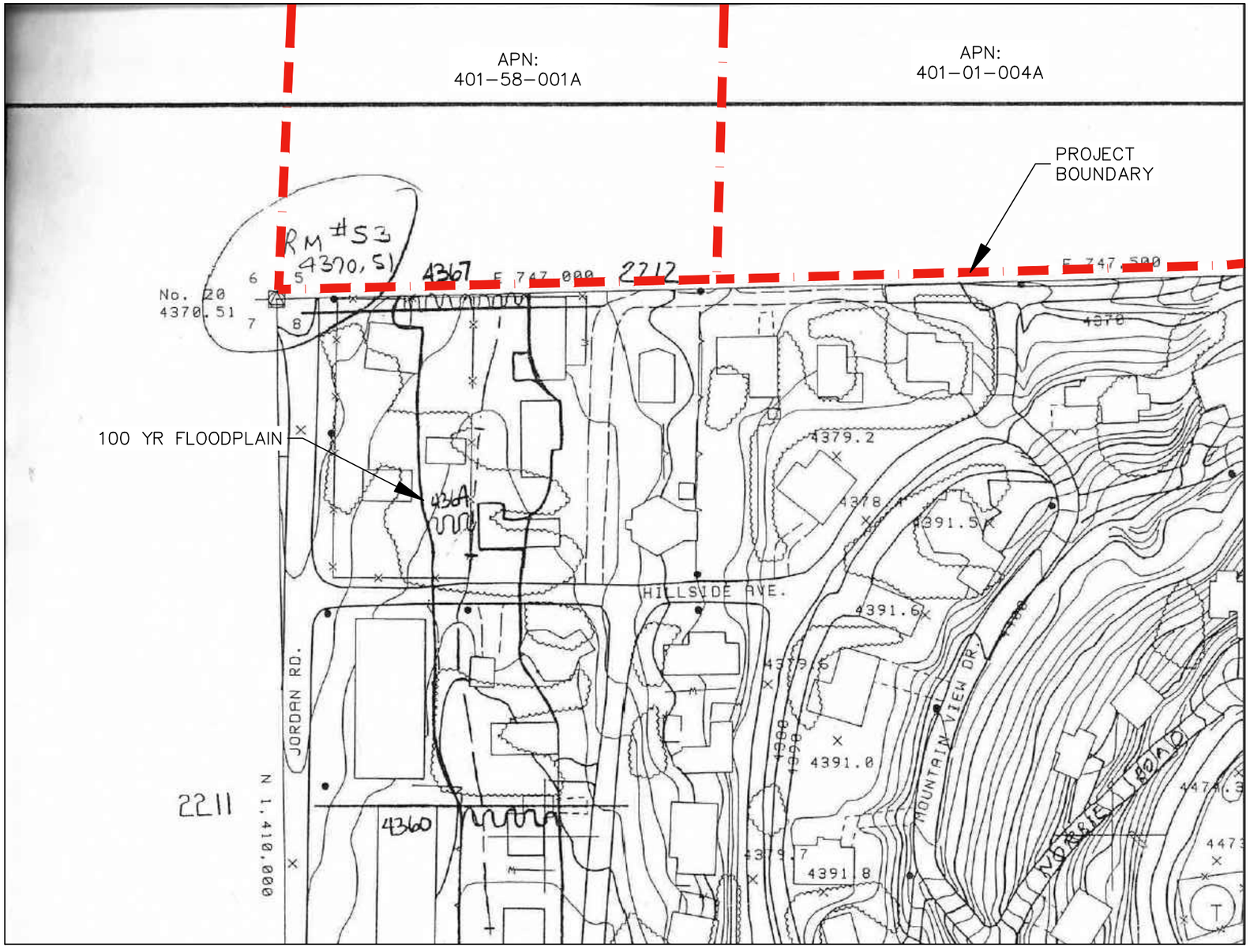


CITY OF SEDONA

FLOODPLAIN MANAGEMENT STUDY, 1994

PORTION OF SW QUARTER SECTION 5 MAP

NO SCALE

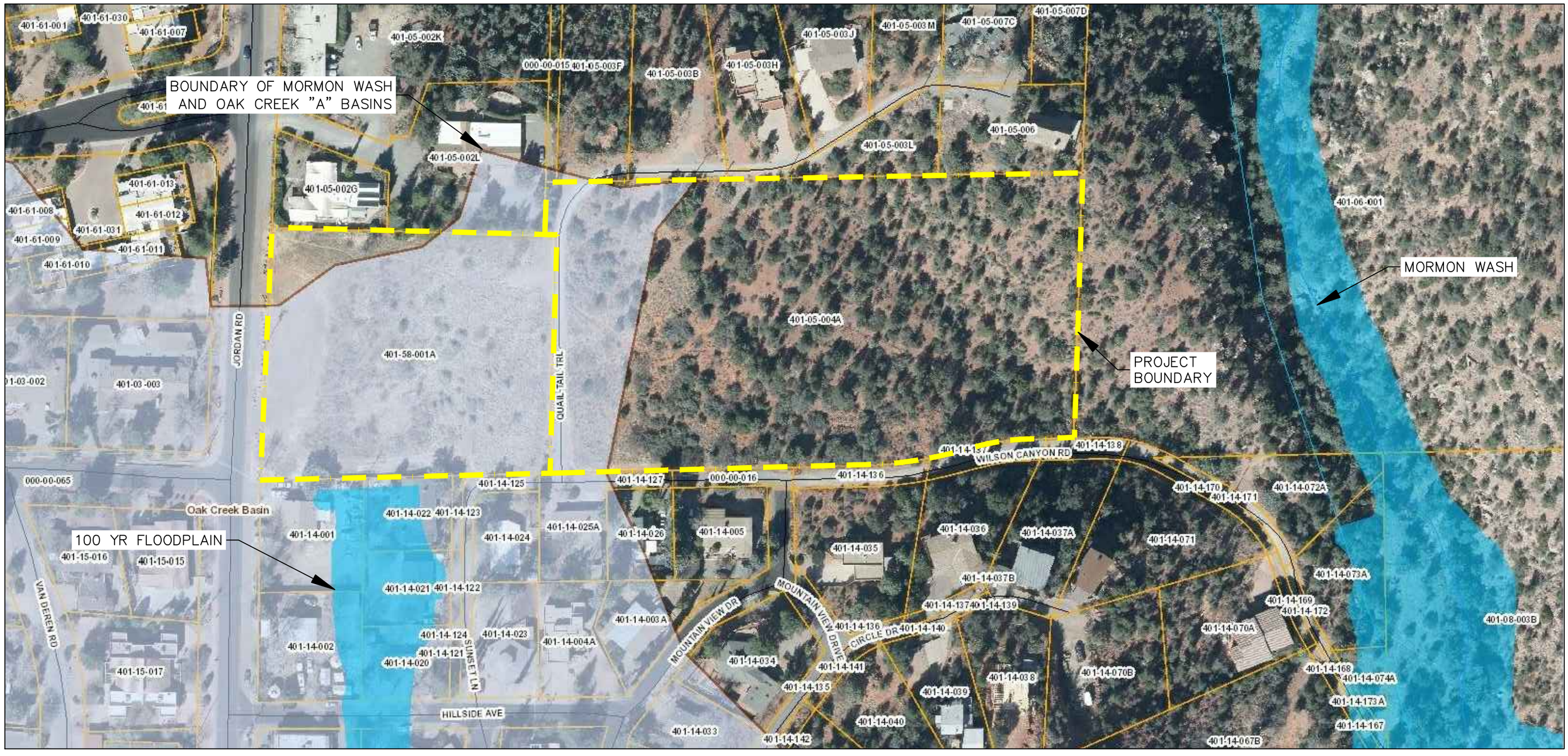


CITY OF SEDONA

FLOODPLAIN MANAGEMENT STUDY, 1994

NO SCALE

PORTION OF NW QUARTER SECTION 8 MAP

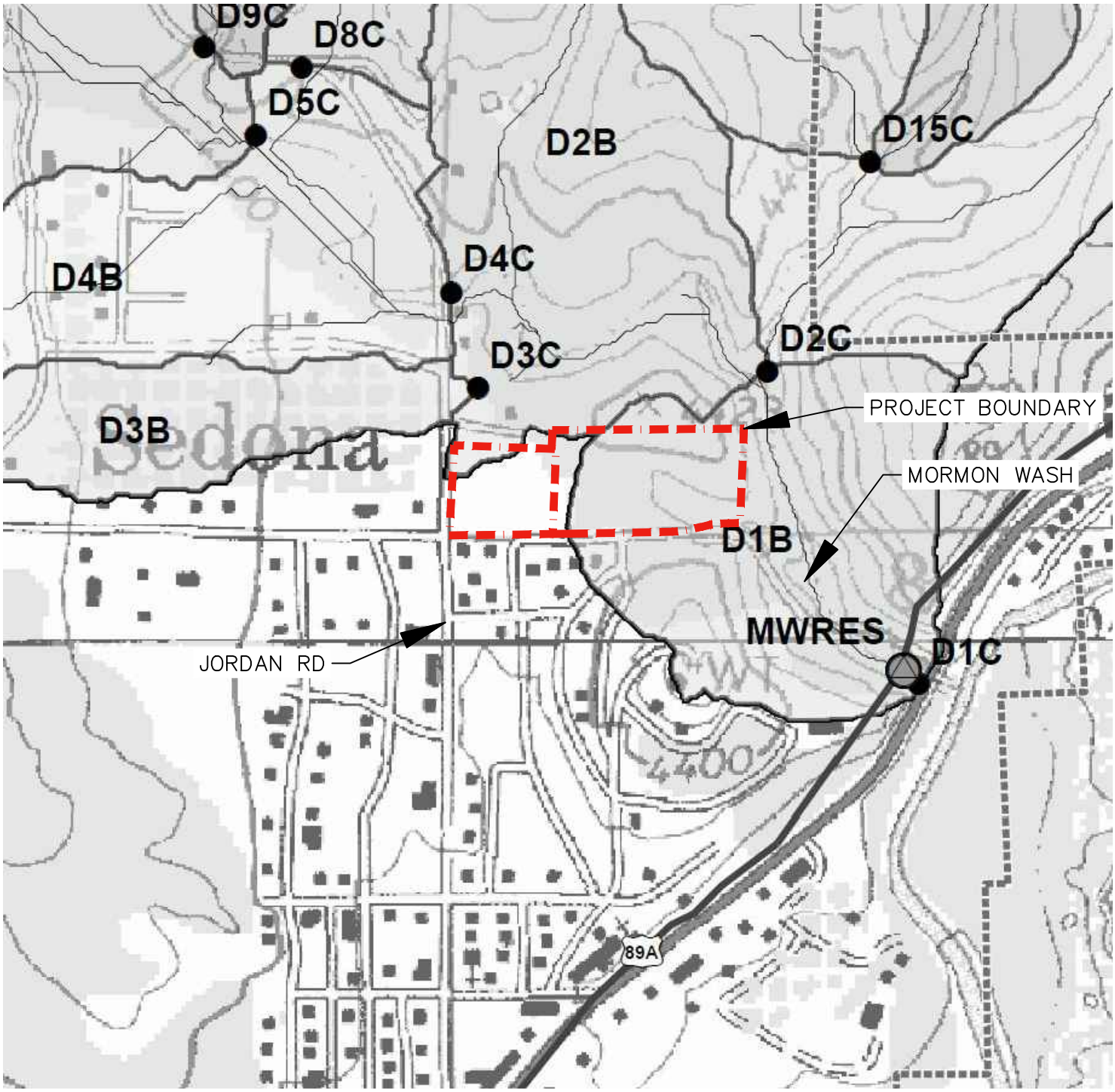


CITY OF SEDONA

STORM WATER MASTER PLAN, 2005

CITY OF SEDONA GIS BASIN MAP

NO SCALE

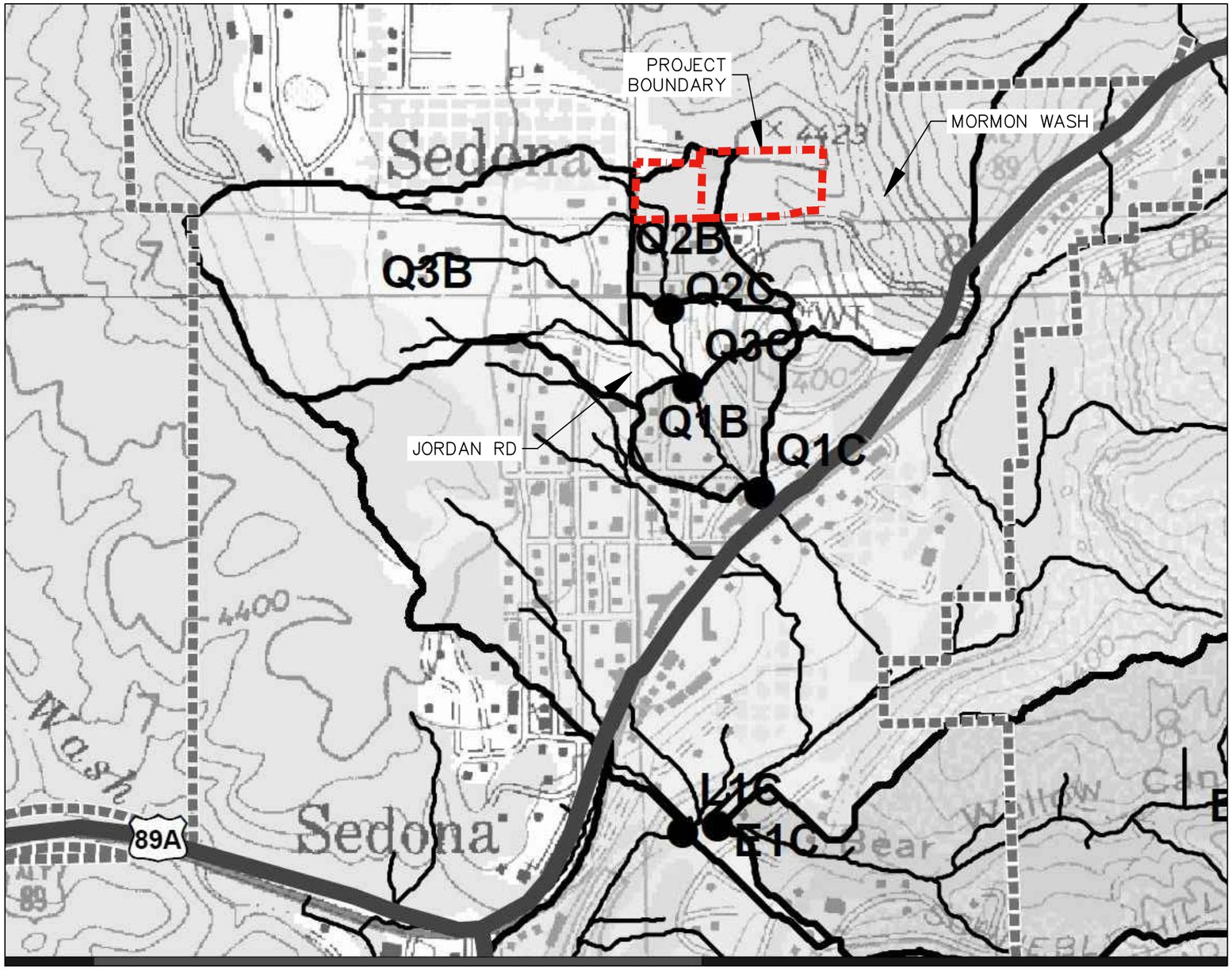


CITY OF SEDONA
STORM WATER MASTER PLAN, 2005

NO SCALE

PORTION OF MORMON WASH BASIN MAP

NORTH



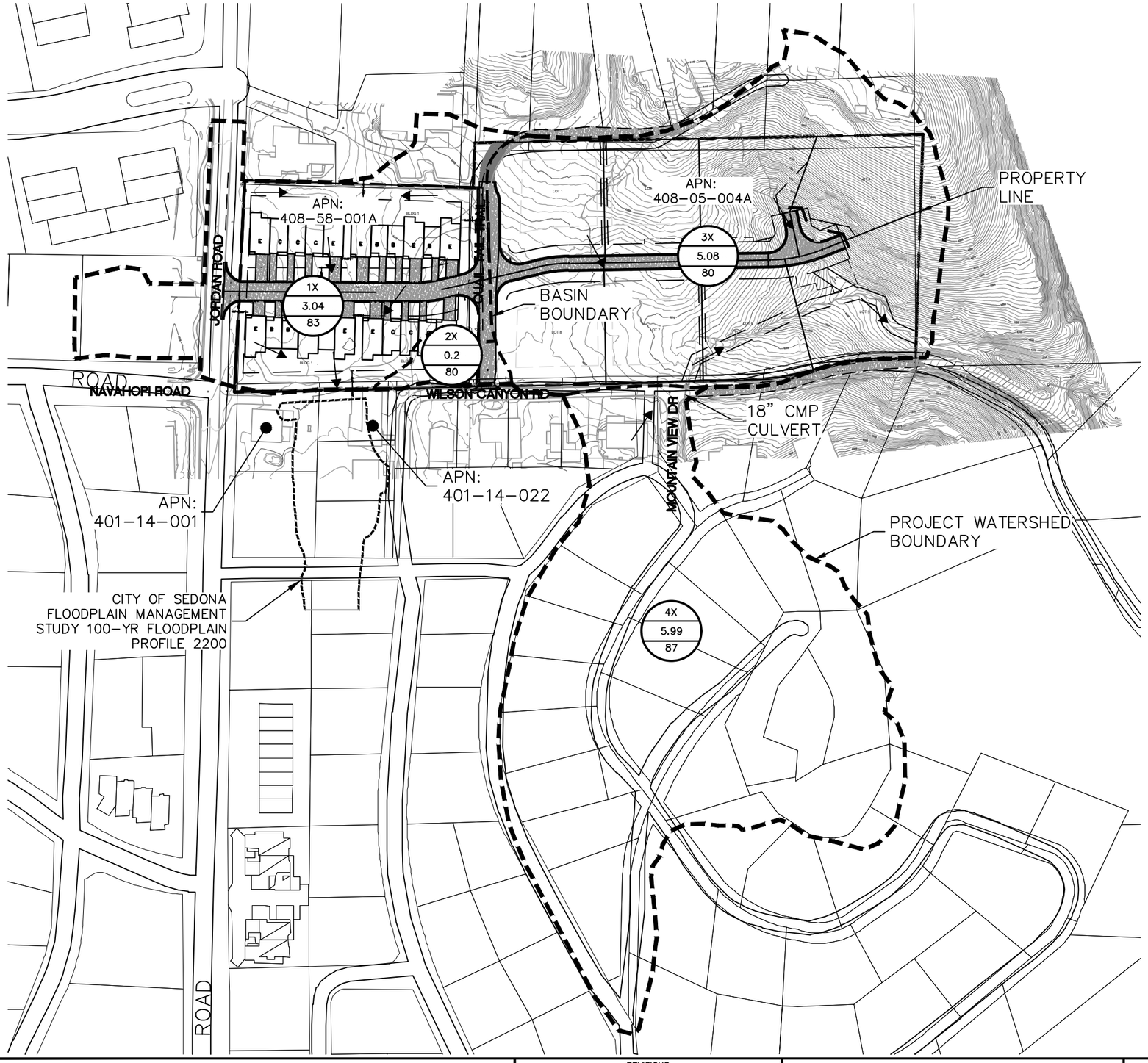
CITY OF SEDONA

STORM WATER MASTER PLAN, 2005

PORTION OF OAK CREEK "A" BASIN MAP

NO SCALE

NORTH



PEAK FLOW VALUES

BASIN	Q_{100} (CFS)
1X	9.9
2X	0.6
3X	16.1
4X	24.3

GENERAL NOTES

1. OFFSITE BASIN BOUNDARIES WERE DELINEATED BY OVERLAYING 2007 CITY OF SEDONA AERIAL TOPOGRAPHIC CONTOUR DATA.

LEGEND

ID
A
CN

ID = BASIN IDENTIFICATION
A = AREA IN ACRES
CN = SCS CURVE NUMBER

→ FLOW DIRECTION

NORTH

CALL TWO WORKING DAYS BEFORE YOU DIG
1-800-STAKE-IT

PRELIMINARY

NOT FOR CONSTRUCTION, BIDDING OR RECORDING

REVISIONS			
NO.	DESCRIPTION	DATE	BY

Shephard Wesnitzer, Inc.
75 Kallof Place
Sedona, AZ 86336
928.282.1061
928.282.2058 fax
www.swiaz.com

