ORIGINAL

E000038850

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JIM O'CONNOR, Chairman
LEA MÁRQUEZ PETERSON
ANNA TOVAR
KEVIN THOMPSON
NICK MEYERS

IN THE MATTER OF THE APPLICATION OF EPCOR WATER ARIZONA INC., AN ARIZONA CORPORATION: (1) FOR APPROVAL OF ITS PROPOSED STANDPIPE WATER TARIFF; AND (2) ESTABLISHMENT OF A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR STANDPIPE WATER SERVICE ONLY TO THE RIO VERDE FOOTHILLS COMMUNITY.	DOCKET NO. W-01303A-22-0264 COMPLIANCE FILING – STANDPIPE SITE LOCATION AND TRAFFIC STUDY

Decision No. 79199, issued December 12, 2023, ordered EPCOR Water Arizona Inc. ("Company" or "EPCOR") to file as a compliance item in this docket, a notice indicating whether the site location for the standpipe is located within the Foothills service territory. If a location within the Rio Verde District east of 176th Avenue on Rio Verde Drive is selected, EPCOR shall include with its notice a traffic study evaluating the anticipated impacts of water hauler traffic on local roads within Rio Verde as well as a description of any mitigations EPCOR is considering to address identified traffic impacts.

The Company hereby provides notice that it has selected a site location for the standpipe. The standpipe will be located on 176th Street, approximately one mile south of the intersection of 176th Street and Rio Verde Drive within Maricopa County, Arizona. The Company also files the attached traffic study as a compliance item in this docket.

RESPECTFULLY SUBMITTED on September 30, 2024.

Sandra L Skoubis

Sandra Skoubis
Manager, Regulatory Compliance
EPCOR Water Arizona Inc.
2355 W. Pinnacle Peak Rd., Suite 300
Phoenix, AZ 85027

ACC - Docket Control - Received 9/30/2024 3:58 PM
ACC - Docket Control - Docketed 9/30/2024 4:19 PM

Original copy E-Filed
on September 30, 2024:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Copy of the foregoing **emailed**
on September 30, 2024 to:

Mary Mee
Compliance and Enforcement Manager
Utilities Division
1200 West Washington Street
Phoenix, AZ 85007

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, in conjunction with the filing requesting its proposed true-up of standpipe rates, file a Low-Income Tariff, and Staff shall review and file a recommendation to the Commission regarding the Low-Income Tariff. Staff's recommendation may be combined with its recommendation regarding the Company's requested rate true-up.

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, as an aid to establishing the applicable customer base within the Foothills, contact Global Water-Belmont to discuss its stated desire to continue providing standpipe water sales subject to existing contracts into the Foothills community.

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, within 90 days of the effective date of this Decision, update its website with a Frequently Asked Questions section dedicated to addressing developments in the Foothills territory and progress toward the site selection process, construction of the standpipe facilities, any determinations made regarding the ultimate water source used to supply the standpipe, and responses to other commenter questions.

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, within 30 days of selecting a site location for the standpipe, file a notice to the docket indicating whether it is within the Rio Verde District or is located within the Foothills service territory. If a location within the Rio Verde District east of 176th Avenue on Rio Verde Drive is selected, EPCOR shall include with its notice, a traffic study evaluating the anticipated impacts of water hauler traffic on local roads within Rio Verde as well as a description of any mitigations EPCOR is considering to address identified traffic impacts.

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, no later than 18 months after the Decision in this matter, file as a compliance item in this docket, the estimated revenue and expenses for the first five years of the operation of the standpipe.

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, no later than 18 months after a Decision in this matter, file as a compliance item in this docket, the estimated value of the utility plant in service for the standpipe for the first five years.

IT IS FURTHER ORDERED that EPCOR Water Arizona, Inc. shall, within 12 months of the Decision in this docket, file evidence of receipt of the required county/city franchise agreement, as a

Attachment A

RIO VERDE DRIVE & 176TH STREET

Draft Traffic Statement

Prepared For: EPCOR

August 22, 2024

DIBBLE

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1. INTRODUCTION AND SUMMARY

Introduction

A new water filling station is proposed on 176th Street, approximately one mile south of the intersection of 176th Street and Rio Verde Drive within Maricopa County, AZ. **Figure 1** provides a vicinity map of the area. The traffic generated by the site will be for filling water tanks that range from small, water buffalo trailers (around 500 gallons) to large, water hauling trucks (up to 10,000 gallons). The site is anticipated to generate an annualized average of about 18 to 32 trips during morning, midday, or afternoon peak hour. This Traffic Statement (TS) focuses on the following:

- Anticipated generated trips
- Vehicle classification distribution
- And roadway infrastructure needs at the intersection of 176th Street and Rio Verde Drive

It is recommended to construct an eastbound right turn lane and a westbound left turn lane at the intersection of 176th Street and Rio Verde Drive. Providing the turn lanes allows the water haulers to move out of the through lanes of travel to make their turns without slowing down or stopping eastbound and westbound through movement vehicles.

Figure 1 – Vicinity Map

2. EXISTING CONDITIONS

Physical Characteristics

Rio Verde Drive is an existing two-lane roadway with one travel lane and bike lane in each direction. There is no median or two-way left turn lane present. There are no curbs, gutters, or sidewalks along the roadway within the vicinity of the project. According to Maricopa County's Rio Verde Foothills Area Plan, Rio Verde Drive is currently classified as a major collector, but it is planned to be a principal arterial when the full build out of a principal arterial becomes warranted. The existing speed limit along Rio Verde Drive is 50 miles per hour (MPH).

176th Street is an unpaved road that is between 28 to 30 feet wide between Rio Verde Drive and the project site location. There are a few existing homesteads located off of 176th Street south of Rio Verde Drive that generate some minor traffic volume.

176th Street & Rio Verde Drive is a three-leg intersection with one-way stop control. 176th Street is stop controlled while Rio Verde Drive is free flowing through the intersection. There are not any designated turn lanes at the intersection. All approaches at the intersection are all way shared lanes.

Traffic Volumes

Existing traffic counts for Rio Verde Drive and 176th Street were collected by Field Data Services of Arizona (FDS) on May 2nd, 2024. The summary of the existing traffic is show in **Figure 2**.

