



City of Avondale
City Council Meeting
Tuesday, September 6, 2022

Mayor and Council

Kenneth Weise, Mayor

Veronica Malone, Vice Mayor

Tina Conde, Council Member | Bryan Kilgore, Council Member
Curtis Nielson, Council Member | Mike Pineda, Council Member
Gloria Solorio, Council Member

Administration

Cherlene Penilla, Acting City Manager

Tracy Stevens, Acting Assistant City Manager

Nicholle Harris, City Attorney | Marcella Carrillo, City Clerk

City Council Chambers

11465 West Civic Center Drive
Avondale, AZ 85323



City Council Meeting
Notice & Agenda
Tuesday, September 6, 2022

CITY COUNCIL CHAMBERS | 11465 WEST CIVIC CENTER DRIVE | AVONDALE, AZ 85323

**SPECIAL MEETING
5:30 PM**

CALL TO ORDER BY MAYOR

1. ROLL CALL BY THE CITY CLERK

2. EMPLOYEE INTRODUCTIONS & ANNOUNCEMENTS (DISCUSSION ONLY)

City Clerk's Office - Employee Announcements

- Maria James, City Clerk Specialist, Certified Municipal Clerk Achievement

City Court - Employee Announcements

- Sheri Godinez, Court Financial Management Analyst, Supervisor's Academy Achievement

Development & Engineering Services - Employee Introductions

- | | |
|---|---|
| • Amapola Arreola, Eng. Permit Technician | • Yulonda Moore, Right-of-Way Coordinator |
| • Linda Beyersdorf, Sr. Management Analyst | • Natalie Railey, Project Coordinator |
| • Terry Dorschied, Sr. Engineering Technician | • Aric Stewart, Acting Director / City Engineer |
| • Ellen Esquivel, Building Permit Technician | • Rajanikanth Thoutam, Sr. Traffic Engineer |
| • Raquel Llenez, Project Coordinator | • Mark Trinidad, Planner |

Economic Development - Employee Introductions

- Adam Shipley, Business Development Manager

Fire & Medical Department

- Jordan Utti, Firefighter
- Osvaldo Magana, Firefighter

Neighborhood and Family Services - Employee Introductions

- Natasha Alavi, Librarian I
- Stephanie Douglas, Librarian III/Branch Manager
- Regina Marette, Housing & Community Development Manager

3. ADJOURNMENT

REGULAR MEETING

6:00 PM

CALL TO ORDER BY MAYOR PLEDGE OF ALLEGIANCE & MOMENT OF REFLECTION

1. ROLL CALL AND STATEMENT OF PARTICIPATION BY THE CITY CLERK

2. UNSCHEDULED PUBLIC APPEARANCES (Time is limited per person. Please state your name.)

3. CONSENT AGENDA

Items on the consent agenda are of a routine nature or have been previously studied by the City Council at a work session. They are intended to be acted upon in one motion. Council members may pull items from consent if they would like them considered separately.

a. COUNCIL MEETING SCHEDULE FOR 2023

City Council will consider a request to approve the 2023 City Council Meeting Schedule. The Council will take the appropriate action.

b. BUDGET TRANSFER FOR FIRE STATION 172 PARKING IMPROVEMENTS

City Council will consider a request to: (a) transfer funding in the amount of \$300,000 from project B0093 The BLVD Garage to project S0094 Parking Improvements at Fire Station 172 to pay for the improvement project construction cost escalation in material and labor; and (b) authorize staff to complete the necessary budget amendment. The Council will take appropriate action.

c. REQUEST TO REALLOCATE FUNDS FOR DYSART ROAD SEWER REPLACEMENT PROJECT - RILEY TO CORAL (U0045)

City Council will consider a request to: (a) reallocate realized cost savings from completed projects to the Dysart Road Sewer Replacement Project – Riley to Coral, Project No. U0045 in the amount of \$750,000; (b) issue award authority; and (c) authorize the Mayor, or City Manager and City Clerk to execute the necessary documents. The Council will take appropriate action.

d. AGREEMENT FOR ACCOUNTING AND DELIVERY OF WATER MADE AVAILABLE IN THE MODIFIED ROOSEVELT DAM FLOOD CONTROL SPACE UNDER A TEMPORARY DEVIATION TO THE WATER CONTROL PLAN

City Council will consider a request to approve an Agreement for Accounting and Delivery of Water with the Salt River Project (SRP) under a Temporary Deviation Plan previously agreed to by Council in August of 2021, and authorize the Mayor, or City Manager and City Clerk to execute the necessary documents. The Council will take appropriate action.

e. RESOLUTION 1063-0922 - GRANT ACCEPTANCE FROM GOVERNOR'S OFFICE OF HIGHWAY SAFETY

City Council will consider a request to adopt Resolution 1063-0922, authorizing the acceptance of a grant provided by the Governor's Office of Highway Safety (GOHS) for Prop 207 funding in the amount of \$25,500, which will support the Police Department's funding of acquiring one Leica 360 3D Scanner and authorize the Mayor or City Manager, City Attorney and City Clerk to execute the necessary documents. The Council will take appropriate action.

f. ORDINANCE 2051-0922 - ESTABLISHMENT OF THE INDEPENDENT AUDIT COMMITTEE

City Council will consider a request to adopt Ordinance 2051-0922, establishing an independent Audit Committee comprised of members of the City Council and the public and authorize the Mayor or City Manager, City Attorney and City Clerk to execute the necessary documents. The Council will take appropriate action.

4. REGULAR AGENDA

a. PUBLIC HEARING AND ORDINANCE 2049-0822 - REZONE FOR FAIRWAY RESIDENCES - PLANNED AREA DEVELOPMENT (PAD) - APPLICATION PL-22-0068

City Council will hold a public hearing and consider a request to adopt 2049-0822, approving a request by Ms. Carolyn Oberholtzer of Bergin, Frakes, Smalley & Oberholtzer, PLLC, on behalf of HAM Fairway, LLC / FWVB, LLC, to rezone approximately 15.75 gross acres (14.17 net acres) at the southwest corner of Fairway Drive and Van Buren Street and authorize the Mayor, Acting City Manager, City Attorney and City Clerk to execute the necessary documents. A portion of the site is currently zoned R1-6 and the remaining portion is zoned Coldwater Springs PAD. The proposal will change the zoning of both properties to Fairway Residences PAD. The proposed Rezone will allow for a 286-unit multi-family residential project. The Council will take appropriate action.

b. WESTERN AVENUE & DYSART ROAD INTERSECTION STUDY 2022

Staff will provide an overview of the Western Avenue and Dysart Intersection Study and request input from City Council. Staff will incorporate this input in developing the 5-year capital improvement plan. This is for information and discussion only.

5. ADJOURNMENT

Council Members of the City of Avondale will attend either in person or by telephone or video conference call. Individuals with special accessibility needs, including sight or hearing impaired, large print, or interpreter, should contact the City Clerk at 623-333-1200 or TDD 623-333-0010 at least two business days prior to the Council Meeting.

Los miembros del Concejo de la Ciudad de Avondale participaran ya sea en persona o por medio de llamada telefonica o por video. Personas con necesidades especiales de accesibilidad, incluyendo personas con impedimentos de vista u oido, o con necesidad de impresion grande o interprete, deben comunicarse con la Secretaria de la Ciudad at 623-333-1200 o TDD 623-333-0010 cuando menos dos dias habiles antes de la junta del Concejo.

CITY COUNCIL REPORT

SUBJECT: Council Meeting Schedule for 2023

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Marcella Carrillo, City Clerk, (623) 333-1214

THROUGH: Cherlene Penilla, Acting City Manager, 623-333-1015

STRATEGIC PLAN:

This agenda item supports the following Avondale Strategic Outcome Area:

- Connected Community - Avondale will work directly and closely with our communities to develop programs and infrastructure that connect residents to the city's resources, the region, and each other.

Public meetings are just one outlet for residents to connect with the City Council.

PURPOSE:

City Council will consider a request to approve the 2023 City Council Meeting Schedule. The Council will take the appropriate action.

BACKGROUND:

According to the Council Rules of Procedure, City Council shall approve the upcoming year's meeting schedule prior to the end of each calendar year. According to the Avondale City Charter Article II §12, City Council shall conduct two meetings a month. If a change in approved meeting time or place shall be made, the City Clerk shall take appropriate action to publicly announce the change and publish a seven-day notice as required in the Avondale Charter Article II §12.

DISCUSSION:

The 2023 City Council meeting calendar provides for a summer break. The stand-alone Work Session meetings are not included on the schedule but may be added throughout the year on an as-needed basis.

All scheduled Special Meetings will begin at 5:30 p.m. and all scheduled Regular Meetings will begin at 6:00 p.m. The Work Session will be added as needed at the conclusion of the Regular Meetings.

BUDGET IMPACT:

This item has no budget impact.

RECOMMENDATION:

Staff is recommending City Council approve the presented 2023 City Council Meeting Schedule.

Contact person for document distribution:

2023 COUNCIL CALENDAR

with holidays and conferences

DRAFT

January 2023						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Jan 1 - New Year's Day
Jan 16 - MLK Jr. Day
Jan 25-27 - ACMA Winter Conf.

February 2023						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

Feb 12 - Super Bowl
Feb 20 - Presidents' Day

March 2023						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Mar 13-18 - Avondale Schools Spring Break
Mar 20 - Other District Spring Break
March 26-28 - NLC Conf. (Washington)

April 2023						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May 2023						
S	M	T	W	T	F	S
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

May 29 - Memorial Day

June 2023						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Jun 19 - Juneteenth

July 2023						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

July 4 - Independence Day
July 17 - Virtual Mtg - Consent Items ONLY
July 12-14 - ACMA Summer Conf. (Tucson)

August 2023						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Aug 28 - Virtual Mtg - Consent Items ONLY
Aug 29 - Sept 1 - League Annual Conf. (Tucson)

September 2023						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Aug 29-Sept 1 - League Annual Conf. (Tucson)
Sept 4 - Labor Day
Sept 30-Oct 4 - ICMA Annual Conf. (Texas)

October 2023						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Sept 30-Oct 4 - ICMA Annual Conf. (Texas)
Oct 31 - Halloween (not observed)

November 2023						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Nov 11 - Veterans' Day
Nov 15-18 - NLC Cities Summit (Georgia)
Nov 20 - Virtual Mtg - Consent Items ONLY
Nov 24 - Thanksgiving

December 2023						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Dec 25 - Christmas Day

	Conferences	NOTE: All public hearings will occur at 6:00 p.m.
	Council Meeting	
	Holidays	
*Spring Break Dates: <u>March 13-17</u>		
*Littleton School District Board Meetings: 2nd Tuesday of the month (Council Member Nielson)		

CITY OF AVONDALE
2023 COUNCIL MEETING SCHEDULE

NOTICE IS HEREBY GIVEN to the general public that the following is the schedule of City Council meetings for the 2023 calendar year. Agendas are available 24 hours in advance of each meeting in the Office of the City Clerk, at 11465 West Civic Center Drive, Avondale, Arizona, Monday through Thursday, between the hours of 7:00 a.m. to 6:00 p.m. or online at www.avondaleaz.gov/councilmeeting.

Note: All Special Meetings will begin at 5:30 p.m. (if needed) with the Regular Meeting beginning at 6:00 p.m.

Month	2023 City Council Meeting Schedule Meeting Location: City Hall - Council Chamber 11465 West Civic Center Drive, Avondale, Arizona 85323
January	January 9, 2023
	January 23, 2023
February	February 6, 2023
	February 27, 2023
March	March 6, 2023
	March 20, 2023
April	April 3, 2023
	April 17, 2023
May	May 1, 2023
	May 15, 2023
June	June 5, 2023
	June 26, 2023
July	July 10, 2023
	July 17, 2023 <i>*Meeting to be hosted virtually with no public hearings.</i>
August	August 21, 2023
	August 28, 2023 <i>*Meeting to be hosted virtually with no public hearings.</i>
September	September 11, 2023
	September 25, 2023
October	October 9, 2023
	October 23, 2023
November	November 6, 2023
	November 20, 2023 <i>*Meeting to be hosted virtually with no public hearings.</i>
December	December 4, 2023
	December 18, 2023

**Meeting to be hosted virtually with no public hearings.*
Please visit www.avondaleaz.gov/councilmeeting for instructions on joining the meeting.

Council Members of the City of Avondale will attend either in person or by telephone conference call. Los miembros del Concejo de la Ciudad de Avondale participaran ya sea en persona o por medio de llamada telefonica.

Accommodations for Individuals with Disabilities. Individuals with special accessibility needs, including sight or hearing impaired, large print, or interpreter, should contact the City Clerk at 623-333-1200 or TDD 623-333-0010 at least two business days prior to the Council Meeting. **Alojamiento para Personas incapacitadas.** Personas con necesidades especiales de accesibilidad, incluyendo personas con impedimentos de vista u oido, o con necesidad de impresion grande o interprete, deben comunicarse con la Secretaria de la Ciudad at 623-333-1200 o TDD 623-333-0010 cuando menos dos dias habiles antes de la junta del Concejo.

CITY COUNCIL REPORT

SUBJECT: Budget Transfer for Fire Station 172 Parking Improvements

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Jodie Novak, Acting Director, Development Services, (623) 333-4015
Aric Stewart, Acting Director, Engineering Services, (623) 333-4241

THROUGH: Tracy Stevens, Acting Assistant City Manager, (623) 333-1014

STRATEGIC PLAN:

Strategic Outcome: Creative and Sustainable Community Development

Strategy: Maintain and expand quality infrastructure and improve connectivity to City amenities.

PURPOSE:

City Council will consider a request to: (a) transfer funding in the amount of \$300,000 from project B0093 The BLVD Garage to project S0094 Parking Improvements at Fire Station 172 to pay for the improvement project construction cost escalation in material and labor; and (b) authorize staff to complete the necessary budget amendment. The Council will take appropriate action.

BACKGROUND:

The parking improvement project was planned in FY2022. The project consists of a parking lot with secured fencing to accommodate public safety personal and fleet vehicles. However, due to recent increases in construction costs, the project cost has exceeded the allocated budget.

DISCUSSION:

Due to construction costs dramatically increasing and the impact caused by additional scope related to protecting existing SRP irrigation pipe, the original budget of \$710,000 for construction is insufficient to complete the project.

Project B0093 The BLVD Garage has \$421,850 in unencumbered funds in the project budget. Reallocating \$300,000 from unencumbered funds will leave sufficient funds for the remainder of the project.

BUDGET IMPACT:

This action will reduce the budget of B0093-11040900-82000 to \$10,700,000 and increase the budget of S0094-11040900-81100 to \$1,160,000.

RECOMMENDATION:

Staff recommends that City Council authorize the funding transfer in the amount of \$300,000 from B0093 The BLVD Garage to pay for escalation in material and labor costs, authorize a budget amendment from B0093

The BLVD Garage, authorize staff to amend the interfund transfer schedule, and authorize the Mayor, City Manager, and City Clerk to execute the necessary documents.

Contact person for document distribution:

BUDGET REPORT

FOR 2022 13

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
80000 Design/Engineering							
409 Engingeer Capital & Asset Repl							
4090 DES Capital							
1100 General Capital Fund	150,000	0	150,000	92,078.86	38,161.14	19,760.00	86.8%
TOTAL DES Capital	150,000	0	150,000	92,078.86	38,161.14	19,760.00	86.8%
TOTAL Engingeer Capital & Asset Repl	150,000	0	150,000	92,078.86	38,161.14	19,760.00	86.8%
TOTAL Design/Engineering	150,000	0	150,000	92,078.86	38,161.14	19,760.00	86.8%
81100 Land Improvement							
409 Engingeer Capital & Asset Repl							
4090 DES Capital							
1100 General Capital Fund	710,000	0	710,000	.00	.00	710,000.00	.0%
TOTAL DES Capital	710,000	0	710,000	.00	.00	710,000.00	.0%
TOTAL Engingeer Capital & Asset Repl	710,000	0	710,000	.00	.00	710,000.00	.0%
TOTAL Land Improvement	710,000	0	710,000	.00	.00	710,000.00	.0%
GRAND TOTAL	860,000	0	860,000	92,078.86	38,161.14	729,760.00	15.1%

** END OF REPORT - Generated by Ron Vestman **

BUDGET REPORT

FOR 2022 13

	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
80000 Design/Engineering							
409 Engingeer Capital & Asset Repl							
4090 DES Capital							
1100 General Capital Fund	1,500,000	0	1,500,000	1,710,030.15	218,913.00	-428,943.15	128.6%
TOTAL DES Capital	1,500,000	0	1,500,000	1,710,030.15	218,913.00	-428,943.15	128.6%
TOTAL Engingeer Capital & Asset Repl	1,500,000	0	1,500,000	1,710,030.15	218,913.00	-428,943.15	128.6%
TOTAL Design/Engineering	1,500,000	0	1,500,000	1,710,030.15	218,913.00	-428,943.15	128.6%
82000 Building - CAP							
409 Engingeer Capital & Asset Repl							
4090 DES Capital							
1100 General Capital Fund	8,300,000	1,000,000	9,300,000	5,171,747.00	3,411,842.00	716,411.00	92.3%
TOTAL DES Capital	8,300,000	1,000,000	9,300,000	5,171,747.00	3,411,842.00	716,411.00	92.3%
TOTAL Engingeer Capital & Asset Repl	8,300,000	1,000,000	9,300,000	5,171,747.00	3,411,842.00	716,411.00	92.3%
TOTAL Building - CAP	8,300,000	1,000,000	9,300,000	5,171,747.00	3,411,842.00	716,411.00	92.3%
83010 Furniture, Fixtures, Equip Cap							
409 Engingeer Capital & Asset Repl							
4090 DES Capital							

BUDGET REPORT

FOR 2022 13

83010 Furniture, Fixtures, Equip Cap	ORIGINAL APPROP	TRANFRS/ ADJSTMTS	REVISED BUDGET	YTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
1100 General Capital Fund	0	0	0	.00	39,133.32	-39,133.32	100.0%
TOTAL DES Capital	0	0	0	.00	39,133.32	-39,133.32	100.0%
TOTAL Engingeer Capital & Asset Repl	0	0	0	.00	39,133.32	-39,133.32	100.0%
TOTAL Furniture, Fixtures, Equip Cap	0	0	0	.00	39,133.32	-39,133.32	100.0%

84000 Technology - Hardware CAP

409 Engingeer Capital & Asset Repl

4090 DES Capital

1100 General Capital Fund	200,000	0	200,000	.00	26,483.60	173,516.40	13.2%
TOTAL DES Capital	200,000	0	200,000	.00	26,483.60	173,516.40	13.2%
TOTAL Engingeer Capital & Asset Repl	200,000	0	200,000	.00	26,483.60	173,516.40	13.2%
TOTAL Technology - Hardware CAP	200,000	0	200,000	.00	26,483.60	173,516.40	13.2%
GRAND TOTAL	10,000,000	1,000,000	11,000,000	6,881,777.15	3,696,371.92	421,850.93	96.2%

** END OF REPORT - Generated by Ron Vestman **

CITY COUNCIL REPORT

SUBJECT: Request to reallocate funds for Dysart Road Sewer Replacement Project - Riley to Coral (U0045)

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Kirk Beaty, Public Works Director, (623) 333-4417

THROUGH: Tracy Stevens, Acting Assistant City Manager, (623) 333-1014

STRATEGIC PLAN:

- Innovative Program and Service Delivery -
Avondale will continue to serve as a model of innovative, efficient, and responsive government.

The rehabilitation and capacity increase to the gravity sewer system will allow Avondale to continue providing necessary wastewater service to its residents and business as well as uphold the level of service our customers expect.

PURPOSE:

City Council will consider a request to: (a) reallocate realized cost savings from completed projects to the Dysart Road Sewer Replacement Project – Riley to Coral, Project No. U0045 in the amount of \$750,000; (b) issue award authority; and (c) authorize the Mayor, or City Manager and City Clerk to execute the necessary documents. The Council will take appropriate action.

BACKGROUND:

The City's 2018 Integrated Utility Master Plan (IUMP) identified two locations requiring sewer repairs and capacity increases. These locations are the Dysart Road sewer, running from Riley Drive to Corral Street, and the 4th Avenue sewer, located at 4th Ave. and Main Street.

On July 22, 2019, a Construction Manager at Risk (CMAR) Agreement (19-173C) with Achen-Gardner Construction, LLC was executed for pre-construction services for the 4th Ave. sewer and Dysart Road sewer rehabilitation and replacement projects. Amendments to the contract with Achen-Gardner added a Guaranteed Maximum Price agreement (GMP No. 1) to complete work on the 4th Ave. project earlier this year.

In order to begin work on the Dysart Road sewer, GMP No. 2 was recently issued to Achen-Gardner to procure materials with long lead times and reduce the potential for additional price increases on materials. Staff is now ready to issue GMP No. 3 for final construction services on the Dysart Road sewer project.

DISCUSSION:

Achen-Gardner Construction, LLC and city staff have been working together over the last few years to finalize

the design, acquire permits, and negotiate costs to construct the Dysart Road sewer improvement. During that time, costs for construction (materials and labor) have escalated due to market conditions. Additional funding in the amount of \$750,000 is necessary to provide for the execution of GMP No. 3 and for all remaining associated costs to complete the Dysart Road Sewer Replacement Project – Riley to Coral, Project No. U0045 as designed. Staff, via transfers, are requesting to use approximately \$750,000 in realized capital project savings from projects recently completed to provide this additional funding.

BUDGET IMPACT:

The Dysart Road Sewer Replacement Project – Riley to Coral is currently funded in the FY2023 budget in the amount of \$3,435,000. The additional \$750,000 will be covered by cost savings realized from completed projects in the Wastewater Fund - Capital Budget. Action on this request allows for the transfer of realized savings from capital projects previously completed.

Line Item	Description	Amount
54170900-86000-U0106	Relocate Riley Lift Station	\$ 75,900
54170900-86000-U0022	Citywide Sewer Improvement	\$366,800
54270900-86000-A0075	Lift Station Rehabilitation	\$307,300
	TRANSFER REQUEST TOTAL	\$750,000

RECOMMENDATION:

Staff recommends that the City Council approve a request to reallocate realized cost savings from completed projects for the Dysart Road Sewer Replacement Project – Riley to Coral, Project No. U0045 in the amount of \$750,000, issue award authority, and authorize the Mayor, or City Manager and City Clerk to execute the necessary documents.

Contact person for document distribution: Suzie Hunter

CITY COUNCIL REPORT

SUBJECT: Agreement for Accounting and Delivery of Water Made Available in the Modified Roosevelt Dam Flood Control Space under a Temporary Deviation to the Water Control Plan

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Kirk Beaty, Public Works Director, (623) 333-4417

THROUGH: Tracy Stevens, Acting Assistant City Manager, (623) 333-1014

STRATEGIC PLAN:

This agenda item supports the following Avondale Strategic Outcome Areas:

- Innovative Program and Service Delivery -
Avondale will continue to serve as a model of innovative, efficient, and responsive government.

This innovative agreement demonstrates a partnership between Avondale and Salt River Project (SRP) to identify opportunities which continue to strengthen our water portfolio.

- Creative and Sustainable Community Development - Avondale is committed to creating a sense of place, a community of residents and local businesses unified by pride and common values.

This agreement demonstrates creative collaboration to ensure a more sustainable water resource is available for current and future residents through effective water resource management.

PURPOSE:

City Council will consider a request to approve an Agreement for Accounting and Delivery of Water with the Salt River Project (SRP) under a Temporary Deviation Plan previously agreed to by Council in August of 2021, and authorize the Mayor, or City Manager and City Clerk to execute the necessary documents. The Council will take appropriate action.

BACKGROUND:

In February of 2020, Salt River Project contacted Avondale and other valley municipalities to discuss their interests in sharing the costs to evaluate the potential to receive water from future releases at the Roosevelt Dam under a temporary deviation water control plan developed by SRP. City Council approved participation in the study and the associated Cost Share Agreement in August of 2021.

The Temporary Plan will be in place for 5 years, of which Salt River Project (SRP) would have authority to temporarily deviate from current Roosevelt Dam operating guidelines and deliver Temporary Deviation Water one time per year in 3 of the 5 years the plan is in place. The total volume of Temporary Deviation Water that

will be available is based on the probability of drainage basin water runoff into the Roosevelt Dam reservoir, of which any amount of water is not guaranteed. Total estimated costs to develop and administer the program are spread across participating entities based upon their respective percentage interest in the anticipated volume of Temporary Deviation Water.

Avondale's cost share is expected to be a one-time total fee of \$94,809 for an approximate total of 8,500-acre feet during the duration of the plan. This cost figures to about \$11 per acre foot of water, which is nearly 70% less than current market rates for SRP water. These costs are already included in the City's water purchases budget. Avondale's plan is to store this water and receive Long Term Storage Credits, which helps us achieve our long term and strategic goals of having an 8 year "Build Out" supply.

DISCUSSION:

The Accounting and Delivery Agreement defines operation of the flood control space consistent with the Temporary Deviation Plan as well as the processes for apportionment of the water, ordering, accounting and reporting. Avondale's financial obligation under this agreement is proportional to its capacity interest in the water made available through the Temporary Deviation Plan plus the associated administrative fees.

BUDGET IMPACT:

Funding for the Agreements with Salt River Project (SRP) is included in the adopted FY2023 budget.

RECOMMENDATION:

Staff recommends Council approve an Agreement for Accounting and Delivery of water made available in the Modified Roosevelt Dam Flood Control Space under a Temporary Deviation to the Water Control Plan with the Salt River Project (SRP) and authorize the Mayor, or City Manager and City Clerk to execute the necessary documents.

Contact person for document distribution: Kirk Beaty

**AGREEMENT FOR ACCOUNTING AND DELIVERY OF WATER MADE AVAILABLE IN THE
MODIFIED ROOSEVELT DAM FLOOD CONTROL SPACE UNDER A TEMPORARY DEVIATION
TO THE WATER CONTROL PLAN
AMONG
VARIOUS PARTICIPATING ENTITIES,
SALT RIVER VALLEY WATER USERS' ASSOCIATION,
AND
SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT**

1. PARTIES:

This Agreement for Accounting and Delivery of Water Made Available in the Modified Roosevelt Dam Flood Control Space Under a Temporary Deviation to the Water Control Plan ("Agreement"), entered into this ____ day of _____, 2022 is by and among the Arizona cities of Avondale, Chandler, Glendale, Mesa, Peoria, Phoenix, Scottsdale, and Tempe; Town of Gilbert; Roosevelt Water Conservation District; Buckeye Water Conservation and Drainage District; Roosevelt Irrigation District; the Salt River Pima-Maricopa Indian Community, a sovereign tribe located in the Phoenix metropolitan area; Freeport Minerals Corporation, a mining company with headquarters in Phoenix, Arizona ("Participating Entities"); the Salt River Valley Water Users' Association, an Arizona corporation ("Association"); and the Salt River Project Agricultural Improvement and Power District, a political subdivision of the State of Arizona ("District"). The Association and District are referred to collectively as "SRP". Parties to this Agreement are referred to individually as "Party" and collectively as "Parties."

2. RECITALS:

This Agreement is made regarding the following:

- 2.1. Shareholders of the Association are owners of land within the Salt River Reservoir District having valid appropriative rights to waters of the Salt and Verde Rivers. The Association is responsible for the delivery to shareholder lands of waters developed, controlled, or stored by it for the benefit of such lands. The Association is the agent of the District in the operation of the water delivery system of the Salt River Project, a federal reclamation project that includes Theodore Roosevelt Dam, pursuant to an agreement dated March 22, 1937, as amended by agreements dated February 28, 1944, and September 12, 1949, and

is also the agent of the United States of America in the operation of said federal reclamation project pursuant to a contract dated September 6, 1917.

- 2.2. Congress authorized the United States Bureau of Reclamation (“Reclamation” as defined in Subparagraph 5.17 below) to construct the Central Arizona Project (“CAP”) including construction of “Orme Dam or a suitable alternative” as part of the CAP under the Colorado River Basin Act of 1968. The Central Arizona Water Conservation Study (“CAWCS”) examined alternatives to Orme Dam. The Reclamation Safety of Dams Act of 1978 widened the focus of CAWCS to include the evaluation of the structural safety of Reclamation dams. The United States Department of the Interior selected one of the CAWCS alternatives known as “Plan 6” as the proposed action for purposes of detailed planning, design, and completion of the CAP. Plan 6 includes the planning and construction of modified Roosevelt Dam (“Modified Roosevelt Dam” as defined in Subparagraph 5.12 below) on the Salt River to provide flood control, water conservation, and dam safety, along with other project purposes and benefits consistent with the CAWCS.
- 2.3. SRP, Reclamation, the Flood Control District of Maricopa County, and the Arizona Cities of Chandler, Glendale, Mesa, Phoenix, Scottsdale, and Tempe entered into the Operating Agreement for Additional Active Conservation Capacity at Modified Roosevelt Dam on December 14, 1993 (“Modified Roosevelt Dam Operating Agreement” as defined in Subparagraph 5.13 below) to establish principles governing storage capacity made available at Modified Roosevelt Dam under Plan 6. Under the Modified Roosevelt Dam Operating Agreement, the parties to that agreement recognized claims to flood and surplus waters of the Salt and Verde Rivers by certain entities who were listed in Appendix 1 to that agreement. Certain of those entities listed in Appendix 1 are Parties to this Agreement (“Participating Entities” as defined in Subparagraph 5.16).
- 2.4. Construction of additional storage at Modified Roosevelt Dam was completed in 1996 and raised the dam a total of seventy-seven (77) feet. As part of the modifications to Roosevelt Dam, certain capacity was created between elevation 2,150.78 feet above mean sea level to 2,174.87 feet above mean sea level for flood control purposes (“Flood Control Space” as defined in Subparagraph 5.9 below) (these elevations are based on the most recent silt survey and are subject to change based on results of subsequent silt surveys). Water entering the Flood Control Space is under the jurisdiction of the United States Army Corps of

Engineers (“Corps of Engineers” as defined in Subparagraph 5.4 below) under Section 7 of the Flood Control Act of 1944. SRP, Reclamation, and Corps of Engineers entered into a Water Control Agreement dated November 5, 1996 (“Water Control Agreement” as defined in Subparagraph 5.30 below) and agreed to comply with the flood control operating criteria contained in the Corps of Engineers’ Water Control Manual for Modified Roosevelt Dam updated in September 1997 (“Water Control Manual” as defined in Subparagraph 5.31 below). Chapter 7 of the Water Control Manual contains the Water Control Plan which describes how SRP was to operate Modified Roosevelt Dam (“Water Control Plan” as defined in Subparagraph 5.32 below). Under the Water Control Plan, SRP is required to evacuate water entering the Flood Control Space within twenty (20) days after such water first enters the Flood Control Space.

- 2.5. Section 7-14(c) of the Water Control Plan contemplates planned instances which allow deviations from normal regulation. Under the provisions of Section 7-14(c) of the Water Control Plan and Section 7 of the Water Control Agreement, SRP, Reclamation, and the Corps of Engineers developed the parameters of a planned deviation wherein SRP, among other things, is authorized to extend the evacuation period for water entering the first five feet of the Flood Control Space from twenty (20) days to one hundred and twenty (120) days, beginning in calendar year 2023, for three out of five consecutive years (“Temporary Deviation Plan” as defined in Subparagraph 5.27 below).
- 2.6. The Parties executed an agreement entitled “Agreement to Share Costs Associated with Seeking to Obtain Approval for the Operation of the Flood Control Space in Modified Roosevelt Dam Under a Temporary Deviation to the Water Control Plan among Various Participating Entities, and the Salt River Project Agricultural Improvement and Power District” dated October 12, 2021 (“Cost Share Agreement” as defined in Subparagraph 5.5 below) to determine, among other things, the amount of funding contributed by each Party to pay the costs associated with development and approval of the Temporary Deviation Plan.
- 2.7. The Corps of Engineers and Reclamation have issued or will issue a decision document under the National Environmental Policy Act authorizing the Temporary Deviation Plan at Modified Roosevelt Dam as contemplated under Section 7-14(c) of the 1997 Water Control Manual (“Temporary Deviation Authorization”).

- 2.8. The purpose of this Agreement is to describe (1) how SRP will operate the Flood Control Space under the Temporary Deviation Plan, (2) how SRP will evacuate and deliver Temporary Deviation Water from the Temporary Deviation Space to the Parties, and (3) the fees each Participating entity shall pay during the Temporary Deviation Period.

3. AGREEMENT:

NOW, THEREFORE, in consideration of the mutual covenants herein set forth and for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

4. INCORPORATION OF RECITALS:

The recitals listed above are hereby incorporated into and expressly made part of this Agreement.

5. DEFINITIONS:

The following terms, when used with initial capitalization, whether in singular or plural, shall have the meaning specified as follows:

5.1. ADWR: Arizona Department of Water Resources.

5.2. Authorized Representatives: Representatives of the Parties appointed to administer the provisions of this Agreement.

5.3. Calendar Year: The calendar years beginning January 1 and ending December 31 of each year during the term of this Agreement.

5.4. Corp of Engineers: United States Army Corp of Engineers which is authorized under Section 7 of the Flood Control Act of 1944 to prescribe regulations for the use of the Flood Control Space in Modified Roosevelt Dam allocated for flood control purposes.

- 5.5. Cost Share Agreement: The agreement among SRP and the Participating Entities entitled “Agreement to Share Costs Associated with Seeking to Obtain Approval for the Operation of the Flood Control Space in Modified Roosevelt Dam Under a Temporary Deviation to the Water Control Plan among Various Participating Entities and the Salt River Project Agricultural Improvement and Power District” dated October 12, 2021 wherein the parties agreed to share costs to develop the Temporary Deviation as provided in the Cost Share Agreement. The Cost Share Agreement is included as Exhibit 5.5.
- 5.6. Effective Date: The date this Agreement becomes effective as described in Subparagraph 7.1.
- 5.7. Evacuation Deadline: The last day and time that water must be evacuated from the Temporary Deviation Space under a Temporary Deviation Event. The Evacuation Deadline shall be set as 11:59 p.m. on the day that is one hundred and twenty days (120) from when water first enters the Temporary Deviation Space under a Temporary Deviation Event. For instance, if water first enters the Temporary Deviation Space at 9:21 a.m. on March 3rd of a Calendar Year, the Evacuation Deadline shall be 11:59 p.m. on July 1 of the same Calendar Year.
- 5.8. Execution Date: The date all Parties have executed this Agreement as described in Subparagraph 7.1.
- 5.9. Flood Control Space: Reservoir space behind Modified Roosevelt Dam corresponding to the approximately 24 feet of elevation from 2150.78 feet above mean sea level to 2174.87 feet above mean sea level. The Flood Control Space is operated by SRP under the Water Control Agreement with the Corp of Engineers and Reclamation.
- 5.10. Granite Reef: Granite Reef Diversion Dam.
- 5.11. Joint Use Agreement: Agreement among the District, Association, and the Cities of Chandler, Glendale, Mesa, Phoenix, Scottsdale, and Tempe entitled “Agreement Concerning Beneficial Use of Water in Temporary Active Conservation Capacity at Modified Roosevelt Dam among the Salt River Project Agricultural Improvement and Power District, the Salt River Valley Water Users’

Association and the Arizona Cities of Chandler, Glendale, Mesa, Phoenix, Scottsdale, and Tempe” dated February 18, 1994.

- 5.12. Modified Roosevelt Dam: Theodore Roosevelt Dam as modified under Plan 6 to increase the height approximately 77 feet.
- 5.13. Modified Roosevelt Dam Operating Agreement: Agreement entitled “Operating Agreement for Additional Active Conservation Capacity at Modified Theodore Roosevelt Dam among The Salt River Project Agricultural Improvement and Power District, Salt River Valley Water Users’ Association, United States Bureau of Reclamation, Flood Control District of Maricopa County, and the Arizona Cities of Chandler, Glendale, Mesa, Phoenix, Scottsdale, and Tempe dated December 14, 1993 that authorized and provided for SRP’s operations of Modified Roosevelt Dam as described in such agreement.
- 5.14. Modified Roosevelt Reservoir: The reservoir behind Modified Roosevelt Dam.
- 5.15. Modified Roosevelt Reservoir Inflows: Inflows from Tonto Creek and the Salt River that enter Modified Roosevelt Reservoir.
- 5.16. Participating Entities: Cities of Avondale, Chandler, Glendale, Mesa, Peoria, Phoenix, Scottsdale, and Tempe; Town of Gilbert; Roosevelt Water Conservation District; Buckeye Water Conservation and Drainage District; Roosevelt Irrigation District; the Salt River Pima-Maricopa Indian Community; and Freeport Minerals Corporation.
- 5.17. Reclamation: United States Bureau of Reclamation.
- 5.18. Salt River Reservoir System: The system of four dams on the Salt River upstream of the confluence with the Verde River and their associated reservoirs that are operated by SRP.
- 5.19. Spill Conditions: The conditions described in Sections 4.32, 7.4, and 7.6 of the Modified Roosevelt Dam Operating Agreement under which SRP delivers spill water to the entities in Appendix 1 of that agreement (including to certain Participating Entities) where such water does not count against their respective contractual entitlements. These sections are shown on Exhibit 5.19.