JOB NO:	21237
DATE:	NOV 21
SCALE:	NTS
DRAWN:	EGM
DESIGN:	JTL
CHECKED:	JTL

JORDAN LOFTS — SEDONA ARIZONA

PREDEVELOPMENT WATERSHED MAP

SHEET 1 OF 1

NOAA Atlas 14, Volume 1, Version 5
Location name: Sedona, Arizona, USA*
Latitude: 34.8766°, Longitude: -111.7598°
Elevation: 4387.45 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.216** (0.181-0.258)	**0.278** (0.231-0.332)	**0.374** (0.311-0.447)	**0.455** (0.378-0.542)	**0.569** (0.469-0.675)	**0.663** (0.544-0.788)	**0.766** (0.622-0.910)	**0.876** (0.702-1.04)	**1.04** (0.816-1.24)	**1.17** (0.910-1.41)
10-min	**0.329** (0.274-0.392)	**0.424** (0.352-0.505)	**0.569** (0.473-0.680)	**0.692** (0.575-0.825)	**0.865** (0.714-1.03)	**1.01** (0.827-1.20)	**1.17** (0.947-1.39)	**1.33** (1.07-1.59)	**1.58** (1.24-1.89)	**1.78** (1.39-2.15)
15-min	**0.407** (0.340-0.486)	**0.525** (0.437-0.626)	**0.706** (0.586-0.843)	**0.858** (0.713-1.02)	**1.07** (0.885-1.27)	**1.25** (1.02-1.49)	**1.45** (1.17-1.72)	**1.65** (1.32-1.97)	**1.96** (1.54-2.35)	**2.21** (1.72-2.67)
30-min	**0.548** (0.458-0.655)	**0.707** (0.588-0.843)	**0.951** (0.789-1.14)	**1.16** (0.960-1.38)	**1.44** (1.19-1.71)	**1.69** (1.38-2.00)	**1.95** (1.58-2.31)	**2.23** (1.78-2.65)	**2.64** (2.07-3.16)	**2.98** (2.31-3.59)
60-min	**0.679** (0.567-0.810)	**0.875** (0.728-1.04)	**1.18** (0.976-1.40)	**1.43** (1.19-1.70)	**1.79** (1.47-2.12)	**2.09** (1.71-2.48)	**2.41** (1.96-2.86)	**2.75** (2.21-3.28)	**3.26** (2.57-3.91)	**3.68** (2.86-4.45)
2-hr	**0.806** (0.700-0.940)	**1.02** (0.879-1.19)	**1.35** (1.16-1.57)	**1.62** (1.39-1.89)	**2.02** (1.72-2.34)	**2.34** (1.97-2.72)	**2.70** (2.25-3.15)	**3.10** (2.54-3.60)	**3.67** (2.96-4.28)	**4.14** (3.28-4.84)
3-hr	**0.868** (0.763-1.01)	**1.10** (0.970-1.27)	**1.41** (1.23-1.62)	**1.68** (1.46-1.93)	**2.06** (1.78-2.37)	**2.38** (2.05-2.74)	**2.74** (2.32-3.17)	**3.14** (2.62-3.63)	**3.71** (3.04-4.32)	**4.18** (3.37-4.90)
6-hr	**1.06** (0.953-1.18)	**1.32** (1.18-1.47)	**1.64** (1.46-1.82)	**1.92** (1.71-2.13)	**2.32** (2.06-2.58)	**2.64** (2.33-2.94)	**3.00** (2.61-3.34)	**3.37** (2.91-3.78)	**3.92** (3.33-4.43)	**4.37** (3.64-4.96)
12-hr	**1.37** (1.23-1.51)	**1.69** (1.53-1.87)	**2.06** (1.86-2.28)	**2.37** (2.13-2.61)	**2.80** (2.51-3.08)	**3.12** (2.78-3.43)	**3.47** (3.05-3.82)	**3.81** (3.33-4.22)	**4.29** (3.70-4.78)	**4.68** (4.00-5.24)
24-hr	**1.76** (1.59-1.93)	**2.18** (1.99-2.41)	**2.72** (2.47-3.01)	**3.16** (2.86-3.49)	**3.76** (3.39-4.15)	**4.23** (3.80-4.66)	**4.71** (4.21-5.20)	**5.22** (4.64-5.77)	**5.90** (5.19-6.56)	**6.44** (5.61-7.19)
2-day	**2.07** (1.89-2.29)	**2.59** (2.35-2.86)	**3.22** (2.94-3.57)	**3.74** (3.39-4.13)	**4.45** (4.03-4.91)	**5.02** (4.51-5.53)	**5.60** (5.01-6.17)	**6.21** (5.51-6.87)	**7.04** (6.19-7.81)	**7.70** (6.70-8.56)
3-day	**2.24** (2.04-2.47)	**2.79** (2.54-3.08)	**3.49** (3.18-3.86)	**4.06** (3.68-4.48)	**4.85** (4.39-5.35)	**5.49** (4.94-6.04)	**6.15** (5.50-6.78)	**6.84** (6.07-7.55)	**7.80** (6.86-8.65)	**8.56** (7.46-9.52)
4-day	**2.40** (2.19-2.64)	**2.99** (2.73-3.30)	**3.75** (3.42-4.14)	**4.38** (3.98-4.82)	**5.26** (4.76-5.78)	**5.96** (5.36-6.55)	**6.70** (5.99-7.38)	**7.48** (6.64-8.24)	**8.57** (7.53-9.49)	**9.43** (8.21-10.5)
7-day	**2.82** (2.58-3.09)	**3.51** (3.21-3.86)	**4.36** (3.98-4.78)	**5.06** (4.62-5.56)	**6.05** (5.50-6.64)	**6.83** (6.19-7.51)	**7.65** (6.90-8.43)	**8.51** (7.62-9.37)	**9.70** (8.60-10.7)	**10.6** (9.33-11.8)
10-day	**3.21** (2.94-3.53)	**4.00** (3.66-4.39)	**4.93** (4.51-5.42)	**5.68** (5.18-6.24)	**6.68** (6.06-7.33)	**7.46** (6.75-8.20)	**8.26** (7.43-9.09)	**9.07** (8.11-9.98)	**10.2** (9.01-11.2)	**11.0** (9.69-12.2)
20-day	**4.18** (3.85-4.58)	**5.19** (4.77-5.68)	**6.31** (5.80-6.90)	**7.15** (6.56-7.81)	**8.24** (7.53-9.00)	**9.05** (8.24-9.89)	**9.84** (8.93-10.8)	**10.6** (9.59-11.6)	**11.6** (10.4-12.7)	**12.3** (11.0-13.5)
30-day	**5.03** (4.62-5.50)	**6.24** (5.72-6.82)	**7.54** (6.90-8.24)	**8.53** (7.80-9.29)	**9.79** (8.91-10.7)	**10.7** (9.72-11.7)	**11.6** (10.5-12.6)	**12.5** (11.2-13.6)	**13.5** (12.2-14.9)	**14.3** (12.8-15.7)
45-day	**5.95** (5.43-6.57)	**7.38** (6.74-8.16)	**8.94** (8.15-9.86)	**10.1** (9.22-11.2)	**11.7** (10.6-12.9)	**12.8** (11.6-14.1)	**13.9** (12.6-15.4)	**15.0** (13.5-16.6)	**16.4** (14.7-18.2)	**17.4** (15.5-19.4)
60-day	**6.97** (6.34-7.64)	**8.64** (7.87-9.48)	**10.4** (9.46-11.4)	**11.7** (10.6-12.8)	**13.3** (12.1-14.6)	**14.5** (13.1-15.9)	**15.7** (14.1-17.2)	**16.7** (15.0-18.4)	**18.1** (16.1-19.9)	**19.0** (16.9-21.0)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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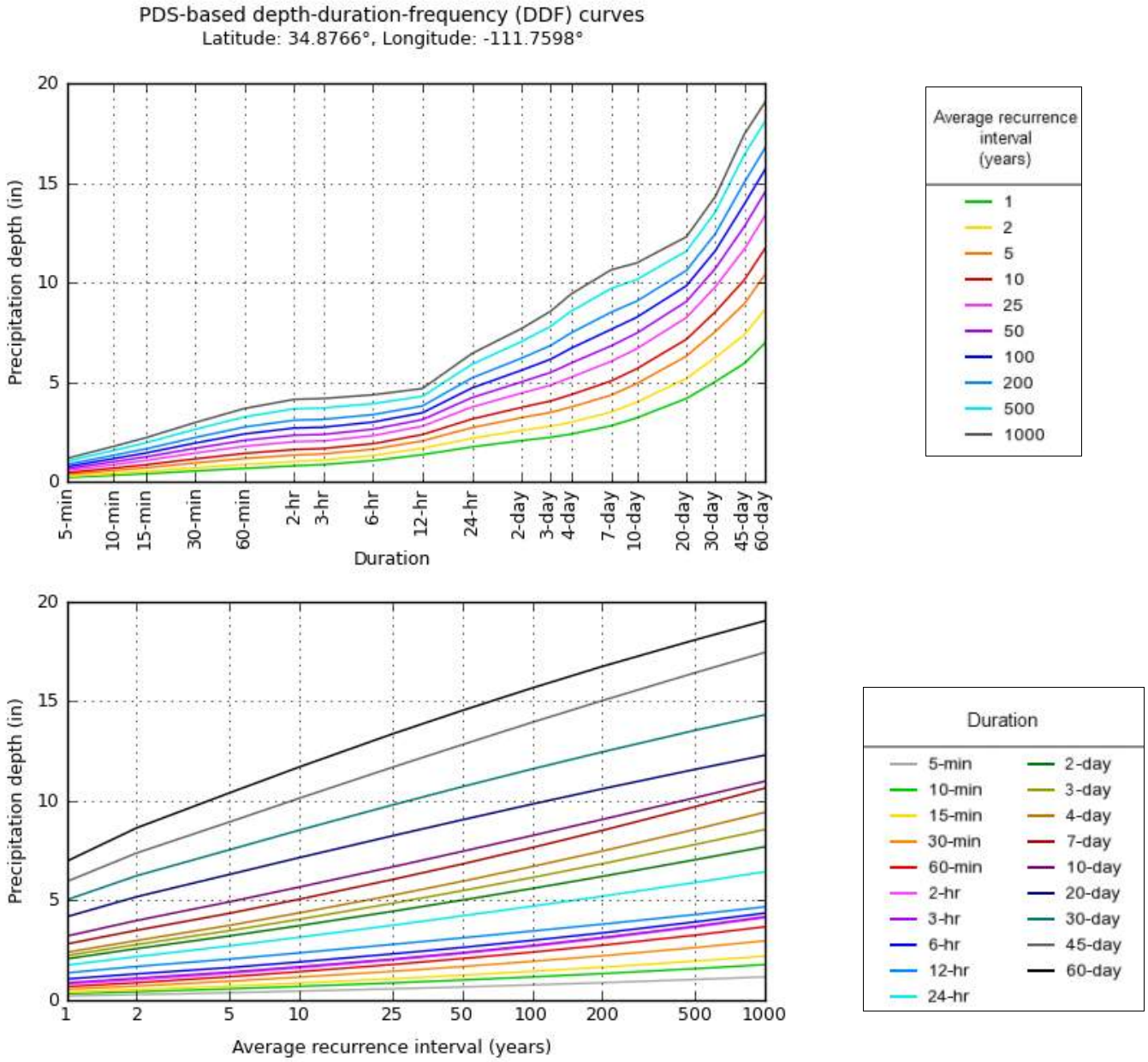
PF graphical



NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Mon Nov 22 22:41:39 2021

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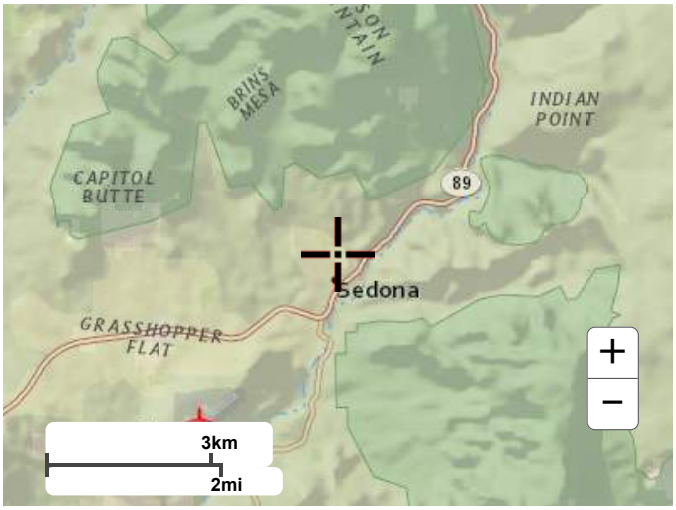
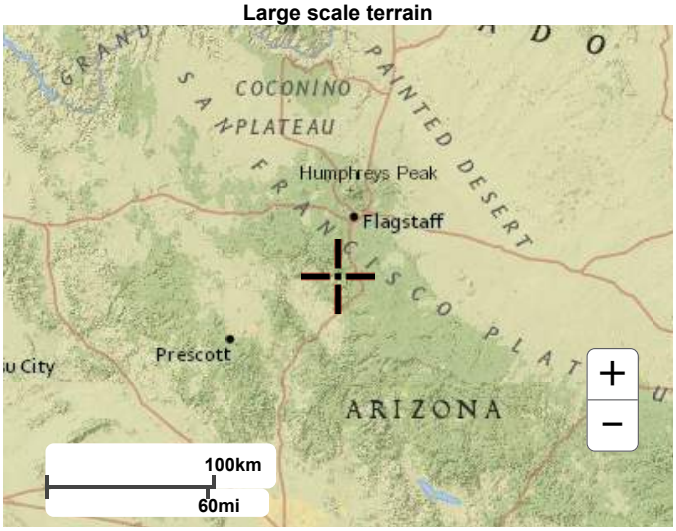
Maps & aerials