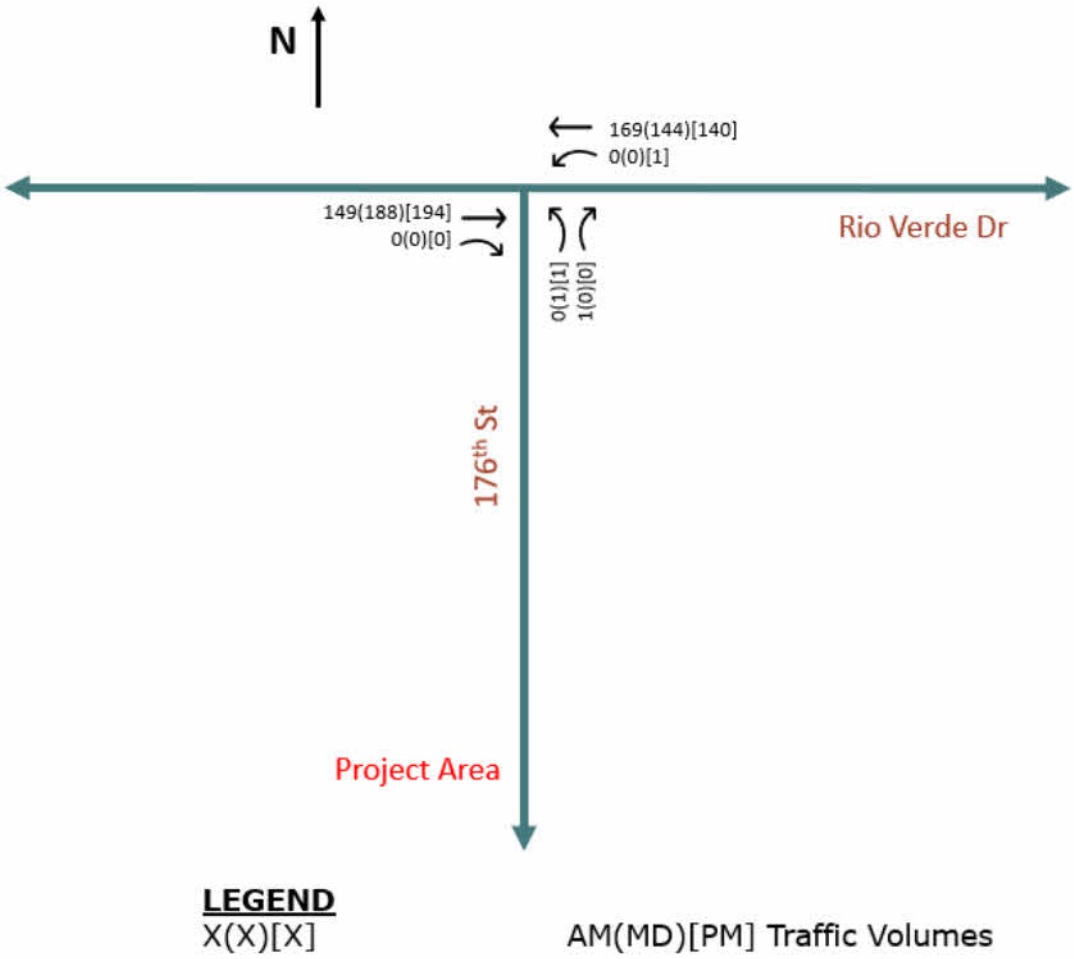


Figure 2 – Existing Traffic

3. PROPOSED DEVELOPMENT

The proposed project will construct a water filling station for water haulers to fill and haul water throughout the Rio Verde Foothills community. This project will be built in one phase. There will not be any additional phases at the time of this traffic report for this development.

The project site will be on 176th Street south of Rio Verde Drive as shown in **Figure 3**. There will be access to the filling positions directly from 176th Street and all traffic will arrive at the site and leave the site using the 176th Street and Rio Verde Drive intersection.

Figure 3 – Site Location Map

4. PROJECT CONDITIONS

This project is assumed to be open for service by the end of 2025.

Other surrounding developments are planned along Rio Verde Drive and 176th Street within the vicinity of this project. Information regarding these developments was requested from the County to help understand what the traffic impacts of those developments might be and how it might impact this project in relation to transportation infrastructure needs.

At the time of this report, future development information has not been received. Therefore, an annual growth factor of 3% percent was added to the existing traffic volumes to anticipate future traffic growth from these developments. The 3% growth factor was applied for two years to the existing traffic volumes to determine the background traffic for the opening year of 2026.

Trip Generation

The trip generation calculations for this site were determined based on data from the existing EPCOR Desert Hills Fill Station located in Anthem, Arizona. Data for the year 2021 was provided from the Desert Hills location that included every transaction for the year with the date, time, and total number of gallons filled for each transaction. Through analyzing the annual data, it was determined that the peak month for transactions was June and the lowest number of transactions occurred in January. Additionally, April was also analyzed because it represents a more average (typical) month and was also adjacent to when the traffic counts were collected for this project location. Peak hour percentages of the daily transactions (transaction rates) were developed for both months to determine what the lowest trip rate and highest trip rate could be for the fill station. The anticipated transactions for the new proposed site were calculated for the daily trips (24 hour period), one hour morning peak, one hour midday peak and one hour afternoon peak. The transactions were then converted into vehicle trip rates.

The calculations were broken down as follows to determine the trip rates and the total anticipated traffic for this new proposed location:

Evaluation by year - 2021

1. Calculate the average number of daily trips across 365 days using all transactions for the year.

Evaluation by Month - 2021

2. Determine total number of daily transactions per month.
3. Break down the months by peak month (June), lowest month (January) and a month that was in between the highest and lowest months in relation to number of transactions (April)

Evaluation by Day - 2021

4. Determine the peak day in each month.
5. Determine the peak hour transaction times for the morning peak, midday peak, and afternoon peak on the peak day of the month.
6. Summarize the total number of transactions for each of those peaks for each of the three months.

New Rio Verde Location Growth Rate

7. Calculate the growth rate from the existing Desert Hills location to this location for the anticipated number of acre feet sold in a year. The existing Desert Hills Fill Station sold 110.36 acre-feet of water in 2021.
    a. 110.36 ac-ft to 200 ac-ft (1.81 growth rate)
8. Apply the calculated growth rate to the transactions calculated by year, month, and day from 2021 total number of transactions for the existing site for each peak hour to estimate the anticipated number of transactions per peak hour for the new proposed site across the three different months.