- 5.20. SRP Deliveries: SRP water deliveries, including those from the Salt River Reservoir System, to SRP shareholders and other entities under SRP's governing documents and contracts.
- 5.21. Temporary Deviation Account: An account for each Participating Entity to track apportionment and delivery of Temporary Deviation Water during a Temporary Deviation Event.
- 5.22. Temporary Deviation Account Administrative Fee: Fee paid by Participating Entities to SRP as described in Subparagraph 14.2.
- 5.23. Temporary Deviation Account Creation Fee: Fee paid by Participating Entities to SRP as described in Subparagraph 14.1.
- 5.24. Temporary Deviation Authorization: The decision document issued by the Corps of Engineers under the National Environmental Policy Act and as contemplated by Section 7-14(c) of the Water Control Plan and Section 7 of the Water Control Agreement authorizing the Temporary Deviation Plan. The Temporary Deviation Authorization is included as Exhibit 5.24.
- 5.25. Temporary Deviation Event: An event to regulate water in the Flood Control Space at Modified Roosevelt Dam under which SRP must evacuate water entering the Temporary Deviation Space within one hundred and twenty days (120) of such water first entering such space.
- 5.26. Temporary Deviation Period: Five (5) consecutive year period under which SRP may declare a Temporary Deviation Event in three (3) of those five (5) years.
- 5.27. Temporary Deviation Plan: A planned deviation in flood control operations as approved by the Corps of Engineers that authorizes SRP to declare one (1) Temporary Deviation Event per year, in three (3) out of five (5) years during the Temporary Deviation Period.
- 5.28. Temporary Deviation Space: Reservoir space behind Modified Roosevelt Dam constituting the first five (5) feet of the Flood Control Space as generally illustrated in Exhibit 5.28.

- 5.29. Temporary Deviation Water: Water that SRP evacuates from the Temporary Deviation Space during a Temporary Deviation Event.
- 5.30. Water Control Agreement: The agreement among Reclamation, the Salt River Project Agricultural Improvement and Power District and the Corp of Engineers entitled “Water Control Agreement (WCA) among the Bureau of Reclamation (USBR), the Salt River Project Agricultural Improvement and Power District (SRP), and the Corps of Engineers (COE)” dated November 5, 1996 which authorized SRP’s operations of Modified Roosevelt Dam for flood control and other purposes under the Water Control Plan.
- 5.31. Water Control Manual: The Water Control Manual entitled “Water Control Manual, Modified Roosevelt Dam (Theodore Roosevelt Dam), Salt and Gila Rivers, Arizona” dated September 1997 and prepared by the Corps of Engineers which contains the Water Control Plan in Chapter 7 which describes how SRP shall operate Modified Roosevelt Dam for flood control and other purposes.
- 5.32. Water Control Plan: Chapter 7 of the Water Control Manual which describes how SRP shall operate Modified Roosevelt Dam for flood control and other purposes.

6. SCOPE:

This Agreement will describe (1) how SRP will operate the Flood Control Space under the Temporary Deviation Plan, (2) how SRP will evacuate and deliver Temporary Deviation Water from the Temporary Deviation Space to the Parties, and (3) the fees each Participating entity shall pay during the Temporary Deviation Period.

7. EFFECTIVE DATE AND TERM OF AGREEMENT:

- 7.1. This Agreement shall become effective upon: (1) execution by the Parties (“Execution Date”); and (2) approval of the Temporary Deviation Plan by the Corps of Engineers by issuance of Temporary Deviation Authorization (“Effective Date”).
- 7.2. This Agreement shall terminate on the earlier of the following:

7.2.1. Date the third Temporary Deviation Event concludes, including, final delivery of Temporary Deviation Water or at the expiration of the 120 days, whichever occurs first, and upon receipt of monies owed under Paragraph 14; and

7.2.2. Date the Temporary Deviation Period concludes, including, final delivery of Temporary Deviation Water or at the expiration of the 120 days, whichever occurs first, and upon receipt of monies owed under Paragraph 14 for the last Temporary Deviation Event.

8. AUTHORIZED REPRESENTATIVES:

Within thirty (30) days after execution of this Agreement, each Party shall designate in writing to the other Parties, an Authorized Representative and an alternate to administer this Agreement on behalf of the designating Party. Written notice of a change of an Authorized Representative or alternate shall be provided within thirty (30) days of such change. The alternate shall act only in the absence of the Authorized Representative. Neither the Authorized Representatives nor the alternates shall have authority to amend, modify, or supplement this Agreement. Agreements of the Authorized Representatives pursuant to this Agreement shall be in writing and signed by them. Notwithstanding the provisions of Paragraph 21, electronic mail with read receipt requested will be an accepted form of written notice under this Paragraph for designation of Authorized Representatives, alternates, and changes to those designations.

9. EXISTING RIGHTS:

9.1. Nothing in this Agreement shall create, confirm, or adversely affect any Party's rights to the storage, delivery, or use of water from the Gila River System to the extent such rights existed prior to this Agreement.

9.2. The Parties agree that the Temporary Deviation Plan only authorizes SRP to extend the period under which SRP is required to evacuate water from the Flood Control Space and such extension of the evacuation period does not constitute storage of water under Arizona law.

9.3. This Agreement shall not be construed to create, confirm, transfer, forfeit, abandon or otherwise affect water rights under Arizona law.

9.4. Certain Parties to this Agreement are parties to the Joint Use Agreement and those Parties agree that (1) nothing in this Agreement is inconsistent with the

provisions of the Joint Use Agreement, (2) they reserve any rights provided to them under the Joint Use Agreement, and (3) nothing in this Agreement shall modify the Joint Use Agreement.

- 9.5. This Agreement does not modify or amend any rights, privileges, or obligations described in the Modified Roosevelt Dam Operating Agreement.

10. SRP OPERATION OF THE FLOOD CONTROL SPACE UNDER THIS AGREEMENT:

- 10.1. SRP shall operate the Flood Control Space consistent with the Temporary Deviation Plan and this Paragraph 10. Under the Water Control Plan, prior to authorization of the Temporary Deviation, SRP was required to evacuate water entering the Flood Control Space within twenty (20) days after such water entered the Flood Control Space. Under the Temporary Deviation Plan, SRP shall operate the Flood Control Space as follows:

10.1.1. SRP shall continue to evacuate water from the portion of the Flood Control Space above the Temporary Deviation Space within twenty (20) days after such water enters such space.

10.1.2. SRP may declare a Temporary Deviation Event once a year in a maximum of three (3) years during the five (5) year Temporary Deviation Period.

10.1.3. During a Temporary Deviation Event, SRP shall evacuate water entering the Temporary Deviation Space no later than one hundred and twenty (120) days after such water enters the Temporary Deviation Space.

- 10.2. When SRP anticipates that Modified Roosevelt Reservoir water levels and Modified Roosevelt Reservoir Inflows are such that water will begin entering the Flood Control Space, SRP at its sole discretion shall have the authority to declare a Temporary Deviation Event. In the event that SRP declares a Temporary Deviation Event under this Subparagraph 10.2, SRP shall operate such Flood Control Space as provided in Subparagraphs 10.3 through 10.9.

- 10.3. Within five (5) days after declaring a Temporary Deviation Event under Subparagraph 10.2, SRP shall provide notice to the Participating Entities under Paragraph 21 that SRP has declared such Temporary Deviation Event. Included in

its notice under this Subparagraph 10.3, SRP shall provide the date that water first entered the Flood Control Space and the Evacuation Deadline.

- 10.4. Once water first enters the Flood Control Space under a Temporary Deviation Event, SRP shall operate Modified Roosevelt Dam under Spill Conditions as follows:

- 10.4.1. SRP shall operate Modified Roosevelt Dam under Spill Conditions starting at the time that water first enters the Flood Control Space during a Temporary Deviation Event and shall continue to operate Modified Roosevelt Dam under Spill Conditions while the elevation of water in Modified Roosevelt Dam is rising; and

- 10.4.2. SRP shall operate Modified Roosevelt Dam under Spill Conditions while the water occupies areas in the Modified Roosevelt Dam above the Temporary Deviation Space. Once SRP evacuates water occupying the portion of the Flood Control Space above the Temporary Deviation Space as provided in the Water Control Plan (i.e. within twenty (20) days after water first enters such space) Modified Roosevelt Reservoir will no longer be operated under Spill Conditions.

- 10.4.3. SRP shall account for water deliveries during Spill Conditions as provided in this Subparagraph 10.4 under the Modified Roosevelt Dam Operating Agreement.

- 10.5. SRP shall calculate the volume of and apportion Temporary Deviation Water to Participating Entities as follows:

- 10.5.1. SRP shall (1) measure the highest elevation that water levels reach in the Temporary Deviation Space at the point where SRP Deliveries exceed inflows into the Salt River Reservoir System and (2) calculate such volume and apportion such water to the Participating Entities as Temporary Deviation Water under Subparagraph 11.1.

- 10.5.2. If additional precipitation events occur during a Temporary Deviation Event and additional water enters the Temporary Deviation Space, such water volume will be calculated and apportioned to the Participating

Entities using the percentages described in Subparagraph 11.1 and under the conditions described in Subparagraph 10.4.

- 10.6. SRP shall deliver the Temporary Deviation Water to the Participating Entities as provided in Paragraph 12.
- 10.7. SRP shall evacuate all unused Temporary Deviation Water from the Temporary Deviation Space prior to the Evacuation Deadline as provided in Subparagraph 11.2.
- 10.8. The Temporary Deviation Event shall end upon the Evacuation Deadline.
- 10.9. During a Calendar Year when SRP has not declared a Temporary Deviation Event under Subparagraph 10.2, SRP shall operate Modified Roosevelt Dam under the Water Control Plan before the Temporary Deviation Plan was authorized under the Temporary Deviation Authorization.

11. TEMPORARY DEVIATION WATER APPORTIONMENT:

- 11.1. SRP shall calculate the total volume of Temporary Deviation Water entering the Temporary Deviation Space during the Temporary Deviation Event as provided in Subparagraph 10.5 and shall apportion such volume to the Parties according to the percentages provided in the following table:

Parties	Percentage of Temporary Deviation Water
Avondale	7.83%
Chandler	5.06%
Gilbert	3.68%
Glendale	5.06%
Mesa	4.42%
Peoria	2.30%
Phoenix	18.41%
RID	10.13%
Scottsdale	2.49%

Tempe	2.49%
RWCD	10.51%
BWCDD	4.60%
SRPMIC	5.52%
Freeport	2.76%
SRP	14.73%

The Parties acknowledge and agree that this Agreement is temporary in nature and the percentages identified in the table above may be revisited in the event subsequent agreements are executed for the delivery of water entering the Flood Control Space after the end of the Temporary Deviation Period.

- 11.2. Any unused Temporary Deviation Water remaining at the end of a Temporary Deviation Event will be evacuated on the last day of such event and used to meet SRP Deliveries.

12. PARTICIPATING ENTITIES ORDERING AND SRP DELIVERY OF TEMPORARY DEVIATION WATER:

- 12.1. Participating Entities shall order the Temporary Deviation Water by requesting SRP deliver such water per the schedule determined under Subparagraph 12.2. Such request shall be made under the notice provisions in Subparagraph 21.
- 12.2. SRP and each Participating Entity shall mutually agree on a schedule for SRP to deliver the Temporary Deviation Water to each Participating Entity prior to the Evacuation Deadline. Participating Entities may order Temporary Deviation Water during a Temporary Deviation Event by requesting delivery prior to five (5) days before the end of the Temporary Deviation Event.
- 12.3. Except as provided in this Subparagraph 12.3, SRP shall deliver and transport Temporary Deviation Water to Participating Entities on a mutually agreed upon schedule and under the applicable delivery agreement. SRP water delivery obligations to shareholders and contractors of the Salt River Valley Water Users' Association shall take priority over delivery of Temporary Deviation Water if any delivery capacity limitations arise. SRP agrees to waive any applicable transportation fees under applicable agreements during the term of this

Agreement. The Parties acknowledge that this Agreement is temporary in nature and such waiver of transportation fees by SRP may be revisited in the event subsequent agreements are executed for the delivery of water entering the Flood Control Space.

- 12.4. River losses shall be deducted from the Temporary Deviation Water delivered to each Participating Entity at an amount of 6.3 percent at the time of scheduled delivery, which is deemed for the purposes of the Agreement to be the amount of water lost through transmission from Modified Roosevelt Dam to Granite Reef Dam. Participating entities shall not be charged for transmission losses between Granite Reef Dam and the point of delivery. River losses within SRP's water delivery system below Granite Reef Dam shall be revisited if a long-term program is developed for water entering the Flood Control Space.
- 12.5. SRP maintains the right and obligation to operate the Salt River Reservoir System in accordance with the objectives identified in Paragraph 7 of the Modified Roosevelt Dam Operating Agreement. SRP may make deliveries of Temporary Deviation Water to the Participating Entities from any water source in accordance with those objectives notwithstanding the definition of Temporary Deviation Water under this Agreement.

13. WATER ACCOUNTING AND REPORTING:

- 13.1. SRP shall provide water accounting for the total volume of Temporary Deviation Water entering the Temporary Deviation Space as described in Subparagraph 10.5, apportioned to Participating Entities under Subparagraph 11.1, and delivered to Participating Entities under Paragraph 12.
- 13.2. During a Temporary Deviation Event, SRP shall send a preliminary estimate to the Participating Entities within ten (10) days, or as otherwise agreed upon by the Parties, after the initial volume of Temporary Deviation Water is determined under Subparagraph 10.5 including the initial amount of Temporary Deviation Water apportioned to each Participating Entity under Subparagraph 11.1 and shall send updated reports at the end of each month during a Temporary Deviation Event. Reports related to Temporary Deviation Water will be incorporated into existing SRP reporting practices.

- 13.3. SRP shall send updated reports at the end of each month during the Temporary Deviation Period to the Participating Entities which will include (1) the information described in Subparagraph 13.2, (2) the total volume of Temporary Deviation Water entering the Temporary Deviation Space as described in Subparagraph 10.5, (3) the amount of Temporary Deviation Water ordered and delivered by SRP to the Participating Entities during the reporting period, and (4) the Evacuation Date.

14. ADMINISTRATIVE FEES:

- 14.1. Each Participating Entity shall pay to SRP a one-time initial Temporary Deviation Account Creation Fee not to exceed three thousand two hundred fifty dollars (\$3,250.00) for creation of accounts to track volumes and delivery of Temporary Deviation Water billed at execution of this Agreement.
- 14.2. In a year that SRP declares a Temporary Deviation Event, Participating Entities shall pay an administrative fee of four thousand four hundred and two dollars (\$4,402), adjusted annually to account for inflation or other cost changes, for that year to administer the water accounting and reporting for the Temporary Deviation Event. Beginning January 1, 2022, and at each January 1 thereafter, the fee identified in this Subparagraph 14.2 shall be adjusted by the percent change (calculated to the nearest one-hundredth percent) in the Department of Commerce's Price Index for the Gross Domestic Product ("Index") measured from third quarter to third quarter. For purposes of the initial annual adjustment, the Index shall be calculated using the third quarter of 2021 as the base.
- 14.3. The Parties acknowledge that the Temporary Deviation Plan is temporary in nature and in the event such plan is developed into a longer-term program, the Parties shall revisit the fees described in this Paragraph 14.

15. BILLING AND PAYMENT:

- 15.1. SRP shall bill the Participating Entities for the Administrative Fees owed to SRP under Paragraph 14 on or before the thirtieth day after such fees are accrued (or if such a day is not a business day, on the next succeeding business day).

- 15.2. Each Participating Entity shall pay such bill within thirty (30) days following SRP issuing such bill, or if such a day is not a business day, on the next succeeding business day.
- 15.3. Any bills not paid when due shall be delinquent and shall bear interest at the Wall Street Journal Prime Rate, on the date the bill was due plus 2% (Wall Street Journal Prime Rate plus 2%) per annum from the date when the bill was due until the bill is paid (including any accrued interest) in full. In the event the Wall Street Journal no longer publishes the Wall Street Journal Prime Rate, the Authorized Representatives shall select an appropriate substitute.
- 15.4. In the event any portion of any bill is disputed, the disputed amount shall be paid under protest when due and shall be accompanied by a written statement indicating the basis for the protest. If the protest is found to be valid, the Participating Entity shall be refunded any overpayment plus interest, accrued at the rate set forth in Subparagraph 15.3, prorated by days from the date payment was credited to the Participating Entity to the date the refund check is mailed.
- 15.5. In the event any delinquent amount is not paid by the Participating Entity within thirty (30) days after receipt by the Participating Entity of written notice by SRP to the Participating Entity of the delinquency and the remedies available to SRP under this Agreement if the delinquent amount is not paid, SRP shall have the right, without liability of any kind, to suspend the delivery of Temporary Deviation Water so long as the said amount remains unpaid. Nothing herein shall limit the rights of SRP to use any other available legal remedy to effect collection of said amounts.

16. USE OF TEMPORARY DEVIATION WATER:

- 16.1 Parties may directly use, share among other Parties to this Agreement, exchange, or store underground Temporary Deviation Water pursuant to Arizona law and any applicable water delivery and use agreements.
- 16.2. Parties may share Temporary Deviation Water among other Parties to this Agreement during the Temporary Deviation Event for use within their respective service territories.

- 16.3. If Parties seek to store their portion of the Temporary Deviation Water underground to create long-term storage credits pursuant to Arizona law. Parties may trade, assign, or transfer such credits pursuant to Arizona law; provided, however, that for purposes of this Agreement, the Parties agree that they may only trade, assign, or transfer such long-term storage credits among other Parties to this Agreement. SRP intends that it will use such long-term storage credits for the benefit of its shareholders.

17. WATER QUALITY AND INDEMNITY:

- 17.1. SRP makes no representation or warranty as to the quality of Temporary Deviation Water delivered under Paragraph 12 of this Agreement and the Participating Entities assume the responsibility for purifying or otherwise treating the Temporary Deviation Water delivered under this Agreement to meet present or future water quality standards established by federal, state, or local laws or regulations.
- 17.2. Each Party shall assume liability for its own negligence arising out of its action or inaction, whether negligent or intentional, and each Party shall indemnify the other Parties against any damages the non-responsible Parties incur as a result of the responsible Party's action or inaction.

18. DISPUTE RESOLUTION; CHOICE OF LAW:

- 18.1. Any dispute under this Agreement shall first be submitted to the Authorized Representatives for resolution. If the matter cannot be resolved by the Authorized Representatives, any Party may submit the matter to the SRP General Manager and the chief operation officers of the Parties involved in the dispute. If the matter cannot be resolved by the SRP General Manager, any Party may bring suit upon the matter, provided however, that it is expressly agreed that the venue shall only be in Maricopa County Superior Court, its successor court. In the event SRPMIC is a party to any suit on the matter under this Subparagraph 18.1, then the parties agree that such suit shall be in a state or federal court of competent jurisdiction.
- 18.2. This Agreement shall be governed and construed in accordance with the laws of the State of Arizona and any applicable federal law.

- 18.3. In the event of any future dispute or action arising under this Agreement, the prevailing Party shall be entitled to recover its reasonable attorneys' fees and costs incurred therein, including expert witness fees.
- 18.4. Pending the resolution of a dispute, the Parties shall proceed, to the extent legally permissible, in a manner consistent with this Agreement, and shall make payments required in accordance with the applicable provisions of this Agreement. Amounts paid by a Party under this Subparagraph 18.4 during the pendency of such dispute shall be subject to refund and adjustment upon a final resolution of any dispute involving an amount due.
- 18.5. Nothing contained in this Agreement shall be construed to constitute a waiver of any aspect or portion of sovereign immunity of the SRPMIC, and/or its affiliates, departments, programs, enterprises, or subdivisions. If the SRPMIC or the United States on behalf of SRPMIC successfully asserts its sovereign immunity from suit in any action to enforce the terms of this Agreement, SRP shall be under no obligations related to delivery of any Temporary Deviation Water to SRPMIC under Subparagraph 10.6 and Paragraph 12.

19. UNCONTROLLABLE FORCES:

No party shall be considered to be in default in the performance of any of its obligations hereunder if failure of performance is due to an uncontrollable force. The term "uncontrollable force" shall mean any cause beyond the control of the party affected, including but not limited to failure of facilities, flood, earthquake, tornado, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute, and action or nonaction by or failure to obtain the necessary authorizations or approvals from any governmental agency or authority or the electorate, labor or material shortage, sabotage and restraint by Court order or public authority, which by exercise of due diligence and foresight such party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome. Nothing herein shall be construed so as to require either Party to settle any strike or labor dispute in which it is involved. Either party rendered able to fulfill any obligation hereunder by reason of an uncontrollable force shall exercise due diligence to remove such inability.

20. RECLAMATION REFORM ACT:

In no event shall actions taken under this Agreement subject the Association or its shareholders to provisions of the Reclamation Reform Act of 1982 ("Reclamation Reform Act"), 43 U.S.C. 390, as amended, and regulations attendant thereto, to which Association would not otherwise have been subjected. In the event a federal agency or other

administrative or judicial entity subjects or purports to subject Association to the Reclamation Reform Act as a result of actions taken under this Agreement, Association shall be relieved of any further obligations hereunder, and this Agreement shall terminate at Association's discretion.

21. NOTICE; CHANGE OF NAME OR ADDRESS:

21.1. All notices, requests, demands, and other communications under this Agreement shall be in writing and shall be deemed to have been received either when delivered or on the fifth (5th) business day following mailing, by registered or certified mail, postage prepaid, return receipt requested, whichever is earlier, addressed as set forth below:

21.1.1. If to SRP:

Salt River Project Agricultural Improvement and Power District
c/o Corporate Secretary
P.O. Box 52025
Phoenix, AZ 85072-2205

with a copy to:

General Manager and CEO
Salt River Project Agricultural Improvement and Power District
P.O. Box 52025
Phoenix, AZ 85072-2205

21.1.2. If to the City of Avondale:

City of Avondale
c/o City Manager
11465 W. Civic Center Drive
Avondale, AZ 85323

with a copy to:

21.1.3. If to the City of Chandler:

City of Chandler
c/o Utility Resource Manager
PO Box 4008, M.S. 905
Chandler, AZ 85244-4008

with a copy to:

Chandler City Attorney
P O Box 4008, MS 602
Chandler, AZ 85225

21.1.4. If to the City of Glendale:

City of Glendale
c/o Water Resource Manager
5850 West Glendale Avenue, Ste. 431
Glendale, AZ 85301

with a copy to:

21.1.5. If to the City of Mesa:

City of Mesa
c/o Water Resources Department Director
PO Box 1466
Mesa, AZ 85211

with a copy to:

21.1.6. If to the City of Peoria:

City of Peoria
c/o Water Services Director
8401 W. Monroe Street
Peoria, AZ 85345

with a copy to:

City Attorney
City of Peoria
P.O. Box 4038
Peoria, AZ 85380-4038

21.1.7. If to the City of Phoenix:

Water Resources Management Advisor
City Manager's Office
City of Phoenix
200 West Washington Street, 12th Floor
Phoenix, Arizona 85003-1611

With a copy to:

City Attorney
City of Phoenix
200 West Washington Street, 13th Floor
Phoenix, Arizona 85003-1611

21.1.8. If to the City of Scottsdale:

City of Scottsdale – Scottsdale Water
c/o Executive Director
9312 N. 94th Street
Scottsdale, AZ 85258

with a copy to:

21.1.9. If to the City of Tempe:

City of Tempe
c/o Municipal Utilities Director
31 E. 5th Street
Tempe, AZ 85281

with a copy to:

Tempe City Attorney’s Office
21 E. Sixth Street, Suite 201
Tempe, AZ 85281

21.1.10. If to the Town of the Gilbert:

Town of Gilbert
c/o Town Manager
50 E. Civic Center Drive
Gilbert, AZ 85296

with a copy to:

Water Resource Manager
50 E. Civic Center Drive
Gilbert, AZ 85296

21.1.11. If to Roosevelt Water Conservation District:

Shane Leonard, General Manager
Roosevelt Water Conservation District
PO Box 100
Higley, AZ 85212

with a copy to:

21.1.12. If to the Buckeye Water Conservation and Drainage District:

Buckeye Water Conservation and Drainage District
c/o General Manager
205 Roosevelt
Buckeye, AZ 85326

with a copy to:

21.1.13. If to the Salt River Pima-Maricopa Indian Community:

Salt River Pima-Maricopa Indian Community:
c/o Public Works Director
1005 E. Osborn Road
Scottsdale, AZ 85256

with a copy to:

21.1.14. If to the Roosevelt Irrigation District:

Roosevelt Irrigation District
103 W. Baseline Road
Buckeye, AZ 85326

with a copy to:

21.1.15. If to Freeport Minerals Corporation:

Freeport Minerals Corporation
c/o Vice President
333 N. Central Avenue
Phoenix, AZ 85004

with a copy to:

21.2. Any Party may change the addressee or address to which communications or copies are to be sent by giving notice of such change of addressee.

22. SEVERABILITY:

Should any part of this Agreement be declared, in a final decision by a court or tribunal of competent jurisdiction, to be unconstitutional, invalid, or beyond the authority of a Party to enter into or carry out, such decision shall not affect the validity of the remainder of this Agreement, which shall continue in full force and effect, provided that the remainder

of this Agreement, absent the excised portion, can be reasonably interpreted to give effect to the intentions of the Parties.

23. WAIVER:

The failure of any Party to insist on any one or more instances upon strict performance of any of the obligations of the other pursuant to this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of the performance of any such obligation or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

24. BINDING AGREEMENT:

All of the provisions of this Agreement shall be binding upon, and inure to the benefit of, the Parties and their heirs, successors and assigns; provided, however, that none of the Parties shall assign its rights and obligations under this Agreement to another entity without the written consent of the other Parties. Such consent to assignment shall not, however, be unreasonably withheld, conditioned, or delayed.

25. NO THIRD-PARTY BENEFICIARIES:

This Agreement is solely for the benefit of the Parties and does not create nor shall it be construed to create rights in any third party. No third party may enforce the terms and conditions of this Agreement.

26. NO PARTNERSHIP AND NO JOINT VENTURE:

Nothing contained in this Agreement shall be construed as creating a partnership or joint venture between the Parties hereto. The covenants, obligations, and liabilities contained in this Agreement are intended to be several and not joint or collective, and nothing contained herein shall be construed to create an association, joint venture, agency, trust, or partnership, or to impose a trust or partnership covenant, obligation, fiduciary duty, or liability between the Parties. Each Party shall be individually responsible for its own covenants, obligations, and liabilities as provided herein.

27. AUTHORITY:

The undersigned representative of each Party certifies that he or she is fully authorized by the Party whom he or she represents to enter into the terms and conditions of this Agreement and to legally bind the Party to it.

28. ENTIRE AGREEMENT; MODIFICATION; COUNTERPARTS:

The terms, covenants and conditions of this Agreement constitute the entire Agreement between the Parties, and no understandings or obligations not herein expressly set forth shall be binding upon them. This Agreement may not be modified or amended in any manner unless in writing and signed by the Parties. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[signatures on the following pages]

IN WITNESS WHEREOF, this Agreement was executed by the Parties on the date first hereinabove written.

**SALT RIVER PROJECT AGRICULTURAL
IMPROVEMENT AND POWER DISTRICT**

By: _____
Name: David C. Roberts
Title: Associate General Manager
Water Resources

APPROVED AS TO FORM

By: _____
Name: Patrick B. Sigl
Title: Principal Managing Attorney, Water,
Land & Environment

**SALT RIVER VALLEY WATER USERS'
ASSOCIATION**

By: _____
Name: David C. Roberts
Title: Associate General Manager
Water Resources

APPROVED AS TO FORM

By: _____
Name: Patrick B. Sigl
Title: Principal Managing Attorney, Water, Land
& Environment

CITY OF AVONDALE

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

CITY OF CHANDLER

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

CITY OF GLENDALE

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

CITY OF MESA

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

CITY OF PEORIA

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

ATTEST:

By: _____

Name: _____

Title: _____

CITY OF PHOENIX

ATTEST:

JEFFREY BARTON, City Manager

City Clerk, City of Phoenix

By: _____
Troy Hayes
Director, Water Services Department

APPROVED AS TO FORM:
CRIS MEYER, City Attorney

By: _____
Name: _____
Title: _____

CITY OF SCOTTSDALE

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

CITY OF TEMPE

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

TOWN OF GILBERT

By: _____

Name: _____

Title: Water Resource Manager

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

ROOSEVELT WATER CONSERVATION DISTRICT

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

BUCKEYE WATER CONSERVATION AND DRAINAGE DISTRICT

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

**SALT RIVER PIMA-MARICOPA INDIAN
COMMUNITY**

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

ROOSEVELT IRRIGATION DISTRICT

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

FREEPORT MINERALS CORPORATION

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

By: _____

Name: _____

Title: _____

**AGREEMENT FOR ACCOUNTING AND DELIVERY OF WATER MADE AVAILABLE IN THE FLOOD
CONTROL SPACE IN
MODIFIED ROOSEVELT DAM UNDER A TEMPORARY DEVIATION
TO THE WATER CONTROL PLAN
AMONG
VARIOUS PARTICIPATING ENTITIES,
SALT RIVER VALLEY WATER USERS' ASSOCIATION,
AND
SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT**

**Exhibit 5.5
Cost Share Agreement**

**AGREEMENT CONCERNING BENEFICIAL USE OF WATER IN TEMPORARY ACTIVE
CONSERVATION CAPACITY AT MODIFIED ROOSEVELT DAM
AMONG
THE SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT,
THE SALT RIVER VALLEY WATER USERS' ASSOCIATION
AND THE ARIZONA CITIES OF CHANDLER, GLENDALE, MESA, PHOENIX, SCOTTSDALE, AND
TEMPE**

**Exhibit 5.11
Joint Use Agreement**

**AGREEMENT FOR ACCOUNTING AND DELIVERY OF WATER MADE AVAILABLE IN THE FLOOD
CONTROL SPACE IN
MODIFIED ROOSEVELT DAM UNDER A TEMPORARY DEVIATION
TO THE WATER CONTROL PLAN
AMONG
VARIOUS PARTICIPATING ENTITIES,
SALT RIVER VALLEY WATER USERS' ASSOCIATION,
AND
SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT**

Exhibit 5.24

Temporary Deviation Authorization

**AGREEMENT ACCOUNTING AND DELIVERY OF WATER MADE AVAILABLE IN OF THE FLOOD
CONTROL SPACE IN
MODIFIED ROOSEVELT DAM UNDER A TEMPORARY DEVIATION
TO THE WATER CONTROL PLAN
AMONG
VARIOUS PARTICIPATING ENTITIES,
SALT RIVER VALLEY WATER USERS' ASSOCIATION,
AND
SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT**

Exhibit 5.28

Temporary Deviation Space

CITY COUNCIL REPORT

SUBJECT: Resolution 1063-0922 - Grant Acceptance from Governor's Office of Highway Safety

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Memo Espinoza, Chief of Police (623) 333-7235

THROUGH: Cherlene Penilla, Acting City Manager, (623) 333-1015

STRATEGIC PLAN:

This agenda item supports the following Avondale Strategic Outcome Area:

- Public Health and Safety - Avondale is a city where all people feel safe and secure, relying on trusted public and community-based resources.
-

PURPOSE:

City Council will consider a request to adopt Resolution 1063-0922, authorizing the acceptance of a grant provided by the Governor's Office of Highway Safety (GOHS) for Prop 207 funding in the amount of \$25,500, which will support the Police Department's funding of acquiring one Leica 360 3D Scanner and authorize the Mayor or City Manager, City Attorney and City Clerk to execute the necessary documents. The Council will take appropriate action.

BACKGROUND:

The Avondale Police Department is an active participant in the Governor's Office of Highway Safety and is seeking the funds granted to assist the Avondale Police Department in acquiring one Leica 360 3D Scanner. Currently, traffic officers hand draw traffic accident diagrams using measurements they collected manually. The current process is time-consuming and there is always the possibility of human error.

DISCUSSION:

The Avondale Police Department will use the Leica 360 3D Scanner to assist with accident scene reconstruction. Rather than measuring accident scenes manually, traffic officers will utilize the 3D Scanner system to automate accident scenes in 3D and transfer the information from the scene to the computer. This process is less time-consuming and more accurate than our current manual process. The accuracy and speed of the 3D scanner will reduce time spent in the field, and it will also contribute to roadways being closed for a shorter period of time.

BUDGET IMPACT:

Staff is requesting authorization for the acceptance of Grant Funds for \$25,500 to acquire one Leica 360 3D

scanner. There are no match requirements for this grant.

RECOMMENDATION:

Staff recommends that the City Council adopt a resolution authorizing Avondale's acceptance of a grant in the amount of \$25,500 for the Avondale Police Department's acquisition of one Leica 360 3D scanner, through the Governor's Office of Highway Safety Grant Program.

Contact person for document distribution: Memo Espinoza, Chief of Police

RESOLUTION NO. 1063-0922

A RESOLUTION OF THE COUNCIL OF THE CITY OF AVONDALE, ARIZONA, AUTHORIZING THE ACCEPTANCE OF A GRANT FROM THE GOVERNOR'S OFFICE OF HIGHWAY SAFETY FOR PROPOSITION 207 FUNDING.

WHEREAS, the Governor's Office of Highway Safety ("GOHS") has awarded the City of Avondale (the "City") a grant in the amount of \$25,500.00 from Proposition 207 funding for the purpose of reducing impaired driving by conducting training programs and purchasing equipment for detecting, testing and enforcing laws against driving, flying or boating while impaired (the "Grant"); and

WHEREAS, the Mayor and Council of the City of Avondale ("City Council") desire to accept the Grant funds.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF AVONDALE as follows:

SECTION 1. The recitals above are hereby incorporated as if fully set forth herein.

SECTION 2. The City Council hereby authorizes (i) the acceptance of the Grant in an amount not to exceed \$25,500.00 and (ii) the execution of the GOHS Highway Safety Contract with GOHS relating to the acceptance and administration of the Grant funds (the "Agreement") in substantially the form and substance attached hereto as Exhibit A and incorporated herein by reference.

SECTION 3. The Mayor, the Acting City Manager, the City Clerk and the City Attorney are hereby authorized and directed to execute and submit the Agreement and any other necessary or desirable instruments in connection with the Grant and to take all steps necessary to carry out the purpose and intent of this Resolution.

[SIGNATURES ON FOLLOWING PAGE]

PASSED AND ADOPTED by the Council of the City of Avondale, Arizona,
September 6, 2022.

Kenneth N. Weise, Mayor

ATTEST:

Marcella Carrillo, City Clerk

APPROVED AS TO FORM:

Nicholle Harris, City Attorney

EXHIBIT A
TO
RESOLUTION NO. 1063-0922

[Agreement]

See following pages.



DOUGLAS A. DUCEY
GOVERNOR

ALBERTO GUTIER
DIRECTOR
GOVERNOR'S HIGHWAY SAFETY REPRESENTATIVE

Chief Memo Espinoza
Avondale Police Department
11485 West Civic Center Drive
Avondale, Arizona 85323

PROJECT REFERENCE:

Contract Number: 2022-207-014
Total Estimated Costs: \$25,500.00
Purpose of Project: Proposition 207 funding will support
Capital Outlay Equipment: 1 Leica 360, 3D Scanner

Dear Chief Espinoza,

Attached is one copy of the referenced Proposition 207 Funding Contract for your review and signature. This is not an authorization to proceed with the project.