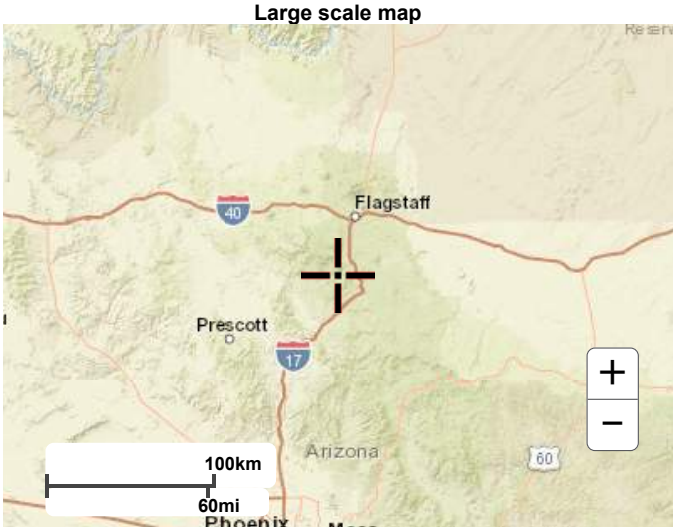
Small scale terrain



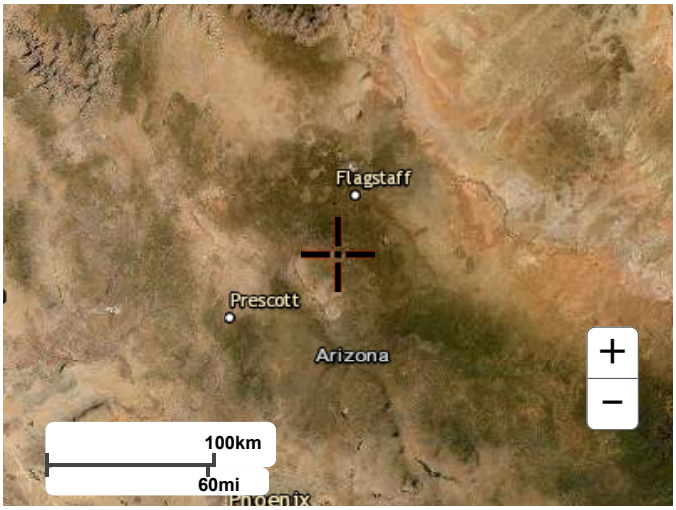
Large scale terrain



Large scale map



Large scale aerial



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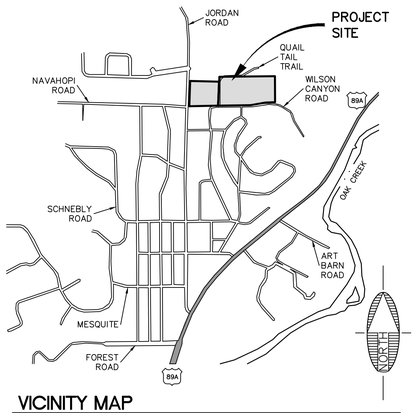
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

PLOTTED: Mar 08, 2023--8:25am

JORDAN TOWNHOMES/JORDAN ESTATES

A PORTION OF SECTION 5, TOWNSHIP 17 NORTH, RANGE 6 EAST
GILA AND SALT RIVER MERIDIAN, YAVAPAI COUNTY, ARIZONA
APN: 401-05-004A, 401-58-001A



VICINITY MAP

NO SCALE

SITE INFORMATION

ASSESSORS PARCEL NO.	401-58-001A	401-05-004A
ZONING	RM-2	RS-18
BUILDINGS	4	
UNITS	24	
EQUIV. UNITS PER SEDONA ZONING	19	
PARCEL AREA	89,558 S.F. (2.06 AC)	190,654 S.F. (4.38 AC)
BUILDING AREA	21,852 S.F.	
PARCEL COVERED BY BUILDINGS	24%	
PARCEL COVERED BY PARKING, DRIVEWAYS & SIDEWALKS	29% (26,256 S.F.)	CURRENTLY 12% (22,154 S.F.)
OPEN SPACE	46% (41,450 S.F.)	
% PARCEL TO BE LANDSCAPED	46%	

NOTE: PAD ELEVATIONS ARE 8" LOWER THAN FINISHED FLOOR ELEVATIONS.

CONTACT INFORMATION

OWNER — MICM SEDONA JORDAN LOFTS PROJECT LP
2502 E. RIVER ROAD
TUCSON, AZ 85718
(520) 615-8900

ENGINEER — SWI AN ARDURRA COMPANY
75 KALLOF PLACE
SEDONA, ARIZONA 86336
(928) 282-1061
ART BECKWITH, PE 28658

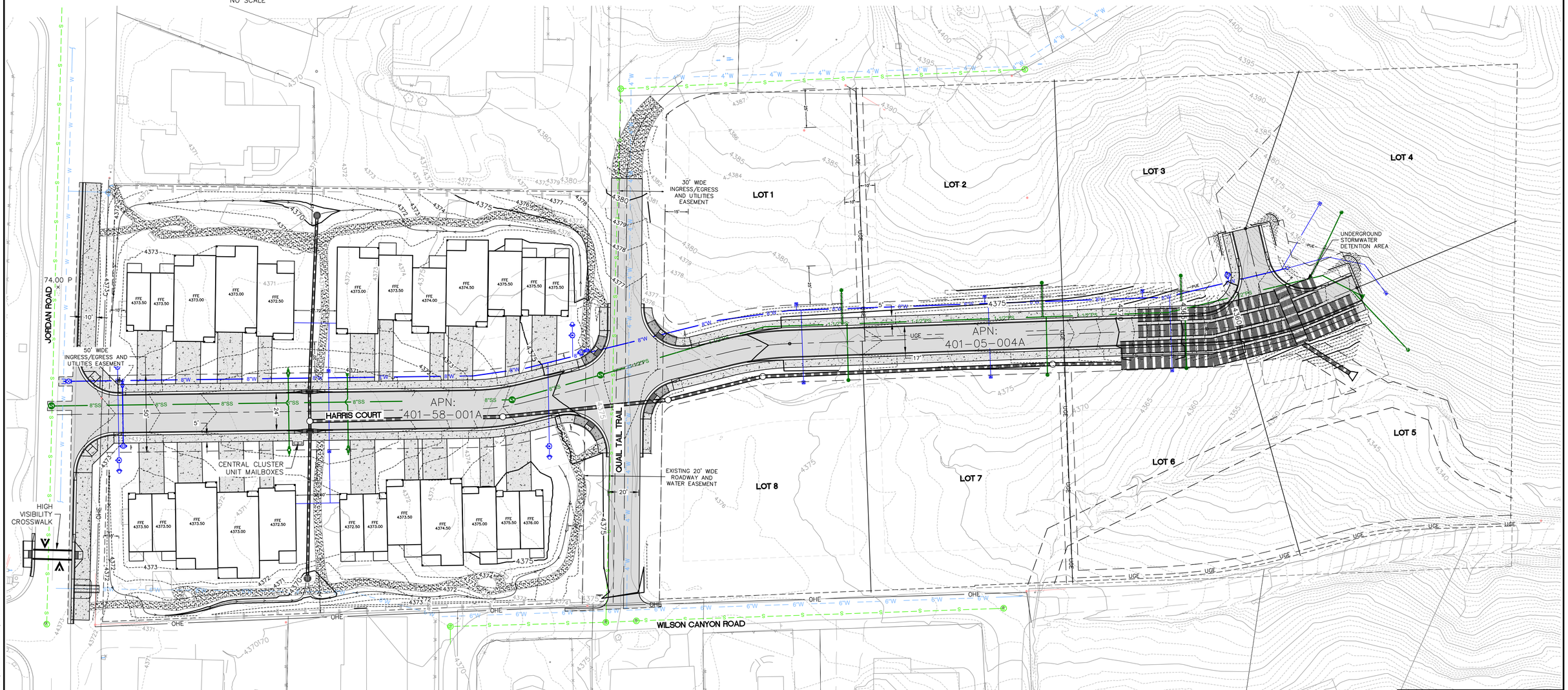
UTILITIES/SERVICES

WATER	ARIZONA WATER COMPANY
SEWER	CITY OF SEDONA
ELECTRIC	APS
GAS	UNISOURCE
CABLE	SUDDENLINK
TELEPHONE	CENTURY LINK
FIRE	SEDONA FIRE DISTRICT
WASTE REMOVAL	TAYLOR WASTE

LEGEND

- EXISTING CONTOURS 1' INTERVAL
- PROPOSED CONTOURS 1' INTERVAL
- PROPOSED SWALE
- PROPERTY BOUNDARY
- EXISTING WATER
- PROPOSED WATER
- EXISTING OVERHEAD UTILITY LINE
- EXISTING SEWER
- PROPOSED SEWER
- SEWER MANHOLE
- CATCH BASIN
- STORM DRAIN PIPE
- FIRE HYDRANT
- CONCRETE
- AC PAVEMENT

SCALE 1" : 30'
0 15 30



Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 BLUE STAKE, INC.
Call 811 or click Arizona811.com

REVISIONS			
NO.	DESCRIPTION	DATE	BY

Shephard Wesnitzer, Inc.
An ARDURRA Company
75 Kallof Place
Sedona, AZ 86336
928.282.1061
928.282.2058 fax
www.ardurra.com

JOB NO:	221227
DATE:	MAR 23
SCALE:	1"=30'
DRAWN:	EGM / JAT
DESIGN:	AHB
CHECKED:	AHB

JORDAN TOWNHOMES/JORDAN ESTATES — CITY OF SEDONA ARIZONA

PRELIMINARY CONCEPT GRADING AND UTILITES PLAN

PRELIMINARY
NOT FOR CONSTRUCTION, BIDDING OR RECORDING

DRAWING NO. EX2

SHT NO. 1 OF 1

FILE: P:\2022\221227\DRAWINGS\CONCEPT PLANS\221227-CONCEPT PLAN.DWG MJONG

EXHIBIT 4e. Geotechnical Report

CMT ENGINEERING LABORATORIES

ENGINEERING •GEOTECHNICAL •ENVIRONMENTAL (ESA I & II) •
MATERIALS TESTING •SPECIAL INSPECTIONS •
ORGANIC CHEMISTRY • PAVEMENT
DESIGN •GEOLOGY

GEOTECHNICAL ENGINEERING STUDY

Jordan Townhomes

Northeast Corner of Jordan Road and Navahopi Road
Sedona, Arizona 86336
CMT PROJECT NO. 3106

FOR:
Miramonte Homes
102 South Mikes Pike
Flagstaff, Arizona 86001

January 17, 2022

CMT ENGINEERING LABORATORIES

January 17, 2022

Ms. Charity Lee
Miramonte Homes
102 South Mikes Pike
Flagstaff, Arizona 86001

Subject: Geotechnical Engineering Study
Jordan Townhomes
Northeast Corner of Jordan Road and Navahopi Road
Sedona, Arizona 86336
CMT Project Number: 3106

Ms. Lee:

Submitted herewith is the report of our geotechnical engineering study for the subject site. This report contains the results of our findings and an engineering interpretation of the results with respect to the available project characteristics. It also contains recommendations to aid in the design and construction of the earth-related phases of this project.