Annualized Transaction Rate Calculation & Vehicle Trip Conversion

9. Using the transactions calculated for each day at the Rio Verde Site, calculate the transaction rate per peak hour for each of the three months by dividing the peak hour transactions by the total daily transactions to determine the peak hour transaction rates.
10. Calculate the average of the peak hour transactions rates for each peak.
11. Apply the averaged peak hour transaction rates to the average daily transactions for the year.
12. Calculate the average across the three months and then calculate the trip rate for each peak hour based on the total number of transactions and the average number of transactions per peak hour (peak hour transactions/total daily transactions)
13. Convert the total number of transactions to vehicle trips.
    a. Each transaction will generate one ingress trip and one egress trip, therefore, two total trips generated per transaction.

Table 1 summarizes the resulting calculations for the vehicle trips broken down by the three months, the daily traffic, and the peak hours per day and the average for the three months. The data and calculation breakdown is included in **Appendix C**. In the trip generation table, note the trips for January, April, and May are for reference purposes and represent the peak day numbers for each month and are therefore not representative of the entire month. These calculations were provided as a reference for the potential fluctuation of traffic, but the average values represent the anticipated annualized traffic numbers.

Table 1 - Trip Generation

Trip Description	Weekday			AM Peak			Midday Peak			PM Peak		
	Total	Ingress	Egress	Total	Ingress	Egress	Total	Ingress	Egress	Total	Ingress	Egress
January Trips	116	58	58	6	3	3	28	14	14	12	6	6
April Trips	196	98	98	28	14	14	38	19	19	14	7	7
June Trips	232	116	116	28	14	14	26	13	13	36	18	18
Average	**174**	**87**	**87**	**18**	**9**	**9**	**32**	**16**	**16**	**18**	**9**	**9**

Trip Distribution & Trip Assignment

The land use for this proposed project is unique in this case, as the vehicles arriving at the site will not necessarily be arriving from the location they will be going to after leaving the site. There is also a specific area this facility will be serving once the vehicles leave the site. There will likely be a mix of commercial water hauling companies accessing the site as well as residents in a nearby area with water buffalos hauling their own water to their place of residence. The trip distribution was therefore determined based on the anticipated direction the water hauling companies will be arriving from as well as which residential areas this site would serve.

For ingress traffic, the site is not anticipated to serve the residential areas east of the project site or directly across Rio Verde Drive from the site. Therefore, people pulling personal water buffalo trailers are not anticipated to arrive from the east. There are also currently no locations directly east of the site where water hauling trucks might arrive from their place of business where the trucks are stored and maintained when not in operation. There is a slight chance, however, that a few trucks may travel along McDowell Mountain Road from Fort McDowell or Fountain Hills area. A small percentage of trips were therefore assumed to arrive to the site and therefore travel along Forest Road and then Rio Verde Drive from the east (5%). The rest of the traffic (95%) is anticipated to arrive from the west along Rio Verde Drive for both residents with personal water buffalo trailers as well as commercial water haulers.

For egress traffic from the site, once water haulers are full and leaving to deliver water, it is anticipated this site will mainly serve residents west of the project site, particularly northwest of the site where homes do not have direct connections to water mains. Therefore, all egress traffic is anticipated to leave the site and travel westbound along Rio Verde Drive to deliver water to its intended destinations. This applies for both commercial water hauling companies as well as individuals hauling their own water. The anticipated ingress and egress trip distribution is shown in **Figure 4** and **Figure 5**.

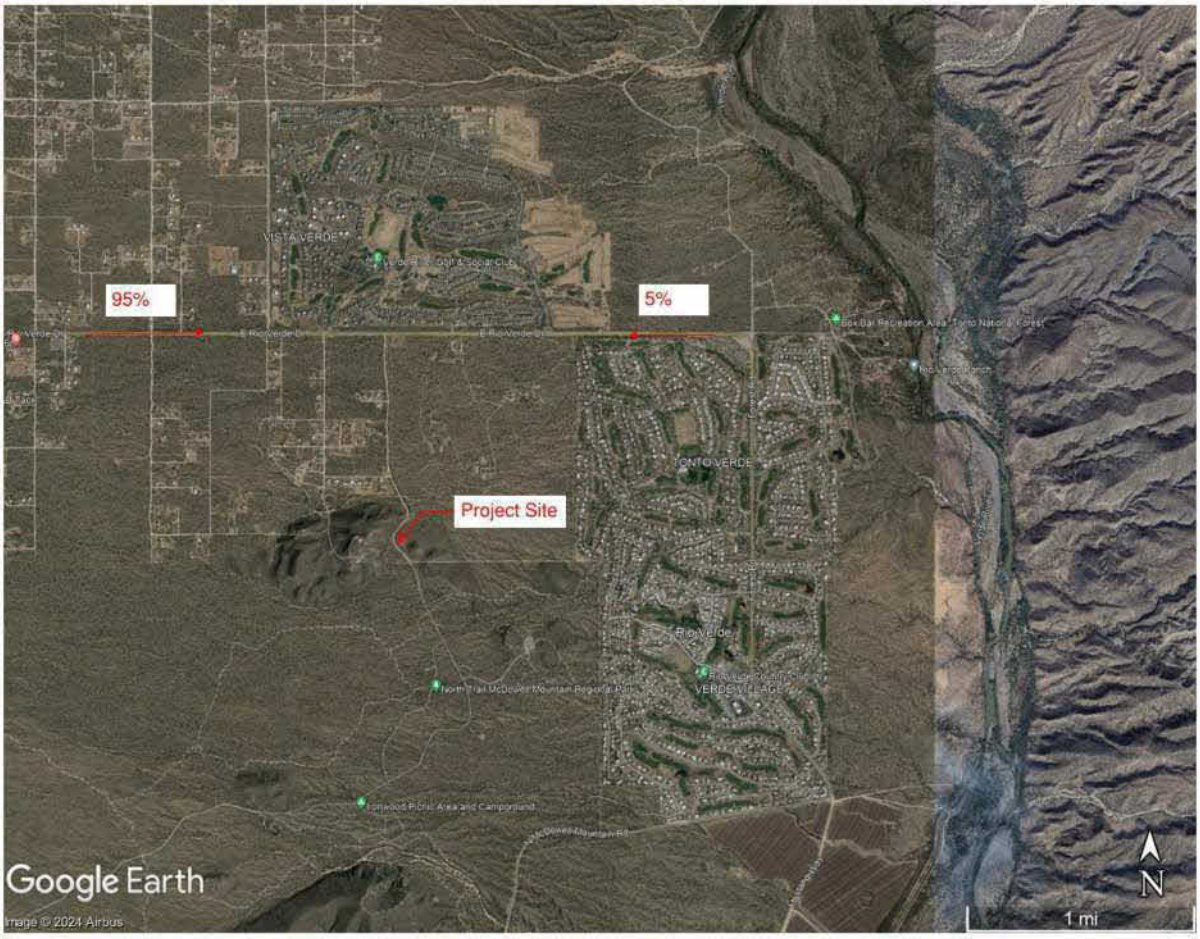


Figure 4 – Trip Distribution Ingress

Figure 5 – Trip Distribution Egress

The anticipated turning movements based on the trip distribution at 176th Street and Rio Verde Drive were determined based on the trip distribution. The resulting turning movements for the three peak hours are summarized in **Figure 6**.