Please complete the following steps:

1. Review the entire contract as there have been significant changes throughout the contract;
2. GOHS requires one single-sided copy with an original signature.
3. Have your fiscal staff complete the Reimbursement Instructions page 6;
4. As Agency Head, sign and date the signature page;
5. Return one completed and signed copy to the Governor's Office of Highway Safety, 1700 West Washington Street, Executive Tower, Suite 430, Phoenix, Arizona 85007.

Please do not incur any costs at this time as it would nullify the contract. Once the signed copy is received, I will approve and sign the contract as the GOHS Director/Governor's Highway Safety Representative and an original executed contract with authorization to proceed will be forwarded to you.

Sincerely,

Alberto Gutier, Director
Governor's Highway Safety Representative

Date

Enclosures



2022 CONTRACT 207 FUND

AGENCY: Avondale Police Department		GOHS CONTRACT NUMBER 2022-207-014	
ADDRESS: 11485 West Civic Center Drive Avondale, Arizona 85323		PROGRAM AREA 207 FUND	
AGENCY CONTACT: Sergeant Eric Spano		PHONE: 623-333-7327	
GOHS GRANT COORDINATOR : Jenise Moreno		PHONE: 602-255-3206	
PURPOSE OF PROJECT Proposition 207 will support Capital Outlay Equipment: (1) Leica 360, 3D Scanner			
BUDGET COST CATEGORY			Project Period CY 2022
1. Personnel Services			\$0.00
2. Employee Related Expenses (40%)			\$0.00
3. Professional and Outside Services			\$0.00
4. Travel In-State			\$0.00
5. Travel Out-of-State			\$0.00
6. Materials and Supplies			\$0.00
7. Capital Outlay – 1 Leica 360, 3D Scanner			\$25,500.00
TOTAL ESTIMATED COSTS			\$25,500.00
CURRENT GRANT PERIOD	FROM: 01-01-2022		TO: 12-31-2022
TOTAL 207 FUNDS OBLIGATED THIS CY: \$25,500.00			
A political subdivision or State agency that is mandated to provide a certified resolution or ordinance authorizing entry into this Contract must do so prior to incurring any expenditures. Failure to do so may result in termination of the awarded Contract.			

GOALS AND OBJECTIVES:

The Agency will make expenditures, to meet the outlined Program Goals/Objectives:

- (a) Reducing impaired driving, including conducting training programs and purchasing equipment for detecting testing and enforcing laws against driving, flying or boating while impaired.
- (b) Equipment, training and personnel costs for dedicated traffic enforcement.

Each law enforcement agency that receives an enforcement-related grant is required to ensure that accurate data on all drivers involved is reported. Failure to comply may result in withholding funds and cancellation of the enforcement contract until this requirement is met.

SPECIFIC REQUIREMENTS:

PROFESSIONAL AND OUTSIDE SERVICES/PUBLIC INFORMATION/MEDIA –

Requirements for Professional and Outside Services:

A copy of all Contracts for "Professional and Outside Services" must be submitted to the GOHS Director for written approval before execution.

Requirements for Public Information and Education Materials:

Prior to the printing and distribution of public information and education materials, a sample will be provided to the GOHS Director for review and written approval.

Requirements for Paid Media:

All paid media must be preapproved by the GOHS Director to ensure that consistent messages are sent statewide. Requests for paid media must include, at a minimum, scripts, description of target audience (to include methodology for identifying target audience), type of media to be utilized (electronic, print), campaign schedule, and budget. Additional information may be requested on a case-by-case basis.

STATE CONTRACT:

Procurement may be made using an open State contract award. Documents submitted to substantiate purchases using an open State contract must bear the contract number.

PROJECT EVALUATION:

IT IS REQUIRED THAT ALL LAW ENFORCEMENT AGENCIES MUST ENTER STATISTICAL AND ENFORCEMENT ACTIVITY INTO THE ON-LINE GOHS ENFORCEMENT REPORTING SYSTEM.

Final Statement of Accomplishments

The Project Director shall submit a Final Statement of Accomplishments Report to the GOHS **no later than fifteen (15) days after the conclusion of each Calendar Year (December 31st)**. All agencies receiving funding are required to submit a Final Statement of Accomplishments Report. ***Note:*** Failure to comply with the outlined GOHS reporting requirements may result in withholding of State funds or termination of the Contract.

REPORT OF COSTS INCURRED (RCI):

The Agency shall submit a Report of Costs Incurred (RCI), with supporting documentation attached, to the Governor's Office of Highway Safety on a quarterly basis, for each active quarter, in conjunction with the required report. Agencies may submit additional RCI forms for expenditures when funds have been expended for which reimbursement is being requested. Accepted supporting documentation to submit with a Report of Cost Incurred (RCI) includes, but is not limited to; scanned copies of timesheets, payroll records, paid invoices/purchase orders, and other account records. RCIs shall be delivered via email or mail with appropriate supporting documentation to the Governor's Office of Highway Safety. Final RCIs will not be accepted fifteen (15) days after the conclusion of each Calendar Year (December 31st). **Expenditures submitted after the expiration date may not be reimbursed and the Agency will accept financial responsibility.**

PROJECT MONITORING:

207 Fund grant project monitoring is used by the GOHS project coordinator to track the progress of project objectives, performance measures, and compliance with applicable procedures, laws, and regulations. The process is used throughout the duration of the contracted project and serves as a continuous management tool. Project monitoring also presents an opportunity to develop partnerships, share information, and provide

assistance to contracted agencies. Additionally, project monitoring outlines a set of procedures for project review and documentation.

DURATION:

Contracts shall be effective on the date the Governor's Office of Highway Safety Director signs the Contract and expire at the end of the calendar year. If the Agency is unable to expend the funds in the time specified, the Agency will submit notification on the Agency's letterhead and submit via regular mail to the Director of the Governor's Office of Highway Safety. The Agency shall address all requests to modify the Contract to the Director of the Governor's Office of Highway Safety on Agency's official letterhead and submit the request via regular mail. All requests for modification must bear the signature of the Agency Head. **Failure to comply may result in cancellation of the Contract. Any unexpended funds remaining at the termination of the Contract shall be negotiated with the Director of the Governor's Office of Highway Safety.**

MEDIA RELEASE:

To prepare complete press release information for media (television, radio, print, and on-line) during each campaign period including a main press release, schedule of events, departmental plans, and relevant data. The material will emphasize the campaign's purpose, aggressive enforcement, and the high cost of Speeding in terms of money, criminal, and human consequences.

PRESS RELEASE: Agencies are **required** to develop and distribute a press release announcing this grant award **upon receipt** of the executed Contract. A copy of this press release shall be sent to the GOHS Director for approval prior to being sent to the media. This press release shall include the objective and specify that the funding is from the Governor's Office of Highway Safety.

CERTIFICATIONS AND AGREEMENTS

This CONTRACT, is made and entered into by the STATE OF ARIZONA, by and through the Governor's Office of Highway Safety (GOHS) hereinafter referred to as "STATE", and the agency named in this Contract, hereinafter referred to as "AGENCY".

WHEREAS, STATE may make said funds available to various state, county, tribal, or municipal agencies, governments, or political subdivisions upon application and approval by STATE, and

WHEREAS, AGENCY has submitted an application for Funds for 207 funds projects;

NOW, THEREFORE, IN CONSIDERATION OF MUTUAL PROMISES AND OTHER GOODS AND VALUABLE CONSIDERATION, it is mutually agreed that AGENCY will strictly comply with the following terms and conditions and the following State Statutes, Rules, and Regulations:

I. Project Monitoring, Reports, and Inspections

- A. AGENCY agrees to fully cooperate with representatives of GOHS in monitoring the project, either on-site or by telephone, during the life of the Contract.
- B. AGENCY will submit a Final Report on the Contract to include all financial, performance, and other reports required as a condition of the grant to GOHS within thirty (30) days of the completion of the Contract.

II. Reimbursement of Eligible Expenses

- A. AGENCY's Project Administrator, or Finance Personnel, will submit a Report of Costs Incurred Form (RCI) to STATE each time there have been funds expended for which reimbursement is being requested. Failure to meet this requirement may be cause to terminate the project under Section XX herein, "Termination and Abandonment".
- B. AGENCY will reimburse STATE for any ineligible or unauthorized expenses for which State funds have been claimed and reimbursement received, as may have been determined by a State audit.
- C. STATE will have the right to withhold any installments equal to the reimbursement received by AGENCY for prior installments which have been subsequently determined to be ineligible or unauthorized.

III. Property Agreement

- A. AGENCY will immediately notify STATE if any equipment purchased under this Contract ceases to be used in the manner as set forth by this Contract. In such event, AGENCY further agrees to either give credit to the project cost or to another active project for the residual value of such equipment in an amount to be determined by STATE or to transfer or otherwise dispose of such equipment as directed by STATE.
- B. No equipment will be conveyed, sold, salvaged, transferred, etc., without the express written approval of GOHS, or unless otherwise provided elsewhere in this Contract.

IV. Travel

In-State and Out-of-State Travel

In state and out-of-state travel claims will be reimbursed at rates provided by AGENCY's regulations, provided that such regulations are as restrictive as those of STATE. Where they are less restrictive, ARS §38-624 will apply. The State must approve all out-of-state travel in writing and in advance.

V. Standard of Performance

AGENCY hereby agrees to perform all work and services herein required or set forth, and to furnish all labor, materials, and equipment, except that labor, material, and equipment as STATE agrees to furnish pursuant to this Contract.

VI. Hold Harmless Agreement

Neither party to this agreement agrees to indemnify the other party or hold harmless the other party from liability hereunder. However, if the common law or a statute provides for either a right to indemnify and/or a right to contribution to any party to this agreement then the right to pursue one or both of these remedies is preserved.

VII. Non-Assignment and Sub-Contracts

This Contract is not assignable nor may any portion of the work to be performed be subcontracted unless specifically agreed to in writing by STATE. No equipment purchased hereunder may be assigned or operated by other than AGENCY unless agreed to in writing by STATE.

VIII. Work Products and Title to Commodities and Equipment

- A. The work product and results of the project are the property of STATE, unless otherwise specified elsewhere in this Contract. All property, instruments, non-consumable materials, supplies, and the like, which are furnished or paid for by STATE under the terms of this Contract, unless otherwise provided for elsewhere in this Contract, are and remain the property of STATE and will be returned at the completion of this project upon request of STATE. The work product and results of the project will be furnished to STATE upon request, if no provision is otherwise made by this Contract.
- B. The provisions of subparagraph A apply whether or not the project contracted for herein is completed.

XII. Executive Order 2009-09

It is mutually agreed that AGENCY will comply with the terms and conditions of Executive Order 2009-09, *Non-Discrimination in Employment by Government Contractors and Subcontractors*.

XVI. Inspection and Audit, ARS §35-214

Pursuant to ARS §35-214, all books, accounts, reports, files, and other records relating to this Contract will be subject at all reasonable times to inspection and audit by STATE for five (5) years after completion of this Contract. The records will be produced at the Governor's Office of Highway Safety.

XX. Termination and Abandonment

- A. The STATE and AGENCY hereby agree to the full performance of the covenants contained herein, except that STATE reserves the right, at its discretion, to terminate or abandon any portion of the project for which services have not been already performed by AGENCY.
- B. In the event STATE abandons the services or any part of the services as herein provided, STATE will notify AGENCY in writing and within twenty-four (24) hours after receiving such notice,

AGENCY will discontinue advancing the work under this Contract and proceed to close said operations under the Contract.

- C. The appraisal value of work performed by AGENCY to the date of such termination or abandonment shall be made by STATE on a basis equitable to STATE and AGENCY and a final reimbursement made to AGENCY on the basis of costs incurred. Upon termination or abandonment, AGENCY will deliver to STATE all documents, completely or partially completed, together with all unused materials supplied by STATE.
- D. AGENCY may terminate or abandon this Contract upon thirty (30) days written notice to STATE, provided there is subsequent concurrence by STATE. Termination or abandonment by AGENCY will provide that costs can be incurred against the project up to and including sixty (60) days after notice is given to STATE.
- E. Any equipment or commodities which have been purchased as a part of this Contract and which have not been consumed or reached the end of its useful life will be returned to STATE upon its written request.

XXI. Cancellation Statute

All parties are hereby put on notice that this Contract is subject to cancellation pursuant to ARS §38-511, the provisions of which are stated: In accordance with ARS §38-511, this Contract may be cancelled without penalty or further obligation if any person significantly involved in initiating, negotiating, securing, drafting, or creating the Contract on behalf of the STATE, its political subdivisions or any department or agency of either, is at any time while the Contract or any extension of the Contract is in effect, an employee of any other party to the Contract in any capacity or a consultant to any other party of the Contract with respect to the subject matter or the Contract. The cancellation shall be effective when written notice from the Governor or Chief Executive Officer or governing body of the political subdivision is received by all other parties to the Contract unless the notice specifies a later time.

REIMBURSEMENT INSTRUCTIONS

1. Agency Official preparing the Report of Costs Incurred:

Name: Melinda Tinney

Title: Accountant

Telephone Number: 623.333.2018 Fax Number: 623.333.0200

E-mail Address: mtinnney@avondaleaz.gov

2. Agency's Fiscal Contact:

Name: Melinda Tinney

Title: Accountant

Telephone Number: 623.333.2018 Fax Number: 623.333.0200

E-mail Address: mtinney@avondaleaz.gov

Federal Identification Number: 86-6000233

3. Reimbursement information:

Warrant/Check to be made payable to:
City of Avondale

Warrant/Check to be mailed to:
Avondale Police Department

(Agency)
11485 W Civic Center Drive

(Address)
Avondale, AZ 85323

(City, State, Zip Code)

Signature of Agency Head:

Memo Espinoza, Chief of Police
Avondale Police Department

Signature of Secondary Official (If applicable)

Cherlene Penilla, Acting City Manager
City of Avondale

Date Telephone

Date Telephone

AUTHORITY

1. This Project is authorized by **A.R.S 36-2817** and regulations promulgated there under. The funds authorized for this Project have been appropriated and budgeted by the "Smart and Safe Arizona Act" The expenses are reimbursable under Proposition 207 passed into Arizona's Constitution November 30, 2020.

2. AGREEMENT AND AUTHORIZATION TO PROCEED

**By State Official responsible to Governor for the
Administration of the State Highway Safety Agency**

Alberto Gutier, Director
Governor's Office of Highway Safety
Governor's Highway Safety Representative

Approval Date

CITY COUNCIL REPORT

SUBJECT: Ordinance 2051-0922 - Establishment of the Independent Audit Committee

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Barbara Copping, Internal Auditor, (623) 333-2048

THROUGH: Cherlene Penilla, Acting City Manager, (623) 333-1015

STRATEGIC PLAN:

This agenda item supports the following Avondale Strategic Outcome Area: Innovative Program and Service Delivery Area. Avondale will continue to serve as a model of responsive government.

PURPOSE:

City Council will consider a request to adopt Ordinance 2051-0922, establishing an independent Audit Committee comprised of members of the City Council and the public and authorize the Mayor or City Manager, City Attorney and City Clerk to execute the necessary documents. The Council will take appropriate action.

BACKGROUND:

Per the City Council request on June 6, 2022, the City's Senior Internal Auditor, Barbara Copping, presented information on the roles and responsibilities of an independent internal audit which would conform to generally accepted government auditing standards (GAGAS). The City Council directed staff to take the necessary steps to bring forth city code changes to establish a compliant internal audit department, which includes a three-step process. The first step is to establish the Office of the City Auditor department (already approved by City Council), the second step is to establish an independent Audit Committee, and the final step is to appoint a City Auditor.

DISCUSSION:

The proposed Ordinance will create an independent Audit Committee.

BUDGET IMPACT:

The establishment of the Audit Committee is a no-cost budget item. Members of the Audit Committee include three City Council members and two public members who will be volunteers.

RECOMMENDATION:

Staff recommends City Council adopt an Ordinance, which approves the establishment of the independent Audit Committee. The City Council will take appropriate action.

ORDINANCE NO. 2051-0922

AN ORDINANCE OF THE COUNCIL OF THE CITY OF AVONDALE, ARIZONA, AMENDING THE AVONDALE CITY CODE, CHAPTER 2 (ADMINISTRATION), ARTICLE I (IN GENERAL) RELATING TO THE CITY AUDIT COMMITTEE.

SECTION 1. The Avondale City Code, Chapter 2 (Administration), Article I (In General), Section 2-3—2-11 (Reserved.) is hereby amended to read as follows:

2-3—2-8 - Reserved.

2-9 – AUDIT COMMITTEE ESTABLISHED; PURPOSE

(A) ESTABLISHMENT; PURPOSE. AN AUDIT COMMITTEE IS HEREBY ESTABLISHED TO PROVIDE ADVICE TO CITY COUNCIL IN RESPECT TO FULFILLING ITS OVERSIGHT RESPONSIBILITIES REGARDING THE INTEGRITY OF THE CITY'S ANNUAL COMPREHENSIVE FINANCIAL STATEMENTS. THE AUDIT COMMITTEE WILL FURTHER ASSIST AND ADVISE THE CITY AUDITOR AND CITY COUNCIL ON MATTERS RELATING TO THE CITY'S COMPLIANCE WITH LEGAL AND REGULATORY REQUIREMENTS, SYSTEMS OF INTERNAL CONTROLS, MANAGEMENT OF CITYWIDE RISK ENVIRONMENT AND THE PERFORMANCE OF INTERNAL AND EXTERNAL AUDITORS. CONSISTENT WITH THIS FUNCTION, THE AUDIT COMMITTEE WILL ENDEAVOR TO ENCOURAGE CONTINUOUS IMPROVEMENT OF, AND ADHERENCE TO, CITY POLICIES AND PROCEDURES AND PRACTICES AT ALL LEVELS.

(B) BYLAWS. TO ENSURE INDEPENDENCE AND EFFICIENCY IN THE PERFORMANCE OF ITS FUNCTION, THE AUDIT COMMITTEE IS HEREBY AUTHORIZED TO ADOPT BYLAWS WHICH WILL AT A MINIMUM INCLUDE AND ADDRESS VOTING RIGHTS, MEETINGS, AND MEMBER TERMS. THE BYLAWS MAY INCLUDE ANY RULES OR POLICIES WHICH ENABLE THE AUDIT COMMITTEE TO PERFORM AND CARRY OUT ANY OF THE DUTIES.

2-10 – RESPONSIBILITIES AND DUTIES OF AUDIT COMMITTEE. THE AUDIT COMMITTEE SHALL:

(A) REVIEW THE CITY AUDITOR'S AUDIT PLAN ANNUALLY AND PROVIDE SUGGESTIONS FOR THE AUDITOR'S ANNUAL AUDIT PLAN;

(B) ENSURE THAT THE CITY AUDITOR TRANSMITS AUDIT REPORTS TO THE AUDIT COMMITTEE AND THE CITY COUNCIL. AUDIT REPORTS WILL ALSO BE MADE AVAILABLE TO THE PUBLIC;

(C) MONITOR FOLLOW-UP ON REPORTED FINDINGS TO ASSURE CORRECTIVE ACTION IS TAKEN BY CITY MANAGEMENT;

(D) REPORT TO THE CITY COUNCIL ON AREAS OF INTEREST OR CONCERNS AT SUCH TIMES AS DEEMED APPROPRIATE;

(E) EVALUATE THE FINDINGS AND RECOMMENDATIONS OF THE PEER REVIEW AS REQUIRED BY GOVERNMENT AUDITING STANDARDS AND ASSURE THAT ALL AUDITS CERTIFY THAT THEY CONFORM TO GENERALLY ACCEPTED GOVERNMENTAL AUDITING STANDARDS;

(F) ASSURE THAT THE INTERNAL AUDIT FUNCTIONS ARE INDEPENDENT IN ACCORDANCE WITH GENERALLY ACCEPTED GOVERNMENTAL AUDITING STANDARDS, WHETHER PERFORMED BY CITY STAFF OR OUTSIDE CONTRACTORS, OR ANY COMBINATION THEREOF;

(G) AT LEAST ANNUALLY MEET WITH THE CITY'S EXTERNAL AUDITOR TO DISCUSS THE CITY'S ANNUAL COMPREHENSIVE ANNUAL FINANCIAL REPORT AND OTHER APPLICABLE RISK MANAGEMENT AND CITY FINANCIAL CONCERNS.

2-11 – AUDIT COMMITTEE MEMBERSHIP

(A) MEMBERSHIP. THE AUDIT COMMITTEE SHALL BE COMPRISED OF SEVEN (7) MEMBERS CONSISTING OF THE FOLLOWING:

1. THREE (3) CITY COUNCIL MEMBERS (VOTING MEMBERS);
2. TWO (2) PUBLIC MEMBERS (VOTING MEMBERS); AND
3. TWO (2) CITY STAFF MEMBERS WHICH SHALL BE THE BUDGET AND FINANCE DIRECTOR AND THE CITY MANAGER OR THEIR AUTHORIZED DESIGNEE (NON-VOTING).

THE VOTING MEMBERS OF THE AUDIT COMMITTEE SHALL BE APPOINTED BY THE CITY COUNCIL. ALL AUDIT COMMITTEE MEMBERS SHOULD HAVE AN UNDERSTANDING OF FINANCIAL REPORTING, ACCOUNTING, AUDITING, OR A RELATED BUSINESS FIELD, MUST BE FAMILIAR WITH LOCAL GOVERNMENT OPERATIONS, AND MUST HAVE SUFFICIENT TIME TO EFFECTIVELY PERFORM THEIR DUTIES.

THE CITY AUDITOR SHALL NOT BE A MEMBER OF THE AUDIT COMMITTEE; HOWEVER, THE CITY AUDITOR OR THE CITY AUDITOR'S DESIGNEE SHALL SERVE

AS SECRETARY FOR THE AUDIT COMMITTEE. THE SECRETARY SHALL PREPARE AGENDAS, MINUTES, AND REPORTS AS DIRECTED BY THE AUDIT COMMITTEE.

SECTION 2. It is necessary for the preservation of the peace, health and safety of the City of Avondale that an emergency is hereby declared to exist and this Ordinance shall be effective immediately upon its passage and adoption.

SECTION 3. If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason to be held invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions thereof.

SECTION 4. The Mayor, the Acting City Manager, the City Clerk and the City Attorney are hereby authorized and directed to take all steps necessary to carry out the purpose and intent of this Ordinance.

PASSED AND ADOPTED by the Council of the City of Avondale, Arizona, September 6, 2022.

Kenneth N. Weise, Mayor

ATTEST:

Marcella Carrillo, City Clerk

APPROVED AS TO FORM:

Nicholle Harris, City Attorney

CITY COUNCIL REPORT

SUBJECT: Public Hearing and Ordinance 2049-0822 - Rezone for Fairway Residences - Planned Area Development (PAD) - Application PL-22-0068

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Jodie Novak, Acting Director, Development Services, (623) 333-4015

THROUGH: Tracy Stevens, Acting Assistant City Manager, (623) 333-1014

STRATEGIC PLAN:

Strategic Outcome Area: Creative and Sustainable Community Development

Strategy: Develop diverse housing options, to include housing that is affordable to workers and close to their jobs.

PURPOSE:

City Council will hold a public hearing and consider a request to adopt 2049-0822, approving a request by Ms. Carolyn Oberholtzer of Bergin, Frakes, Smalley & Oberholtzer, PLLC, on behalf of HAM Fairway, LLC / FWVB, LLC, to rezone approximately 15.75 gross acres (14.17 net acres) at the southwest corner of Fairway Drive and Van Buren Street and authorize the Mayor, Acting City Manager, City Attorney and City Clerk to execute the necessary documents. A portion of the site is currently zoned R1-6 and the remaining portion is zoned Coldwater Springs PAD. The proposal will change the zoning of both properties to Fairway Residences PAD. The proposed Rezone will allow for a 286-unit multi-family residential project. The Council will take appropriate action.

BACKGROUND:

This proposed request involves two parcels located at the southwest corner of Fairway Drive and Van Buren Street. The property is currently unaddressed and is identified by the Maricopa County Assessor's Office as Parcel Numbers 500-29-007 and 500-27-014.

Assessor's Parcel Number 500-29-007, at the immediate southwest corner of Fairway Drive and Van Buren Street, is approximately 8.06 net acres in size. The parcel is zoned Coldwater Springs PAD and originally allowed C-2 uses; however, a PAD Amendment in 2010 modified this to a limited selection of commercial and office uses to include assisted living facilities. At the time of the amendment, it was expected that a 192-unit assisted living facility would be constructed on this parcel. Following approval of the amendment, no Site Plan application was submitted for the assisted living facility, and the lot has remained undeveloped.

Assessor's Parcel Number 500-27-014 is approximately 6.45 net acres in size, is zoned R1-6, and is undeveloped. The parcel is owned by the City of Avondale and is located immediately east and south of the new Avondale Fire Station #175.

A third parcel, Assessor's Parcel Number 500-27-011, is approximately 0.12 acres in size and is situated between the above two parcels. This parcel is zoned R1-6 and is occupied by a City well. The zoning and use

of this parcel will remain unchanged; however, a Re-Plat application will be filed to increase the size of the well parcel and make it more accessible from Van Buren Street, as well as to combine the two parcels that will be developed with apartments into one parcel. Once the Re-Plat is finalized, the apartment site will comprise approximately 14.17 net acres, while the well site will be approximately 0.46 acres and will offer direct access from Van Buren Street instead of access via easement across 500-27-014, as it does currently.

The General Plan Land Use Designation of the above parcels is High-Density Residential in the Avondale General Plan 2030 ("General Plan"). The High-Density Residential designation is intended for developments of 12 to 30 dwelling units per acre, with a target density of 12 units per acre. Dwellings in this designation are characterized by an emphasis on shared or common open space over private open space, access to transit and other multi-modal amenities, and a village environment with easy access to businesses, services, and recreation.

The existing uses and zoning of surrounding properties include:

NORTH: Zoned Avondale Commerce Center PAD and Coldwater Depot III PAD; General Plan Designations are Education and Business Park. Land uses include a charter school and a commerce park.

EAST: Zoned Coldwater Springs PAD; General Plan Designation is High Density Residential. Land uses include a charter high school (currently under construction) and an apartment complex.

SOUTH: Zoned Coldwater Springs PAD; General Plan Designation is Medium Density Residential. Land use is a single-family residential development.

WEST: Zoned Single Family Residential (R1-6); General Plan Designation is High Density Residential. Land uses include City facilities; a fire station and Water Resources yard.

SUMMARY OF REQUEST:

The applicant is requesting approval of a Rezone of the site from a combination of R1-6 and Coldwater Springs PAD zoning, to Fairway Residences PAD zoning with underlying R-4 zoning. The proposed Rezone will allow for a 286-unit multi-family residential project on approximately 14.17 net acres.

PUBLIC PARTICIPATION:

A Neighborhood Meeting to discuss the proposal with neighboring property owners and other interested parties was held on May 17, 2022 via Zoom. All notices of the meeting were completed at least fifteen days prior to the meeting as required and met notification requirements. Several members of the community and one member of the City Council attended the Neighborhood Meeting, in addition to City staff and the applicant team. Participants were concerned about increased traffic in the area, especially on Fairway Drive within the Coldwater Springs development. They also stated that motorists sometimes get lost within Coldwater Springs or use local streets as pick-up zones for schoolchildren and expected these issues would worsen as the result of the project. The applicant was asked whether a deceleration lane would be added on southbound Fairway Drive for the resident-only entrance; and the applicant responded that this option was evaluated in the project's traffic statement but determined not to be necessary. The applicant also noted that the traffic statement concludes that the project site would generate a much higher number of trips if developed for commercial uses than for the proposed multi-family residential development. Additional topics discussed during the meeting included affordable versus market-rate housing, landscape buffers and walls along the south boundary of the project site, and the possibility of an alternative land use such as a grocery store. The applicants stated that the proposed units would be market-rate, that the existing wall along the south boundary is what is shown on the project's site plan, that trees in the landscape buffer along the south boundary could be selected and located so as not to impact properties to the south, and that commercial development such as a grocery store often follows residential growth.

As of the writing of this report, twenty-five anonymous comments have been received through the aVoice/Polco web platform. Four of these comments expressed approval for the project, though one of these four comments stated that the City needs to ensure that strict architectural guidelines are in place to ensure a uniform aesthetic. The remaining comments received on this project expressed disapproval, citing concerns such as traffic congestion and safety on Van Buren and Fairway, the prevalence of rental apartments over for-sale townhomes and condominiums in the City, costs for constructing new schools to accommodate additional students, a desire for alternate land uses on the site (such as a park or grocery store), availability of water in

the City and beyond, and potential changes to the character of the neighborhood.

Additionally, three phone calls and twenty-two emails have been received about the project (emails are included with this staff report under Exhibits F and H). All commenters are residents of the Coldwater Springs development to the south of the project site, and all comments expressed disapproval of the project and a desire to keep the existing zoning. Concerns mentioned in these comments include traffic congestion and parking conflicts, changes to the socioeconomic balance of the neighborhood, and the potential for water shortages in the future.

PLANNING COMMISSION ACTION:

On July 20, 2022, the Planning Commission conducted a public hearing on the project. The Commission asked about the traffic statement that had been prepared for the project, and the applicant's representative provided a summary of the statement's findings explained that a commercial development on this site would generate more trips than the proposed multi-family residential development. Additional topics of discussion included the proposed percentage of open space for the project and whether rental units are disproportionately represented in Avondale when compared to for-sale products such as townhomes and condominiums. Staff explained that the open space was reduced slightly below the typical requirement of 20% in order to create space for a vehicle turnaround at the gated entry on Fairway Drive, and confirmed that there are more apartment projects in the entitlement pipeline or under construction than townhome or condominium projects at this time. The Commission voted 3-1 to recommend approval of the proposed PAD Amendment, subject to the recommended conditions.

ANALYSIS:

Conformance with the General Plan

The General Plan designation for the property is High Density Residential, which allows densities between 12 and 30 units per acre. The Rezone request will allow for a multi-family residential project with a density of 20.18 units per acre. Therefore, the request meets the intent of the High Density Residential land use designation and is in conformance with the General Plan.

Permitted Uses

The subject property is currently zoned R1-6 (for single-family residential development) and Coldwater Springs PAD (for commercial or office development). The proposed Rezone will change the zoning of the entire site to Fairway Residences PAD with underlying R-4 zoning to allow a multi-family residential development with a density of 20.18 units per acre. This density is compatible with R-4 standards, which allow densities up to 30 units per acre.

Development Standards

The proposed front, side, and rear yard minimum setbacks are consistent with the R-4 zoning district, with no deviations requested, except that the project requests a zero-foot setback from the City well site. Per the City of Avondale Zoning Ordinance, multi-family buildings two stories or greater in height must be located at least 75 feet from any single-family residential area or zoning district. No two-story or three-story buildings will be located within 75 feet of the southern property line of the development site, which abuts a single-family neighborhood within Coldwater Springs. The only structures within this setback will be single-story garage canopies and trash enclosures.

The proposed lot width, lot depth, maximum building height, and maximum lot coverage are consistent with the R-4 zoning district.

The City of Avondale Multi-Family Residential Design Manual requires a multi-family residential project to devote at least 20% of its site area to usable open space, and to provide at least 80 square feet of private open space for each unit. The project proposes to dedicate 19.8% of the site to usable open space and to provide an average of 100 square feet of private open space per unit (in other words, some units may have less than 80 square feet but others may have more, bringing the average to at least 100 square feet). The applicant's justification for the first deviation is that constraints such as the well site and the project's circulation design, including a vehicle turnaround outside the Fairway entrance gate as requested by staff, allow for slightly less usable space than is typically required. Furthermore, the quality of the shared amenities to include a clubhouse, pool and spa, outdoor kitchen, putting green, sport courts, play structures, dog park,

and a looped walking trail will help to compensate for some residents receiving less than 80 square feet of private space.

Parking

The Zoning Ordinance requires 481 parking spaces for residents and 57 for guests for this project, for a total of 538 spaces. The project will provide 539 spaces and therefore will exceed the minimum required.

Per the City of Avondale Multi-Family Residential Design Manual, a minimum of 25% of required parking (excluding guest spaces) should be in garage form. The project will provide 80 garages, which is 16.6% of its required resident parking. Consistent with the provisions of the Design Manual, many of these will be tuck-under garages below carriage units. Standalone garages will be limited to five buildings, each of which will contain eight garages to limit the length of said buildings.

Per the City of Avondale Zoning Ordinance, multi-family residential projects are required to provide at least one assigned, covered space per unit. Though the 80 garages in this development will be assigned to specific units, all 459 surface spaces will be unassigned, so units without garages will not have assigned parking. However, 282 of the surface spaces will be covered. When combined with the 80 garages, a total of 362 spaces will be sheltered in some form.

Per the Avondale Zoning Ordinance, multi-family residential developments are required to install electric vehicle (EV) chargers in 4% of resident spaces and 1% of guest spaces, while 16% of resident spaces and 3% of guest spaces must be EV-capable for future installation. As an alternative to the requirement, the project will install chargers in eight of the surface spaces, while 20 surface spaces and all 80 garages will be EV-capable.

Landscaping

Landscaping on the site will adhere to the Zoning Ordinance's landscaping requirements, with the following deviation: instead of a minimum of 1.5 trees per unit, the proposal will require a minimum of 1.5 trees per ground-level unit. Adherence to landscape requirements will ensure that significant landscape areas, tree sizes, and plant quantities are provided throughout the site. This includes a minimum 15-foot landscape buffer along the southern boundary of the project site, to provide separation between the new multi-family residential development and the existing single-family residential development to the south.

Streets

The development will have one primary access point from Van Buren Street that will allow three-quarters ($\frac{3}{4}$) movement for right-in, right-out, and left-in turns. A secondary gated access will be provided on Fairway Drive for residents only, no guest access, and will include a vehicle turnaround area. Pedestrian connections to Van Buren Street and Fairway Drive will be provided from within the development. Street improvements on Van Buren Street to facilitate access to the project will be completed with the development. No additional improvements to Fairway Drive are contemplated.

Certificates of Adequate School Facilities

Certificates of Adequate School Facilities have been signed by Littleton Elementary School District (LESD) and Tolleson Union High School District (TUHSD) and are attached to this staff report. The LESD certificate indicates that the district does not have adequate capacity to accommodate the estimated enrollment from the proposed development. After this certificate was signed, the developer consulted with LESD on a donation agreement to mitigate school impacts related to the development. This agreement will be executed once the developer closes on their purchase of the property.

DISCUSSION:

Staff recommends approval of the Rezone request for the following reasons:

1. The proposed Rezone from R1-6 and Coldwater Springs PAD to Fairway Residences PAD is in conformance with the General Plan designation of High Density Residential.
2. The proposed Rezone is in conformance with the Multi-Family Residential Design Manual as amended in

the PAD.

3. The proposed Rezone will result in compatible land use relationships. Building heights and most setbacks will be consistent with R-4 development standards, and buildings two or more stories in height will maintain a minimum 75-foot setback from the single-family residential development to the south. Sufficient parking to meet the project's minimum requirement will be provided. The primary entrance and exit point for the development site will be from Van Buren Street, and Fairway Drive will provide only a secondary, resident-only entrance/exit.

4. Adequate public infrastructure to support the proposed development either currently exists or will be constructed by the developer.

5. The proposed land use will contribute to Avondale's stock of rental housing units.

6. The recommended conditions of approval are reasonable to ensure conformance with the provisions of the Zoning Ordinance and all other applicable City codes, ordinances, and policies.

Following Planning Commission approval of the case, Staff is recommending one additional condition (Condition #1) related to being in conformance with the applicant's submitted PAD narrative.

BUDGET IMPACT:

No budget impacts.

RECOMMENDATION:

City Council will conduct a public hearing and **ADOPT** an Ordinance approving Application PL-22-0068, a request to Rezone approximately 14.17 acres from R1-6 and Coldwater Springs Planned Area Development (PAD) to Fairway Residences Planned Area Development (PAD R-4), subject to the following six (6) conditions of approval:

1. Development shall substantially conform to the Fairway Residences PAD Narrative electronically date stamped June 14, 2022, except as modified by these conditions.

2. Power lines less than 69 kV adjacent to the property shall be converted underground in the first phase of development.