On January 10, 2022, a CMT Engineering Laboratories (CMT) geotechnical engineer was on-site and supervised the drilling of 2 bore holes extending to a depth of about 15 feet below the existing ground surface. Soil samples were obtained during the field operations and subsequently transported to our laboratory for further testing and observation.

Conventional spread and/or continuous footings may be utilized to support the proposed townhome structures, provided the recommendations in this report are followed. A detailed discussion of design and construction criteria is presented in this report.

We appreciate the opportunity to work with you at this stage of the project. CMT offers a full range of Geotechnical Engineering, Geological, Material Testing, Special Inspection services, and Phase I and II Environmental Site Assessments. With offices throughout Arizona, Utah and Idaho, our staff is capable of efficiently serving your project needs. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at 602-241-1097.

Sincerely,
CMT Engineering Laboratories

Registered Professional Engineer (Civil) CERTIFICATE NO. 49104 HANK BELLISTON DATE SIGNED 01-17-22 ARIZONA U.S.A. Expires March 31, 2024

Hank Belliston, M.S., P.E., M. ASCE
Arizona Engineering Manager

Reviewed by:

Jeffrey J. Egbert, P.E., LEED A.P., M. ASCE
Senior Geotechnical Engineer

CMT ENGINEERING LABORATORIES

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 General

CMT Engineering Laboratories (CMT) was retained to conduct a geotechnical subsurface study for the proposed Jordan Townhomes. The site is situated on the east side of Jordan Road, north of Navahopi Road in Sedona, Arizona, as shown in the **Vicinity Map** below.

VICINITY MAP

1.2 Objectives, Scope and Authorization

The objectives and scope of our study were planned in discussions between Ms. Charity Lee of Miramonte Homes, and Mr. Hank Belliston of CMT Engineering Laboratories (CMT). In general, the objectives of this study were to define and evaluate the subsurface soil and groundwater conditions at the site, and provide appropriate foundation, earthwork, pavement and seismic recommendations to be utilized in the design and construction of the proposed development.

In accomplishing these objectives, our scope of work has included performing field exploration, which consisted of the drilling/logging/sampling of 2 bore holes, performing laboratory testing on representative samples of the

subsurface soils collected in the bore holes, and conducting an office program, which consisted of correlating available data, performing engineering analyses, and preparing this summary report. This scope of work was authorized by returning a signed copy of our proposal dated December 20, 2021 and executed on December 29, 2021.

1.3 Description of Proposed Construction

We understand that the proposed construction consists of four (4) new multi-family residential townhomes (22 total units), expected to be 2-story buildings. We project that wall loads will not exceed 6,000 pounds per linear foot and column loads will not exceed 100,000 pounds. Floor slab loads are anticipated to be relatively light, with an average uniform loading not exceeding 150 pounds per square foot. If the loading conditions are different than we have projected, please notify us so that any appropriate modifications to our conclusions and recommendations contained herein can be made.

A residential street (Harris Court) will also be constructed, which we anticipate will utilize asphalt pavement. Improvements to Quail Tail Trail will also be made. Traffic is projected to consist of mostly automobiles and light trucks, a few daily medium-weight delivery trucks, a weekly garbage truck, and an occasional fire truck.

Site development will require some earthwork in the form of minor cutting and filling. A site grading plan was not available at the time of this report, but we project that maximum cuts and fills may be up to 5 feet. If deeper cuts or fills are planned, CMT should be notified to provide additional recommendations, if needed.

1.4 Executive Summary

The most significant geotechnical aspects regarding site development include the following:

1. Natural site soils consist of Sandy SILT with some Gravel over Sandstone, with native grasses, shrubs, and small trees covering much of the site.
2. Groundwater was not encountered at the time of our field explorations to the maximum depth explored of about 15 feet below the existing ground surface, which will not affect excavations and construction.
3. Foundations and floor slabs may be constructed on suitable undisturbed natural soils or on structural/engineered fill which extends to natural soils.

CMT must assess that topsoil, undocumented fills, debris, disturbed or unsuitable soils have been removed and that suitable soils have been encountered prior to placing site grading fills, footings, slabs, and pavements.

In the following sections, detailed discussions pertaining to the site are provided, including subsurface descriptions, geologic setting, seismicity, earthwork, foundations, lateral resistance, floor slabs, and pavements.

2.0 FIELD EXPLORATION

In order to define and evaluate the subsurface soil and groundwater conditions, 2 bore holes were drilled at the site to a depth of approximately 15 feet below the existing ground surface. Locations of the bore holes are presented on **Figure 1.**

Samples of the subsurface soils encountered in the bore holes were collected at varying depths through the hollow stem drill augers. Disturbed samples were collected utilizing a standard split spoon sampler. This standard split spoon sampler was driven 18 inches into the soils below the drill augers using a 140-pound hammer free-falling a distance of 30 inches. The number of hammer blows needed for each 6-inch interval was recorded. The sum of the hammer blows for the final 12 inches of penetration is known as a standard penetration test and this 'blow count' was recorded on the bore hole logs. Where more than 50 blows occurred before the 6-inch interval was achieved, the sampling was terminated and the number of blows and inches penetrated by the sampler were recorded. The blow count provides a reasonable approximation of the relative density of granular soils, but only a limited indication of the relative consistency of fine-grained soils because the consistency of these soils is significantly influenced by the moisture content.

The subsurface soils encountered in the bore holes were classified in the field based upon visual and textural examination, logged and described in general accordance with ASTM[1] D-2488. These field classifications were supplemented by subsequent examination and testing of select samples in our laboratory. Logs of the bore holes, including a description of the soil strata encountered, is presented on each individual Bore Hole Log, **Figures 2 and 3**, included in the Appendix. Sampling information and other pertinent data and observations are also included on the logs. In addition, a Key to Symbols defining the terms and symbols used on the logs is provided as **Figure 4** in the Appendix.

3.0 LABORATORY TESTING

Selected samples of the subsurface soils were subjected to various laboratory tests to assess pertinent engineering properties, as follows:

1. Moisture Content, ASTM D-2216, Percent moisture representative of field conditions
2. Atterberg Limits, ASTM D-4318, Plasticity and workability
3. Gradation Analysis, ASTM D-1140/C-117, Grain Size Analysis

Laboratory test results are presented on the bore hole logs (**Figures 2 and 3**) and in the following Lab Summary Table:

[1] American Society for Testing and Materials

LAB SUMMARY TABLE

BORE HOLE	DEPTH (feet)	SOIL CLASS	SAMPLE TYPE	MOISTURE CONTENT(%)	GRADATION			ATTERBERG LIMITS		
					GRAV.	SAND	FINES	LL	PL	PI
B-1	1.5	ML	SPT	6.4	10	30	60	NV	NP	NP
B-2	1.5	ML	SPT	7.9	15	33	52	NV	NP	NP
B-2	5	ML	SPT	5.7	5	20	75	NV	NP	NP

4.0 GEOLOGIC & SEISMIC CONDITIONS

4.1 Geologic Setting

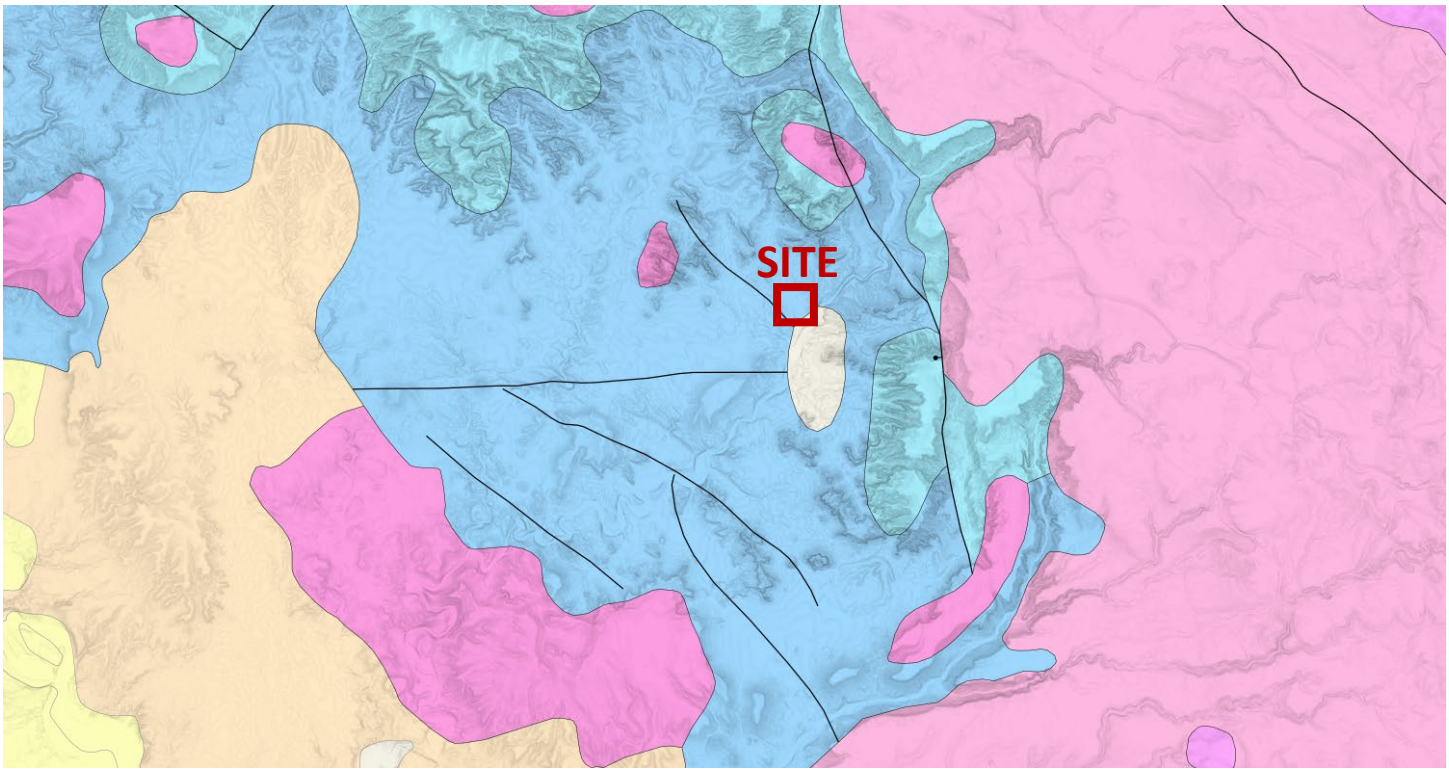
The subject site is located in the south-central portion of Coconino County in North-central Arizona. The site sits at elevations ranging approximately from 4,380 to 4,385 feet above sea level. The site is located on a relatively flat parcel that is part of the Colorado Plateau Physiographic Province.

The geology of the location of the subject site has been mapped and is included on an internet based interactive geologic map provided by the Arizona Geological Survey[2]. The surficial geology at the location of the subject site and adjacent areas is mapped as "Permian to Pennsylvanian Sedimentary Rocks" (Map Unit PP). Unit PP is described on the referenced map as "Interbedded sandstone, shale, and limestone usually characterized by ledgy outcrops. Orange to reddish sandstone forms cliffs near Sedona. This unit includes Supai Group and Hermit Shale in northern Arizona and Naco Group in southern Arizona. It was deposited in coastal-plain to shallow-marine settings during a time of variable and changing sea level. Rocks of this map unit in southern Arizona may be in part equivalent to Permian rocks of unit P in central and northern Arizona." No fill or disturbed ground is mapped at the location. Refer to the **Geologic Map** shown on the following page.