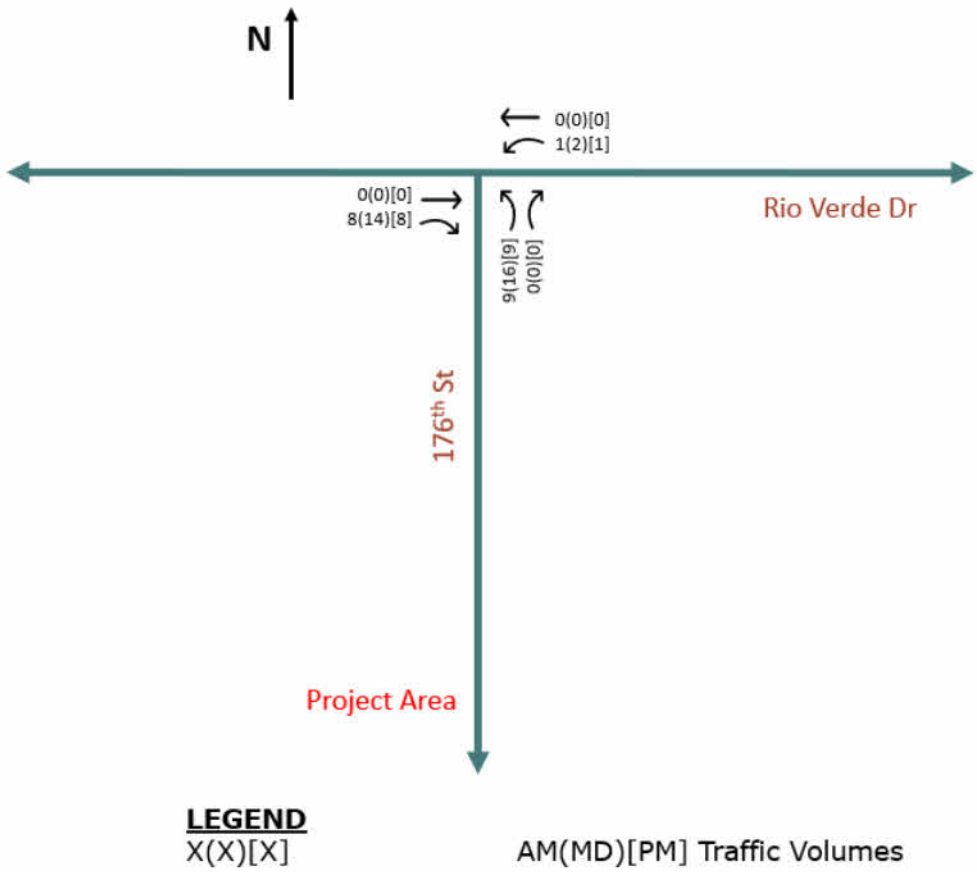


Figure 6 – Trip Assignment

Site Vehicle Type

In addition to using the Desert Hills 2021 data for calculating the trip rate, the anticipated heavy truck traffic was also estimated. The data was evaluated based on the number of gallons filled in a transaction. Research was conducted to review the typical size range of water buffalos that can be pulled with a light-duty pickup truck. Additionally, water hauling truck rentals and commercial water hauling company websites were evaluated to see the types of trucks available and the typical size of the trucks based on the amount of water they can haul. It was determined that water buffaloes can typically hold up to 1600 gallons and anything larger would require a large water hauling truck. The following process was, therefore, followed to determine the typical annualized vehicle classification breakdown. Note vehicle classifications are based on the Federal Highway Administration (FHWA) 13 vehicle classifications.

1. Break the 2021 transactions up into two categories:
    a. Category 1: 1,600 gallons or less
        i. Considered a Vehicle Class 1-3
    b. Category 2: Greater than 1,600 gallons
        i. Considered a Vehicle Class 4 or greater
2. Calculate number of transactions as well as the percentage in each transaction category
    a. Category 1 – 30%
    b. Category 2 – 70%
3. Apply percentages to the average trip generation calculations to determine the anticipated vehicle classification distribution based on the two categories. See **Table 2** for resulting calculations.

Table 2 – Vehicle Classification Resulting Calculations

	Weekday			AM Peak			Midday Peak			PM Peak		
Category	Total	Ingress	Egress	Total	Ingress	Egress	Total	Ingress	Egress	Total	Ingress	Egress
1 (Class 1-3)	35	17	17	2	1	1	8	4	4	4	2	2
2 (Class 4-13)	81	41	41	4	2	2	20	10	10	8	4	4
Total	**116**	**58**	**58**	**6**	**3**	**3**	**28**	**14**	**14**	**12**	**6**	**6**

Total Traffic

The total traffic was calculated for the anticipated annual average peak hour traffic volumes. The total traffic turning movement counts were calculated by totaling the existing traffic data with the 3% growth factor applied and the trip assignment traffic for the proposed site traffic. The resulting turning movement counts are summarized in **Figure** 7.