3. Prior to issuance of any construction permits for the project, a Re-Plat shall be approved and recorded to combine the two parcels to be developed and to modify the boundaries of the City well site.

4. All off-site improvements shall be completed in the first phase of development.

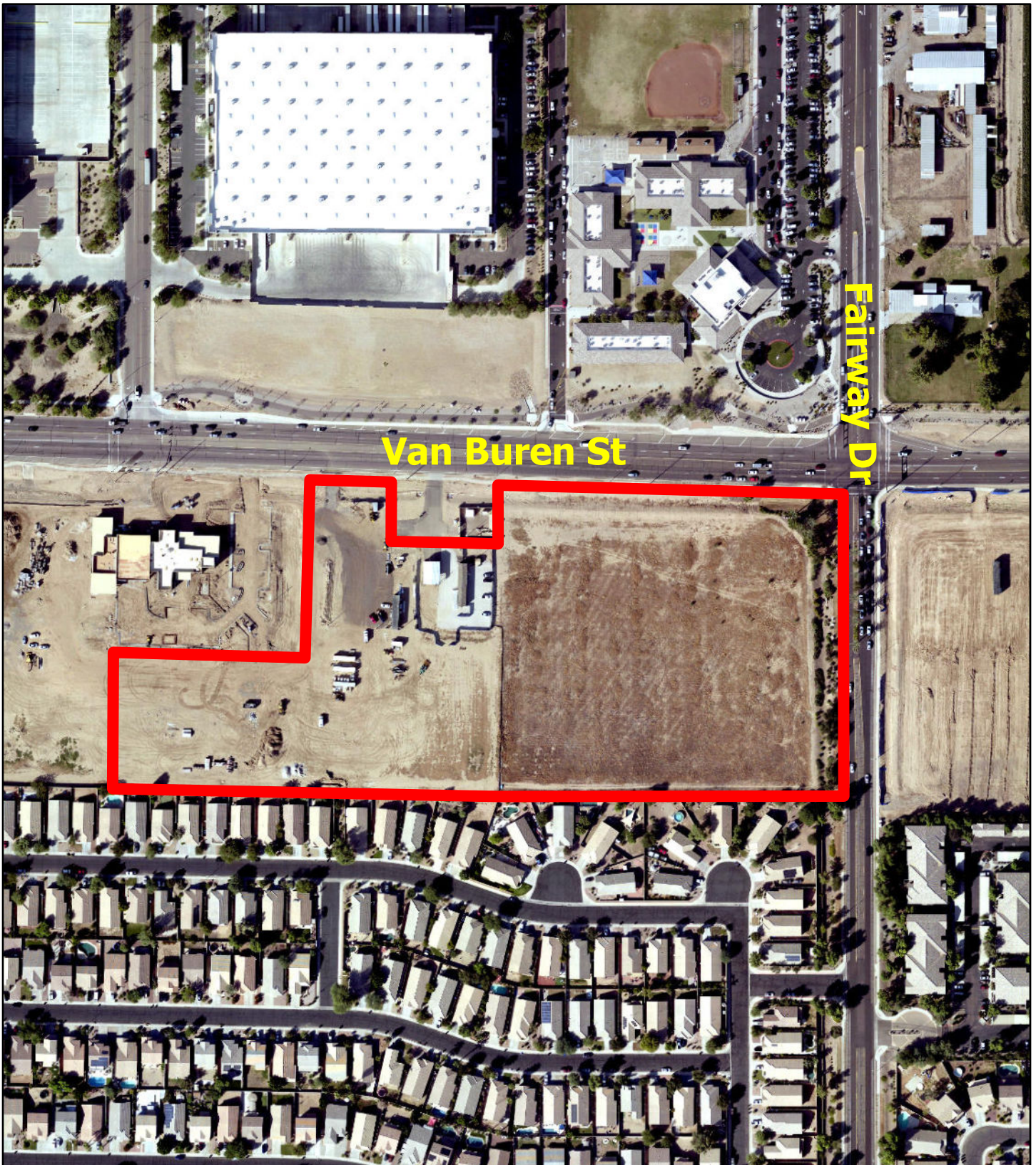
5. Grandfathered groundwater rights for the property must be extinguished and pledged to the City of Avondale's designated account (26-002003.0000) prior to issuance of any construction permits for any portion of the project.

6. The development shall be designed and constructed in accordance with the City of Avondale General Engineering Requirements (GER) Manual and the City of Avondale Supplement to MAG Uniform Specifications and Details unless a standards deviation has been approved.

PROPOSED MOTION:

I move that City Council **ADOPT** an Ordinance approving Application PL-22-0068 Fairway Residences PAD, a request to Rezone approximately 14.17 acres from R1-6 and Coldwater Springs Planned Area Development (PAD) to Fairway Residences Planned Area Development (PAD), subject to the six (6) conditions of approval as listed in the staff report.

Contact person for document distribution: Ann Dolmage

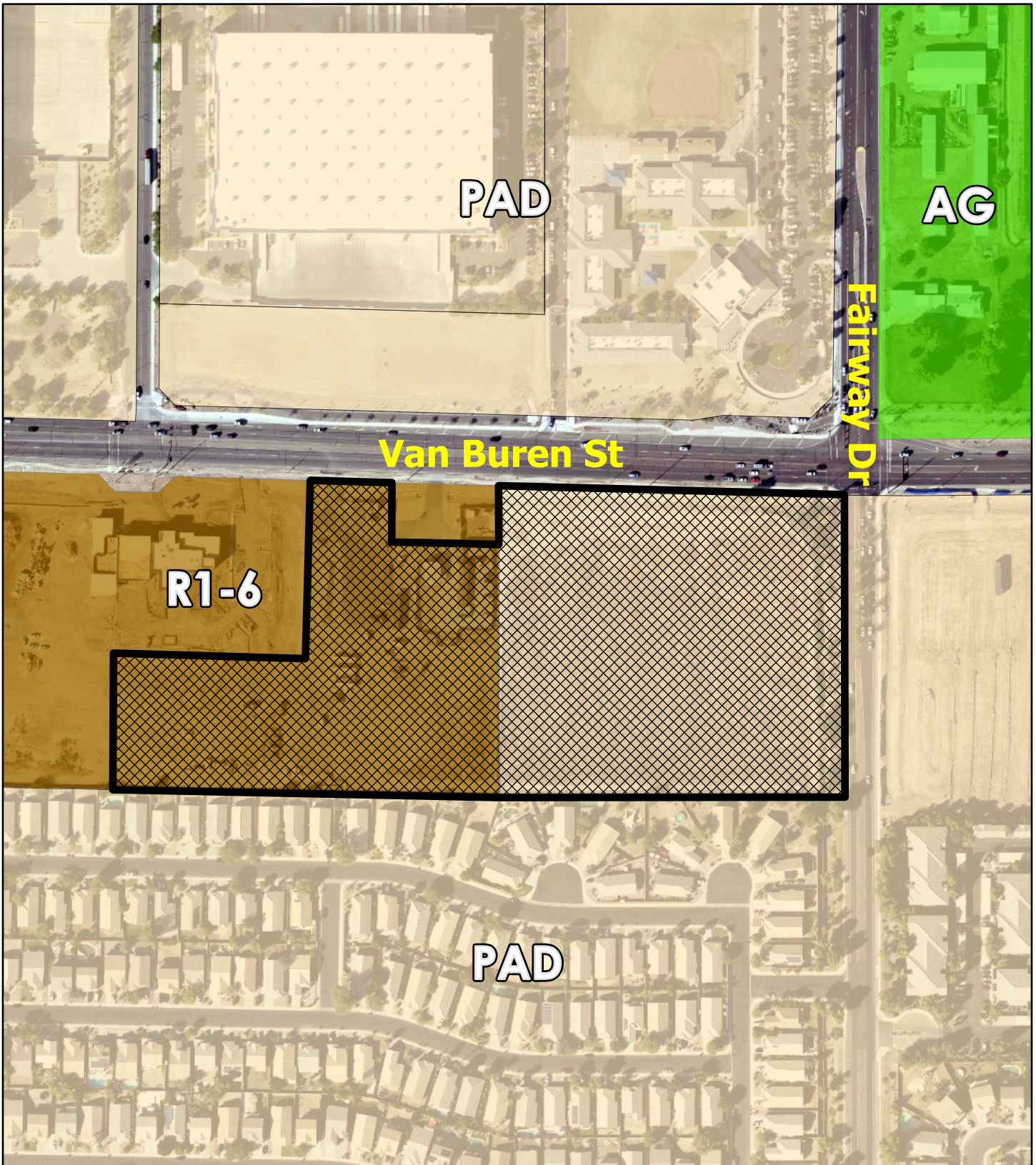


Aerial Photograph

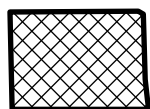


Subject Property



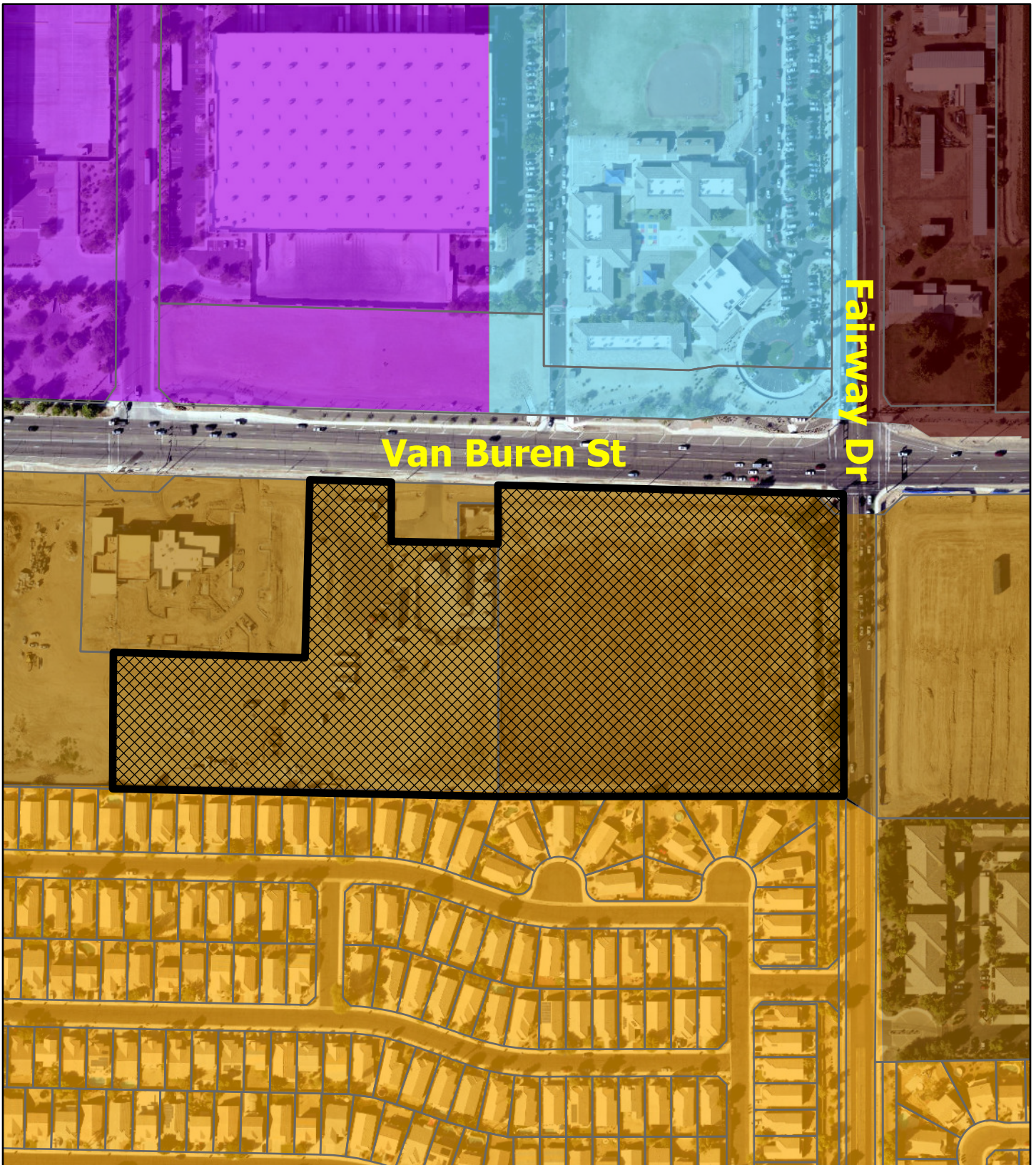


Zoning Vicinity



Subject Property

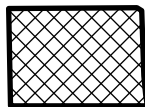




General Plan Land Use



- Business Park
- Education
- High Density Residential
- Urban Residential



Subject Property



Fairway Residences

PAD Amendment Narrative

Application:
Draft: June 10, 2022

3rd Submittal



Project Team

Project Owner/Developer:

Acent Companies
9943 E. Bell Rd. Suite 115
Scottsdale, AZ 85260
Contact: Bradly Richardson Jr.
Brichardson@Ascentcos.com
602-725-1351



Landscape Architect:

Collaborative V Design Group
7116 East 1st Avenue, Suite 103
Scottsdale, AZ 85251
Contact: Scott Heffernan
ScottH@CollaborativeV.com
480-347-0590



Engineer:

EPS Group, Inc.
1130 N. Alma School Rd. Suite 120
Mesa, AZ 85201
Contact: Brian Nicholls
brian.nicholls@epsgroupinc.com
480-503-2250



Architect:

triARC Architecture & Design
1934 E. Camelback Rd. Suite 200
Phoenix, AZ 85016
Contact: Jon Hanna
Jon@triarcdesign.com
602-229-1100



Legal:

Bergin, Frakes, Smalley & Oberholtzer PLLC
4343 East Camelback Road, Suite 210
Phoenix, AZ 85018
Contact: Carolyn Oberholtzer
Coberholtzer@bfsolaw.com
602-888-7860



BERGIN, FRAKES, SMALLEY & OBERHOLTZER

Project Data

Project Location:	SWC Van Buren St. & Fairway Dr. Avondale, AZ
Project Narrative:	New multifamily project, 3 story buildings with amenities including clubhouse with fitness room, pool, dog park
Existing Zoning:	PAD
Proposed Zoning:	PAD based on R-4
APN:	500-29-007 + a portion of 500-27-014
Site Area:	Net: +/- 14.17 AC (Approx. 717,150 S.F.)
Density:	20.18 DU/AC proposed (286 units/14.17 Net AC)

Building Information

Building Height:	Allowed: 45'-0" Provided: 43'-0"
Occupancy:	R-2
Construction Type:	Type V-A, Wood Frame
Fire Sprinklers:	Apartments: NFPA 13-R Clubhouse: NFPA 13
Dwelling Unit Mix:	1 Bedroom = 108 (38%) 2 Bedroom = 148 (52%) 3 Bedroom = 30 (10%) Total Units = 286
Building Mix & Footprint	(9) Building Type 1 x 9,614 S.F. Footprint = 86,526 S.F. (5) Building Type 3 x 5,828 S.F. Footprint = 29,140 S.F. (5) Building Type 4 x 2,165 S.F. Footprint = 10,825 S.F. (6) Garage x 1,905 S.F. Footprint = 11,430 S.F. (1) Clubhouse x 6,054 S.F. Footprint = 6,054 S.F. Total Building Footprint = 143,975 S.F.

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1.0 Project Overview

1.1 Introduction

Fairway Residences (the “**Project**”) is a proposed 14.17-acre multi-family residential development that contemplates fourteen 2 and 3-story apartment buildings with 286 units developed by Ascent Companies, located on the southwest corner of Fairway Drive and Van Buren Street (the “**Property**”) within the City of Avondale (the “**City**”). Ascent Companies is a local multi-family community developer which develops, operates and owns their projects long-term. Their communities in other jurisdictions have won awards for amenities and design and they look forward to bringing their next premier luxury community to this Coldwater Springs and Fairway gateway location in the City.

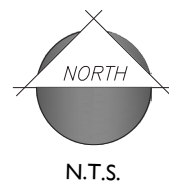
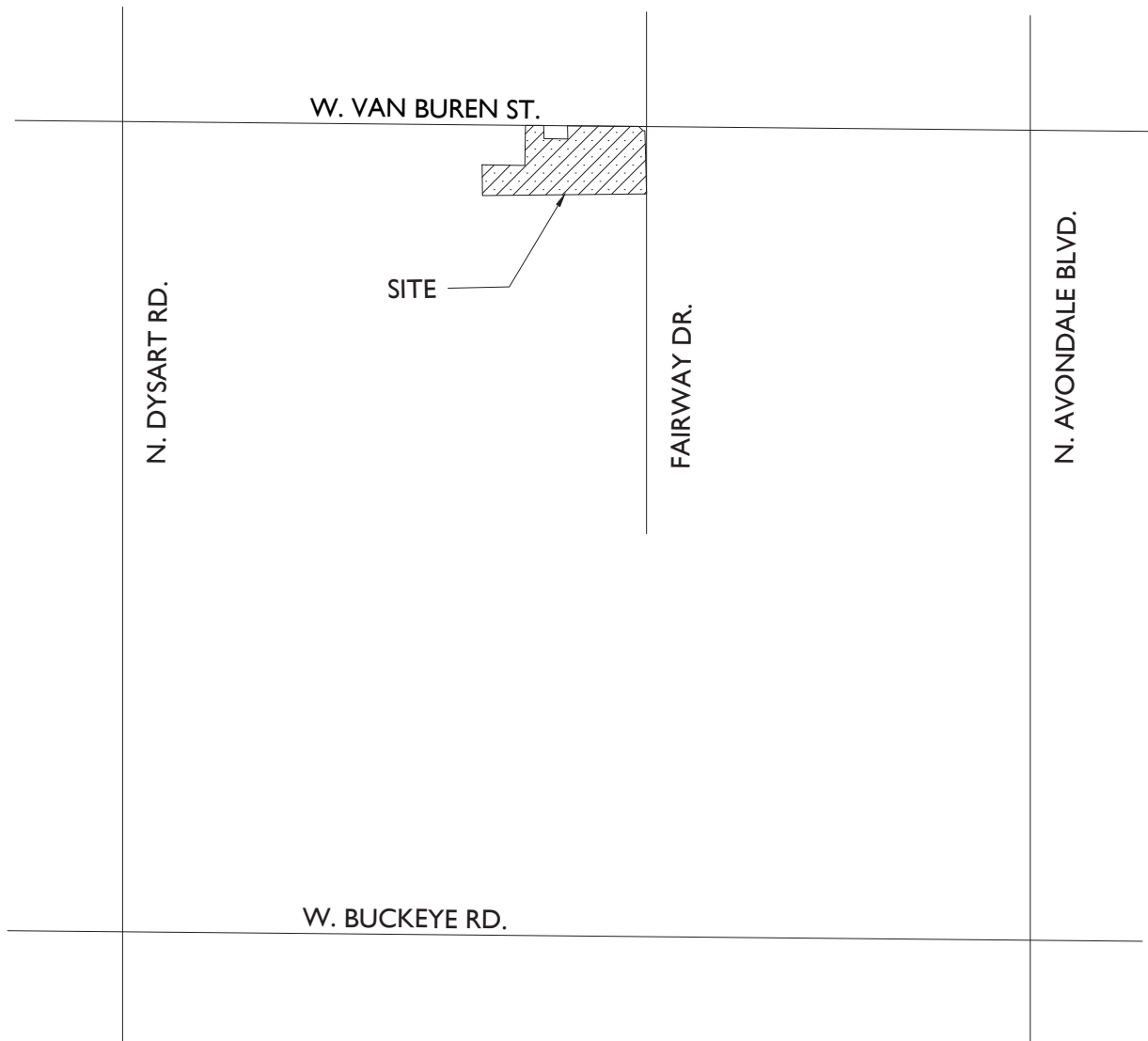
Ascent has partnered with the City to combine the City’s excess property remaining after the completion of the Avondale Fire Station 1755 (APN 500-27-014, “**City Property**”), with the hard corner (APN 500-29-007), to create a cohesive residential development as long envisioned for this property in the Avondale 2030 General Plan (“**General Plan**”). The City Property is currently zoned Urban Residential (“**R1-6**”) and the remaining 8.06 acres is zoned C-O within the Coldwater Springs PAD (Z-97-318-A). Although C-O, the Coldwater Springs PAD was amended in 2010 to add a 55-over, age-restricted 192 unit (28 DU/AC) residential community on this property. Over the intervening decade, demand has substantially increased for market-rate, non-age restricted rental communities targeting a wide population of renters-by-choice. This PAD will facilitate the development of an all-ages community consistent with the property’s High Density Residential (“**HDR**”) designation in the General Plan. The change to the proposed PAD will bring residents in proximity to retail areas at a location accessible and connected by the City’s bike lanes and transit options. The Project will serve as a buffer between the Coldwater Springs neighborhood and the major intersection, while providing for enhanced pedestrian connections through the addition of pedestrian paths.

1.2 Existing Property Conditions and Surrounding Area Conditions

The Property is currently vacant, undeveloped land. The City Property was severed from an adjacent parcel northwest of the Project which is now Avondale Fire Station 175. Along Van Buren there is a 0.12-acre City-owned well-site (APN 500-27-011 and “**City well-site**”). As shown on the Surrounding Uses map and Table 1 below, the Property is effectively an infill development with existing land uses all around it. **See Exhibit 1, Vicinity Map, Exhibit 2: Context Map and Table 1, Surrounding Zoning.**

Table 1: Surrounding Zoning

Direction	General Plan Land Use Category	Existing Zoning	Existing Use
Site	High Density Residential	PAD	Vacant
North, across Van Buren Street	Education, Business Park	PAD	School, Distribution Center
South	Medium Density Residential	PAD	Single-Family Residential
East, across Fairway Drive	High Density Residential	PAD	School
West	Public/Civic	R1-6	Public Utility Facility, Fire Station
Northeast	Urban Residential	AG	Agriculture





1.3 Existing General Plan

The HDR in the General Plan allows for densities from 12 to 30 DU/AC with a target density of 12 DU/AC. This level of intensity is intended to promote a village environment with easy access to services, businesses, and recreation. The Project's location and design provides connections to external attractions with sidewalk and bike connections to Friendship Park, the surrounding Coldwater Springs neighborhoods, the Van Buren Trail, and the BLVD. The proposed density in the PAD caps the units at 286 units (or 20.2 DU/AC), which is in the middle range of the General Plan and less intense than previously approved under the Coldwater Springs PAD.

The General Plan designates the properties south of Van Buren, both east and west of the Fairway intersection as HDR. However, the only other undeveloped piece remaining is a +20-acre property at the southeast corner of Fairway and Van Buren which is now being developed as a high school. As a result, this property is the last opportunity for HDR development at this intersection and within the HDR-designated properties in the area.

See Exhibit 3: General Plan Map.

1.4 Existing and Proposed Zoning

The larger Coldwater Springs PAD is 782 acres and consists of single-family and multi-family residential, a golf course, elementary school, high school, three parks, and four commercial sites. The property within this application is both C-O under the PAD, and R1-6 (City Property). This PAD will replace both entitlements with a new PAD governing the combined properties. **See Exhibit 4: Existing Zoning Map.**

2.0 Project Description

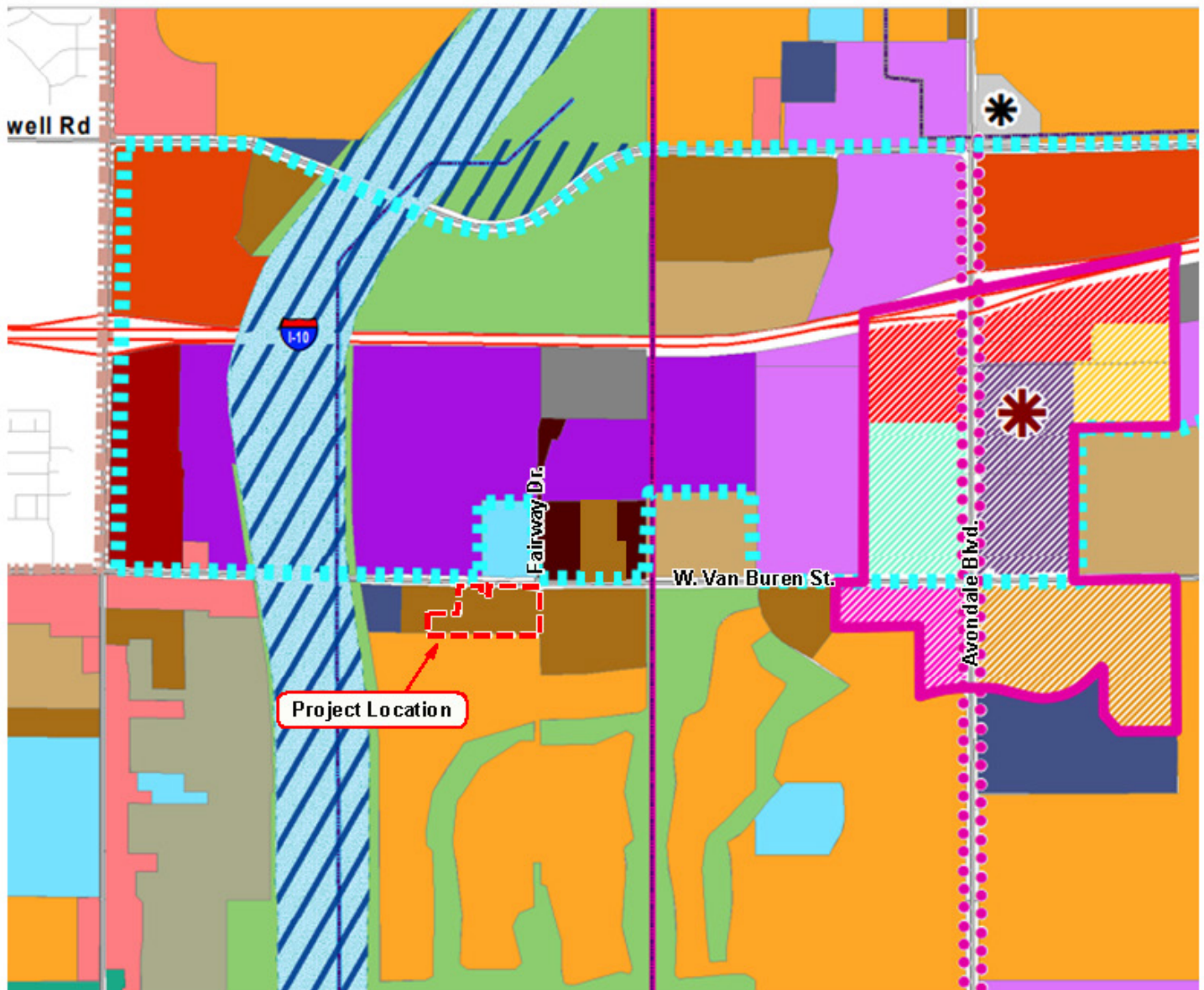
2.1 Development Plan

The Fairway Residences Conceptual Land Use Development Plan includes a modern, boutique multi-family gated community focused on a pet-friendly, quality, amenities, and lifestyle. The conceptual development plan for the Property contemplates multiple two and three-story buildings with a maximum of 24 units in each, surrounding a centrally located community gathering space featuring an approximately 4,400 sq.ft. clubhouse, a pool and spa, and a separate pet amenity space with both tuck-under and separated garages. The ingress and egress to the community is from Van Buren to keep traffic off of Fairway, and only an emergency vehicle access gate to Fairway.

The Project will also offer amenities unique to Fairway Residences such as a rideshare and delivery pickup/drop-off lane with and a green belt feature along the north and east side of the Property. Fairway Residences also include a pocket park at the entrance of the Property which surrounds a covered mailbox area with seating and accommodations for pets. A large setback is maintained from the single-family residential neighborhood to the south, with 3-story buildings placed a minimum of 75' from the shared property boundary. **See Exhibit 5: Land Use Development Plan.**

2.2 Project Character and Theme

The primary theme of Fairway Residences is a contemporary theme with clean lines while providing seamless transitions to an indoor-outdoor residential environment as demonstrated in the architectural renderings submitted with this application. The Project utilizes a blend of modern materials to create a common design aesthetic, while providing for individuality to create emphasis on key site features. The Project's landscaping is planned to compliment the modern-transitional character of the community. Landscape materials will be organized in patterns to bring emphasis to key arrival areas, pedestrian nodes, and recreational areas. A variety of recreation amenities are planned to provide residents of all ages with ample outdoor activities supporting daily lifestyle needs.



GENERAL PLAN

Legend

- Planning Boundary
- Growth Area

Land Use

- Rural Low Density Residential
- Estate/Low Density Residential
- Medium Density Residential
- Medium/High Density Residential
- High Density Residential
- Local Commercial
- Freeway Commercial
- Historic Avondale District
- Sports and Entertainment
- Office/Professional
- Industrial
- Business Park
- Corporate Park
- Gila River Scenic District
- Open Space and Parks
- Public/Civic
- Education

- Neighborhood District
- Gateway District
- Village District
- Park Avenue District
- Promenade District
- Residential District

The Boulevard
(The BLVD)
Specific Plan Area

TOD

- Urban Residential
- Urban Commercial
- High Intensity Office
- Mixed Use

Aggregate Sites

- Existing
- Potential Sites - Privately Owned Land
- Potential Sites - Publicly Owned Land

Roads

- Interstate 10
- Future SR-30 Alignment
- Future Roads
- Avondale Boulevard Employment and Commercial Corridor

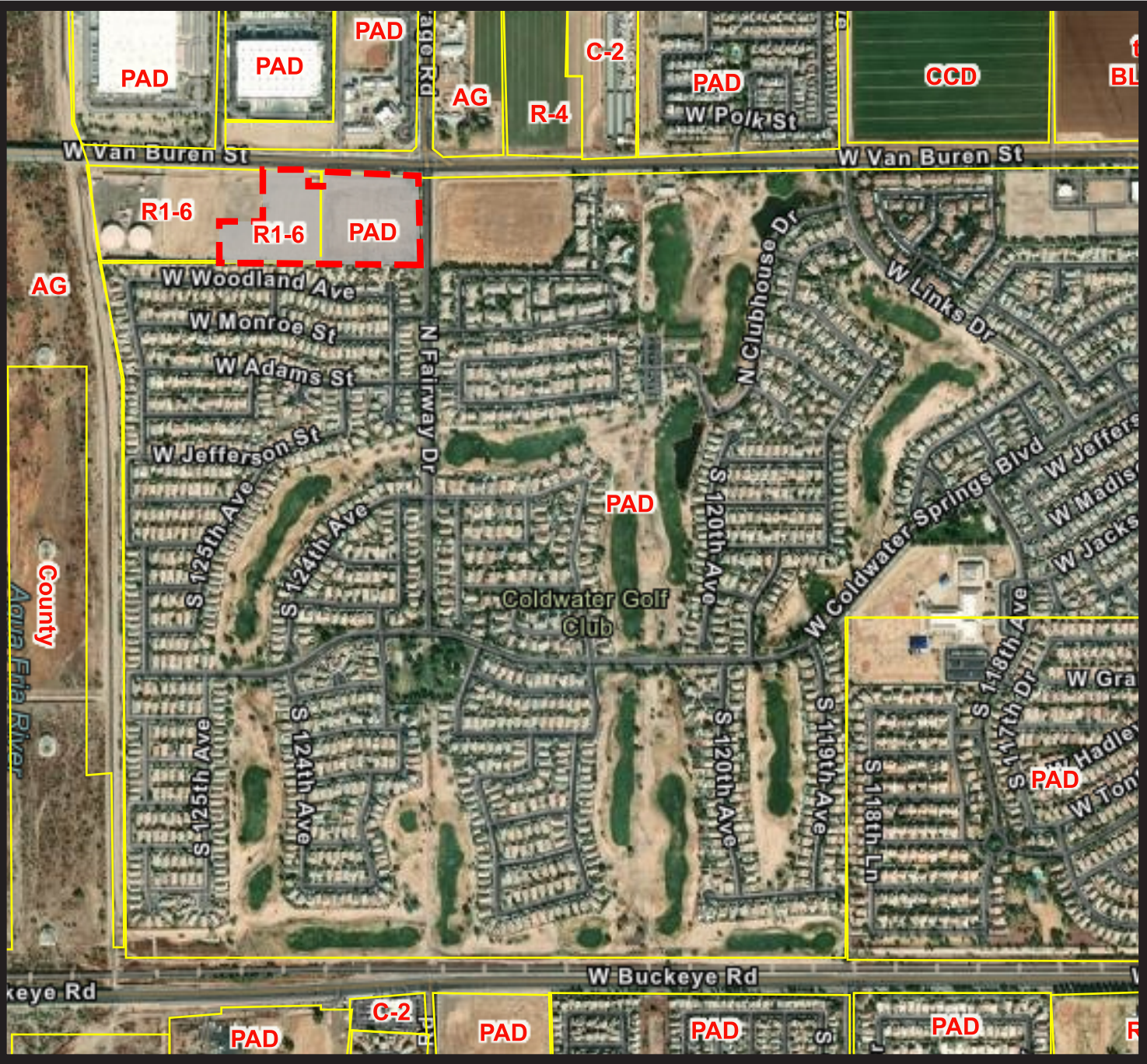
Powerlines

- Powerline Trail
- 230 KV Power Lines
- 345 KV Power Lines
- 500 KV Power Lines
- 69 KV Power Lines

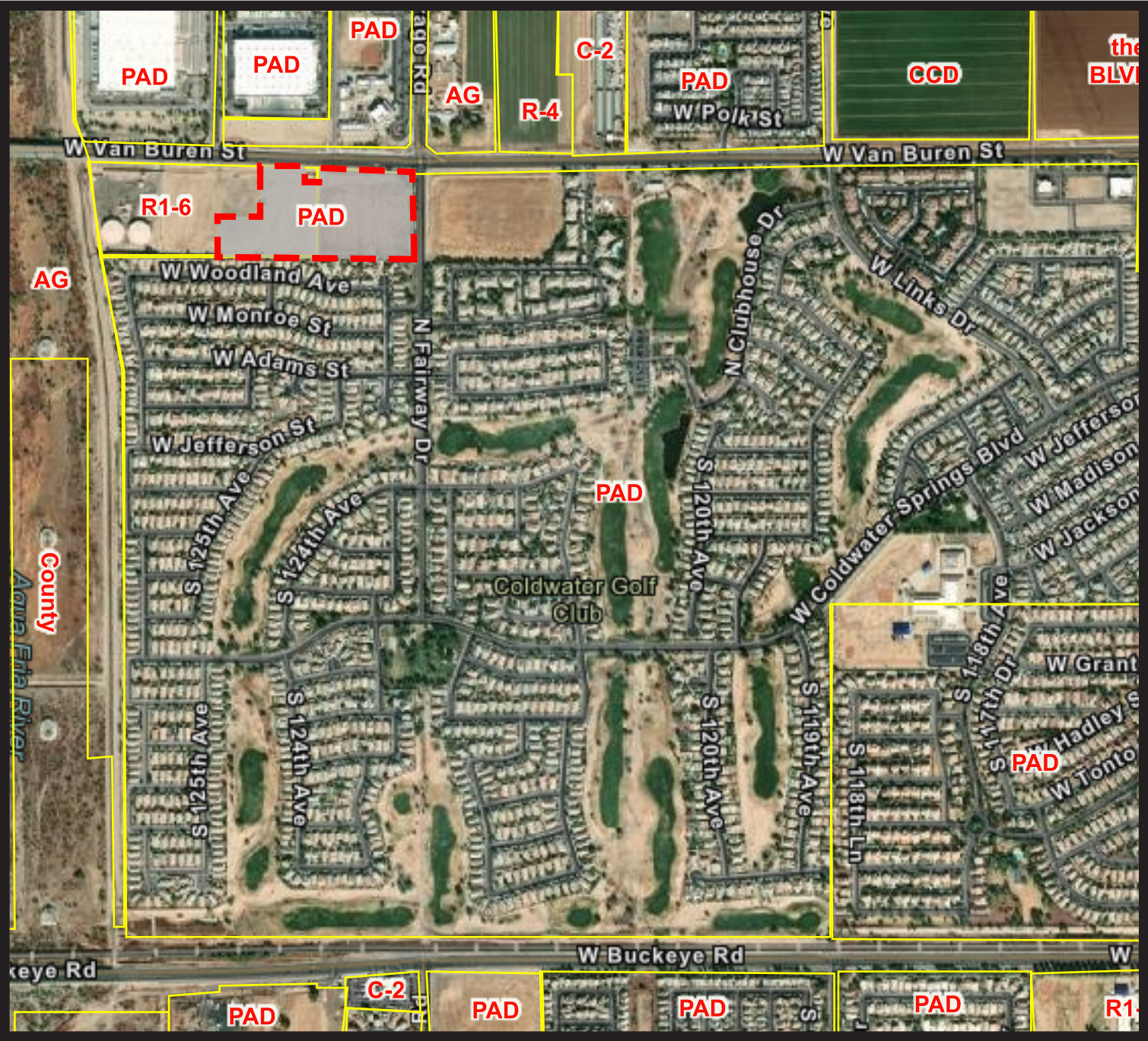
Symbols

- Resort
- Medical Center
- Public Recreational/Wildlife Center
- Public Recreational/ASC

Exhibit 3: General Plan Map



Existing Zoning



Proposed Zoning

3.0 Proposed Land Use Development Map



PARKING DATA		
REQUIRED PARKING		
1 BEDROOM	162 SPACES	
2 BEDROOM	259 SPACES	
3 BEDROOM	60 SPACES	
GUEST	57 SPACES	
TOTAL PARKING REQUIRED		538 SPACES
PROVIDED PARKING		
SURFACE SPACES	177 SPACES	33%
COVERED SPACES	282 SPACES	51%
GARAGE SPACES	80 SPACES	16%
TOTAL PARKING PROVIDED		539 SPACES

SITE DATA								
LAND USE	EXISTING ZONING	PROPOSED ZONING	NET AC.	UNITS	DENSITY	USABLE OPEN SPACE		OPEN SPACE
PUBLIC/CIVIC	PAD	PAD BASED ON R-4	+/- 14.17 AC.	286 D.U.	20.2 D.U./A.C.	3.25 AC	19.8%	5.82 AC. 35.4%

BUILDING DATA						
REQUIRED BUILDING SETBACKS					BUILDING HEIGHTS	
FRONT YARD	SIDE YARD	REAR YARD	STREET SIDE	3 STORY TO S.F.	ALLOWED	PROVIDED
25'-0"	15'-0"	15'-0"	25'-0"	75'-0"	45'-0"	40'-0"

CONCEPTUAL LAND USE DEVELOPMENT PLAN

2.3 Circulation

The Project is located along Van Buren, which is classified as a major arterial and Bus Transit Corridor' in the General Plan. The project's ingress and egress has been located to avoid conflict with other developments in the area and to provide alignment with the Legacy Traditional School to the north. The Fairway Drive driveway is resident access only & exit via remote and will include a turnaround space. No guest entrance will be allowed. Pedestrian connections to Fairway will be provided from within the project. **See Exhibit 3: General Plan Map and Exhibit 6: Circulation Plan**

2.4 Density and Land Use Justification

The proposed Fairway Residences PAD will bring the current R1-6 and C-O zoning into conformance with the current HDR General Plan designation. The General Plan HDR category acknowledges that high density residential developments can take multiple forms, such as patio homes, apartments, condominiums or townhomes. The Fairway Residences project, at 20.2 DU/AC is well within the 12-30 DU range provided for in the General Plan and is below the 28 DU/AC previously approved in the Coldwater Springs PAD. As such, the project density is in conformance with the General Plan and therefore justified.