4.2 Faulting

No surface fault traces are shown on the referenced geologic map crossing or projecting toward the subject site. The nearest mapped active fault trace is the Casner Cabin fault zone located about 10.5 miles north of the site. Seismic design issues are addressed in **Section 4.3** below.

2 Arizona Geological Survey Interactive Geologic Map: http://data.azgs.az.gov/geologic-map-of-arizona/#



GEOLOGIC MAP

4.3 Seismicity

4.3.1 Site Class

Arizona municipalities have adopted the International Building Code (IBC) 2018, which determines the seismic hazard for a site based upon 2014 mapping of bedrock accelerations prepared by the United States Geologic Survey (USGS) and the soil site class. The USGS values are presented on maps incorporated into the IBC code and are also available based on latitude and longitude coordinates. For site class definitions, IBC 2018 Section 1613.2.2 refers to Chapter 20, Site Classification Procedure for Seismic Design, of ASCE[3] 7-16, which stipulates that the average values of shear wave velocity, blow count and/or shear strength within the upper 100 feet (30 meters) be utilized to determine seismic site class. Given the subsurface soils encountered in the upper 15 feet at the site, including our projection of soils below that within the upper 100 feet of the soil profile, it is our opinion the site best fits Site Class C – Very Dense Soil and Soft Rock Profile, which we recommend for seismic structural design.

4.3.2 Ground Motions

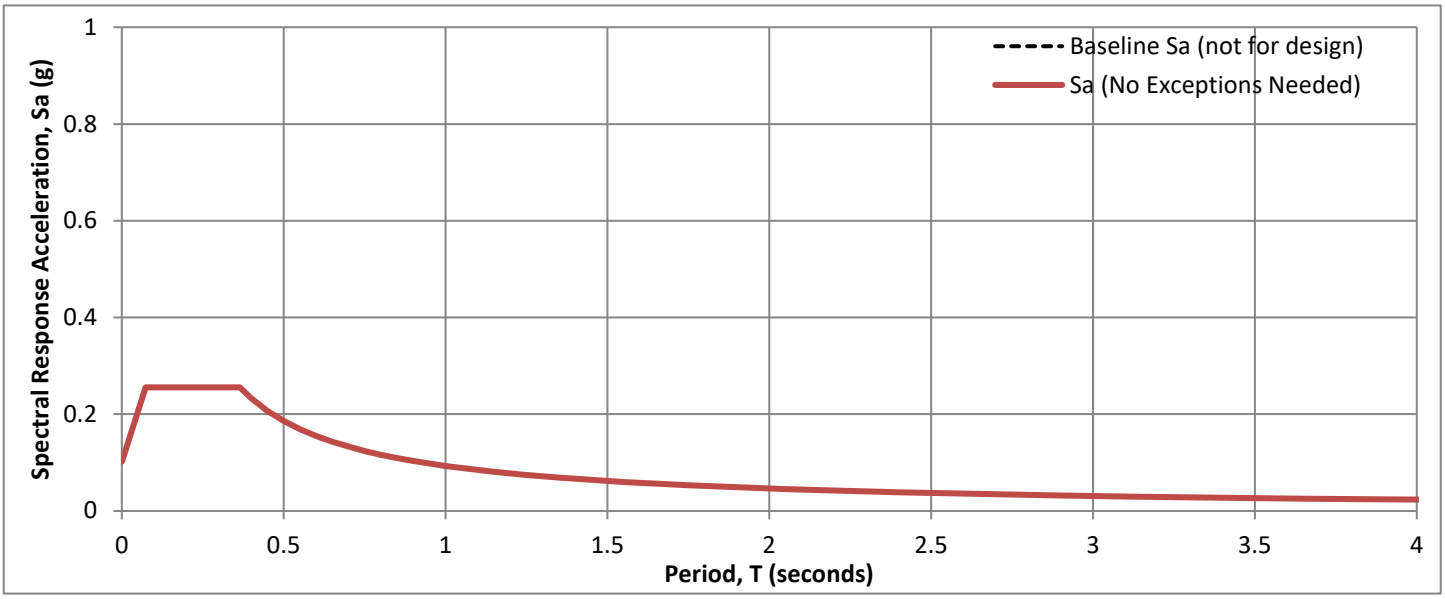
The 2014 USGS mapping utilized by the IBC provides values of peak ground, short period and long period spectral accelerations for the Site Class B/C boundary and the Risk-Targeted Maximum Considered Earthquake (MCE_R). This Site Class B/C boundary represents average bedrock values for the Western United States and must be corrected for local soil conditions at site grid coordinates of 34.8765 degrees north latitude and -111.7605

[3]American Society of Civil Engineers

degrees west longitude. The following table and response spectra summarize the peak ground, short period, and long period accelerations for the MCE_R event, and incorporates appropriate soil correction factors for a Site Class C soil profile.

SPECTRAL ACCELERATION PERIOD, T	SITE CLASS B/C BOUNDARY [mapped values] (g)	SITE COEFFICIENT	SITE CLASS C [adjusted for site class effects] (g)	MULTI-PLIER	DESIGN VALUES (g)
Peak Ground Acceleration	PGA = **0.131**	F_{pga} = 1.269	PGA_M = 0.166	1.000	PGA_M = 0.166
0.2 Seconds (Long Period Acceleration)	S_S = **0.295**	F_a = 1.300	S_{MS} = 0.384	0.667	S_{DS} = 0.256
	(no exceptions needed)	F_a = (N/A)	S_{MS} = (N/A)	0.667	S_{DS} = (N/A)
1.0 Second (Long Period Acceleration)	S_1 = **0.093**	F_v = 1.500	S_{M1} = 0.140	0.667	S_{D1} = 0.093
	(no exceptions needed)	F_v = (N/A)	S_{M1} = (N/A)	0.667	S_{D1} = (N/A)

NOTES: 1. TL (seconds): **6**
2. Site Class: **C** **4. No Exceptions Needed**
3. Have data to verify? **yes**



4.3.3 Liquefaction

Subsurface soils encountered consisted of sandy silt, typically not liquefiable, over sandstone, while groundwater was not encountered. These conditions indicate that susceptibility to liquefaction at this site is very low.

4.4 Other Geologic Hazards

No landslide deposits or features, including lateral spread deposits, are mapped on or adjacent to the site. The site is not located within a currently known or mapped potential debris flow, stream flooding, or rock fall hazard area.

5.0 SITE CONDITIONS

5.1 Surface Conditions

The site is currently a vacant parcel with native grass, shrubs and small trees. Based upon aerial photos dating back to 1997 that are readily available on the internet, there have been some minor surficial disturbances, mostly in the form of trails or clearing of parts of the site. Overall, the site is relatively flat, with a very slight slope downward to the southwest. The site is bordered on the north and south by single-family homes, on the west by Jordan Road followed by multi-family apartments, and on the east by Quail Tail Trail followed by vacant land with heavy vegetation, sloping downward to the west (see **Vicinity Map** in **Section 1.1** above).

5.2 Subsurface Soils

At the locations of the bore holes, we encountered a very thin layer of topsoil. Natural soils were observed beneath the topsoil, consisting of Sandy SILT (ML), extending to depths of about 5.5 to 6 feet, where sandstone was encountered. The sandstone cuttings resulted in a SILT with Sand material, which extended to the bottom of the bore holes.

The silt soils were damp, reddish-brown in color, and hard in consistency. The natural sandstone was damp, reddish-brown in color, and very hard based on the blow counts in the bore holes.

For a more descriptive interpretation of subsurface conditions, please refer to the bore hole logs, **Figures 2 and 3**, which graphically represent the subsurface conditions encountered. The lines designating the interface between soil types on the logs generally represent approximate boundaries; in situ, the transition between soil types may be gradual.

5.3 Groundwater

Groundwater was not encountered at the time of our field explorations to the maximum depth explored of about 15 feet below the existing ground surface. Therefore, groundwater is not anticipated to affect proposed construction.

Groundwater levels can fluctuate as much as 1.5 to 2 feet seasonally. Numerous other factors such as heavy precipitation, irrigation of neighboring land, and other unforeseen factors, may also influence ground water elevations at the site. The detailed evaluation of these and other factors, which may be responsible for ground water fluctuations, is beyond the scope of this study.

5.4 Site Subsurface Variations

Based on the results of the subsurface explorations and our experience, variations in the continuity and nature of subsurface conditions should be anticipated. Due to the heterogeneous characteristics of natural soils, care should be taken in interpolating or extrapolating subsurface conditions between or beyond the exploratory locations.

6.0 SITE PREPARATION AND GRADING

6.1 General

All deleterious materials should be stripped from the site prior to commencement of construction activities. This includes loose and disturbed soils, topsoil, vegetation, etc. Based upon the conditions observed in the bore holes there is a thin layer of topsoil on the surface of the site which we estimated to be about 1 to 2 inches in thickness. When stripping and grubbing, topsoil should be distinguished by the apparent organic content and not solely by color; thus, we estimate that topsoil stripping will need to include the upper 2 inches.

The site grading should be observed by a CMT geotechnical engineer to assess that suitable, natural soils have been exposed and any deleterious materials, loose and/or disturbed soils have been removed, prior to placing site grading fills, footings, slabs, and pavements.

Fill placed over large areas to raise overall site grades can induce settlements in the underlying natural soils. If more than 5 feet of site grading fill is anticipated over the natural ground surface, we should be notified to assess potential settlements and provide additional recommendations as needed. These recommendations may include placement of the site grading fill far in advance to allow potential settlements to occur prior to construction.

6.2 Temporary Excavations

Excavations deeper than 8 feet are not anticipated at the site. Groundwater was not encountered within the depths explored, about 15 feet at the time of our field explorations, and thus is not anticipated to affect excavations.

The natural soils encountered at this site predominantly consisted of silt. In silty (cohesive) soils, temporary construction excavations not exceeding 6 feet in depth may be constructed with side slopes no steeper than one-half horizontal to one vertical (0.5H:1V). Temporary excavations into the sandstone layer may be constructed with near-vertical side slopes.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated. All excavations should be made following OSHA safety guidelines.

6.3 Fill Material

Following are our recommendations for the various fill types we anticipate will be used at this site:

FILL MATERIAL TYPE	DESCRIPTION | RECOMMENDED SPECIFICATION
Structural Fill	Placed below structures, flatwork and pavement. Imported well-graded sand/gravel mixture, with maximum particle size of 4 inches, a minimum 70% passing 3/4-inch sieve, a maximum 30% passing the No. 200 sieve, and a maximum Plasticity Index of 10.
Site Grading Fill	Placed over larger areas to raise the site grade. Imported sandy to gravelly soil, with a maximum particle size of 6 inches, a minimum 70% passing 3/4-inch sieve, and a maximum 50% passing No. 200 sieve, and a maximum Plasticity Index of 15.
Non-Structural Fill	Placed below non-structural areas, such as landscaping. On-site soils or imported soils, with a maximum particle size of 8 inches, including silt soils not containing excessive amounts of degradable/organic material (see discussion below).
Stabilization Fill	Placed to stabilize soft areas prior to placing structural fill and/or site grading fill. Coarse angular gravels and cobbles 1 inch to 8 inches in size. May also use 1.5- to 2.0-inch gravel placed on stabilization fabric, such as Mirafi RS280i, or equivalent (see **Section 6.6**).