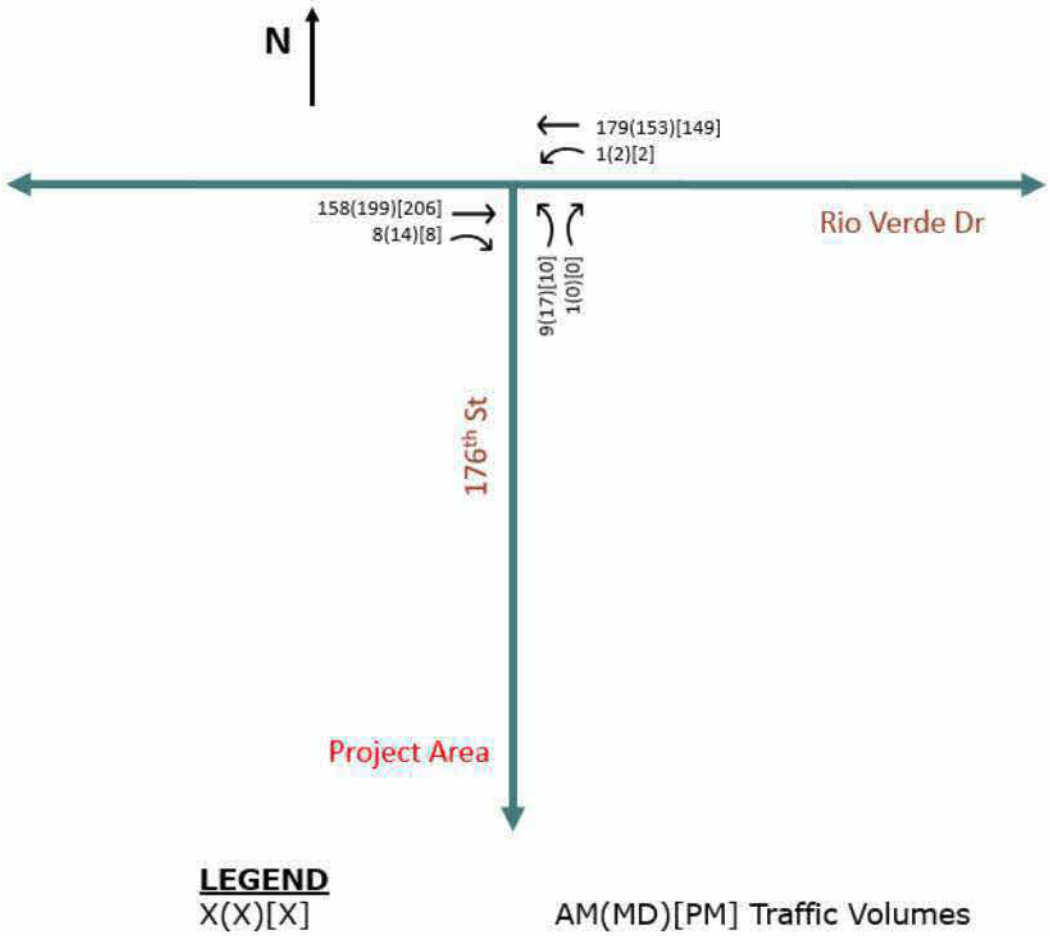


Figure 7 – Total Traffic

Site Accessibility

As shown in the site plan in **Figure 8**, the project site will have direct access to the west from 176th Street. Trucks will be able to pull directly off the roadway into one of the water filling positions, circle around the west side of the site to the south and turn north onto 176th Street to return to Rio Verde Drive.

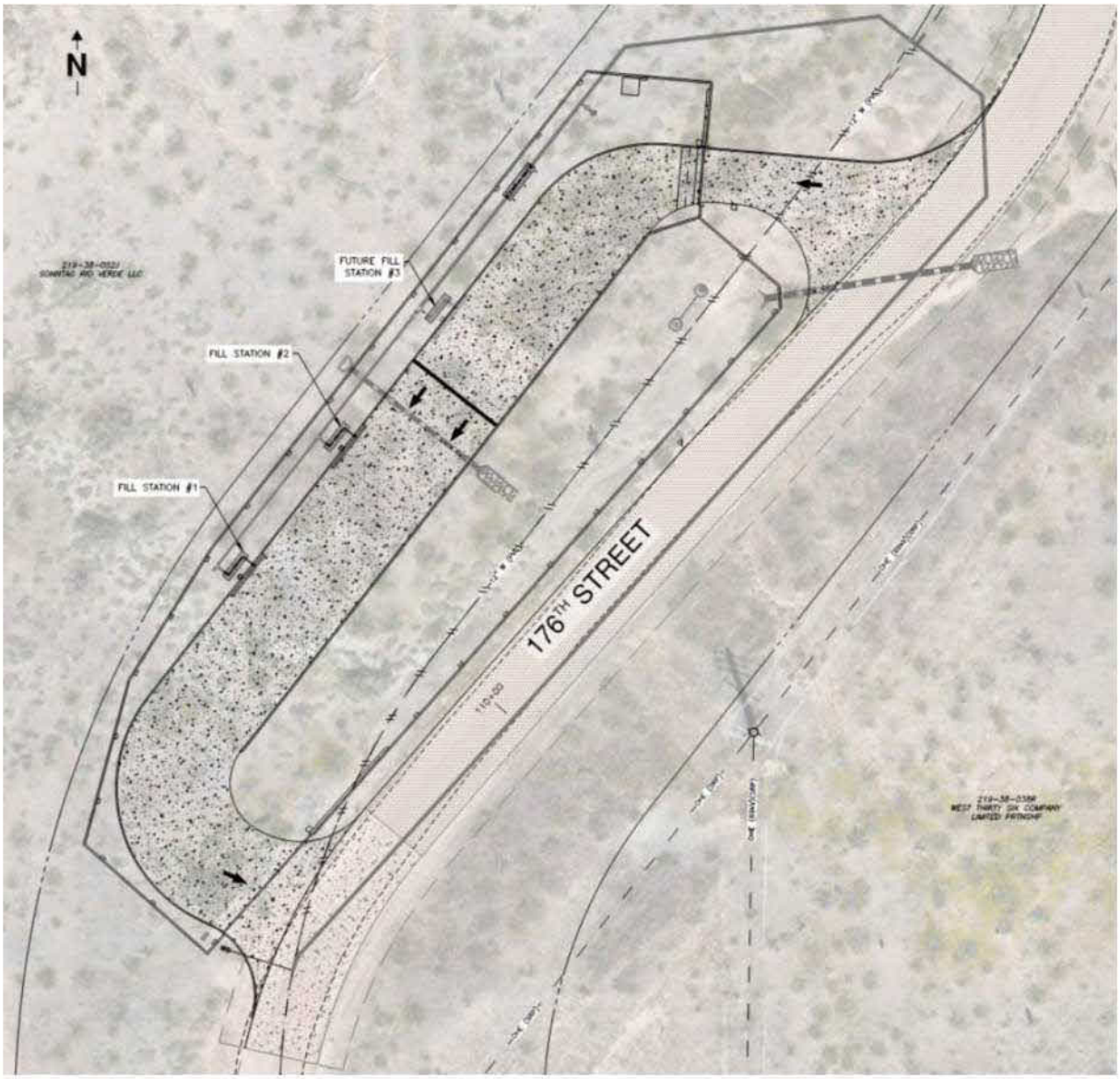


Figure 8 – Site Plan

5. TRAFFIC AND IMPROVEMENT ANALYSIS

Roadway Improvements

To accommodate the anticipated truck traffic generated from this site, improvements will be required for 176th Street as it is currently a dirt road. The level of improvements needed for 176th Street is currently being evaluated and will be determined through collaboration with Maricopa County Department of Transportation and EPCOR. The traffic generated for this site does not warrant the addition of turn lanes at the 176th Street and Rio Verde Drive intersection. However, based on the size of some of the water haulers

and to increase safety associated with them decelerating to turn onto 176th Street from Rio Verde Drive, providing a westbound left turn lane and an eastbound right turn lane at that intersection is recommended.