3.0 Land Uses and Development Standards

The requirements of the Zoning Ordinance, as amended, and Avondale Multi-family Design Manual, as amended, shall apply to Fairway Residences except where explicitly stated otherwise in this PAD. This PAD sets forth the development standards and uses for Fairway Residences and should a conflict exist between any provision in this PAD and the applicable Avondale Zoning Ordinance and applicable Multi-family Design Manual, this PAD will govern.

3.1 Permitted Uses

The permitted uses for Fairway Residences are as set forth in the R-4 Section of the Zoning Ordinance and included as **Appendix A**. All uses not specifically provided for herein are prohibited unless a subsequent determination by the Zoning Administrator finds a specific use to be analogous to a permitted or conditionally permitted use.

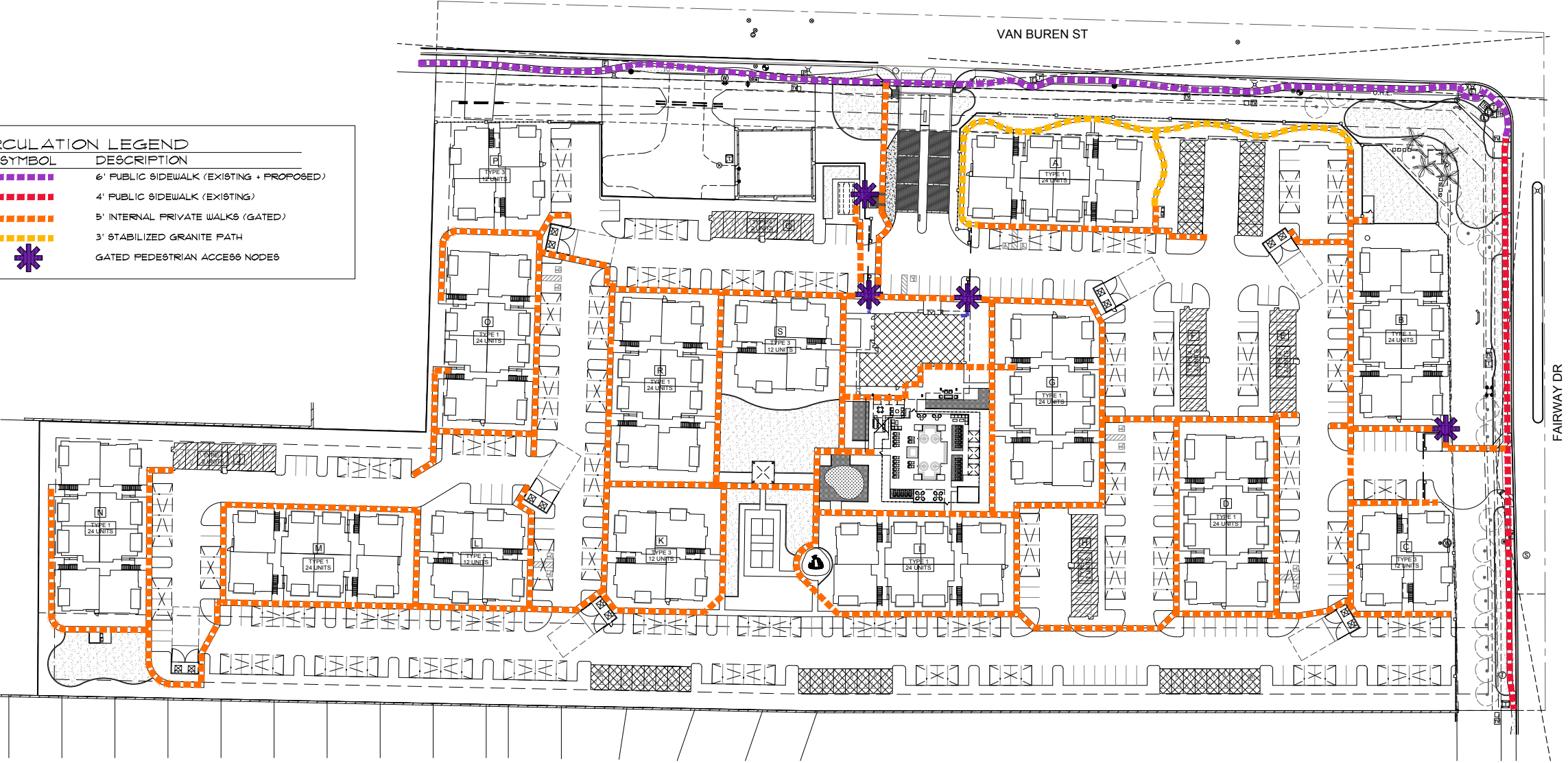
3.2 Development Standards

The project most closely aligns with the City's R-4 Residential Zoning District, and the Development Standards below have been provided in comparison to that district. **Table 3, Development Standards** shall govern the project and deviations from the City's standards are shown in **bold**. Additionally, Section 206.B.3.b requirements for minimum building separation shall be measured from building faces and not corners.

The proposed modifications support the development of adjacent residential communities to existing uses that are infill and established with the predetermination of the uses that surround them. As a result, some modifications are warranted given the project's adjacency to a fire station and well-site. The increase to the required area per unit is provided to ensure the PAD density falls below what would otherwise be permitted in the City's R-4 District.

CIRCULATION LEGEND

SYMBOL	DESCRIPTION
	6' PUBLIC SIDEWALK (EXISTING + PROPOSED)
	4' PUBLIC SIDEWALK (EXISTING)
	5' INTERNAL PRIVATE WALKS (GATED)
	3' STABILIZED GRANITE PATH
	GATED PEDESTRIAN ACCESS NODES



Collaborative V
Design Studio Inc.
7116 East 1st Ave.,
Suite 103
Scottsdale, Arizona
85251
office: 480-347-0590
fax: 480-656-6012

PRELIMINARY
NOT FOR
CONSTRUCTION

LANDSCAPE IMPROVEMENTS
FAIRWAY RESIDENCES
AVONDALE, AZ

CONCEPTUAL CIRCULATION PLAN

DESIGNED BY:	PV/SH
DRAWN BY:	SH
CHECKED BY:	PV/MD
DATE:	FEBRUARY 16, 2022
REVISION:	CITY COMMENTS
	APRIL 27, 2022
	SITE REVISIONS
	JUNE 10, 2022
FAIRWAY RESIDENCES PAD SUBMITTAL	
CLS-6	
6 of 7	

Table 3: Residential Development Standards

	Fairway Residences Avondale	Avondale R-4
Maximum units allowed	1 unit for every 2,100 sf net site area	1 unit for every 1,452 sf net site area
Minimum lot width	50'	50'
Minimum lot depth	100'	100'
Maximum height	45'	45' ²
Maximum building coverage	50%	50%
Minimum setbacks: Front Yard	25'	25' ³
Side Yard	15'	15' ¹
Rear Yard	15'	15'
Street Side	25'	25' ³
City Well Site	0'	-

1. Zero (0) feet for lots with common walls; fifteen (15) feet for lots with no common walls.
2. The maximum height of buildings in the R-4 Zoning District shall be allowed to exceed forty-five (45) feet in height if located on land identified by any of Avondale's specific area plans (e.g. Freeway Corridor Specific Plan, North Avondale Specific Plan) as appropriate for additional height. In those instances, the maximum building height shall not exceed the height specified by the particular specific area plan.
3. May be reduced to eight (8) feet for buildings with individual dwelling units that front onto a residential street and that provide direct access from residential units to the public sidewalk (e.g. townhomes or walk-up apartments). As it relates to this provision, direct access shall be defined as the shortest feasible paved connection to the public sidewalk from the entrance of a residential unit(s). Direct access shall not require pedestrians to navigate through internal sidewalks and exit through a centralized location in order to access the public right-of-way.

4.0 Open Space, Theming, and Landscaping

4.1 Open Space, Trails and Parks

Constraints within the site due to the city owned well site and circulation design necessitate a deviation from the 20% minimum usable open space requirement for the Project. Fairway Residences usable open space standard will be set at 19.8% and include a variety of programmed amenities that include passive and active recreation easily accessible through an internal network of paths accommodating for all age groups. A dog park is prominently located at the corner of Fairway and Van Buren which will activate the corner and create a sense of arrival to the residential portion of Coldwater Springs. In lieu of the requirements otherwise applicable in Section 206.B.2.e of the Avondale Zoning Ordinance, the **average** private open space area across the Project shall be 100 sq.ft. per unit instead of the required minimum of 80 sq. ft. per unit. The Project has been designed with an open space system that is in close proximity to every building and connected by a trail as shown in the Open Space Plan. The drainage easement along the Van Buren frontage will include a walking path to provide for an enhanced walkable connection to the surrounding area in the form of a greenbelt.

The internal Project amenities include a centrally-located pool and spa, putting green, outdoor kitchen, lawn games and sport courts as well as traditional play structures, all accessible by a looped walking trail.

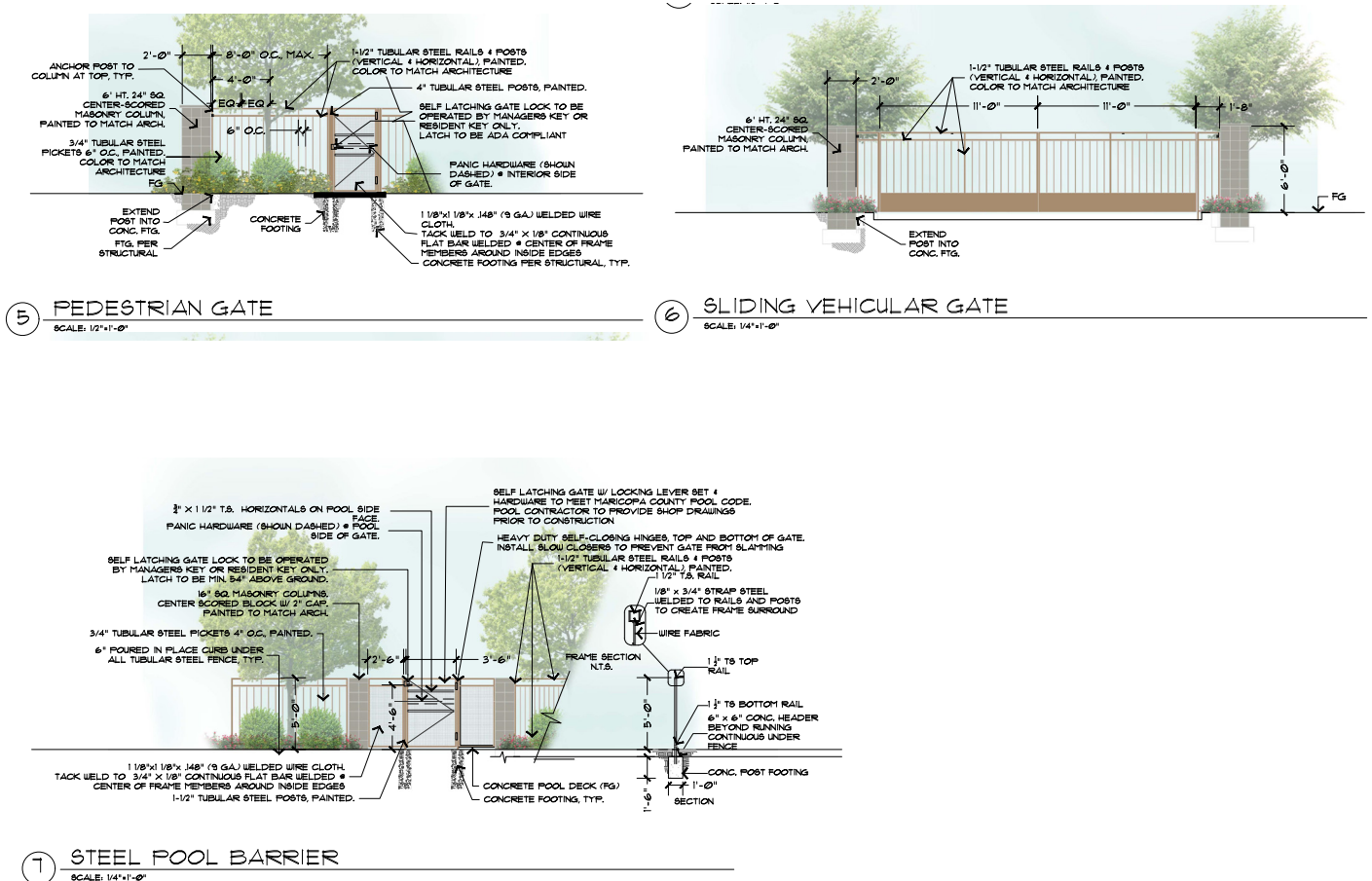
Fairway Residences provide for a comprehensive open space network with planned recreation activities. Residents will enjoy a network of trails which provide clear access to programmed areas. The open space areas will integrate similar or complimentary materials to ensure the aesthetics of the community are integrated within the overall project. Residents will also enjoy living in close proximity to several of Avondale's major park amenities including Friendship Park, which is approximately 1.1 miles away.

See Exhibit 7: Open Space Plan.

4.2 Walls and Monumentation

The walls and monummentation on the project are extensions of the building architectural vernacular. The rectangular shaped monument with pin fastened metal lettering is integrated within a lush landscape setting and contains a stucco façade that matches the site architecture. The base is grounded with scored block while the cap and entry edge complete the architectural composition with a contrasting stucco finish with gray color. These materials and color palettes are utilized once more for architectural cohesiveness within the perimeter fence designs. A solid six foot masonry wall with stucco finish has been used to screen and mitigate unwanted views and are incorporated with a scored block column to enhance the architectural character. A partial view wall wit stucco base and tube steel pickets has been incorporated to screen parking from off site while a full six foot high tube steel picket view fence has been placed to take advantage of the adjacent embellished landscape areas and inviting view corridors from the site.

See Exhibit 8: Wall Plan.

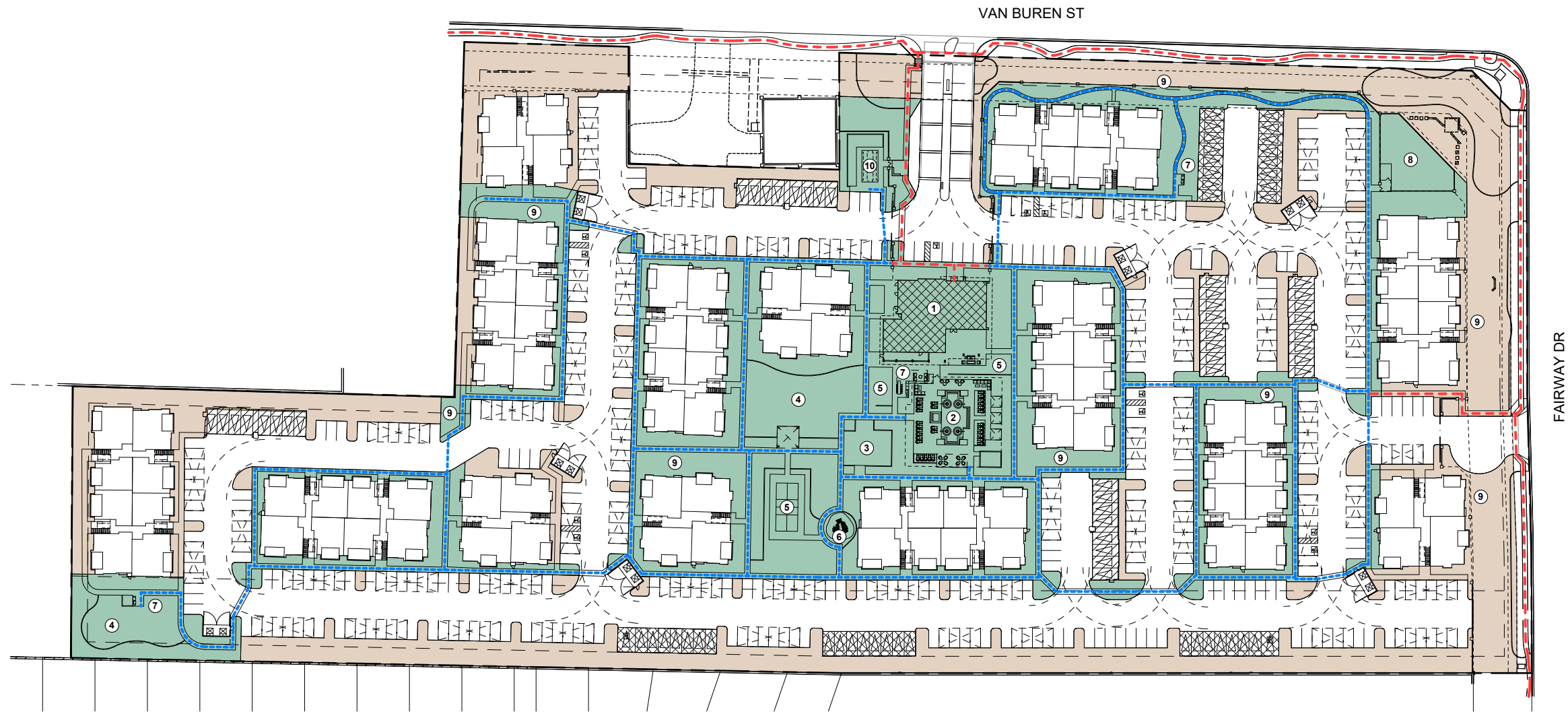


4.3 Landscape

The street-facing portions of the project include a highly landscaped perimeter that will enhance and transition with original landscaping included with the Coldwater Springs development and along Fairway Drive. The landscape materials will be organized in patterns to bring emphasis to key arrival monuments, pedestrian nodes, or recreation areas. Canopy trees will be located along internal trails to provide shade for pedestrians as well as to provide scale against buildings and create structure within programmed areas. Further, significant landscape buffering is planned for the southern property boundary that adjoins the existing residences in Coldwater Springs. Landscape materials along Van Buren and Fairway will be in accordance with the Avondale Street Tree Master Plan and applicable landscaping requirements of the City.

Section 1204.B.3 of the Avondale Zoning Ordinance requires a minimum of one and a half trees per dwelling or guest unit shall be provided. This number of trees shall not include the trees required in a landscape buffer, parking lot, landscape setback or right-of-way planting. In lieu of this requirement and in recognition of the larger average private open spaces provided for the units, the minimum tree count per unit **shall instead be 1.5 trees per ground-level dwelling unit.**

See Exhibit 9 : Landscape Plan and Exhibit 10: Enlarged Landscape Amenities



OPEN SPACE SUMMARY

OPEN SPACE REQUIRED: 143,430 SF USABLE OPEN SPACE
(717,150 SF NET SITE X 20%)

OPEN SPACE PROVIDED:

USABLE OPEN SPACE 141,880 SF (19.8%)

OPEN SPACE 112,170 SF (15.6%)

TOTAL OPEN SPACE 254,050 SF (35.4%)

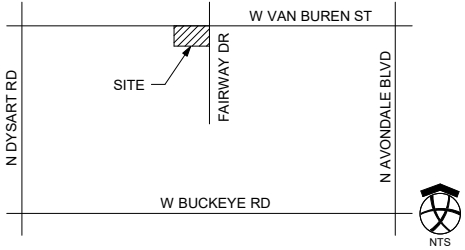
LEGEND

- | | |
|------------------------|----------------------------|
| ① CLUBHOUSE | ⑥ TOT LOT |
| ② POOL & SPA | ⑦ OUTDOOR KITCHEN |
| ③ PUTTING GREEN | ⑧ DOG PARK |
| ④ LAWN | ⑨ WALKING TRAIL AMENITY |
| ⑤ GAMING / SPORT COURT | ⑩ MAIL / RIDE SHARE REFUGE |

--- PEDESTRIAN CONNECTIONS TO VAN BUREN ST & FAIRWAY DR

--- LOOPED WALKING TRAIL CONNECTING OPEN SPACE AND AMENITIES

VICINITY MAP




triARC
architecture & design
1934 East Camelback Rd
Suite 200
Phoenix, AZ 85016
P 602-229-1100
NOT FOR CONSTRUCTION

N.F.C.

NOT FOR CONSTRUCTION

FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV | DATE | DESCRIPTION

PROJECT NUMBER

21-081

ISSUE DATE

06/08/2022

SHEET TITLE

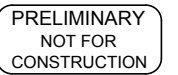
OPEN SPACE
PLAN

SHEET NUMBER

A-012

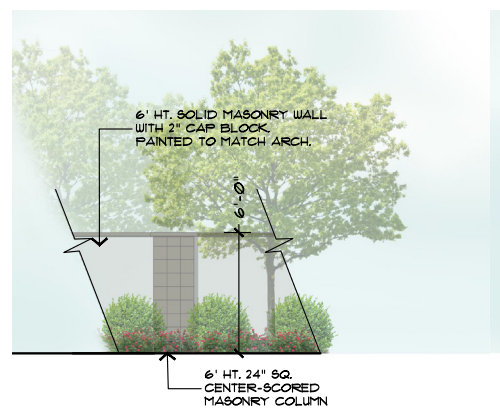
1 OPEN SPACE PLAN
1" = 50'-0"





CONCEPTUAL WALL PLAN + ELEVATIONS

CLS-4



8'-0" O.C., MAX.
4'-0" 4'-0"
6" O.C.
3'-0"
3'-0"
3' HT. SOLID MASONRY
SCREEN WALL
FLUTED BLOCK W/ SOLID 2"
CAP BLOCK
PAINTED TO MATCH ARCH.
3/4" TUBULAR STEEL PICKETS 6" O.C.,
PAINTED, COLOR TO MATCH
ARCHITECTURE

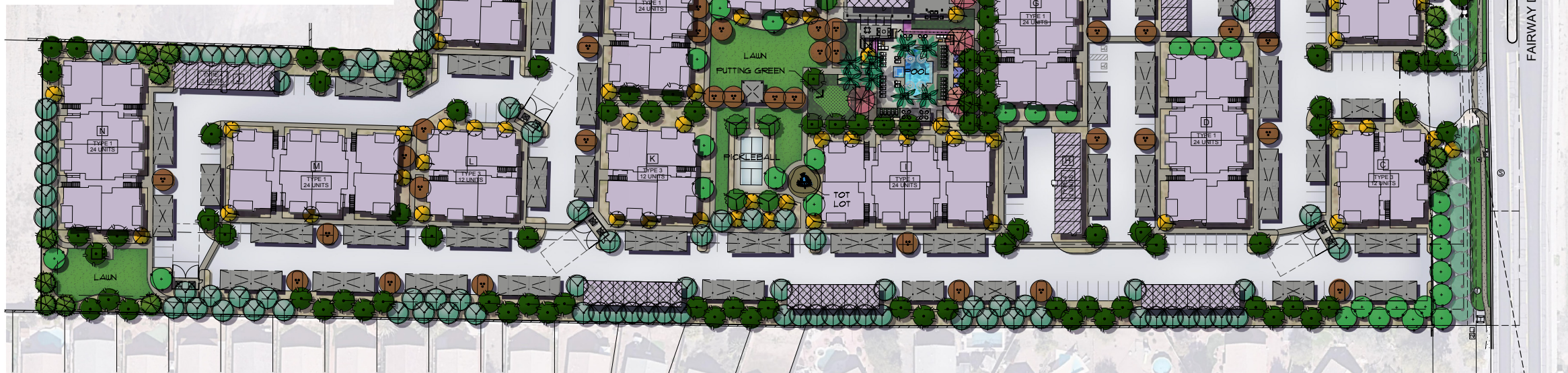
Technical drawing of a railing system. The drawing shows a side elevation of a railing with a sloped top rail and vertical pickets. Dimensions are indicated with arrows and text:

- Top rail spacing: 8'-0" O.C., MAX.
- Horizontal picket spacing: 4'-0"
- Vertical picket spacing: 6" O.C.
- Vertical picket height: 6'-0"
- Material specifications:
 - 1-1/2" TUBULAR STEEL RAILS & POSTS (VERTICAL & HORIZONTAL), PAINTED. COLOR TO MATCH ARCHITECTURE
 - 3/4" TUBULAR STEEL PICKETS 6" O.C., PAINTED. COLOR TO MATCH ARCHITECTURE

3 6' VIEW FENCE
SCALE: 1/4" = 1'-0"

PLANTING DATA TABLE

REQUIRED LANDSCAPE IMPROVEMENTS BY ZONING DISTRICT		
A. Single Family Residential (AG, RR-43, RR-18, RI-15, RI-8, RI-6, RI-5)	N/A Trees	N/A Trees
B. Multiple Family Residential (R-2, R-3, R-4, MH)	429 Trees	220 Trees
C. City Center	N/A Trees	N/A Trees
REQUIRED LANDSCAPE AREAS		
D. CP within Employment	N/A Sq Ft.	N/A Sq Ft.
E. A-1 Within Employment	N/A Sq Ft.	N/A Sq Ft.
F. All Development within Multiple Family (35%)	215,288 Sq Ft.	220,106 Sq Ft.
G. All Other Zoning Districts not listed above	N/A Sq Ft.	N/A Sq Ft.
H1. Landscape Setback/Trees (1 per 20 in ft.) East Bndy.	24 Trees	25 Trees
H2. Landscape Setback/Shrubs (10 per 20 in ft.) East Bndy.	235 Shrubs	235 Shrubs
H3. Landscape Setback/Grasscover (65% req.) East Bndy.	N/A Sq Ft.	N/A Sq Ft.
I. Land Use Buffers (1 tree x 15 in ft.) South and West Bndy.	134 Trees	134 Trees
J. Parking Lots (1 tree per island)	84 Trees	84 Trees
K. Building Frontage (50% of frontage, 5' deep)	20,793 Sq Ft.	30,935 Sq Ft.
L. Cactus/Succulents	N/A %	N/A %
M1. Right of Way Trees (1 per 25 in ft.)	54 Trees	56 Trees
M2. Right of Way Shrubs (10 per 25 in ft.)	532 Shrubs	532 Shrubs
N. Special Planting Requirement (PAD, Zoning, etc.)	N/A	N/A
TOTALS		
Total Trees (A-N)	Required 125 Trees	Provided 519 Trees
Total Shrubs (A-N)	Required 161 Shrubs	Provided N/A Shrubs
Total Grasscover (A-N)	Required N/A Sq Ft.	Provided 186,068 Sq Ft.
Total Right-of-Way Landscape Area	Required N/A Sq Ft.	Provided 6,103 Sq Ft.
Total Parking Lot Landscape Area	Required N/A Sq Ft.	Provided 18,233 Sq Ft.
Total Usable Open Space	Required N/A Sq Ft.	Provided N/A Sq Ft.



RENDERED LANDSCAPE PLAN

SCALE: 1"=50'-0"

PLANT LEGEND

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	COMMENTS
TREES			
Acacia salicina	Willow Acacia	24" Box	Standard Trunk
Cassia alpinia gilliesii	Yellow Bird of Paradise	24"/36" Box	Dense Canopy
Dalbergia sissoo	Indian Rosewood	24" Box	Multi-Trunk
Chitalpa tashkentensis	Chitalpa	36" Box	Standard Trunk
Quercus virginiana	Southern Live Oak	24"/36" Box	Dense Canopy
Phoenix dactylifera	Date Palm	18" C.T.H.	Standard Trunk
Pistacia X 'Red Rush'	Red Rush Pistache	24" Box	Dense Canopy
Pinus eldarica	Eldarica Pine	36" Box	Standard Trunk
Prosopis chilensis	Thornless Mesquite	24" Box	Dense Canopy
Washingtonia 'Filifolia'	Hybrid Fan Palm	22" C.T.H.	Standard Trunk
ACCENTS/VINES			
Aloe barbadensis	Medicinal Aloe	5 Gal.	As Per Plan
Agave 'Blue Glow'	Blue Glow Agave	5 Gal.	As Per Plan
Bignonia capreolata	Tangerine Beauty	15 Gal.	As Per Plan
Bougainvillea	Vine Bougainvillea	15 Gal.	As Per Plan
Bougainvillea 'Barbara Karst'	Torch Glow Bougainvillea	5 Gal.	As Per Plan
Dasylirion acrotrichum	Green Spoon	5 Gal.	As Per Plan
Dasylirion quadrangulum	Toothless Spoon	5 Gal.	As Per Plan
Hesperaloe parviflora	Giant Hesperaloe	5 Gal.	As Per Plan
Hesperaloe parviflora	Pink Paradise	5 Gal.	As Per Plan
Hesperaloe parviflora	Brakelights Red Yucca	5 Gal.	As Per Plan
Muhlenbergia rigida	Nashville Grass	5 Gal.	As Per Plan

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	COMMENTS
SHRUBS			
Ruellia equisetiformis	Coral Fountain	5 Gal.	As Per Plan
Dodonaea viscosa	Purple Hopseed Bush	5 Gal.	As Per Plan
Eremophila hydropaphana	Blue Bells	5 Gal.	As Per Plan
Murus communis 'Compacta'	Dwarf Myrtle	5 Gal.	As Per Plan
Ruellia penninaria	Sage Ruellia	5 Gal.	As Per Plan
Tecoma hybrid	Bells of Fire	5 Gal.	As Per Plan
Tecoma stans	Orange Jubilee	5 Gal.	As Per Plan
GROUND COVERS			
Bougainvillea	'Alexandra' Bougainvillea	1 Gal.	As Per Plan
Callistemon 'Little John'	Dwarf Bottlebrush	1 Gal.	As Per Plan
Lantana hybrid	New Gold Lantana	1 Gal.	As Per Plan
Lantana montevidensis	Purple Trailing Lantana	1 Gal.	As Per Plan
Eremophila glabra	Outback Sunrise	1 Gal.	As Per Plan
Eremophila glabra	Winter Blaze	1 Gal.	As Per Plan
Tournefortia chamedry	Germander	1 Gal.	As Per Plan
MISCELLANEOUS			
Decomposed Granite - 3/4" Screened 'Caramel' or equal 2" Depth in All Planting Areas (Typ) - 126,068 S.F.			
Bermuda Hybrid Sod w/ Extruded Concrete Header - 13,265 S.F. PROPOSED (11,333 EXISTING)			
Synthetic Turf - 2,840 S.F.			
Synthetic Putting Green - 200 S.F.			
Enhanced Paving - Ackerstone 80mm Holland 1 Paver or equal Color: Antique Pewter TM in Herringbone pattern - 2,225 S.F.			

FRONTAGE CALCULATIONS

VAN BUREN STREET: 903' - 40' (DRIVES) = 863 LINEAL FEET				
AREA	REQUIRED TREES	PROVIDED TREES	REQUIRED SHRUBS	PROVIDED SHRUBS
RIGHT-OF-WAY: 1/25' + 19 TREES	1/25' + 19 TREES	31 TREES	10/25' + 346	346 SHRUBS
SETBACK: 1/20' + 44 TREES	1/20' + 44 TREES	46 TREES	10/20' + 432	432 SHRUBS

FAIRWAY DRIVE: 495' - 26' (DRIVES) = 469 LINEAL FEET				
AREA	REQUIRED TREES	PROVIDED TREES	REQUIRED SHRUBS	PROVIDED SHRUBS
RIGHT-OF-WAY: 1/25' + 19 TREES	1/25' + 19 TREES	19 TREES	10/25' + 188	188 SHRUBS
SETBACK: 1/20' + 24 TREES	1/20' + 24 TREES	25 TREES	10/20' + 235	235 SHRUBS

*NOTE: TOTAL NUMBER OF TREES INCLUDED 2 EXISTING TREES ALONG VAN BUREN STREET AND 16 EXISTING STREET TREES ALONG FAIRWAY DRIVE THAT ARE DESIGNATED TO REMAIN AND BE PROTECTED IN PLACE

AVONDALE GENERAL LANDSCAPE NOTES

- All single-trunk trees required on site shall be two (2) inch caliper average size. Tree calipers for single-trunk trees shall be measured at twelve (12) inches above the ground. All multi-trunk trees shall be one and one-half (1-1/2) inch caliper minimum. Tree caliper for multi-trunk trees shall be measured twelve (12) inches above the first fork or twelve (12) inches above ground if all trunks originate from the soil. Caliper of multi-trunk trees shall be determined by taking the average caliper of all its trunks. Multi-trunk trees shall have no more than three (3) trunks.
- Tree caliper and height shall govern over any other planting size information provided on the drawings. Trees specified by container sizes only shall not be accepted.
- The Property Owner and/or lessee shall be responsible to install/maintain all landscaping within the Right-of-way. All landscaping shall be maintained as approved on the Landscape Maintenance Schedule (See attached).
- A 3-foot clear space is required around all fire suppression equipment. No plants may be installed that will encroach upon this clear space when mature.
- Plantings within any sight visibility easement shall be maintained so that no limbs hang lower than seven (7) feet and shrubs or other plants planted within any sight visibility easement shall be no taller than two (2) feet at full growth.
- THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS OR OMISSIONS.