On-site silt soils are not suitable for use as structural or site grading fill, but may be used as non-structural fill. Note that these silt soils are moisture-sensitive, which means they are inherently more difficult to work with in proper moisture conditioning (they are very sensitive to changes in moisture content), requiring very close moisture control during placement and compaction. This will be very difficult, if not impossible, during wet and cold periods of the year.

All fill material should be approved by a CMT geotechnical engineer prior to placement.

6.4 Fill Placement and Compaction

The various types of compaction equipment available have their limitations as to the maximum lift thickness that can be compacted. For example, hand operated equipment is limited to lifts of about 4 inches and most "trench compactors" have a maximum, consistent compaction depth of about 6 inches. Large rollers, depending on soil and moisture conditions, can achieve compaction at 8 to 12 inches. The full thickness of each lift should be compacted to at least the following percentages of the maximum dry density as determined by ASTM D-698 (or AASHTO[4] T-99) in accordance with the following recommendations:

LOCATION	TOTAL FILL THICKNESS (FEET)	MINIMUM PERCENTAGE OF MAXIMUM DRY DENSITY
Beneath an area extending at least 4 feet beyond the perimeter of structures, and below flatwork and pavement (applies to structural fill and site grading fill) extending at least 2 feet beyond the perimeter	0 to 5	95
Site grading fill outside area defined above	0 to 5	90
Utility trenches within structural areas	-	95

[4] American Association of State Highway and Transportation Officials

LOCATION	TOTAL FILL THICKNESS (FEET)	MINIMUM PERCENTAGE OF MAXIMUM DRY DENSITY
Roadbase and subbase	-	95
Non-structural fill	0 to 5	85

Structural fills greater than 5 feet thick are not anticipated at the site. For best compaction results, we recommend that the moisture content for structural fill/backfill be within 2% of optimum. Field density tests should be performed on each lift as necessary to verify that proper compaction is being achieved.

6.5 Utility Trenches

For the bedding zone around the utility, we recommend utilizing sand bedding fill material that meets current APWA[5] requirements.

All utility trench backfill material below structurally loaded facilities (foundations, floor slabs, flatwork, parking lots/drive areas, etc.) should be placed at the same density requirements established for structural fill in the previous section.

Most utility companies and local governments are requiring Type A-1a or A-1b (AASHTO Designation) soils (sand/gravel soils with limited fines) be used as backfill over utilities within public rights of way, and the backfill be compacted over the full depth above the bedding zone to at least 95% of the maximum dry density as determined by AASHTO T-99 (ASTM D-698). The natural silt soils at this site do not meet these specifications.

Where the utility does not underlie structurally loaded facilities and public rights of way, on-site fill and natural soils may be utilized as trench backfill above the bedding layer, provided they are properly moisture conditioned and compacted to the minimum requirements stated above in **Section 6.4**.

6.6 Stabilization

The natural silt soils at this site may become susceptible to rutting and pumping. The likelihood of disturbance or rutting and/or pumping of the existing natural soils is a function of the moisture content of the soil, the load applied to the surface, and the frequency of the load. Consequently, rutting and pumping can be minimized by avoiding concentrated traffic, minimizing the load applied to the surface by using lighter equipment and/or partial loads, by working in drier times of the year, or by providing a working surface for the equipment. Rubber-tired equipment particularly, because of high pressures, promotes instability in moist/wet, soft soils.

If rutting or pumping occurs, traffic should be stopped and the disturbed soils should be removed and replaced with stabilization material. Typically, a minimum of 18 inches of the disturbed soils must be removed to be effective. However, deeper removal is sometimes required.

[5] American Public Works Association

To stabilize soft subgrade conditions (if encountered), a mixture of coarse, clean, angular gravels and cobbles and/or 1.5- to 2.0-inch clean gravel should be utilized. Often the amount of gravelly material can be reduced with the use of a geotextile fabric such as Mirafi RS280i, or equivalent. Its use will also help avoid mixing of the subgrade soils with the gravelly material. After excavating the soft/disturbed soils, the fabric should be spread across the bottom of the excavation and up the sides a minimum of 18 inches. Otherwise, it should be placed in accordance with the manufacturer's recommendation, including proper overlaps. The gravel material can then be placed over the fabric in compacted lifts as described above.

7.0 FOUNDATION RECOMMENDATIONS

The following recommendations have been developed on the basis of the previously described project characteristics, the subsurface conditions observed in the field and the laboratory test data, as well as common geotechnical engineering practice.

7.1 Foundation Recommendations

Based on our geotechnical engineering analyses, the proposed structures may be supported upon conventional spread and/or continuous wall foundations placed on suitable, undisturbed natural soils or on structural fill extending to suitable natural soils. Footings may be designed using a net bearing pressure of 1,500 psf if placed on suitable, undisturbed, natural soils or 2,000 psf if placed on a minimum 18 inches of structural fill. In no case shall the footings bear partially on natural soils and partially on structural fill.

The term "net bearing pressure" refers to the pressure imposed by the portion of the structure located above lowest adjacent final grade, thus the weight of the footing and backfill to lowest adjacent final grade need not be considered. The allowable bearing pressure may be increased by 1/3 for temporary loads such as wind and seismic forces.

We also recommend the following:

1. Exterior footings subject to frost should be placed at least 30 inches below final grade.
2. Interior footings not subject to frost should be placed at least 18 inches below grade.
3. Continuous footing widths should be maintained at a minimum of 16 inches.
4. Spot footings should be a minimum of 24 inches wide.

7.2 Installation

Under no circumstances shall foundations be placed on undocumented fill, topsoil with organics, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

Deep, large roots may be encountered where trees and larger bushes are located or were previously located at the site; such large roots should be removed. If unsuitable soils are encountered, they must be completely removed and replaced with properly compacted structural fill. Excavation bottoms should be examined by a CMT geotechnical engineer to confirm that suitable bearing soils have been exposed.

All structural fill should meet the requirements for such, and should be placed and compacted in accordance with **Section 6** above. The width of structural replacement fill below footings should be equal to the width of the footing plus 1 foot for each foot of fill thickness. For instance, if the footing width is 2 feet and the structural fill depth beneath the footing is 2 feet, the fill replacement width should be 4 feet, centered beneath the footing.

The minimum thickness of structural fill below footings should be equivalent to one-third the thickness of structural fill below any other portion of the foundations. For example, if the maximum depth of structural fill is 6 feet, all footings for the new structure should be underlain by a minimum 2 feet of structural fill.

7.3 Estimated Settlement

Foundations designed and constructed in accordance with our recommendations could experience some settlement, but we anticipate that total settlements of footings founded as recommended above will not exceed 1 inch, with differential settlements on the order of 0.5 inches over a distance of 25 feet. We expect approximately 50% of the total settlement to initially take place during construction.

7.4 Lateral Resistance

Lateral loads imposed upon foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footings and the supporting soils. In determining frictional resistance, a coefficient of 0.30 for natural silt soils or 0.40 for structural fill, may be utilized for design. Passive resistance provided by properly placed and compacted structural fill may be considered equivalent to a fluid with a density of 400 pcf. A combination of passive earth resistance and friction may be utilized if the passive earth pressure component is divided by 1.5. If using the seismic condition, the passive earth pressure component should be divided by 1.1.

8.0 FLOOR SLABS

Floor slabs may be established upon suitable, undisturbed, natural soils or on structural fill extending to suitable natural soils (same as for foundations). Under no circumstances shall floor slabs be established directly on any topsoil, non-engineered fills, loose or disturbed soils, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

In order to facilitate curing of the concrete, we recommend that floor slabs be directly underlain by at least 4 inches of “free-draining” fill, such as “pea” gravel or 3/4-inch quarters to 1-inch minus, clean, gap-graded gravel. To help control normal shrinkage and stress cracking, the floor slabs should have the following features:

1. Adequate reinforcement for the anticipated floor loads with the reinforcement continuous through interior floor joints;
2. Frequent crack control joints; and
3. Non-rigid attachment of the slabs to foundation walls and bearing slabs.

9.0 DRAINAGE RECOMMENDATIONS

It is important to the long-term performance of foundations and floor slabs that water not be allowed to collect near the foundation walls and infiltrate into the underlying soils. We recommend the following:

1. All areas around the structure should be sloped to provide drainage away from the foundations. We recommend a minimum slope of 6 inches in the first 10 feet away from the structure. This slope should be maintained throughout the lifetime of the structure.

2. All roof drainage should be collected in rain gutters with downspouts designed to discharge at least 10 feet from the foundation walls or well beyond the backfill limits, whichever is greater.

3. Adequate compaction of the foundation backfill should be provided. We suggest a minimum of 90% of the maximum laboratory density as determined by ASTM D-698. Water consolidation methods should not be used under any circumstances.

4. Landscape sprinklers should be aimed away and maintained a distance of at least 4 feet, from the foundation walls. The sprinkling systems should be designed with proper drainage and be well-maintained. Over watering should be avoided.

5. Other precautions that may become evident during construction.

10.0 PAVEMENTS

All pavement areas must be prepared as discussed above in **Section 6.1**. Under no circumstances shall pavements be established over topsoil, non-engineered fills (if encountered), loose or disturbed soils, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

We anticipate the natural silt soils will exhibit fair pavement support characteristics when saturated or nearly saturated. Based on our laboratory testing experience with similar soils, our pavement design is based upon an R-Value of 35 for the natural silt soils. Given the projected traffic as discussed above in **Section 1.3**, the following pavement sections are recommended:

MATERIAL	PAVEMENT SECTION THICKNESS (inches)		
	PARKING AREAS/DRIVEWAYS		LOCAL STREETS
Asphaltic Concrete (AC)	**3**	**-**	**4 (2 lifts)**
Portland Cement (PCCP)	**-**	**5**	
Aggregate Base Course (ABC)	**6**	**4**	**8**
Total Thickness	**9**	**9**	**12**

Aggregate Base Course (ABC) should conform to City of Sedona or Coconino County specifications, or to ADOT Class 2 Aggregate Base. Material meeting our specification for structural fill can be used for subbase. ABC and

subbase materials should be compacted as recommended above in **Section 6.4**. Asphalt material generally should conform to APWA requirements.

If the pavement will be subjected to construction traffic, we should be notified to provide additional recommendations. All pavement surfaces should be properly graded, so that good drainage off the surface and away from the edge of pavement is maintained. For better protection against frost damage, a thicker ABC layer may be considered.

11.0 QUALITY CONTROL

We recommend that CMT be retained as part of a comprehensive quality control testing and observation program. With CMT onsite we can help facilitate implementation of our recommendations and address, in a timely manner, any subsurface conditions encountered which vary from those described in this report. Without such a program CMT cannot be responsible for application of our recommendations to subsurface conditions which may vary from those described herein. This program may include, but not necessarily be limited to, the following:

11.1 Field Observations

Observations should be completed during all phases of construction such as site preparation, foundation excavation, structural fill placement, and concrete placement.

11.2 Fill Compaction

Compaction testing by CMT is required for all structural supporting fill materials. Maximum Dry Density (Standard Proctor, ASTM D-698) tests should be requested by the contractor immediately after delivery of any fill materials. The maximum density information should then be used for field density tests on each lift as necessary to ensure that the required compaction is being achieved.