Traffic Signal Needs

A traffic signal warrant analysis was conducted for the peak hour warrant per the Manual on Uniform Traffic Control Devices (MUTCD) as this is the most likely warrant to be met. A traffic signal is not warranted at the intersection of 176th Street and Rio Verde Drive based on the peak hour warrant (Warrant 3).

6. CONCLUSIONS/RECOMMENDATIONS

The proposed project is anticipated to generate an annualized average of 174 daily trips, 18 morning peak hour trips, 32 midday peak hour trips, and 18 afternoon peak hour trips.

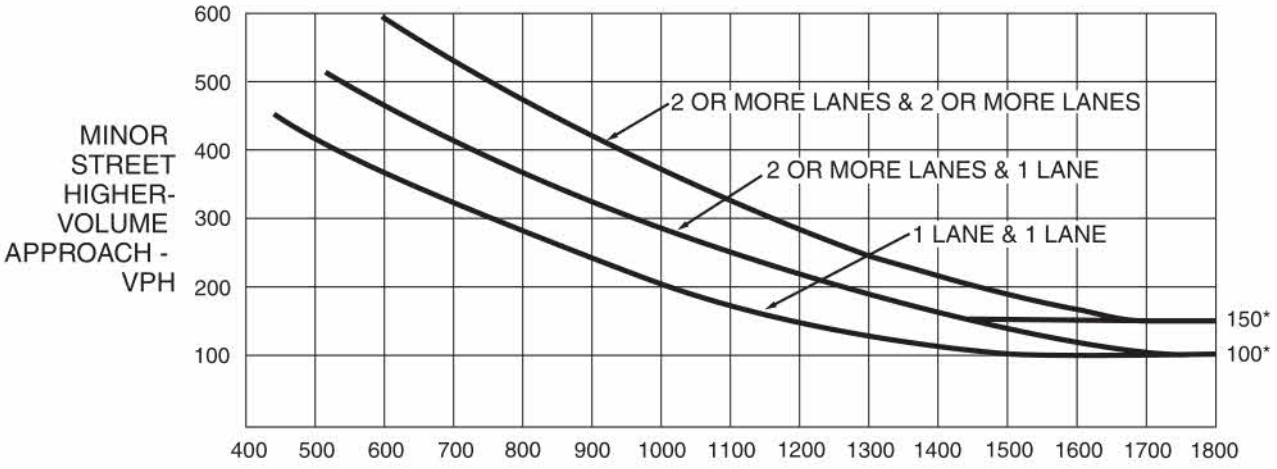
Turn lanes are not warranted on Rio Verde Drive at 176th Street based on the projected traffic volumes; however, it is recommended to construct an eastbound right turn lane and a westbound left turn lane at 176th Street to reduce crash risk which should improve safety at the intersection by minimizing the potential for rear end crashes. Providing turn lanes allows the water haulers to move out of the through lanes of travel to make their turns without slowing down or stopping eastbound and westbound through movement vehicles.

Appendix A Existing Traffic Counts

Traffic Data can be provided upon request

Appendix B Traffic Signal Warrant Analysis

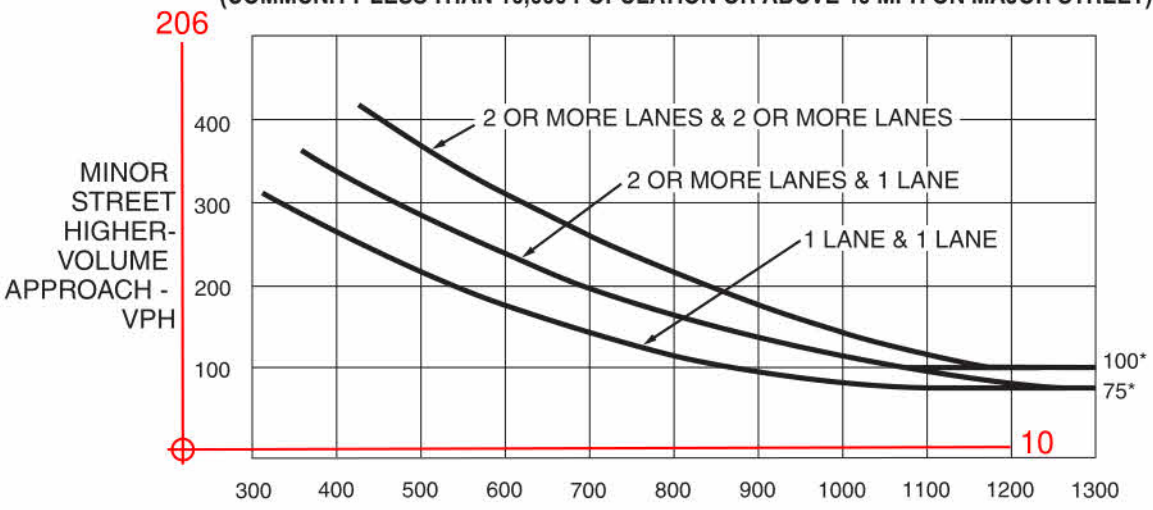
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Appendix C Transaction & Vehicle Trip Calculations

DIBBLE

Project Name:	Rio Verde Foothills
Client:	EPCOR
Dibble Project No:	1124046
Date:	7/16/2024
Initials:	CRG & HLV

Evaluation by Year - New River Desert Hills Fill Station

Year	Total Transactions	Average Daily Transactions
2021	17,454	48

Evaluation by Month - New River Desert Hills Fill Station

Month	Total Monthly Transactions	Average Daily Transactions Per Month	Peak Day
January	994	32	1/4/2021
April	1,628	54	4/7/2021
June	1,905	64	6/21/2021