NOTE: All construction shall be in accordance with the City of Avondale Supplement to MAG Specifications & Standard Details currently on file and available at the City of Avondale Engineering Department.



Collaborative V
Design Studio Inc.
7116 East 1st Ave.,
Suite 103
Scottsdale, Arizona
85251
office: 480-347-0590
fax: 480-656-6012

PRELIMINARY
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CONSTRUCTION

LANDSCAPE IMPROVEMENTS FAIRWAY RESIDENCES AVONDALE, AZ

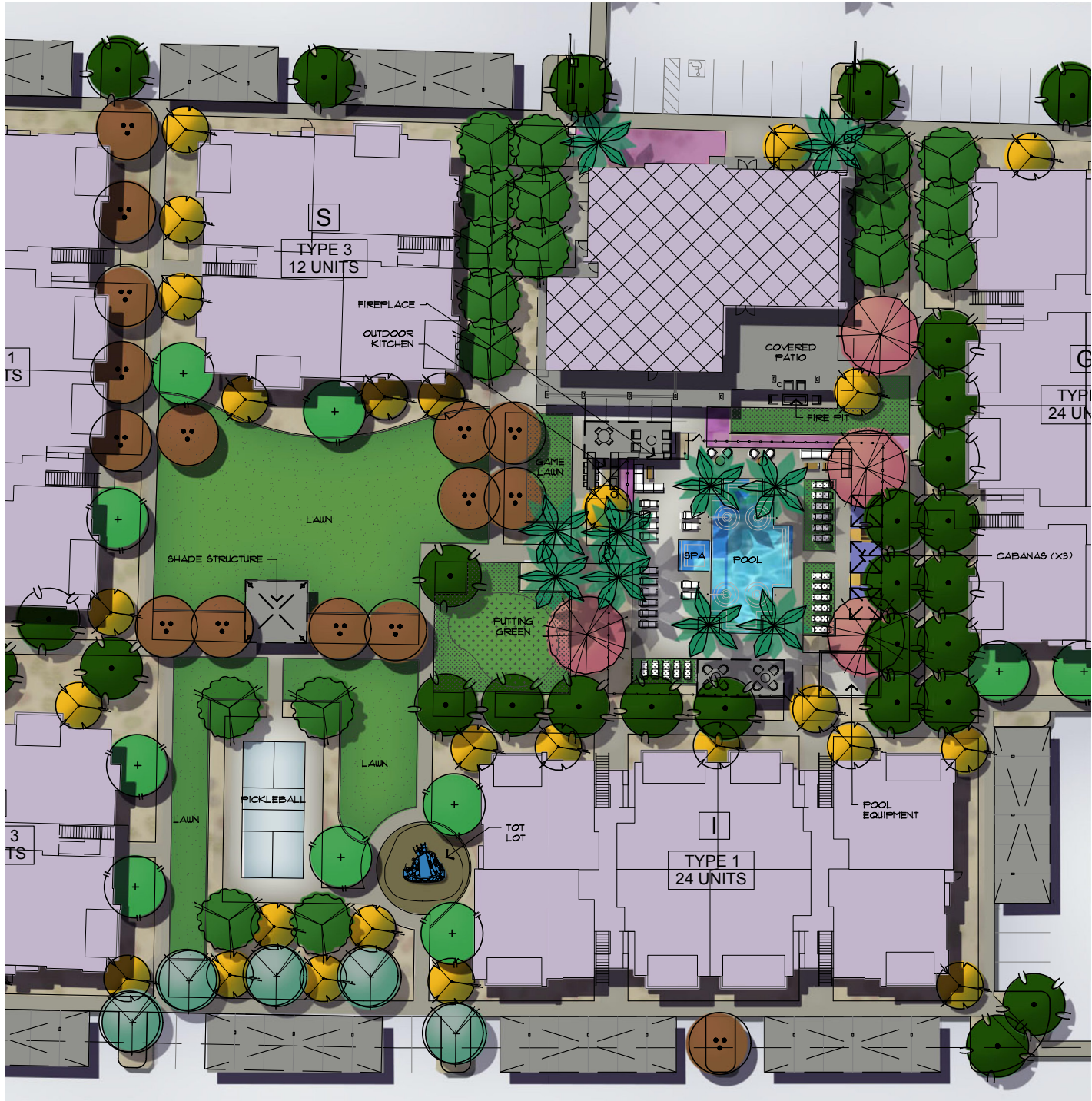
RENDERED LANDSCAPE PLAN

DESIGNED BY:	PV/SH
DRAWN BY:	SH
CHECKED BY:	PV/MD
DATE:	FEBRUARY 16, 2022
REVISIONS:	CITY COMMENTS APRIL 27, 2022 SITE REVISIONS JUNE 10, 2022

FAIRWAY RESIDENCES
PAD SUBMITTAL

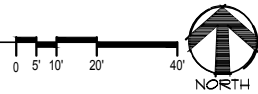
CLS-2

2 of 7



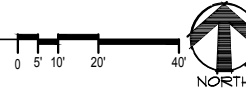
POOL AREA ENLARGEMENT

SCALE: 1"=20'-0"



DOG PARK ENLARGEMENT

SCALE: 1"=20'-0"



Collaborative V
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Suite 103
Scottsdale, Arizona
85251
office: 480-347-0590
fax: 480-656-6012

PRELIMINARY
NOT FOR
CONSTRUCTION

LANDSCAPE IMPROVEMENTS FAIRWAY RESIDENCES AVONDALE, AZ

DESIGNED BY:	PV/SH
DRAWN BY:	SH
CHECKED BY:	PV/MD
DATE:	FEBRUARY 16, 2022
REVISION:	CITY COMMENTS APRIL 27, 2022 SITE REVISIONS JUNE 10, 2022
PROJECT:	FAIRWAY RESIDENCES PAD SUBMITTAL

CLS-3

3 of 1

5.0 Design Guidelines

As is acknowledged under the City’s Multi-family Design Manual, the Zoning Administrator has latitude to interpret the qualitative and quantitative standards to provide flexibility so long as projects meet the intent of the Manual, which is guided by the over-arching goal of creating sustainable neighborhoods which promote walkable communities with plentiful open space amenities. The design of Fairway Residences facilitates the placement of many distinct recreational and open space amenities throughout the Project and furthers the goals of both the Design Manual and General Plan. Several modifications to the Design Manual are provided in this section below and in final design, additional flexibility may be required, subject to Zoning Administrator approval.

Site Design

- A. “Provide garages for developments with more than 100 units. Garages should be attached and account for a minimum of twenty-five (25) percent of the required parking, excluding guest parking. Incorporate a portion of the garages under the living quarters to minimize standalone, long garage buildings.”

The PAD provides for 16.6% of the required spaces (less guest spaces) dedicated to garage parking. Consistent with the goals of the Manual, many of the garages are provided in tuck-under form and carriage units are provided to enhance residential options and prevent long garage buildings. Stand-alone garage buildings do not include more than 8 garages.

Open Space

The open space areas are distributed throughout the Project to create diversity in the open space programming and create views to the open space areas and accessibility.

I. “Usable open space may include”:

1. Community pools and splash pads
2. Clubhouses/community center and all interior square footage associated with these uses
3. Play areas
4. Private parks and trails
5. Community gardens
6. Dedicated park sites
7. Multi-use paths inclusive of adjacent drainage or retention spaces provided that the paths are looped and connected to the community; green belt
8. Improved utility corridors
9. Sport courts
10. Seating areas
11. Picnic ramada areas with barbecues outside of retention areas
12. Pickle ball, putting greens, or other similar sports amenities
13. Tot lots
14. Resort-style amenities, entertainment areas
15. Rooftop entertainment spaces

L. Multi-use paths within greenbelts should be a minimum of 6 ft. wide and if no street lighting is provided, low level security lights added.

Building Design

The Project proposes deviation from only one architectural element, which is the minimum balcony area provided. The Manual requires providing a minimum of 80 sq.ft. for each balcony or patio per unit. All units at Fairway Residences exceed this standard, except for one unit type (L1 Carriage), which has approximately 45 sq.ft. of balcony space. This deviation is necessary to achieve placement of these units within the proposed development plan. The balcony space deviated from the Manual is compensated for by the availability to the Project's vast programming of outdoor space and recreation amenities and alternative standard that provides for an average of 100 sq. ft. of private amenity space.

5.1 Architectural Character

The Fairway Residences project is characterized by contemporary and modern architectural designs. The project's building facades are articulated through asymmetrical variations in massing, roof forms, and wall planes. Varying materials such as stucco, brick, and exposed masonry are strategically located to break up the overall building composition by creating the appearance of smaller buildings built next to one another. Contrasting colors are also incorporated to emphasize differences in horizontal and vertical architectural elements and accentuate the project's unique forms. Other enhancements of the project include decorative metal railings at the recessed balconies and large covered outdoor gathering areas at the Clubhouse. The multiple building types in the project provide further variation throughout the site and are composed of several different unit square footages and number of bedrooms that will accommodate diverse households. Notably, carriage buildings are included in the project to reduce the presence of stand-alone garages.

See Exhibit 11: Building 1 Exterior Elevations, Exhibit 15: Building 3 Exterior Elevations, Exhibit 19: Building 4 Floor Plans and Exterior Elevations and Exhibit 20: Clubhouse Exterior Elevations

5.2 Site Design

Rather than concentrating on large-urban form buildings, the project layout focuses on building variety and variation to create a community that complements the areas around it - from the industrial and commercial uses to the north and west, to the single-family residential uses to the south and east. Fairway Residences marries transitions with landscaping and open space amenities to further establish the modern product diversity while taking cues from the adjacent projects that precede it. The Zoning Ordinance requires 538 parking spaces in total for the project, with 2% (11) being ADA accessible. To accommodate future residents access to EV parking spaces, the following standards will apply to the project in lieu of Avondale Zoning Ordinance Section 802.G. requirements. Section 802.G. requires 4% (19) of resident parking and 1% (<1) of visitor parking (or 1 station – whichever is greater) to provide Level 2 EV charging stations installed. In place of these requirements, 4 Level 2 dual-port EV parking stall chargers which will feed 8 vehicles while conduit will be installed for 10 additional future level 2 dual port charging stations (20 spaces) within the Project. Additionally, 100% of the garages will be EV-capable for single-user charging stations (80 garage spaces) which will establish a total of 108 EV capable spaces within the Project. The Zoning Ordinance recognizes that the EV parking standards may be amended the Zoning Administrator in recognition of any applicable technological advancements that justifies an alteration of these requirements.

See Exhibit 12: Building 1 First Floor Plan, Exhibit 13: Building 1 Second Floor Plan, Exhibit 14: Building 1 Third Floor Plan, Exhibit 16: Building 3 First Floor Plan, Exhibit 17: Building 3 Second Floor Plan, Exhibit 18: Building 3 Third Floor Plan, Clubhouse 21: Clubhouse Floor Plan and Exhibit 22: Material Board

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C:\Users\byrnn\Documents\21-081 Ascent Apartments Avondale_brynntriarc.rvt 3/4/2022 11:18:13 AM

EXTERIOR FINISH LEGEND

- PT-A STUCCO, MAIN BODY
DUNN EDWARDS
DEW286 "PRECIOUS PEARLS"
- PT-B STUCCO, MAIN BODY
DUNN EDWARDS
DEC795 "GRAY PEARL"
- PT-C STUCCO, ACCENT, METAL RAILING
DUNN EDWARDS
DET629 "FADE TO BLACK"
- PT-D STUCCO, ACCENT, METAL RAILING
DUNN EDWARDS
DET695 "GRANGE HALL"
- MAS-1 BRICK VENEER
CORONADO STONE - NEW ENGLAND BRICK
DAKOTA BROWN
- GL-1 WINDOWS: VINYL, DUAL PANE, LOW-E
FRAME COLOR: WHITE
- CMU-1 EXPOSED CMU
ECHELON "PRECISION"
COLOR: BLACK CANYON



2 BUILDING 1 SIDE ELEVATION
1/8" = 1'-0"



1 BUILDING 1 FRONT AND REAR ELEVATION
1/8" = 1'-0"



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N.F.C.

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FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

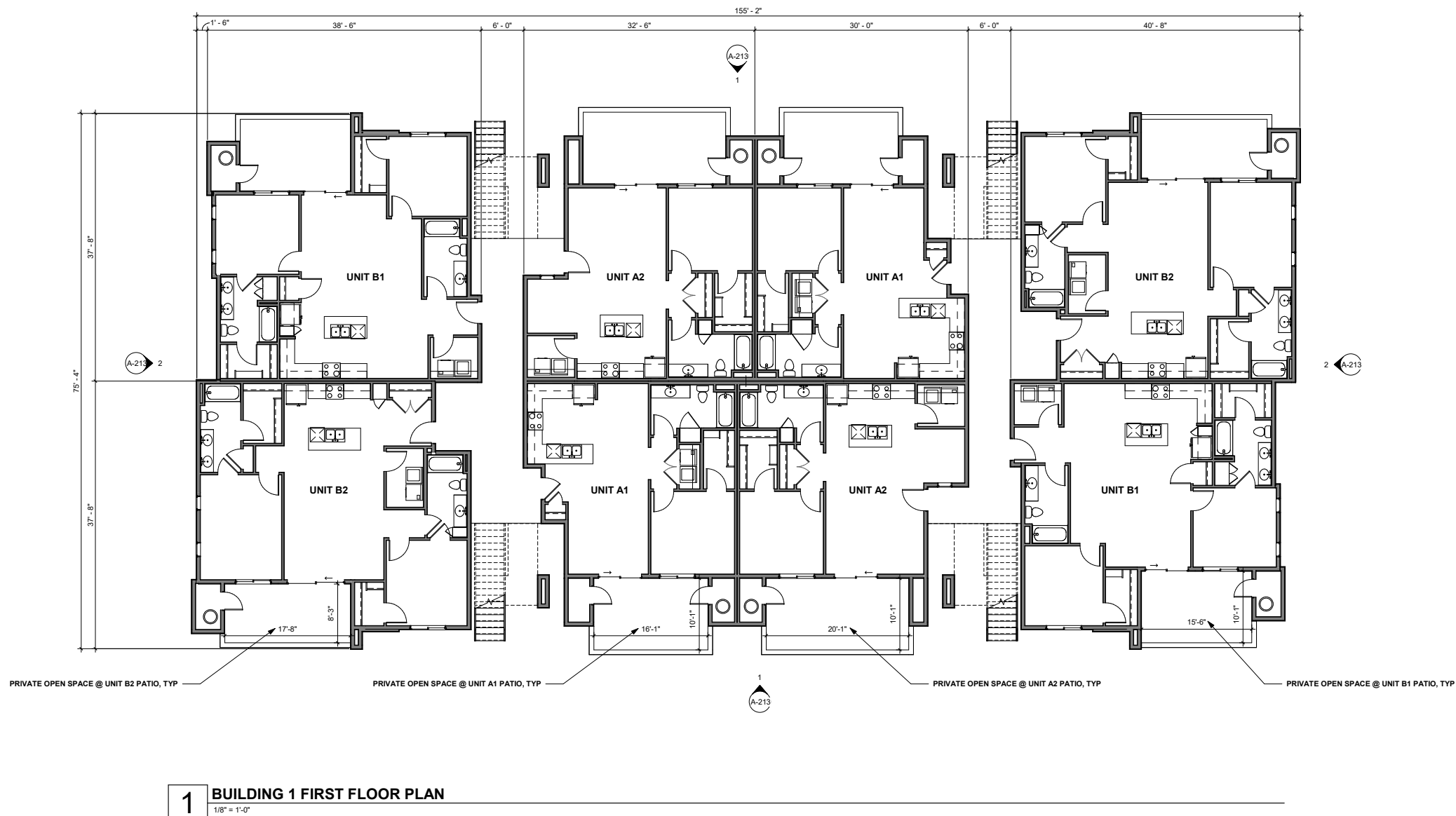
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PROJECT NUMBER
21-081

ISSUE DATE
03/09/2022

SHEET TITLE
BUILDING 1
EXTERIOR
ELEVATIONS

SHEET NUMBER
A-213



BUILDING 1 AREA SUMMARY (GROSS AREA UNDER ROOF)	
BUILDING 1 1ST FLOOR GROSS	10,094 SF
BUILDING 1 2ND FLOOR GROSS	10,271 SF
BUILDING 1 3RD FLOOR GROSS	9,784 SF
TOTAL GROSS SF	30,149 SF



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REV	DATE	DESCRIPTION
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PROJECT NUMBER

21-081

ISSUE DATE

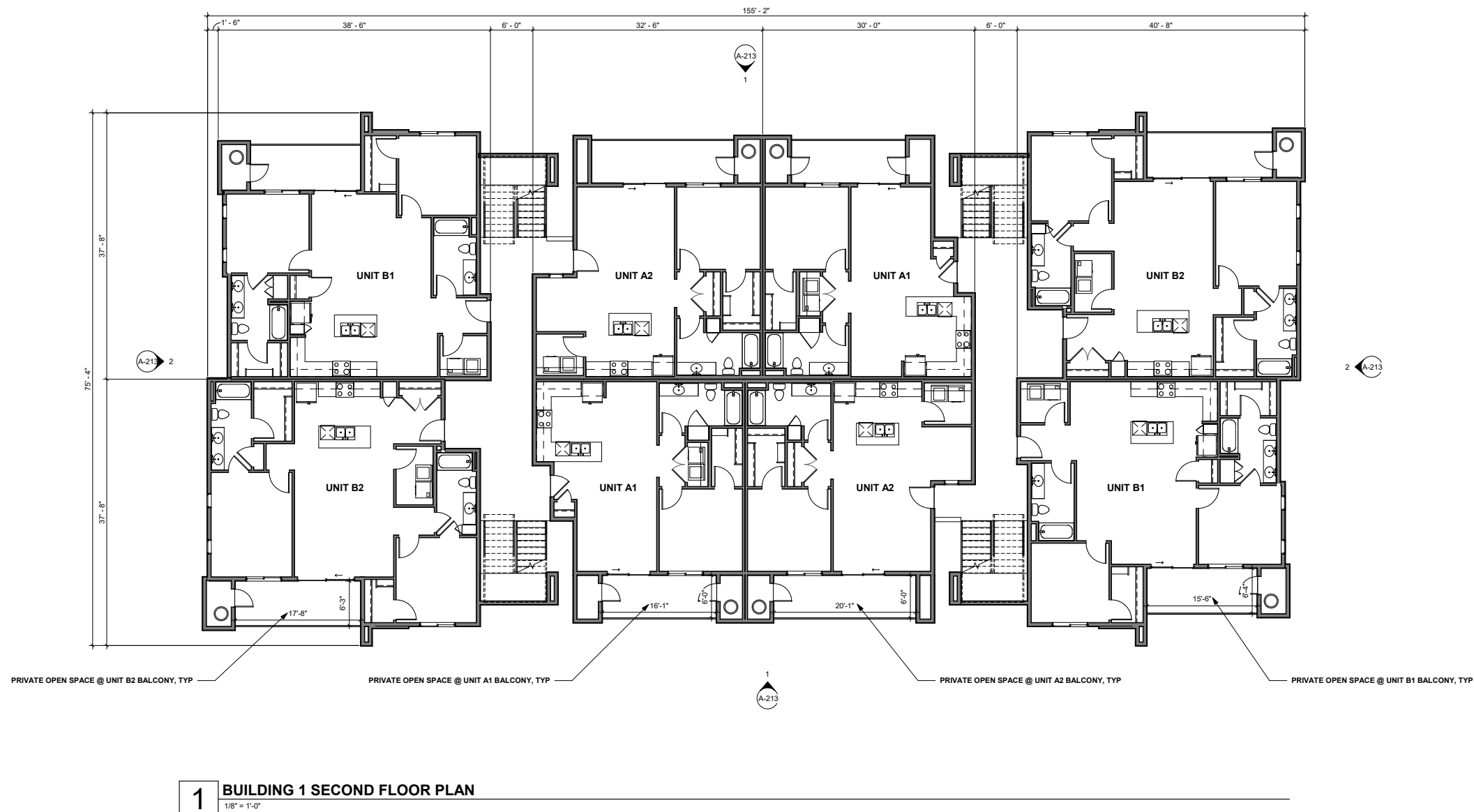
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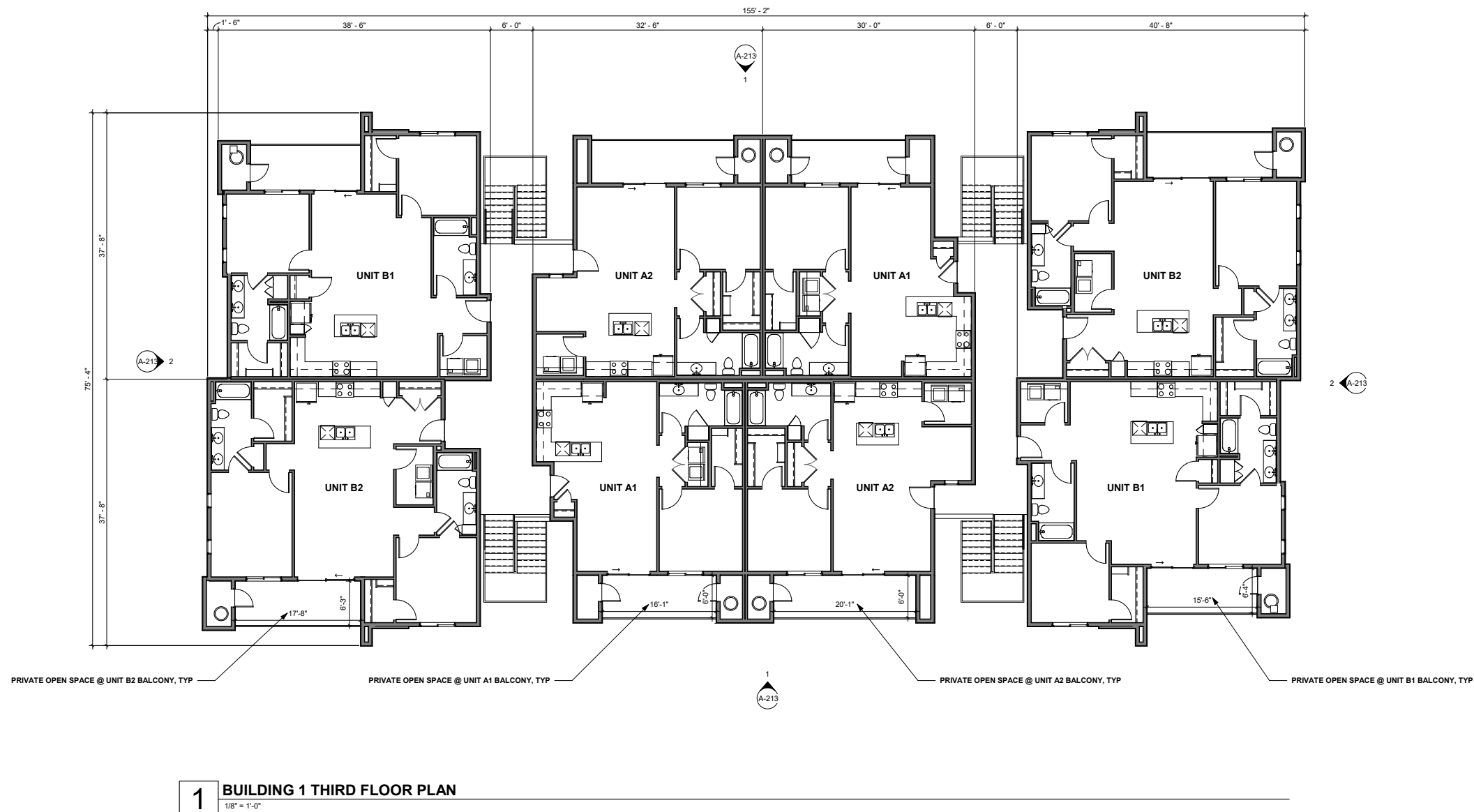
BUILDING 1
FIRST FLOOR
PLAN

SHEET NUMBER

A-210



REV	DATE	DESCRIPTION
PROJECT NUMBER		
21-081		
ISSUE DATE		
03/09/2022		
SHEET TITLE		
BUILDING 1 SECOND FLOOR PLAN		
SHEET NUMBER		
A-211		



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C:\Users\byrni\Documents\21-081 Ascent Apartments Avondale byrniarc.dwg 3/4/2022 11:18:55 AM

EXTERIOR FINISH LEGEND

- PT-A STUCCO, MAIN BODY
DUNN EDWARDS
DEW286 "PRECIOUS PEARLS"
- PT-B STUCCO, MAIN BODY
DUNN EDWARDS
DEC795 "GRAY PEARL"
- PT-C STUCCO, ACCENT, METAL RAILING
DUNN EDWARDS
DET629 "FADE TO BLACK"
- PT-D STUCCO, ACCENT, METAL RAILING
DUNN EDWARDS
DET695 "GRANGE HALL"
- MAS-1 BRICK VENEER
CORONADO STONE - NEW ENGLAND BRICK
DAKOTA BROWN
- GL-1 WINDOWS: VINYL, DUAL PANE, LOW-E
FRAME COLOR: WHITE
- CMU-1 EXPOSED CMU
ECHELON "PRECISION"
COLOR: BLACK CANYON



2 BUILDING 3 SIDE ELEVATION
1/8" = 1'-0"



1 BUILDING 3 FRONT AND REAR ELEVATION
1/8" = 1'-0"



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FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV	DATE	DESCRIPTION
PROJECT NUMBER		
21-081		
ISSUE DATE		
03/09/2022		
SHEET TITLE		
BUILDING 3 EXTERIOR ELEVATIONS		
SHEET NUMBER		

A-233





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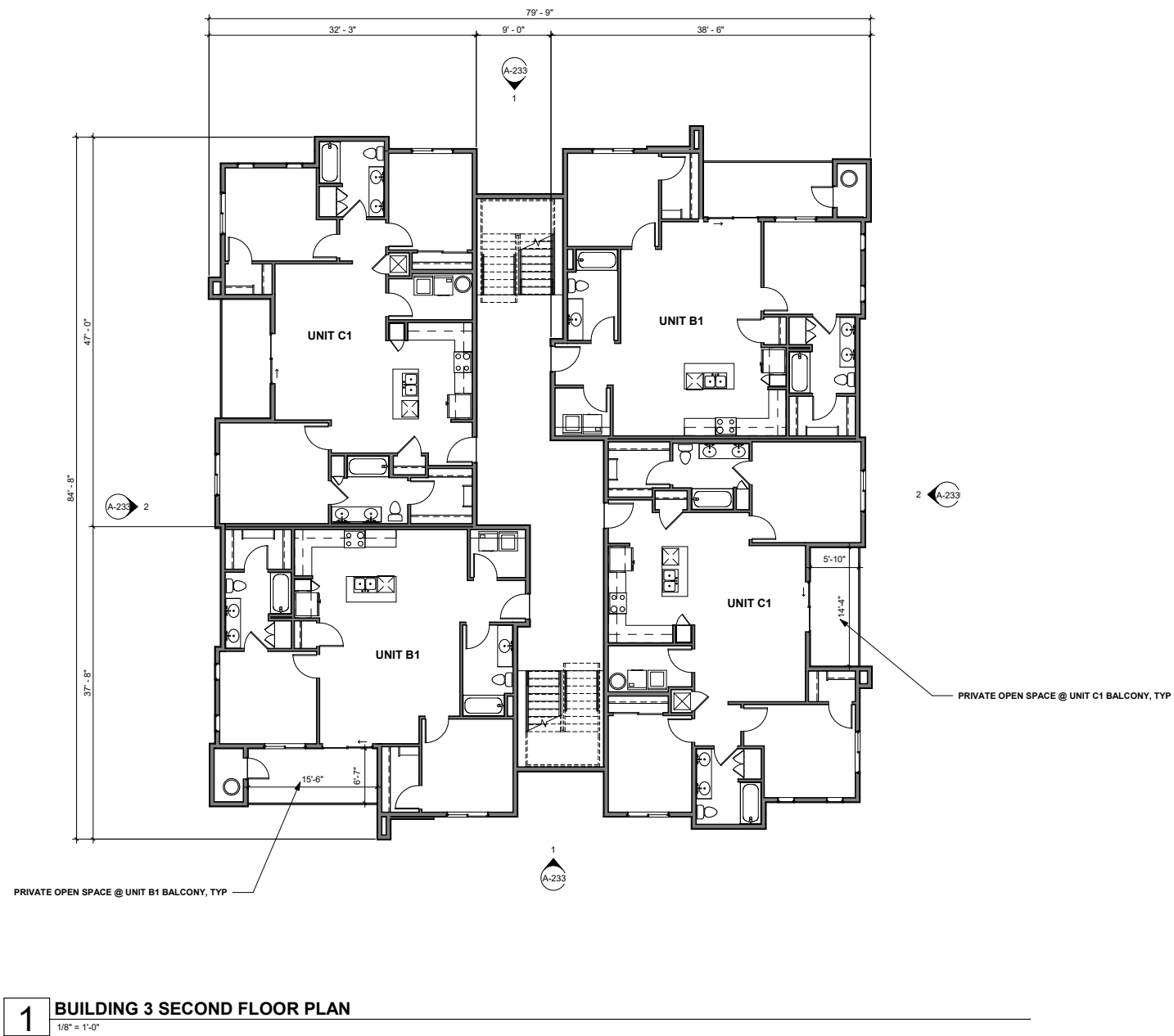
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N.F.C.

NOT FOR CONSTRUCTION

FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV	DATE	DESCRIPTION
PROJECT NUMBER		
21-081		
ISSUE DATE		
03/09/2022		
SHEET TITLE		
BUILDING 3 FIRST FLOOR PLAN		
SHEET NUMBER		
A-230		





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AVONDALE, AZ

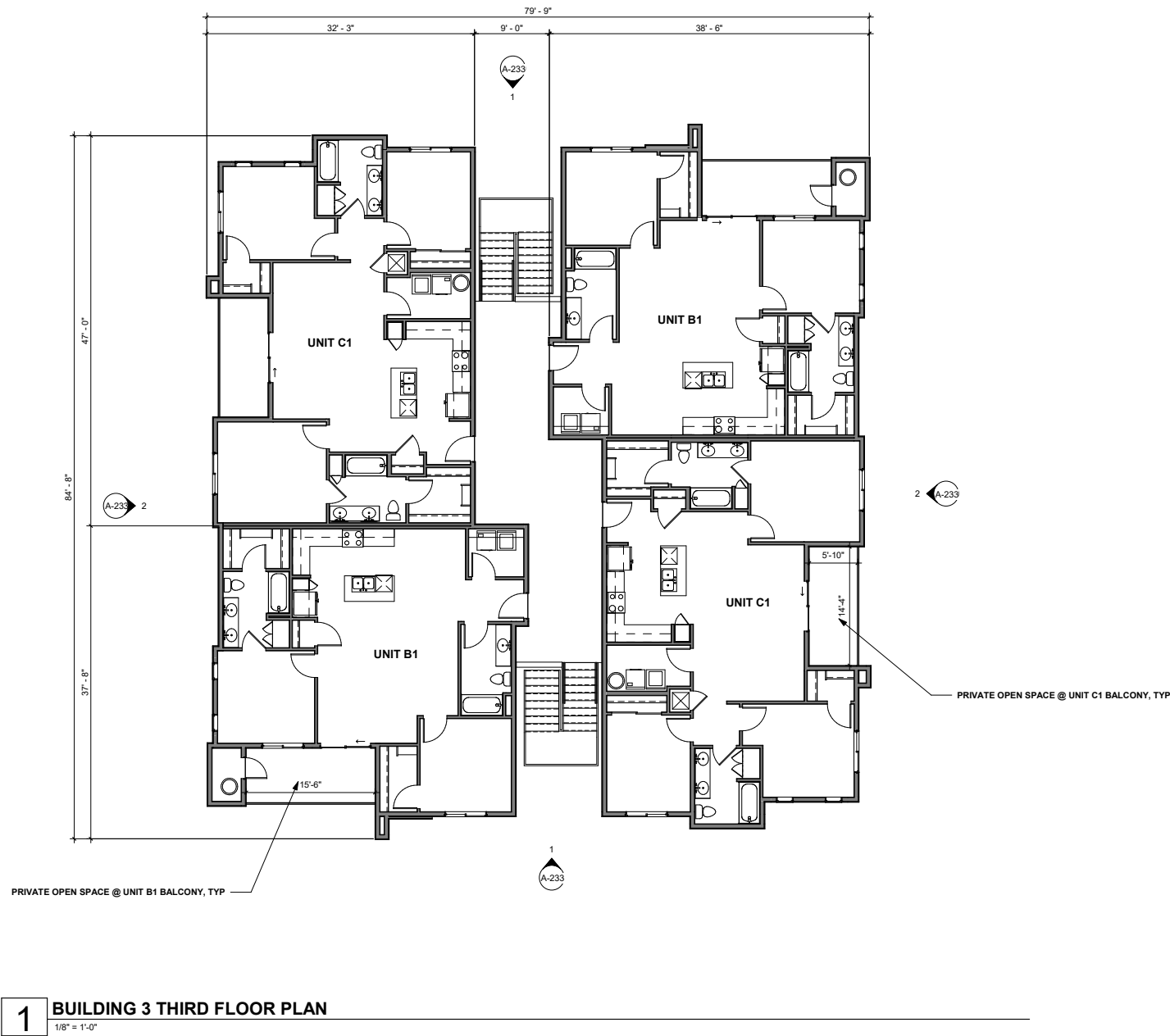
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PROJECT NUMBER
21-081

ISSUE DATE
03/09/2022

SHEET TITLE
BUILDING 3
SECOND
FLOOR PLAN

SHEET NUMBER
A-231





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ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV	DATE	DESCRIPTION

PROJECT NUMBER
21-081

ISSUE DATE
03/09/2022

SHEET TITLE
BUILDING 3
THIRD FLOOR
PLAN

SHEET NUMBER
A-232



4 BUILDING 4 REAR ELEVATION



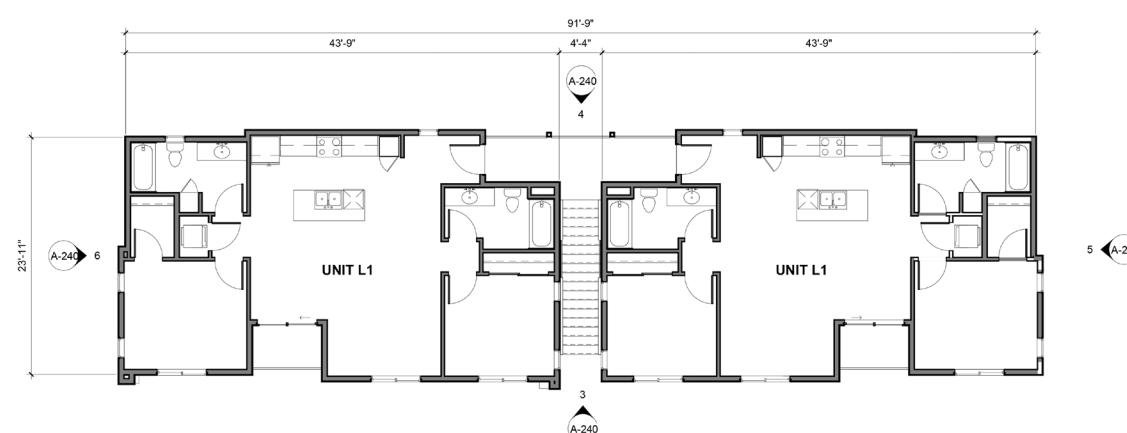
5 BUILDING 4 SIDE ELEVATION



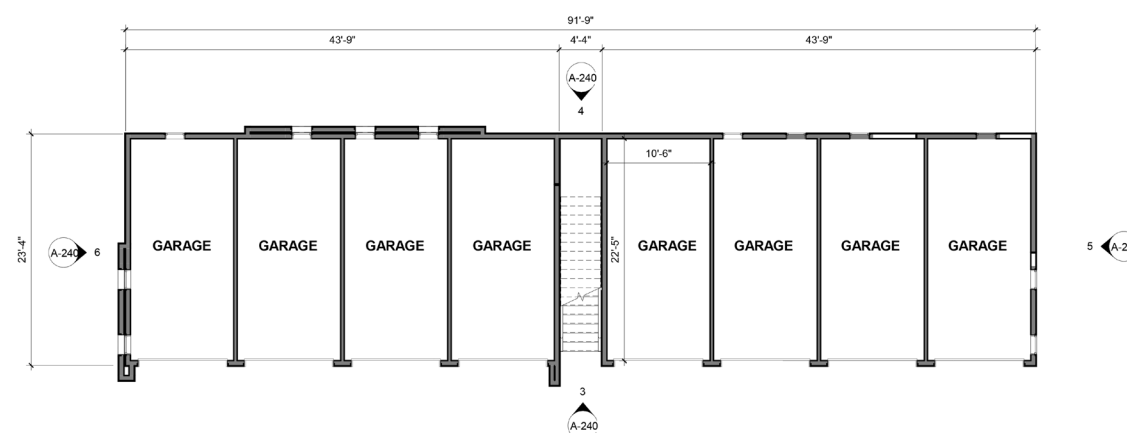
6 BUILDING 4 SIDE ELEVATION



3 BUILDING 4 FRONT ELEVATION



2 BUILDING 4 SECOND FLOOR PLAN



1 BUILDING 4 FIRST FLOOR PLAN

BUILDING 4 AREA SUMMARY (GROSS AREA UNDER ROOF)	
BUILDING 4 1ST FLOOR GROSS	2,169 SF
BUILDING 4 2ND FLOOR GROSS	2,214 SF
TOTAL GROSS SF	4,383 SF

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N.F.C.