11.3 Excavations

All excavation procedures and processes should be observed by a geotechnical engineer from CMT or his representative. In addition, for the recommendations in this report to be valid, all backfill and structural fill placed in trenches and all pavements should be density tested by CMT. We recommend that freshly mixed concrete be tested by CMT in accordance with ASTM designations.

12.0 LIMITATIONS

The recommendations provided herein were developed by evaluating the information obtained from the subsurface explorations and soils encountered therein. The exploration logs reflect the subsurface conditions only at the specific location at the particular time designated on the logs. Soil and ground water conditions may differ from conditions encountered at the actual exploration locations. The nature and extent of any variation in the

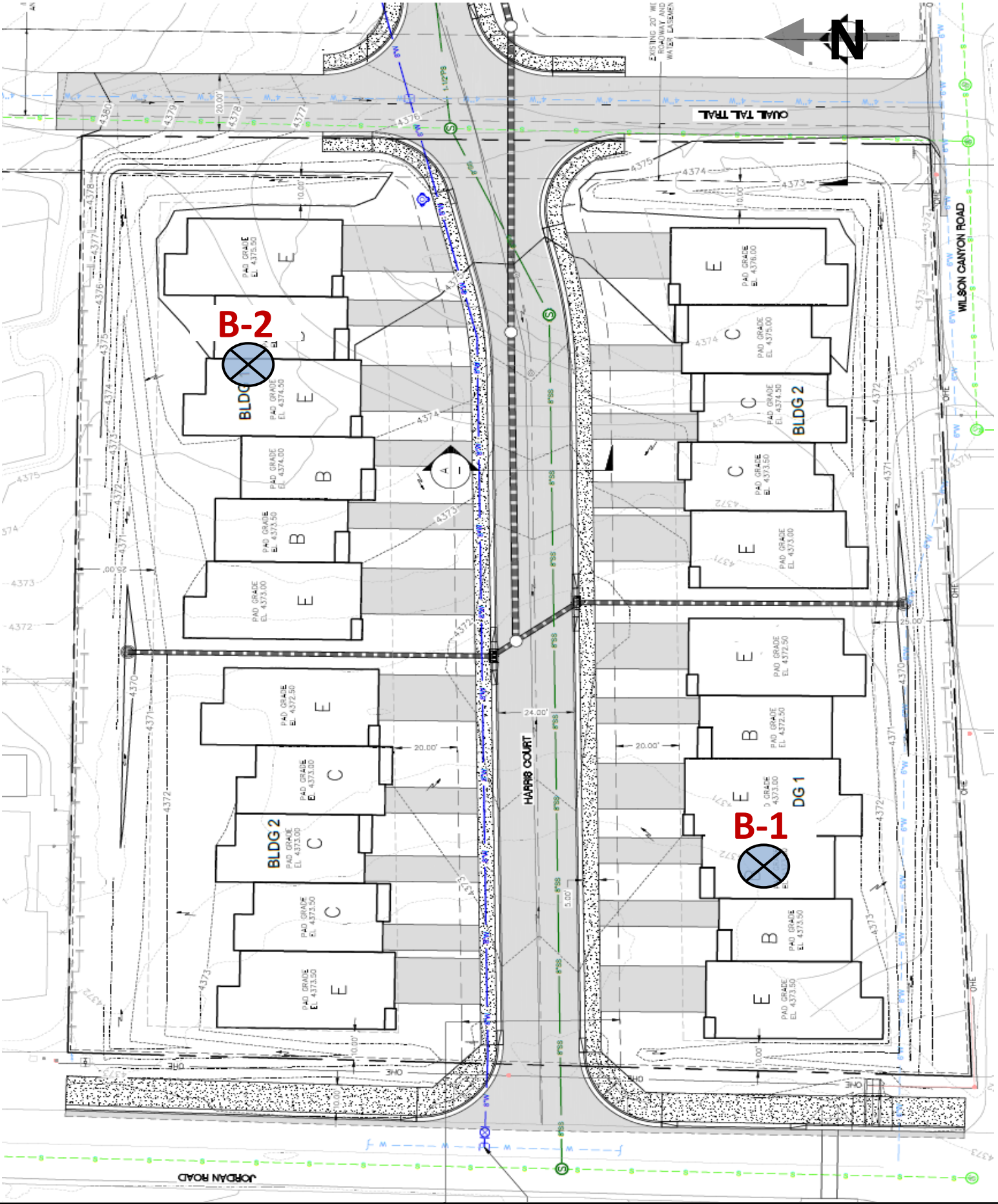
explorations may not become evident until during the course of construction. If variations do appear, it may become necessary to re-evaluate the recommendations of this report after we have observed the variation.

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

We appreciate the opportunity to be of service to you on this project. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at (602) 241-1097. To schedule materials testing, please call (602) 241-1097.

APPENDIX

SUPPORTING
DOCUMENTATION



Jordan Townhomes

Jordan Road, Sedona

CMT ENGINEERING LABORATORIES

Site Plan

Date:	10-Jan-22
Job #	3106

Figure: 1

Jordan Townhomes

Jordan Road, Sedona

Bore Hole Log B-1

Total Depth: 15'
Water Depth: (see Remarks)
Date: 1/10/22
Job #: 3106

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)	Total	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		Reddish Brown Sandy SILT with some Gravel (ML) damp, hard												
2				1	25 42 30	72	64		10.3	29.9	59.8	0	0	0
4														
6				2	50/5"	100								
6		Reddish Brown SANDSTONE (Silt with Sand (ML)) damp, hard												
8														
10				3	50/1"	100								
12														
14														
14		END AT 15'												
16														
18														
20														
22														
24														
26														
28														

Remarks: Groundwater not encountered during drilling.

Coordinates: 34.8763°, -111.7607°
Surface Elev. (approx): 4379

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: RCS Drilling
Logged By: Hank Belliston
Page: 1 of 1

CMT ENGINEERING LABORATORIES

Figure: 2

Jordan Townhomes

Jordan Road, Sedona

Bore Hole Log B-2

Total Depth: 15'
Water Depth: (see Remarks)

Date: 1/10/22
Job #: 3106

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)	Total	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		Reddish Brown Sandy SILT with some Gravel (ML) damp, hard												
2				4	8 12	32	7.9		14.8	33.4	51.8	0	0	0
4														
6		Reddish Brown SANDSTONE (Silt with Sand (ML)) damp, hard		5	8 22 33	55	5.7		4.8	20.2	75	0	0	0
8														
10				6	50/2"	100								
12														
14														
16		END AT 15'												
18														
20														
22														
24														
26														
28														

Remarks: Groundwater not encountered during drilling.

Coordinates: 34.8768°, -111.7601°
Surface Elev. (approx): 4381

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: RCS Drilling
Logged By: Hank Belliston

CMT ENGINEERING LABORATORIES

Figure: 3

Jordan Townhomes

Jordan Road, Sedona

Key to Symbols

Date: 1/10/22

Job #: 3106

① Depth (ft)	② GRAPHIC LOG	③ Soil Description	④ Sample Type	⑤ Sample #	⑥ Blows(N)	⑦ Total	⑧ Moisture (%)	⑨ Dry Density(pcf)	⑩ Gradation			Atterberg		
									Gravel %	Sand %	Fines %	LL	PL	PI

COLUMN DESCRIPTIONS

Depth (ft.): Depth (feet) below the ground surface (including groundwater depth - see water symbol below).

Graphic Log: Graphic depicting type of soil encountered (see below).

Soil Description: Description of soils encountered, including Unified Soil Classification Symbol (see below).

Sample Type: Type of soil sample collected at depth interval shown; sampler symbols are explained below-right.

Sample #: Consecutive numbering of soil samples collected during field exploration.

Blows: Number of blows to advance sampler in 6" increments, using a 140-lb hammer with 30" drop.

Total Blows: Number of blows to advance sampler the 2nd and 3rd 6" increments.

Moisture (%): Water content of soil sample measured in laboratory (percentage of dry weight of sample).

Dry Density (pcf): The dry density of a soil measured in laboratory (pounds per cubic foot).

Gradation: Percentages of Gravel, Sand and Fines (Silt/Clay), obtained from lab test results of soil passing the No. 4 and No. 200 sieves.

Atterberg: Individual descriptions of Atterberg Tests are as follows:

LL = Liquid Limit (%): Water content at which a soil changes from plastic to liquid behavior.

PL = Plastic Limit (%): Water content at which a soil changes from liquid to plastic behavior.

PI = Plasticity Index (%): Range of water content at which a soil exhibits plastic properties (= Liquid Limit - Plastic Limit).

STRATIFICATION	
Description	**Thickness**
Seam	Up to ½ inch
Lense	Up to 12 inches
Layer	Greater than 12 in.
Occasional	1 or less per foot
Frequent	More than 1 per foot

MODIFIERS
Trace
<5%
Some
5-12%
With
> 12%

MOISTURE CONTENT
Dry: Absence of moisture, dusty, dry to the touch.
Moist: Damp / moist to the touch, but no visible water.
Saturated: Visible water, usually soil below groundwater.

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS SYMBOLS		TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS More than 50% of material is larger than No. 200 sieve size.	GRAVELS The coarse fraction retained on No. 4 sieve.	CLEAN GRAVELS (< 5% fines)	GW		Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
			GP		Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
		GRAVELS WITH FINES (≥ 12% fines)	GM		Silty Gravels, Gravel-Sand-Silt Mixtures
			GC		Clayey Gravels, Gravel-Sand-Clay Mixtures
	SANDS The coarse fraction passing through No. 4 sieve.	CLEAN SANDS (< 5% fines)	SW		Well-Graded Sands, Gravelly Sands, Little or No Fines
			SP		Poorly-Graded Sands, Gravelly Sands, Little or No Fines
		SANDS WITH FINES (≥ 12% fines)	SM		Silty Sands, Sand-Silt Mixtures
			SC		Clayey Sands, Sand-Clay Mixtures
FINE-GRAINED SOILS More than 50% of material is smaller than No. 200 sieve size.	SILTS AND CLAYS Liquid Limit less than 50%		ML		Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands or Clayey Silts with Slight
			CL		Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean
			OL		Organic Silts and Organic Silty Clays o f Low Plasticity
	SILTS AND CLAYS Liquid Limit greater than 50%		MH		Inorganic Silts, Micacious or Diatomacious Fine Sand or Silty Soils with Plasticity (Elastic Silts)
			CH		Inorganic Clays of High Plasticity, Fat Clays
			OH		Organic Silts and Organic Clays of Medium to High Plasticity
HIGHLY ORGANIC SOILS			PT		Peat, Humus, Swamp Soils with High Organic Contents

Note: Dual Symbols are used to indicate borderline soil classifications (i.e. GP-GM, SC-SM, etc.).

SAMPLER SYMBOLS

- Block Sample
- Bulk/Bag Sample
- Modified California Sampler 3.5" OD, 2.42" ID
- D&M Sampler
- Rock Core
- Standard Penetration Split Spoon Sampler
- Thin Wall (Shelby Tube)

WATER SYMBOL

- Encountered Water Level
- Measured Water Level

(see Remarks on Logs)

1. The results of laboratory tests on the samples collected are shown on the logs at the respective sample depths.
2. The subsurface conditions represented on the logs are for the locations specified. Caution should be exercised if interpolating between or extrapolating beyond the exploration locations.
3. The information presented on each log is subject to the limitations, conclusions, and recommendations presented in this report.

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Figure: 4