Peak Day Evaluation - New River Desert Hills Fill Station

Peak Day	Day of the Week	Total Number of Transactions	Morning Peak Hour	Morning Peak Transactions	Midday Peak Hour	Midday Transactions	Afternoon Peak Hour	Afternoon Peak Transactions
1/4/2021	Monday	90	8:00-9:00	3	10:45-11:45	12	14:45-15:45	5
4/7/2021	Wednesday	82	8:00-9:00	12	10:30-11:30	16	15:15-16:15	6
6/21/2021	Monday	91	7:15-8:15	11	11:15-12:15	10	15:30-16:30	14

Acre-ft sold at the NRDHFT Station in 2021: 110.36
Acre ft required to be provided at the RVF Fill Station: 200 ac ft
% Growth Rate: $\frac{200\ ac-ft}{110.36\ ac-ft} = 1.81$

Evaluation by Year - Rio Verde Foothills Fill Station

Year	Total Transactions	Average Daily Transactions
2024	31,592	87

Evaluation by Month - Rio Verde Foothills Fill Station

Month	Total Monthly Transactions	Average Daily Transactions Per Month
January	1,799	58
April	2,947	98
June	3,448	116

Peak Day Evaluation - Rio Verde Foothills Fill Station

Peak Day (from NRDH Fill Station)	Day of the Week	Total Number of Transactions	Morning Peak Hour	Morning Peak Transactions	Morning Peak Percentage of Daily Transactions	Midday Peak Hour	Midday Transactions	Midday Peak Percentage of Daily Transactions	Afternoon Peak Hour	Afternoon Peak Transactions	Afternoon Peak Percentage of Daily Transactions
1/4/2021	Monday	91	8:00-9:00	5	0.06	10:45-11:45	22	0.24	14:45-15:45	9	0.10
4/7/2021	Wednesday	148	8:00-9:00	22	0.15	10:30-11:30	29	0.20	15:15-16:15	11	0.07
6/21/2021	Monday	165	7:15-8:15	20	0.12	11:15-12:15	18	0.11	15:30-16:30	25	0.15
	Average	135	-	16	0.11	-	24	0.18	-	15	0.11

Annualized Peak Hour Evaluation by Year - Rio Verde Foothills Fill Station

Year	Total Transactions	Average Daily Transactions	Morning Peak Hour	Morning Peak Percentage of Daily Transactions	Morning Peak Transactions	Midday Peak Hour	Midday Peak Percentage of Daily Transactions	Midday Transactions	Afternoon Peak Hour	Afternoon Peak Percentage of Daily Transactions	Afternoon Peak Transactions
2024	31,592	87	8:00-9:00	0.11	9	10:45-11:45	0.18	16	14:45-15:45	0.11	9

Annualized Peak Hour Trips - Rio Verde Foothills Fill Station

Year	Total Daily Trips	Daily Ingress Trips	Daily Egress Trips	Morning Peak Hour	Total Morning Peak Hour Trips	Morning Peak Ingress Trips	Morning Peak Egress Trips	Midday Peak Hour	Total Midday Peak Hour Trips	Midday Peak Ingress Trips	Midday Peak Egress Trips	Afternoon Peak Hour	Total Afternoon Peak Hour Trips	Afternoon Peak Ingress Trips	Afternoon Peak Egress Trips
2024	174	87	87	8:00-9:00	18	9	9	10:45-11:45	32	16	16	14:45-15:45	18	9	9

Notes:

New Desert Hills Fill Station Data provided by EPCOR.
January had the lowest transactions per month in 2021 at the NRDH Fill Station.
April was the month that traffic counts were obtained in the RVF Fill Station Project Area (2024). April also reflects transaction totals close to the average of the lowest and highest months.
June had the highest transactions per month in 2021 at the NRDH Fill Station.
Assumption is that highest transaction hour occurred on the peak day.
Refer to *Page 2* for NRDH peak day graphs.

Appendix D Turn Lane Warrant Analysis

3. Engineering judgment indicates a right-turn deceleration lane is warranted based on factors including shoulder width, percentage of trucks, sign distance, roadway grade, horizontal and vertical curvature, and crash history.

If the expected peak hour turning volume exceeds 300 vehicles per hour, dual right turn lanes should be considered.

TABLE 6.1: VOLUME WARRANTS FOR RIGHT-TURN LANES

Peak Hour Traffic Volume on the Roadway in Advancing Direction	**Minimum Peak Hour Right-Turn Traffic Volume**				
	# of thru lanes per direction				
	1		2		3
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	All Speeds
≤ 200	-	-	-	-	-
201 -300	-	30	-	-	-
301 – 400	-	19	-	55	-
401 – 500	85	14	-	30	-
501 – 600	58	12	140	25	-
601 – 700	27	9	80	18	-
701 – 800	20	8	53	15	-
801 – 900	12	7	40	12	-
901 – 1000	9	6	30	11	-
1001 – 1100	8	5	23	9	18
1101 - 1200	7	5	18	8	16
1201 – 1300	6	4	14	8	15
1301 – 1400	6	4	11	6	12
1400 +	5	3	8	6	10

B. Left Turn Lane Warrants:

1. Left turns shall be provided at all signalized intersections.

2. Existing and/or Design Year peak hour left turn volumes meet or exceed the ranges presented in Table 6.2.

3. On any roadway that does not meet the requirements of Table 6.2 but a traffic impact analysis indicates the LOS would be improved to an acceptable LOS, based on roadway classification, or better with the addition of a left-turn lane.

TABLE 6.2: VOLUME WARRANTS FOR LEFT-TURN LANES				
Peak Hour Traffic Volume on the Roadway in Advancing Direction	Minimum Peak Hour Left-Turn Traffic Volume			
	# of thru lanes per direction			
	1		2	
	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed	< 45 MPH Posted Speed	≥ 45 MPH Posted Speed
≤ 200	30	15	-	-
201 -300	12	12	40	30
301 – 400	12	12	30	25
401 – 500	12	12	25	18
501 – 600	12	12	15	12
601 – 1000	12	12	10	8
1000 +	12	8	10	8

The threshold volumes used to determine the need for turn lanes are based on a normal mix of design vehicle types, the volume limits may be adjusted at the discretion of the County Traffic Engineer.

In some circumstances, left turn lanes may not be required at signalized intersections; those intersections will generally require split-phase signal operation and will be evaluated by MCDOT Traffic Management on a case by case basis.

C. Dual Left-Turn Lanes are to be provided when:

1. The peak hour left-turn volume exceeds 300 vehicles per hour.

2. The peak hour conflicting through movement volume exceeds 1,000 vehicles per hour.

3. A traffic impact analysis indicates the LOS would be increased to a LOS of D or better with the addition of duel left turns.