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FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV	DATE	DESCRIPTION
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PROJECT NUMBER	
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21-081

ISSUE DATE

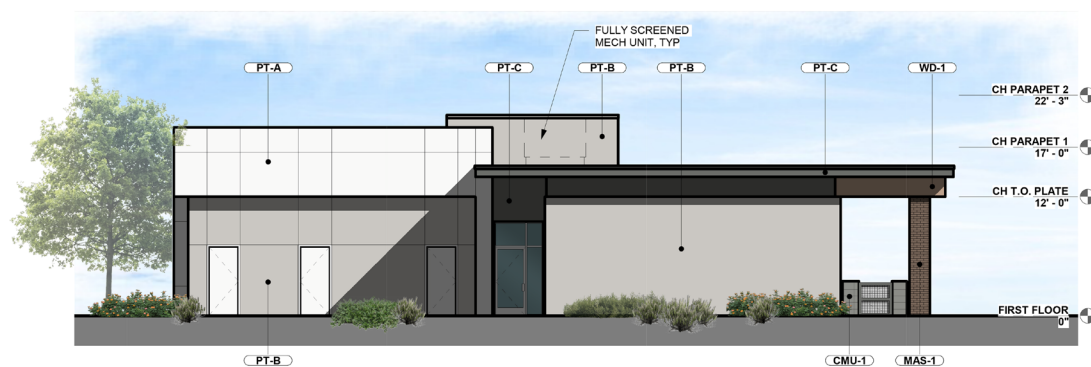
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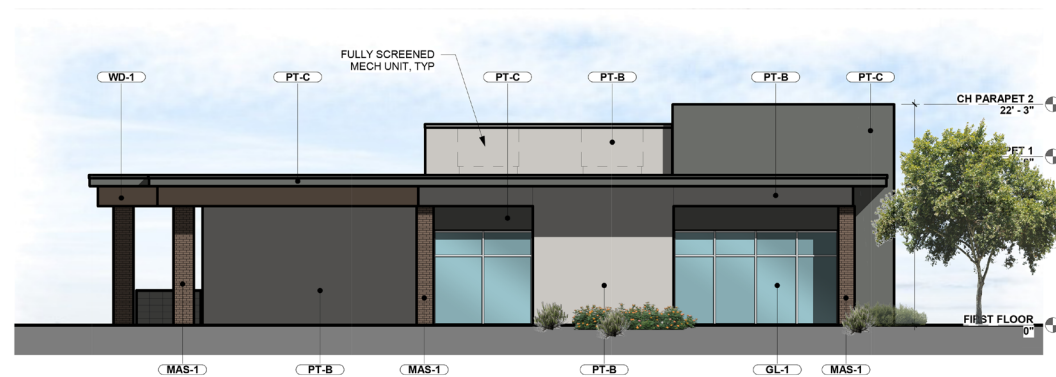
BUILDING 4
FLOOR PLANS
& EXTERIOR
ELEVATIONS

SHEET NUMBER

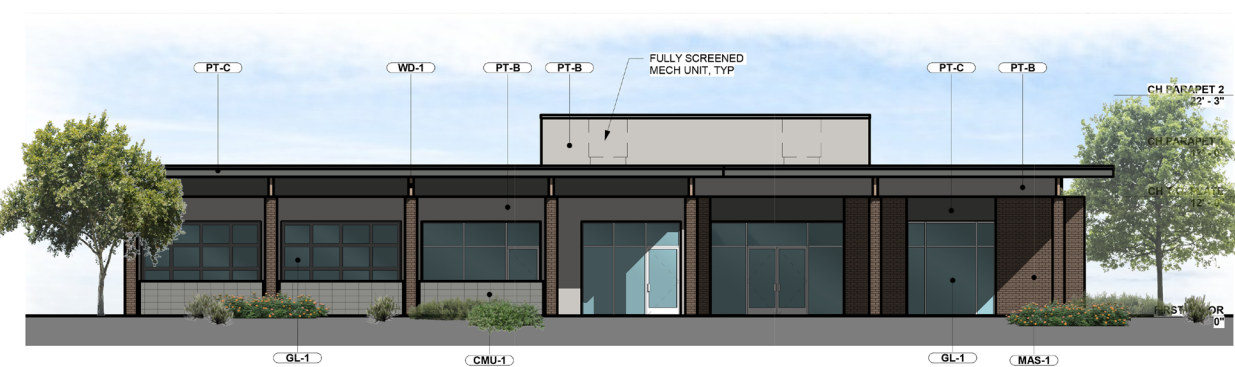
A-240



4 CLUBHOUSE SIDE ELEVATION



2 CLUBHOUSE SIDE ELEVATION



3 CLUBHOUSE REAR ELEVATION



1 CLUBHOUSE FRONT ELEVATION

EXTERIOR FINISH LEGEND

-  **PT-A**
STUCCO, MAIN BODY
DUNN EDWARDS
DEW286 "PRECIOUS PEARLS"
-  **PT-B**
STUCCO, MAIN BODY
DUNN EDWARDS
DEC795 "GRAY PEARL"
-  **PT-C**
STUCCO, ACCENT, METAL RAILING
DUNN EDWARDS
DET629 "FADE TO BLACK"
-  **MAS-1**
BRICK VENEER
CORONADO STONE - NEW ENGLAND BRICK
DAKOTA BROWN
-  **GL-1**
WINDOWS: VINYL, DUAL PANE, LOW-E
FRAME COLOR: WHITE
-  **CMU-1**
EXPOSED CMU
ECHELON "PRECISION"
COLOR: BLACK CANYON
-  **WO-1**
EXPOSED WOOD GLULAM



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**FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ**

REV	DATE	DESCRIPTION
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PROJECT NUMBER

21-081

ISSUE DATE

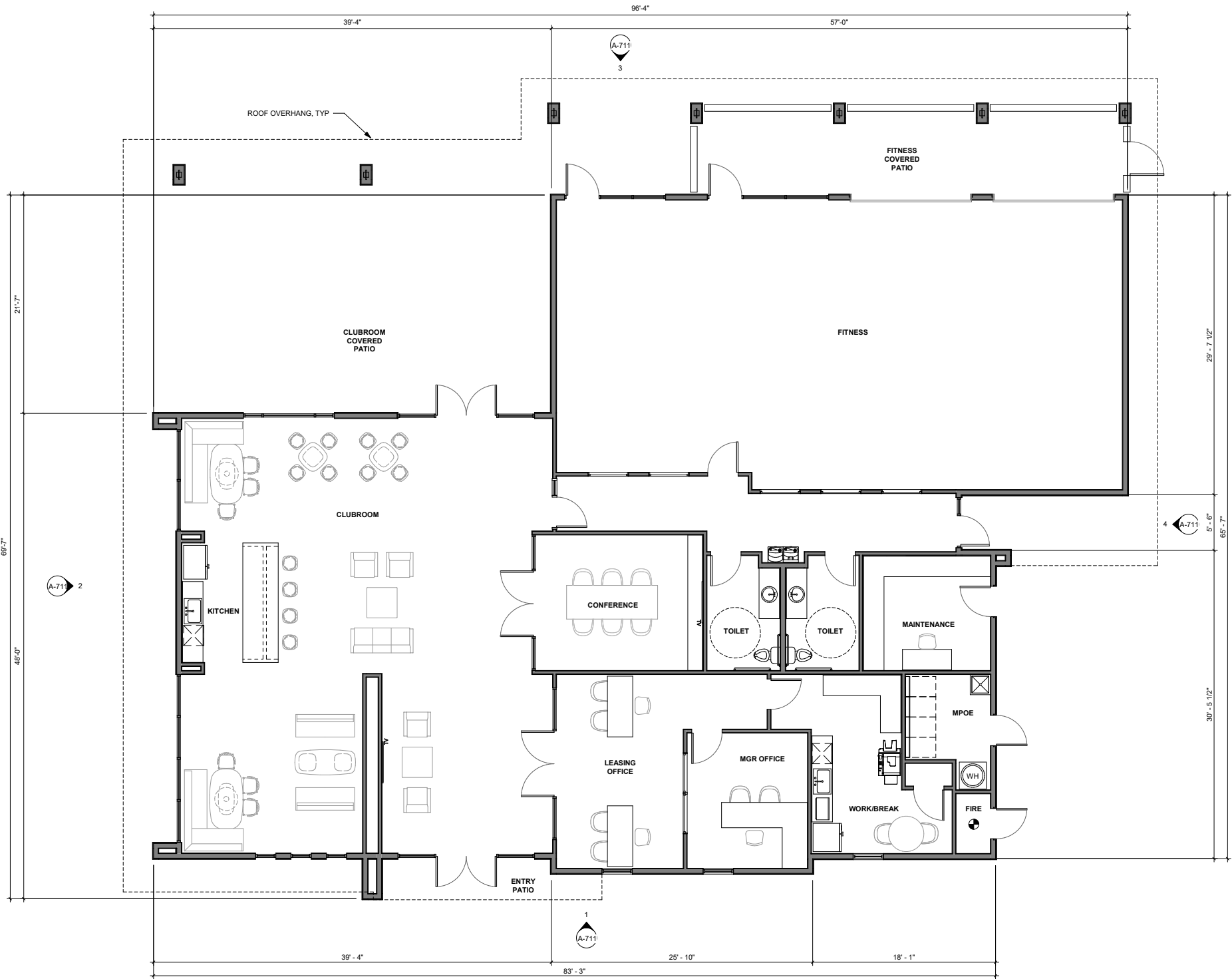
03/09/2022

SHEET TITLE

CLUBHOUSE
EXTERIOR
ELEVATIONS

SHEET NUMBER

A-711



1 CLUBHOUSE FLOOR PLAN
3/16" = 1'-0"

CLUBHOUSE BUILDING AREA SUMMARY (GROSS AREA UNDER ROOF)	
CLUBHOUSE	4,914 SF
CLUBHOUSE ENTRY PATIO	82 SF
CLUBHOUSE FITNESS PATIO	374 SF
CLUBHOUSE REAR PATIO	1,147 SF
TOTAL GROSS SF	6,516 SF

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N.F.C.

NOT FOR CONSTRUCTION

FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV	DATE	DESCRIPTION
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PROJECT NUMBER
21-081

ISSUE DATE
03/09/2022

SHEET TITLE
**CLUBHOUSE
FLOOR PLAN**

SHEET NUMBER
A-710

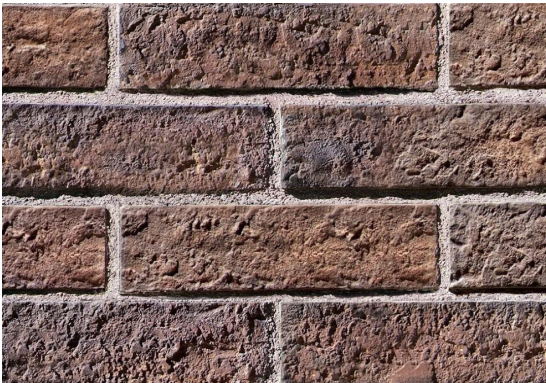


PT-A
STUCCO, MAIN BODY
DUNN EDWARDS
DEW286 "PRECIOUS PEARLS"

PT-B
STUCCO, MAIN BODY
DUNN EDWARDS
DEC795 "GRAY PEARL"

PT-C
STUCCO, ACCENT, METAIL RAILING
DUNN EDWARDS
DET629 "FADE TO BLACK"

PT-D
STUCCO, ACCENT
DUNN EDWARDS
DET695 "GRANGE HALL"



MAS-1
BRICK VENEER
CORONADO STONE "NEW ENGLAND BRICK"
COLOR: DAKOTA BROWN



CMU-1
EXPOSED CMU
ECHELON "PRECISION"
COLOR: BLACK CANYON



GL-1
WINDOWS: VINYL, DUAL PANE, LOW-E
FRAME COLOR: WHITE

 1934 E. Camelback Rd. Suite #200 Phoenix, AZ 85016 P 602 229 1100	NOT FOR CONSTRUCTION	FAIRWAY RESIDENCES ASCENT COMPANIES SWC VAN BUREN ST & FAIRWAY DR AVONDALE, AZ MATERIAL BOARD		PROJECT SF	X,XXX SF	SHEET # MB
				SCALE		
				DATE	03/09/2022	
				PROJECT #	21-081	

6.0 Infrastructure

6.1 Roadway Improvements

Perimeter improvements to Van Buren to facilitate access to the project will be completed with the development. No additional improvements to Fairway Drive are contemplated.

See Exhibit 23: Site Plan

6.2 Utilities

See **Table 5** below detailing the utility providers for Fairway Residences.

Table 5, Utility Providers

Utility	Provider
Water	City of Avondale
Wastewater	City of Avondale
Electric	APS
Natural Gas	Southwest Gas
Phone	CenturyLink/ Cox
Cable	Cox

Fairway Residences Avondale is within the Littleton Elementary School District and Tolleson Union #214 High School District.

6.3 Water

Water service for the Project will be provided by the City of Avondale. Minimum diameter of domestic water mains is 8-inches. The water system will tie into the existing 8-inch water stub onsite to the existing 12-inch waterline in Fairway Drive and the existing 16-inch waterline in Van Buren Street with a dedicated 6-inch fire line and 4-inch domestic line onsite.

Hydrants will be spaced onsite with 300-feet maximum spacing for multi-family residential developments, having a minimum of 3-feet of clearance on all sides and a maximum of 8-feet from the face of curb, as described in the 2018 City of Avondale General Engineering Requirements Manual, Chapter 4, Section Q.

6.4 Wastewater

Wastewater service for the Project will be provided by City of Avondale. A network of 8-inch onsite sewer mains will convey wastewater flows from each building to the southeast portion of the Project. There is an existing 8-inch sewer stub that the sewer system at the project will tie into. The collection system designed for the Project is capable of handling the calculated design flows for the project.

6.5 Drainage

The Property is located within the Federal Emergency Management Agency's (FEMA) Flood Zone X and X-Shaded. The Project will comply with the City and Flood Control District of Maricopa County (FCDMC) design criteria for storm water management. The Project has been designed to retain the 100-yr 2-hr storm event in accordance with County standards. The Project will create no adverse impacts on any downstream property and no offsite drainage adversely impacts the Property.

6.6 Phasing

The project will be developed in a single phase.

KEYED NOTES

- 1A TYP. PARKING SPACE: 9'-6"x18'-0". SEE DETAIL 5/A-011.
- 1C TYP. ACCESSIBLE PARKING SPACE: 11'-0"x18'-0" WITH 5' WIDE ACCESS AISLE. SEE DET. 3/A-011.
- 1D PAINTED CROSSWALK, TYP.
- 2E CARPORT LOCATION. SEE DET. 9/A-011.
- 3A POOL AMENITY. SEE LANDSCAPE PLANS.
- 3D NEW 5' WIDE SIDEWALK, TYPICAL U.N.O.
- 4A VEHICULAR GATE. SEE LANDSCAPE DETAILS. PROVIDE KNOX BOX FOR FIRE DEPT. AND SOLID WASTE TRUCK ACCESS.
- 4C CAMPUS MAP & KEYPAD FOR VEHICULAR GATE ACCESS.
- 6A MASONRY REFUSE ENCLOSURE PER CITY OF AVONDALE STANDARD DETAILS A1170-2 & A1170-3. SEE DETAILS 11/16/A-011
- 9A 6" C.I.P. CONCRETE CURB, TYP.
- 9B ASPHALT PAVING, TYP. U.N.O.
- 10 ACCESSIBLE GARAGE SPACE.
- 11 RIDE-SHARE DROP-OFF AND PICKUP LANE.
- 12 FIRE TRUCK TURNING RADIUS PER CITY STANDARDS; 35' INSIDE RADIUS, 55' OUTSIDE RADIUS
- 18 MAILBOX AREA.
- 20 SHADE TRELLIS PER LANDSCAPE.
- 21 ENTRY MONUMENT SIGN. SEE LANDSCAPE FOR CONCEPTUAL DESIGN. FINAL DESIGN BY OTHERS VIA SEPARATE SUBMITTAL AND PERMIT. SIGN SHALL COMPLY WITH ZONING ORDINANCE 913B.
- 30 EXISTING MEDIAN WITH CURB.
- 31 EXISTING SUB DIVISION MONUMENT SIGN AND LANDSCAPING TO REMAIN.
- 35 DOG PARK. SEE LANDSCAPE PLANS.
- 36 SPORT COURT. SEE LANDSCAPE PLANS.
- 37 TURF AREA WITH RETENTION. SEE LANDSCAPE AND CIVIL PLANS.
- 38 PLAY GROUND. SEE LANDSCAPE PLANS.

PROJECT DATA

SITE INFORMATION:
PROJECT: ASCENT APARTMENTS
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, ARIZONA

PROJECT OWNER / DEVELOPER: ASCENT COMPANIES
2525 E. CAMELBACK RD., SUITE 500
PHOENIX, AZ
CONTACT: BRADLY RICHARDSON JR
BRICHARDSON@ASCENTCOS.COM
602-725-1531

PROJECT ARCHITECT: triARC ARCHITECTURE & DESIGN
1934 E. CAMELBACK RD. SUITE 200
PHOENIX, AZ 85016
CONTACT: JON HANNA
JON@TRIARCDESIGN.COM
602-229-1100

PROJECT NARRATIVE: NEW MULTIFAMILY PROJECT. 3 STORY BUILDINGS WITH AMENITIES INCLUDING CLUBHOUSE WITH FITNESS ROOM, POOL, DOG PARK

ZONING: EXISTING: PAD
PROPOSED: PAD BASED ON R-4

APN: 500-29-007 + A PORTION OF 500-27-014

SITE AREA: NET: +/- 14.17 AC (APPROX. 717,150 SF)

DENSITY: 20.18 DU/AC PROPOSED
(286 UNITS / 14.17 NET AC)

BUILDING INFORMATION:
BUILDING HEIGHT: 45'-0"
ALLOWED: 40'-0"
PROVIDED:

OCCUPANCY: R-2

CONSTRUCTION TYPE: TYPE V-A, WOOD FRAME

FIRE SPRINKLERS: APARTMENTS: NFPA 13-R
CLUBHOUSE: NFPA 13

DWELLING UNIT MIX:
1 BEDROOM = 108 (38%)
2 BEDROOM = 148 (52%)
3 BEDROOM = 30 (10%)
TOTAL UNITS = 286

BUILDING MIX & FOOTPRINT:
(9) BUILDING TYPE 1 x 10,094 SF FOOTPRINT = 90,846 SF
(5) BUILDING TYPE 3 x 5,990 SF FOOTPRINT = 29,950 SF
(5) BUILDING TYPE 4 x 2,169 SF FOOTPRINT = 10,845 SF
(8) GARAGE x 2,068 SF FOOTPRINT = 12,388 SF
(1) CLUBHOUSE x 6,516 SF FOOTPRINT = 6,516 SF
TOTAL BUILDING FOOTPRINT = 150,553 SF

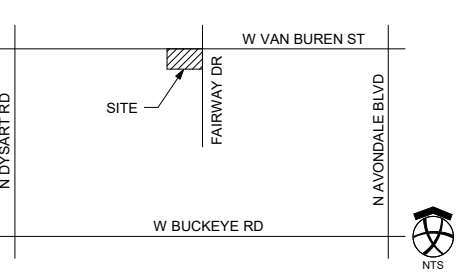
VEHICLE PARKING REQUIRED:
1 BEDROOM: 108 UNITS x 1.5 = 162 SPACES
2 BEDROOM: 148 UNITS x 1.75 = 259 SPACES
3 BEDROOM: 30 UNITS x 2 = 60 SPACES
GUEST: 286 UNITS x 0.2 = 57 SPACES
TOTAL REQUIRED = 538 SPACES
ACCESSIBLE: 2% OF TOTAL = 11 SPACES (INCLUDED IN TOTAL)

PARKING PROVIDED:
SURFACE OPEN = 177 SPACES
SURFACE COVERED = 282 SPACES
GARAGE = 80 SPACES (16.6% OF REQUIRED, LESS GUEST)
TOTAL = 539 SPACES (1.88 PS/UNIT)
(12 ACCESSIBLE PROVIDED, INCLUDED IN TOTAL ABOVE)

ELECTRIC VEHICLE (EV) CHARGING PROVIDED:
LEVEL 2 PHYSICAL CHARGING STATIONS 8
LEVEL 2 CAPABLE GARAGE SPACES 80
CONDUIT FOR FUTURE LEVEL 2 CHARGING STATIONS 20
TOTAL 108

BUILDING SETBACKS:	REQUIRED	PROVIDED
FRONT YARD	25'-0"	41'-6"
SIDE YARD	15'-0"	21'-8"
REAR YARD	15'-0"	15'-6"
STREET SIDE	25'-0"	57'-8"
3 STORY TO SINGLE FAMILY	75'-0"	78'-0"

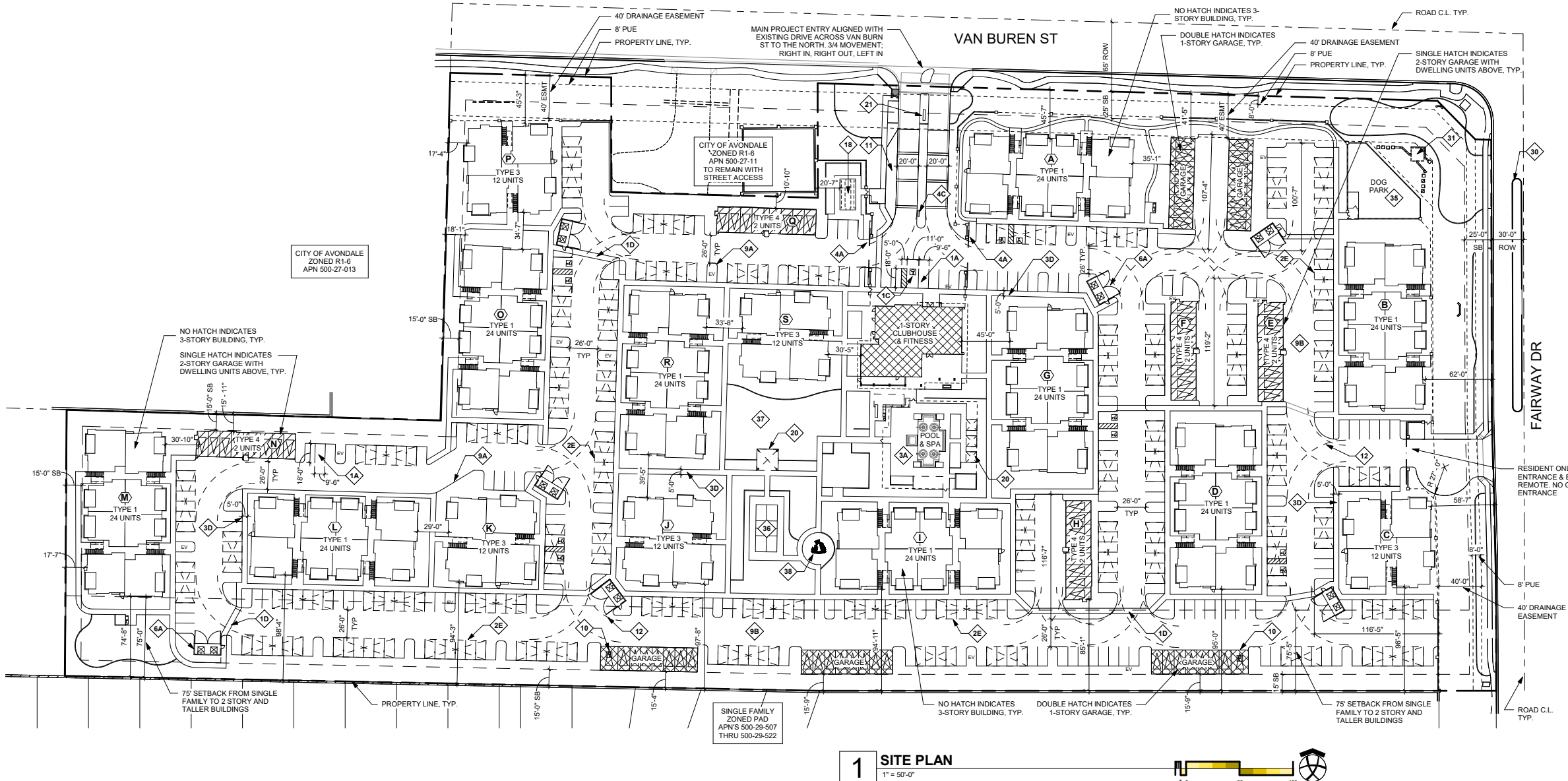
VICINITY MAP



triARC
architecture & design
1934 East Camelback Rd
Suite 200
Phoenix, AZ 85016
P 602-229-1100
NOT FOR CONSTRUCTION

N.F.C.

NOT FOR CONSTRUCTION



FAIRWAY RESIDENCES
ASCENT COMPANIES
SWC VAN BUREN ST & FAIRWAY DR
AVONDALE, AZ

REV	DATE	DESCRIPTION
PROJECT NUMBER 21-081		
ISSUE DATE 06/08/2022		
SHEET TITLE SITE PLAN		
SHEET NUMBER A-010		

7.0 Maintenance of Common Areas and Facilities

The project will be managed by an on-site management company.

DECIDUOUS TREE TRIMMING

- Why prune a tree?
- There are only a few valid reasons to prune a tree in the urban landscape:
- Promote tree's health
 - Reduce hazards to people
 - Train a young tree
 - Increase or decrease flowers/fruit

When to prune a deciduous tree

In general, pruning has a greater benefit if it is performed while the tree is young. Wounds are smaller and recovery is more rapid. This document will discuss pruning young trees and older trees separately.

Deciduous trees are those that lose their leaves and go through a dormant period in response to cold (and sometimes drought). The best time of year to prune is during this dormancy – when all of the foliage has dropped. Generally this occurs from mid-December to the latter part of January.

All pruning should be done before buds show evidence of swelling. Why?

- Less likelihood of tearing bark
- Less likelihood of dripping sap
- More time for recovery before bud break
- Easier to see branch structure
- Less likelihood of stimulating unwanted growth

Pruning Your Tree At Planting Time:

There is no need to prune a newly-planted tree unless branches have been damaged or if major defects in form are present in branches greater than 1 inch in diameter. Major defects include: multiple central leaders, branches with included bark, rubbing branches and water sprouts and suckers. It has been found that removing tips and buds of young trees slows root growth. If trees are left unpruned, expanding buds and new leaves help root expansion and tree establishment. Damaged branches can be removed at their point of origin, or they can be cut back to a lateral branch that will provide foliage and help establishment the first season.

DESERT TREE TRIMMING

Fortunately, extensive pruning is not required for most desert tree species when they are carefully located in arid landscape designs. Proper tree placement and management can significantly reduce the amount of pruning client adapted trees require. When placing trees in the landscape consider the mature height and spread of the tree. If in doubt, mildly exaggerate the mature size rather than underestimate. Plant trees strategically around structures, play areas, pedestrian traffic and other trees so that mature trees can provide maximum shade with minimal interference. Also consider how mature trees will interact with other components and uses of the landscape. When under story plantings are located beneath dense canopy trees (like mesquites), regular thinning of the trees will be needed to admit adequate sunlight for flowering and lush growth. Regular pruning of mature trees can simplify pedestrian access, improve seating and better accommodate play areas.

Growth management is the least exploited strategy to avoid pruning. Many established desert natives can be naturalized to where they can survive with little or no supplemental irrigation. The practice of limiting water and fertilizer serves to significantly slow growth and reduce the need for pruning and thinning. For species that cannot be naturalized, growth and pruning can still be reduced by limiting irrigation and nitrogen.

Periodic thinning is the most desirable method of pruning. Thinning trees before monsoon season can reduce wind damage to branches and uprooting of trees. Removal of large portions of the tree canopy (more than 30%) during the summer can lead to sunburn injuries that can later be colonized by wood boring insects. Avoid hedging or heading back desert species as this will only stimulate excessive branching. Always use clean, sharp tools that are regularly cleaned in a 10% solution of bleach. Some desert species are slow to exhibit the effects of freeze damage. Branches that do not immediately bear leaves in spring may not be damaged. Delay pruning suspect branches until at least the first of June. Remember pruning can reduce spring flowering.

LANDSCAPE MAINTENANCE OVERVIEW

- All landscape material shall be maintained according to the standards as set forth herein on the approved Landscape Maintenance Manual.
- All landscape areas and material shall be maintained in a healthy, neat, clean and weed-free condition.
- Repairs, modifications and/or removal of existing landscaping, other than necessary for utility, infrastructure, or other repairs caused by unforeseen damages, shall require prior approval by the City Planner or authorized designee. Any approved landscaping that has been permanently removed for any reason without the City Landscape Architect's or authorized designee's approval shall be reported to Code Enforcement and a Notice of Violation may be issued. Material replacement shall be in kind and not less than the minimums as set forth herein, at the owner's expense. Planting shall be replaced per the approved landscape plan or as necessary to meet the requirements stated herein.
- Any plant material determined by the City Planner or authorized designee to be unhealthy or in decline shall be replaced in kind and not less than the minimums as set forth herein, at the owner's expense. This includes but is not limited to natural vegetation screens.
- Plant material shall be pruned according to the approved Landscape Maintenance Manual and conform to the current version of the American National Standard, ANSI A302 - Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance - Standard Practices. Plants shall not be severely pruned such that the natural growth pattern or characteristic forms are significantly altered.
- Tree topping is prohibited. Any tree that has been altered by this measure shall be immediately removed and replaced in kind with a new tree, at the owner's expense.
- Landscape areas on-site, as well as in the adjacent right-of-way, shall be maintained by the owner or owner's association (if applicable), and shall be maintained as approved in the Landscape Maintenance Manual. Any areas designated and intended for the purposes of on-site storm water retention shall be maintained and reserved for that primary purpose. Any alteration or deterioration of those areas shall be considered a violation of this Section 12.
- It shall be a violation of the provisions of this Chapter for any person to abuse, destroy or mutilate any tree, plant, or shrub within the public rights-of-way or to attach or place any rope, wire or other item to or on any plant, other than to appropriately support the plant, unless approved by the City Planner or authorized designee, or allow any gaseous, liquid or solid substance which is harmful to plants to come in contact with their roots, trunks, or leaves.

- January
- Shrubs
- Avoid cutting any shrubs back hard during this month due to the low temperatures. Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 1.5 - 2 hrs per cycle, and depending on the temperatures the schedule should be reduced to one time per week (based on a drip irrigation system).
 - The winter chemical application of pre-emergent weed control will begin again this month. Due to the potential rainfalls this month this could encourage more weed seedlings to germinate and unless this treatment is applied, the weeds can easily become out of control.

- Trees
- The growth of many trees is beginning to slow down and the night temperatures are decreasing. Trees should be cleared up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles but only minimally keep natural shape of trees intact.

- February
- Shrubs
- We have started natural pruning of shrubs, which is typically done in February and March now that the threat of frost has been reduced. A guideline to the pruning height of various shrubs is as follows:
Groundcover - 4 - 6" (Groundcovers)
Shrubs - 12 - 18" (Shrubs)

- Pruning many of the shrubs to these heights can look very dramatic, at first, but due to favorable weather conditions the plants quickly start to bud out and new growth develops quickly into a more natural looking shrub. During the summer limited pruning is necessary which allows the shrub to flower freely.
- Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 1.5 - 2 hrs per cycle, and depending on the temperatures the schedule should be reduced to one time per week (based on a drip irrigation system). With all the rain we have been having recently it is recommended that the irrigation stations which supply the trees and shrubs can be turned off for two weeks, if not longer, which will encourage root development.
- The winter chemical application of pre-emergent weed control will continue this month and into March. You should also actively spray weeds in granite areas with Roundup or a similar post-emergent weed control chemical.
- Some of the Lantana are beginning to look poor (turning black/brown) as the weather gets colder. There are two options for dealing with Lantana 1) Lantana can be cut back hard to 3 - 4' in height, before they start to grow back new leaves during the next 4 - 6 weeks. 2) Or you can leave the Lantana with the frost damage leaves / branches present which will protect the roots from further frost attacks and then when the frost threat is over you can cut them back hard.

- Trees
- The growth of many trees is beginning to slow down and the night temperatures are decreasing. Trees should be cleared up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles but only minimally keep natural shape of trees intact.

- March
- Shrubs
- We have started natural pruning of shrubs, which is typically done in February and March now that the threat of frost has been reduced. A guideline to the pruning height of various shrubs is as follows:
Groundcover - 4 - 6" (Groundcovers)
Shrubs - 12 - 18" (Shrubs)

- Pruning many of the shrubs to these heights can look very dramatic, at first, but due to favorable weather conditions the plants quickly start to bud out and new growth develops quickly into a more natural looking shrub. During the summer limited pruning is necessary which allows the shrub to flower freely.
- Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 1.5 - 2 hrs per cycle, and depending on the temperatures the schedule should be reduced to one time per week (based on a drip irrigation system). With all the rain we have been having recently it is recommended that the irrigation stations which supply the trees and shrubs can be turned off for two weeks, if not longer, which will encourage root development.
- March is normally the last month in which the application of pre-emergent weed control should take place until July/August. Actively spray weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.

- Trees
- The growth of many trees is beginning to slow down and the night temperatures are decreasing. Trees should be cleared up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles but only minimally keep natural shape of trees intact.

- April
- Shrubs
- We have started natural pruning of shrubs, which is typically done in February and March now that the threat of frost has been reduced. A guideline to the pruning height of various shrubs is as follows:
Groundcover - 4 - 6" (Groundcovers)
Shrubs - 12 - 18" (Shrubs)

- Pruning many of the shrubs to these heights can look very dramatic, at first, but due to favorable weather conditions the plants quickly start to bud out and new growth develops quickly into a more natural looking shrub. During the summer limited pruning is necessary which allows the shrub to flower freely.
- Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 2 - 3 hrs per cycle, and depending on the temperatures the schedule should be reduced to one time per week (based on a drip irrigation system). It is much better for the plants to be watered for a long period of time on less of a frequency which will encourage the roots to develop deeper and find a water source.
- The winter application of pre-emergent has now been completed. The next application of pre-emergent weed control should take place until July/August. Actively spray weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.

- Trees
- As the growth of many trees is beginning to increase and they are beginning to produce leaves again, we need to think again about trimming trees especially before the trees crews get busy in June and July pruning palm trees. Our crews are clearing up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles, but most trees would benefit from more structural pruning which will help the shape of the trees, thin out the main branches and also help prevent any storm damage. It is advantageous to complete heavier pruning of your trees at this time of year, since the trees are less stressed than they are during the intense summer heat.

March and April are ideal time to trim trees, before the temperatures increase.

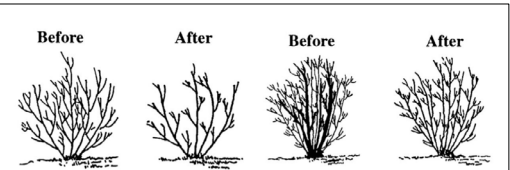


Figure 1. Selective thinning removes the branches back to the point of attachment (left) or to the base of the plant (right) and preserves the natural shape of the plant.