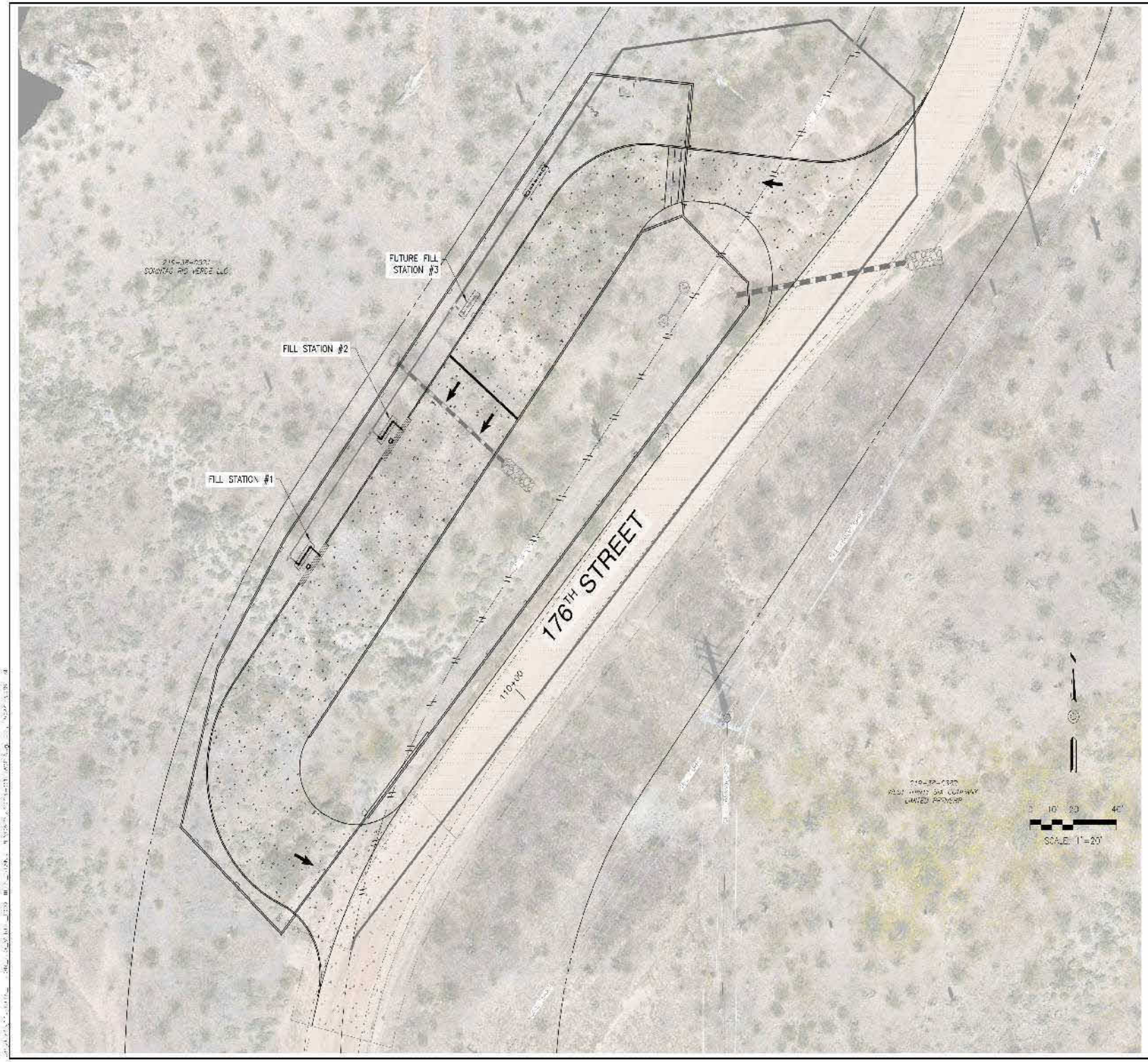
The threshold volumes used to determine the need for turn lanes are based on a normal mix of design vehicle types, the volume limits may be adjusted at the discretion of the Traffic Engineer.

In some circumstances, left turn lanes may not be required at signalized intersections; those intersections will generally require split phase signal operation and will be evaluated by MCDOT Traffic Management on a case by case basis.

6.1.7 INTERSECTION TURN LANE DESIGN

Intersections are to be designed to allow the passenger car (P) design vehicles approaching from opposite directions to turn left simultaneously without conflict with

Appendix E Proposed Site Plan



REMOVAL NOTES

10	REMOVE & RELOCATE SAGUARO CACTUS	2 EA
14	CLEAR & GRUB	(NPI)

CONSTRUCTION NOTES

30	8' X 22' WEATHERED STEEL ROLLING GATE	1 EA
31	CMU CONCRETE BLOCK WALL INTEGRAL COLOR OR PAINTED	1084 LF
33	MOTORIZED GATE OPERATOR (COMMERCIAL)	2 EA
34	BOLLARD MAG STD DET 140 TYPE I (PERMANENT)	5 EA
36	8' X 30' WEATHERED STEEL ROLLING GATE	1 EA
38	CONCRETE PAVEMENT (BROOM FINISH) 8"PCC/4"ABC	2009 SY
41	3' PRECAST CONCRETE BARRIER	40 LF
42	SINGLE CURB MAG STD DET 222, TYPE A	536 LF
44	BLOCK WALL OPENING	1 EA
53	12" SOLID WHITE LINE	40 LF
54	PAVEMENT ARROW MARKING ADOT STD DWG M-10	2 EA
55	5' VALLEY GUTTER MAG STD DET 240	74 LF
56	SAFETY RAIL	250 LF

REFERENCE NOTES

2. GRADING & DRAINAGE PLAN SHT C2
3. UTILITY PLAN SHT C3
4. ELECTRICAL PLANS SHT E1-E4
5. ROADWAY PLANS SHT P1-P13
7. MECHANICAL PIPING SHT MP1-MP2

REV	DESCRIPTION	REV DATE

EPCOR RIO VERDE FOOTHILLS STANDPIPE

EPCOR PROJECT #1019268

SITE PLAN

PRELIMINARY SUBMITTAL

30%

NOT FOR CONSTRUCTION OR RECORDING

DATE: AUGUST 2024

DESIGN BY: MED

DRWN BY: EDS

PLAN REVIEWED BY: DATE

PLAN APPROVED BY: DATE

FOR EPCOR USE ONLY

DIBBLE

EPCOR

SHEET C1