PROPER SHRUB PRUNING TECHNIQUE

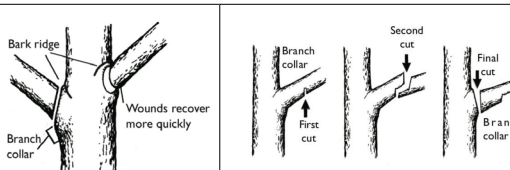


Figure 1. Natural Target Pruning

PROPER TREE PRUNING TECHNIQUE

- May
- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. Most shrubs are grown for their flowers and therefore avoid any type of shear trimming, unless necessary, which will allow shrubs to flower as much as possible.
 - Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 2 - 3 hrs per cycle, and depending on the temperatures the schedule should be one or, if needed, two times per week (based on a drip irrigation system). It is much better for the plants to be watered for a long period of time on less of a frequency which will encourage the roots to develop deeper and find a water source.
 - The next application of pre-emergent weed control should take place until July/August before the summer monsoons. We are also actively spraying weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.

- Trees
- As the growth of many trees is beginning to increase and they are beginning to produce leaves again, we need to think again about trimming trees especially before the trees crews get busy in June and July pruning palm trees. Crews should be clearing up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles, but most trees would benefit from more structural pruning which will help the shape of the trees, thin out the main branches and also help prevent any storm damage. It is advantageous to complete heavier pruning of your trees at this time of year, since the trees are less stressed than they are during the intense summer heat. The more favorable temperatures allow the trees heal quicker after the tree branches have been removed or trimmed.

June

- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. Most shrubs are grown for their flowers and therefore avoid any type of shear trimming, unless necessary, which will allow shrubs to flower as much as possible.
 - Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 2 - 3 hrs per cycle, and depending on the temperatures the schedule should be one or, if needed, two times per week (based on a drip irrigation system). It is much better for the plants to be watered for a long period of time on less of a frequency which will encourage the roots to develop deeper and find a water source.
 - Weeds still appear to be an issue especially the summer weeds such as Russian Thistle and Nutgrass. Special chemicals are required to slowly get rid of these weeds although it can take several applications to finally try taking control of these difficult weeds. Out in the landscape areas you may now begin to have the Bermuda coming up amongst groundcovers, and shrubs, spray Fusilade II to kill the Bermuda before it becomes a big problem and the dead Bermuda has to be manually removed.
 - The next application of pre-emergent weed control should take place until July/August before the summer monsoons.

- Trees
- Most large trees benefit at this time of year from deep root fertilizing. This process involves pressure jetting a fertilizer mix down into the root zone.

July

- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. Most shrubs are grown for their flowers and therefore avoid any type of shear trimming, unless necessary, which will allow shrubs to flower as much as possible.
 - Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 2 - 3 hrs per cycle, and depending on the temperatures the schedule should be one or, if needed, two times per week (based on a drip irrigation system). It is much better for the plants to be watered for a long period of time on less of a frequency which will encourage the roots to develop deeper and find a water source.
 - Weeds still appear to be an issue especially the summer weeds such as Russian Thistle and Nutgrass. Special chemicals are required to slowly get rid of these weeds although it can take several applications to finally try taking control of these difficult weeds. Out in the landscape areas you may now begin to have the Bermuda coming up amongst groundcovers, and shrubs, spray Fusilade II to kill the Bermuda before it becomes a big problem and the dead Bermuda has to be manually removed. Granite areas should be getting sprayed with a pre-emergent weed control chemical during the months of July and August.
 - The next application of pre-emergent weed control should take place until July/August before the summer monsoons. Actively spraying weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.

August

- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. Most shrubs are grown for their flowers and therefore avoid any type of shear trimming, unless necessary, which will allow shrubs to flower as much as possible.
 - Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 2 - 3 hrs per cycle, and depending on the temperatures the schedule should be one or, if needed, two times per week (based on a drip irrigation system). It is much better for the plants to be watered for a long period of time on less of a frequency which will encourage the roots to develop deeper and find a water source.
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 - The next application of pre-emergent weed control should take place before the end of August before the summer monsoons and. Also actively spray weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.
 - One of the other pests that become prevalent during hot conditions is spider mites. If given a chance to get a foothold they can quickly kill many landscape plants. Rosemary, Lantana, and many others will have a webbing incasing the leaves and will have thousands of the pinhead sized bugs crawling around. Use a magnifying glass to better identify them.

September

- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. Most shrubs are grown for their flowers and therefore avoid any type of shear trimming, unless necessary, which will allow shrubs to flower as much as possible.
 - Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule should be 2 - 3 hrs per cycle, and depending on the temperatures the schedule should be one or, if needed, two times per week (based on a drip irrigation system). It is much better for the plants to be watered for a long period of time on less of a frequency which will encourage the roots to develop deeper and find a water source.
 - Weeds still appear to be an issue especially the summer weeds such as Russian Thistle and Nutgrass. Special chemicals are required to slowly get rid of these weeds although it can take several applications to finally try taking control of these difficult weeds. Out in the landscape areas you may now begin to have the Bermuda coming up amongst groundcovers, and shrubs, spray Fusilade II to kill the Bermuda before it becomes a big problem and the dead Bermuda has to be manually removed. Granite areas should be getting sprayed with a pre-emergent weed control chemical during the months of July and August.
 - The next application of pre-emergent weed control should take place before the end of August before the summer monsoons and. Also actively spray weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.
 - One of the other pests that become prevalent during hot conditions is spider mites. If given a chance to get a foothold they can quickly kill many landscape plants. Rosemary, Lantana, and many others will have a webbing incasing the leaves and will have thousands of the pinhead sized bugs crawling around. Use a magnifying glass to better identify them.

- Trees
- As the growth of many trees is beginning to increase and they are beginning to produce leaves again, we need to think again about trimming trees especially before the trees crews get busy in June and July pruning palm trees. Our crews are clearing up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles, but most trees would benefit from more structural pruning which will help the shape of the trees, thin out the main branches and also help prevent any storm damage. It is advantageous to complete heavier pruning of your trees at this time of year, since the trees are less stressed than they are during the intense summer heat.

March and April are ideal time to trim trees, before the temperatures increase.

LANDSCAPE MAINTENANCE SCHEDULE

- September
- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. We want to encourage the shrubs to flower as much as possible, which is why they were planted, rather than continually using gas powered shears to trim the flowers from the shrubs. Use hand pruners or loppers to naturally prune shrubs rather than creating the hedge or table top look. Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule at this time of year should be 1.5 - 2 hrs per cycle, (based on a drip irrigation system).

- During the over-seeding process some of the winter ryegrass seed can migrate into shrubs bed areas and with the overspray from the grass areas you can get some ryegrass growing along the boundary between the shrub beds and the grass areas. These weeds should be removed either mechanically or using a spray application of weedkiller.
- Weeds in grass areas still appear to be an issue especially the summer weeds such as Nutgrass. Special chemicals are required to slowly get rid of these weeds although it can take several applications to finally try taking control of these difficult weeds. Out in the landscape areas you may now begin to have the Bermuda coming up amongst groundcovers, and shrubs, spray Fusilade II to kill the Bermuda before it becomes a big problem and the dead Bermuda has to be manually removed. We are nearing completion of the latest application of pre-emergent chemicals to control weeds. If you are still undecided about whether to approve this treatment the cut-off date will be 15th September. The winter application will begin again in December.

- Trees
- Desert trees such as Mesquites and Palo Verde trees are beginning to slow down, in terms of growth rate. Crews should be clearing up to 12-18ft from the ground to prevent any nuisance value to pedestrians or vehicles, but only if necessary keep natural shape of trees intact. Trim trees back about 10-15% rather than a heavy pruning which takes about 25-30% of branches from the tree. It is important that your trees are trimmed using trained tree climbers under the supervision of a Certified Arborist so that they can correctly assess the pruning requirements for each tree and provide long term recommendations for tree management. It is also essential that you use a company with the correct insurance and Workers Compensation coverage, specifically for tree trimming. The normal coverage for landscape maintenance typically does not cover for tree trimming over 12ft in height.
 - Trim trees in September or October depending on the weather

October

- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. We want to encourage the shrubs to flower as much as possible, which is why they were planted, rather than continually using gas powered shears to trim the flowers from the shrubs. We try encouraging our crews to use hand pruners or loppers to naturally prune shrubs rather than creating the hedge or table top look. Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule at this time of year should be 1.5 - 2 hrs per cycle, (based on a drip irrigation system).
 - During the over-seeding process some of the winter ryegrass seed can migrate into shrubs bed areas and with the overspray from the grass areas you can get some ryegrass growing along the boundary between the shrub beds and the grass areas. These weeds should be removed either mechanically or using a spray application of weedkiller.
 - Weeds in grass areas still appear to be an issue especially the summer weeds such as Nutgrass. Special chemicals are required to slowly get rid of these weeds although it can take several applications to finally try taking control of these difficult weeds. Out in the landscape areas you may now begin to have the Bermuda coming up amongst groundcovers, and shrubs, spray Fusilade II to kill the Bermuda before it becomes a big problem and the dead Bermuda has to be manually removed. We are nearing completion of the latest application of pre-emergent chemicals to control weeds. If you are still undecided about whether to approve this treatment the cut-off date will be 15th September. The winter application will begin again in December.

November

- Shrubs
- Most of the shrub pruning over the next few months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. We want to encourage the shrubs to flower as much as possible, which is why they were planted, rather than continually using gas powered shears to trim the flowers from the shrubs. We try encouraging our crews to use hand pruners or loppers to naturally prune shrubs rather than creating the hedge or table top look. Depending on the type of irrigation system in place for shrubs, a general indication of the watering schedule at this time of year should be 1.5 - 2 hrs per cycle, (based on a drip irrigation system).
 - During the over-seeding process some of the winter ryegrass seed can migrate into shrubs bed areas and with the overspray from the grass areas you can get some ryegrass growing along the boundary between the shrub beds and the grass areas. These weeds should be removed either mechanically or using a spray application of weedkiller.
 - The winter chemical application of pre-emergent weed control will begin again in December. In the meantime, spray weeds in granite areas with Roundup or a similar post-emergent weeds control chemical.

December

- Shrubs
- Most of the shrub pruning over the next two months should be a light shaping, removing branches over sidewalks or selectively pruning larger branches. We want to encourage the shrubs to flower as much as possible, which is why they were planted, rather than continually using gas powered shears to trim the flowers from the shrubs. We try encouraging our crews to use hand pruners or loppers to naturally prune shrubs rather than creating the hedge or table top look.
 - The winter chemical application of pre-emergent weed control will begin again this month

January

- Trees
- The growth of many trees is beginning to slow down and the night temperatures are decreasing. Trees should be cleared up to 12ft from the ground to prevent any nuisance value to pedestrians or vehicles but only minimally keep natural shape of trees intact.

DRIP IRRIGATION WATERING SCHEDULE		
TEMPERATURE HIGHS UNDER 70	WATERING LENGTH	INTERVAL
70-80	0.5 HOURS	EVERY 4 DAYS
80-90	1.0 HOURS	EVERY 3 DAYS
90-100	1.5 HOURS	EVERY OTHER DAY
100+	2.0 HOURS	EVERY DAY



Collaborative V
Design Studio Inc.
7116 East 1st Ave.,
Suite 103
Scottsdale, Arizona
85251
office: 480-347-0590
fax: 480-656-6012



EXPIRES 06 / 30 / 2019

LANDSCAPE IMPROVEMENTS ASCENT AVONDALE APARTMENTS AVONDALE, AZ

DESIGNED BY: P/SH
OWNED BY: SH
CHECKED BY: P/MD
DATE: FEBRUARY 16, 2022
REVISION:

ASCENT AVONDALE
PAD SUBMITTAL

CLS-7

1 of 1

8.0 Conformance with City Plans

The development proposal in this PAD is in line with the City's long-range planning documents and General Plan.

8.1 General Plan Conformance

The purpose of the 2012 General Plan is to provide Avondale with a community identity that guides the City to achieve sustainable relationships between land use, transportation, quality of life, the environment, and economic prosperity. HDR designates residential land that will contain densities up to 30 dwelling units per acre. This category limits private outdoor space and relies on shared or common open space for recreation. Patio homes, apartments, condominiums or townhomes are suitable for this land use under the HDR designation.

Land Use Element

Goal 1: Establish an Avondale identity based on a healthy lifestyle that promotes land uses which foster an economically sustainable and socially dynamic community.

Policy A: Focus attention on urban centers, and develop additional tools to assist in the development and redevelopment of areas unique to Avondale, such as Western Avenue and City Center.

Policy C: Diversify Avondale's housing stock by providing for varied residential types with an emphasis on large lot development in the southern core of the City.

Policy D: Enhance the attractiveness of infill parcels as an option for new development throughout Avondale.

Policy F: Support higher density/urban land uses to support future transit and rail.

The Project will work toward multiple land use goals by adding a higher density mix of housing stock to a crucial infill location on a major corridor (Van Buren is classified as a 'Bus Transit Corridor' and road for future bike lanes in the General Plan). The high density residential combined with the pedestrian connectivity throughout the project and the Coldwater Springs neighborhood will create an ideal setting to support access to future transit in the area.

The Fairway Residences project has access to numerous multi-modal transportation amenities. The Avondale ZOOM Circulator bus stop is less than a mile west of the Project on the northeast corner of Dysart and Van Buren, which provides free transit service to employment, entertainment, and commercial throughout Avondale. The project is also located 1.7 miles from the Goodyear Park-and-Ride. This proximity will allow residents to catch the Valley Metro Express commuter bus (Route 562) directly to downtown Phoenix or connect them to the Valley Metro Rail, providing access to the greater Phoenix metro area and east valley.

Goal 3: Promote a strong balance of high quality residential, employment, recreation, and educational land uses.

Policy D: Ensure adequate transitions and/or buffers are provided when adjacent land uses vary in character and intensity.

The Project provides new, modern residential options with careful consideration to the pedestrian connections. A significant landscape buffer is provided between the project boundary and the residences south of it in Coldwater Springs to ensure visual screening and buffering in addition to the building setbacks and placement of the three-story buildings in the interior of the project. Although the Property is within close proximity to commercial centers, the Agua Fria River provides a natural aesthetic and noise buffer from areas of high commercial uses to the west. The Avondale Commerce Center to the north of the Project is separated by Van Buren and consists of distribution warehouses that require extra setback and buffer requirements to accommodate for surrounding residential uses. The elementary school to the north and high school to the east of the Project offer great, nearby educational amenities for the full K-12 experience in addition to the local District schools. .

Goal 7: Plan for educational facility locations as development and redevelopment occurs.

Policy A: Maintain a good working relationship with school districts in order to ensure that all new development is adequately served by existing or new school sites.

The school districts serving the project have been notified of the non-age-restricted development proposal and the developer is working with the districts on a donation agreement to provide for a contribution to assist with the provision of adequate facilities in advance of the secondary property taxes that will be generated following the development of the project.

Economic Vitality Theme

Goal 3: Enhance and market Avondale's business climate.

Policy D: Support new development that accommodates business attraction opportunities.

Goal 8: Invest in neighborhood infrastructure, public spaces, and amenities.

Policy B: Assess and implement methods requiring new residential developments to incorporate specific amenities and designate a specific amount of space for common use by neighborhoods.

The Project enhances Avondale's business climate by providing the additional housing necessary for economic development in the region. As a new residential development within a PAD, it is held to a high standard for providing quality and diverse open space elements for the community. With the pool, and other active and passive amenity options, the Project includes a host of options for outdoor enjoyment. The added perimeter greenbelt will also serve the adjacent community and surrounding area.

Neighborhoods Theme, Housing Element

Goal 1: Provide a variety of safe housing opportunities and neighborhoods for all current and prospective Avondale residents.

Goal 2: Champion the development of housing types not currently available in the City to allow for a variety of socio-economic levels.

Fairway Residences will provide unique, modern multi-family housing options in an area of the City that currently is entirely single-family in nature. The addition of this housing type, as envisioned by the General Plan, will provide for residential opportunities in close proximity to educational and employment opportunities to reduce commute costs and increase quality of life in a safe housing environment. The project is gated and secure, and the adjacent fire station further enhances that security.

Preservation and Revitalization Element

Goal 2: Create a true sense of community that stretches beyond neighborhood boundaries.

Policy A: Improve the physical connectivity between our neighborhoods as well as between our neighborhoods and nearby non-residential development.

\ The Property lies at the northwest corner of the PAD and acts as the transition point from primarily single-family residential to the Avondale Commerce Center and retail on Van Buren. The existing bike lane on Fairway joins Fairway Residences to a system of biking paths that connect throughout the PAD and to additional multi-modal amenities in the area. This physical pedestrian connectivity in a suburban core combined with transit-oriented elements such as bike lanes and transit options will provide residents the opportunity to lead a healthy lifestyle. This will create a more vibrant, walkable community for all residents in the area and will help foster a true sense of community through Fairway Residences and the Coldwater Springs neighborhood.

Sustainability Theme, Energy Element

Goal 1: Integrate energy efficiency measures and renewable energy sources into all aspects of Avondale planning.

Policy C: Encourage “walkable” communities, vertical development where appropriate, transit, and efficient land use patterns to minimize fuel consumption and energy usage.

This suburban, horizontally integrated Project has an appropriately scaled two and three-story product adjacent to a variety of transit options, which encourages the minimization of fuel consumption. The Project will also provide residents with electric vehicle (“EV”) charging stations to support current and future EV needs. Additionally, the incorporation of a ride-share drop-off and pickup lane will offer a safe and convenient alternative to individual commuting, further minimizing fuel consumption of residents.

Community Mobility Theme, Circulation Element

Goal 4: Promote and support an integrated transportation system that mitigates congestion, fosters a sense of community, and preserves the environment.

Policy A: Provide and support opportunities for all modes of travel for all ages and abilities.

Policy C: Develop adequate links to arterial roadways from new residential, recreation, and employment areas.

Fairway Residences’s close proximity to the Avondale ZOOM Circulator combined with its internal pedestrian connections to the surrounding neighborhood, promotes and supports an integrated transportation system that mitigates congestion. The multi-modal transportation options for Fairway Residences provide and support opportunities for all modes of travel for all ages and abilities, as younger children will have the ability to walk and ride their bikes throughout the Coldwater Springs community and to the area schools. Further, the Agua Fria Trail and walkway surrounding Fairway Residences provides residents with adequate options to walk and connect with Friendship Park to the north or the communities to the south.

Quality of Life Theme, Urban Design Element

Goal 5: Maximize housing opportunities in locations within a half-mile of transit, with good access to employment areas, neighborhood services, and public facilities in order to promote a healthy community both sustainably and economically.

This proposed high-density Project will maximize housing opportunities in locations within a mile of transit, with good access to employment areas, neighborhood services, and public facilities in order to promote a healthy community both sustainably and economically. The Project provides close proximity to multiple commercial areas such as the Coldwater Plaza Shopping Mall to the west and a commercial center just east along Van Buren.

9.0 Conclusion

The Fairway Residences feature modern amenities and architecture in close proximity to major employers, commercial and recreational amenities. The design of the project is consistent with the General Plan and will complete the development of the entrance to Coldwater Springs in a manner that creates a sense of arrival to Avondale’s playful, residential community. Ascent looks forward to bringing this project to fruition with the City and establish another quality residential community that Avondale is known for.

APPENDIX A: Avondale R-4 Uses

LAND USE	Avondale R-4
Assisted Living Facility	C
Boarding House	C
Child care in the home for four (4) or fewer children not related to the residents, as an accessory to the primary residential use of a dwelling	P
Child care in the home for five (5) to ten (10) children not related to the residents, as an accessory to the primary residential use of a dwelling.	C
Child Care Center in conjunction with a Place of Worship	C
Community Garden, one acre or less	P
Convalescent Home	C
Group Home	P
Home Occupation, as an accessory to the primary residential use of a dwelling.	PC
Manufactured or Mobile Home	-
Multi-Family dwelling	P
Nursing Home	C
Park and recreation areas, public	P
Place of Worship	C
Public utility facility required for local service	PC
Public utility facility with the exception of those allowed as a Use Permitted with Conditions above	C
School, public	P
Single-Family attached dwelling	P
Single-Family detached dwelling	-

P = Permitted Use

PC = Permitted with Conditions

C = Conditional Use Permit Required

- = Not Permitted

Fairway Residences

Summary of Neighborhood Meeting

Avondale, AZ

May 17, 2022 at 6:00 p.m.

Case No. PL-22-0068



Neighborhood Meeting Summary for

Fairway Residences

Avondale, AZ

May 17, 2022 at 6:00 p.m.

Case No. PL-22-0068

The neighborhood meeting for Fairway Residences ("Project") was held at 6:00 p.m. on May 17, 2022, via remote Zoom meeting. The following members of the project team and City staff attended:

Members of the development team present included:

Brad Richardson – Ascent Companies

Andrew Yancey – Bergin, Frakes, Smalley & Oberholtzer

Caleb Weeks – Bergin, Frakes, Smalley & Oberholtzer

Joe Spadafino – CivTech

Jon Hanna - TriArc

Brian Nicholls – EPS Group

Clint Robison – Ascent Companies

Slade Sheaffer – TriArc

Scott Heffernan – Collaborative V

City Officials and Staff:

Ann Dolmage – City of Avondale

Eric Fitzer – City of Avondale

Attendees were let into the meeting at 6:00pm with the meeting beginning at 6:05 pm. The application was presented as a power point via Zoom for the attendees. Ms. Dolmage provided a brief introduction of the project, then turned the presentation over to the Applicant team. Mr. Richardson walked the public through the project overview, location, and existing general plan designation of the property. He discussed Ascent's business of developing, owning, and operating high-quality multi-family properties in the Valley. He further explained the location of the property at the southwest corner of Van Buren Street and Fairway Drive, the existing zoning with a portion within the Coldwater Springs PAD and a portion zoned R1-6, and the proposal to rezone to a PAD to permit the proposed 286-unit multi-family community ("Project"). Mr. Richardson walked the attendees through the development plan, landscape plan, and community amenities of the Project. Mr. Richardson described the development team's discussions with the City regarding a well site on the property as well as anticipated traffic patterns. He discussed the location of the various buildings within the property and the goal to distance residential structures away from the existing single-family homes to the south. In addition, he discussed the various building types and elevations that would make up the community. Mr. Richardson discussed

the thoughtful design that went into the architecture and articulation of the buildings to add visual interest within the community. The presentation ended with a note that public hearing dates were not scheduled yet at this time, but that they were expected to occur this summer.

Mr. Richardson then opened the meeting to questions. Vice Mayor Malone and eight additional members of the public attended the meeting. A summary of the public discussion is below.

Questions and Responses:

A citizen asked if the upcoming public hearings would determine if the development will happen or not.

Mr. Yancey explained that the application was being processed by the City. He explained that City staff will prepare reports for the Planning Commission and ultimately City Council hearings which has the ultimate authority to approve or deny the application.

A citizen asked if any of the units have subsidized or lower income pricing.

Mr. Richardson explained that all units would be market rate.

A resident asked about traffic along Fairway Drive – expressing concerns of increased traffic and speeding along the road. Specific questions were raised about the plans for Fairway Drive with the current charter school, planned high school, and residential uses bringing in more traffic to the community.

Mr. Richardson explained that the City and the development team put a lot of time into the determination of the entrances – specifically working with the City to determine the best way to orient access into the Project. Mr. Richardson explained that the primary entrance was positioned on Van Buren and the entrance on Fairway Drive was specifically a resident only access that would have an automatic gate with no keypad access. He explained that the idea was to locate the majority of the traffic onto Van Buren.

Vice Mayor Malone asked if the Project would be providing a deceleration lane on Fairway Drive for the resident only access. Vice Mayor Malone expressed concerns about residents entering the community from Fairway Drive on a street where drivers may be traveling above the posted speed limit.

Mr. Yancey explained that this was evaluated as part of the application through the traffic statement. He noted that Fairway Drive is a collector street with a posted speed limit of 30 MPH, and that the traffic analysis determined that a deceleration lane was not necessary for the Fairway Drive entrance.

Vice Mayor Malone discussed that she had heard concerns from residents in the adjacent neighborhood about traffic patterns, largely stemming from the schools uses, but also in regard to people using the residential streets of the adjacent communities to make turns on to Fairway Drive.

Mr. Yancey explained that Project residents will most likely become familiar with the school traffic patterns and would largely “self-police” during times of heavy school traffic on Fairway Drive. Mr. Yancey continued by noting that the eastern portion of the property is currently zoned for commercial uses. He explained that the traffic study for the Project provided a comparison of estimated trips from the proposed Project and estimated trips if the entire site

was developed as commercial, and it projected that the commercial development scenario would generate approximately triple the Project's trips.

A question was asked about whether the Project would re-do a traffic study after the high school was opened.

Mr. Fitzer explained that the traffic study and engineering department take into account the other developments within the area – in regard to future uses and legacy issues in the area.

A citizen expressed further concerns about traffic, citing semi-trucks that “get lost” and drive through the neighboring communities as well as people that park within the residential communities to wait for their children to get out of school and walk to their cars. They also discussed a comparison to West Point High School in Avondale and concerns about the traffic there.

Mr. Fitzer explained that the City has no zoning or regulatory authority over the development of charter schools because of state laws. He explained the City would have preferred to have more input regarding placement of charter schools within the community. He explained the currently allowed uses on the site are more intense traffic-wise than the Applicant's proposal, and he emphasized that at some point the property will be developed.

Vice Mayor Malone addressed the West Point High School traffic issues and improvements that the City is making there and explained that staff was listening to residents concerns about general school access and traffic. The citizen who raised the question agreed that there were improvements to the West Point High School access.

A citizen expressed concern due to the added traffic for Fairway when making a left hand turn when driving north, unable to clearly see the traffic heading south.

Mr. Yancey noted that this concern appeared to pertain to an existing condition at the intersection.

Vice Mayor Malone asked if there would be a deceleration lane on Van Buren.

Mr. Yancey explained that similar to Fairway Drive, the traffic analysis showed that a deceleration lane would not be necessary on Van Buren Street and that other uses along Van Buren did not have right-turn deceleration lanes.

Vice Mayor asked about the trees that are being planted along the southern border and whether they would impact adjacent neighbors' yards.

Mr. Richardson explained that the tree planting in that location was intended to provide screening to the neighboring residences, but that the development team would look at proximity to neighbors' yards. He also noted there is approximately 15' between the garage buildings on the southern side of the property and the property boundary.

A citizen asked if the wall on the plan was the existing block wall on-site.

Mr. Richardson explained that yes, the existing wall is what is shown within the presentation.

Vice Mayor Malone asked what type of commercial would be allowed under the current zoning of the property?

Mr. Yancey explained that the commercial uses allowed under the existing PAD amendment included a variety of uses such as retail, medical office, and professional office. In addition, an assisted living facility is permitted under the current entitlements.

A citizen asked why Avondale needed more multifamily housing.

Mr. Richardson explained that job growth in Avondale was driving a need for more housing – especially luxury-style multi-family units. Mr. Yancey and Mr. Richardson explained the market need for this type of housing as well as the idea that this would supplement the existing housing serving new employment uses in Avondale.

A citizen asked if a grocery store could be developed on site.

Mr. Richardson explained that retail often follows rooftops. He explained that traffic generated from a commercial development would be more significant than the proposed Project's traffic. Mr. Yancey also noted that the site has remained vacant under its current zoning.

The meeting ended at 7:20 pm.

Ann Dolmage

From: Jack Gunnette [REDACTED]
Sent: Friday, May 13, 2022 12:12 PM
To: Ann Dolmage
Subject: Rezoning and amendments to property site W Van Buren and Fairway Drive

This Message Is From an External Sender

This message came from outside your organization.

My name is Jack Gunnette and I own a home in Coldwater Springs on W Monroe St. I am not in favor of changing the zoning designation from single- family residential to Multi-family residential.

Our community is growing too fast. With the development of Avari apartments at 354 units on Avondale Blvd. and the prospect of another 286 units we will have added an additional 640 new units to our community. If this new development is approved we will have, at the least, added 960 more people and cars to the already congested streets, This is figuring 1 1/2 people and auto per unit.

With the opening of the new on and off ramps of I 10 at Fairway Drive and the new prep school on the corner of Fairway Drive and W Van Buren even more congestion will happen and I see nothing in the planning that will alleviate this problem. Fairway drive is the shortest way for many of us to enter and leave our homes and it has become more congested.

Other considerations to consider with more people moving into our area is the possible water shortages we may face in the not too distant future.

Thank you for allowing me to voice my concerns.

Jack Gunnette

Ann Dolmage

From: Art Moreno [REDACTED]
Sent: Wednesday, June 29, 2022 8:14 PM
To: Ann Dolmage
Cc: Eric Fitzer
Subject: development project

Ms Dolmage,

My name is Arturo Moreno, I been a resident of The city of Avondale for nearly Eight years and hopefully this will be my last place of residence, I actually moved from the City of Phoenix because I saw in Avondale a better place to live. During this short time I seen the changes in this city being traffic a major issue and like many other places as the city grows traffic comes with it.

The upcoming project that you have to take place on Fairway Drive and Van Buren Seems illogical to the way the city has been doing the planning all along, if not crazy. We already have Legacy Traditional Charter School on one corner with a High School being build on the other and now you are bringing apartments on the other corner of the street, can you imagine the traffic at 7:30AM or 3:00PM on weekdays??? This area is going to be chaotic!!!

What are we really trying to do???

Is that the only possibility for those lots???

I can see bringing revenue to the City but planning has to play a roll too. I just hope you reconsider the options and don't turn this area into another chaos intersection because of lack of planning.

Best Regards
Arturo Moreno

Sent from my iPhone

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:52 PM
To: Ann Dolmage
Subject: Fwd: Apartments on Fairway at Van Buren

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 12:46:07 PM MST
To: Paul Darling <[REDACTED]>
Subject: Re: Apartments on Fairway at Van Buren

Hi Paul

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Aug 2, 2022, at 5:46 PM, Paul Darling <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

Dear Mr. Pineda, thank you for taking time to read this. My wife and I have lived here in Coldwater for 10 years, and hope to live here indefinitely. It's been a

beautiful neighborhood, although we were disappointed when our biking/walking trail access at the west end of CWS Blvd was walled off.

We feel that a multi-story apartment building right at the entrance to our beautiful neighborhood will change the character of the area in a less than desirable fashion. I certainly would not want to be a homeowner right at the edge of the property, now in the shadow of an apartment building. And obviously there will be a traffic impact, more congestion, traffic delays, more noise, pollution, etc. It leads me to wonder why the zoning is being changed, since the appeal of the neighborhood was in the residential single-family zoning. It seems to me a betrayal of the people who trusted that initial zoning. And it's very difficult to envision parking for hundreds of vehicles in that limited space.

I hope someone will stand up to the flood of money and lawyers who care nothing about our neighborhood, and less than nothing about the residents who will be impacted by the change for many many years. Sincerely, Paul and Annette Darling,

[REDACTED] Avondale. 62 [REDACTED]

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:52 PM
To: Ann Dolmage
Subject: Fwd: Requested Input

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 12:48:35 PM MST
To: D RUIZ [REDACTED]
Subject: Re: Requested Input

Hi Debra

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

Sent from my iPhone

On Aug 2, 2022, at 2:00 PM, D RUIZ [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

Mike,

I am a homeowner in Coldwater Springs and I understand that you are looking for feedback on the possibility of a new apartment complex on the west side of Fairway drive and Van Buren. I believe this would be a great mistake for our community. It is already bad with the new school opening and can't even imagine the traffic jams that come with that.

If there is a way that you can help in not seeing this come to reality for it would be a God sent to this whole community.

Sincerely,
Debra Ruiz

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:52 PM
To: Ann Dolmage
Subject: Fwd: Apartment proposal

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 12:53:50 PM MST
To: Cathy Hlousek [REDACTED]
Subject: Re: Apartment proposal

Good afternoon Cathy

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Aug 1, 2022, at 10:23 PM, Cathy Hlousek [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

My name is Cathy Hlousek and I live in Coldwater Springs. I want to voice my opinion on the apartments being proposed for the Southwest corner of Fairway and Van Buren. We built our home here 20 yrs ago, so we have seen a lot of growth. We had enough

congestion when Legacy was built. That finally got better when the road was widened and the exit was added. Now we have a High School on the Southeast corner and it is already causing more traffic problems! Now you want to put more apartments there. I think it irresponsible to add more traffic congestion especially since there is the new fire station just west of here. What happens when fire truck gets a call and is stuck in traffic because there is no way for them to get through. Please reconsider that proposal. My husband and myself are completely opposed to it.
Thank you for your time. I look forward to your response.

Cathy Jim Hlousek

[REDACTED]

623 [REDACTED]

Sent from Yahoo Mail on Android

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:52 PM
To: Ann Dolmage
Subject: Fwd: Apartment Complex - Fairway and Van Buren

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 12:59:40 PM MST
To: Andrea Sesma <[REDACTED]>
Subject: Re: Apartment Complex - Fairway and Van Buren

Good afternoon Andrea,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

As for a grocery store, the council is aware of the desire to provide an additional grocery option nearby. As we have developed Avondale blvd and van Buren, just no there are plans to bring a boutique option or large store with amenities to the area. Site selectors look at feasibility studies to determine if it would be possible to come into town. With the addition of the multi family homes on Avondale blvd this is providing the rooftops required to develop sooner than later. I look forward to being able to announce a grocer coming soon!

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Aug 1, 2022, at 9:45 PM, Andrea Sesma <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

Hi Mike,

I live off Fairway and Van Buren and if we are having more people move into the community we will definitely need another supermarket in the area.

There are no supermarkets on Van Buren from 35th Ave to Dysart and Van Buren Road. Just a thought to think about as more and more people move into the neighborhood.

Thank you,

Andrea Sesma

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:53 PM
To: Ann Dolmage
Subject: Fwd: Development on property on Van Buren/Fairway Drive (South West side)

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:00:57 PM MST
To: Bennett Lewis [REDACTED]
Subject: Re: Development on property on Van Buren/Fairway Drive (South West side)

Good afternoon Bennett,

Thank you for your email. I appreciate the feedback regarding the proposed project. As I mentioned at the meeting, I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Aug 1, 2022, at 5:39 PM, Bennett Lewis [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

Due to the two schools and the exit ramp onto Fairway drive from the freeway, and now the additional development of his property; way to much congestion for this area.

I would be against more apartments, as we also have way too many in this area now. I would be in favor of the developer making this property residential homes or townhomes.

Thank you for coming to the Coldwater HOA meeting.

Bennett Lewis

[REDACTED]

Avondale, AZ 85323

480-

Email [REDACTED]

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:53 PM
To: Ann Dolmage
Subject: Fwd: Proposed Fairway & Van Burin proj.

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:01:51 PM MST
To: [REDACTED]
Subject: Re: Proposed Fairway & Van Burin proj.

Good afternoon Lee,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Aug 1, 2022, at 3:21 PM, [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

Thanks for coming to our CWS HOA. I hope the developer who is planning that development on the S.W. crn. of Van Buren and Fairway Dr. Relizes the tremendous traffic problem it will create? You should see the traffic jam

the charter school creates and the prepschool will create when it opens. As far as I can see, you have only one access point and that is on Van Buren west of Fairway. I cant see it and dont have a solution to fix the problem. If this projects goes thru, in my opinion will create many traffic problems.

Regards, Lee Balicki.....CWS resident. .

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:53 PM
To: Ann Dolmage
Subject: Fwd: Development at Fairway n Van Buren

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:03:40 PM MST
To: missy holcomb [REDACTED]
Subject: Re: Development at Fairway n Van Buren

Good afternoon Missy,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me. I am sure with your experience that homeowners on the other side may experience the same issues.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Aug 1, 2022, at 10:50 AM, missy holcomb [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

I personally feel more research needs completed. The new high school is just opening and prior to that there always issues when the elementary school dismisses as parents

park in no peaking areas to pick up kids along fairway and other entrances to fairway. The intersection has it's issues and adding more traffic is only going to worsen that intersection.

Also, we have so many issues with the Coldwater springs apartments behind us. Some items are disrespectful landscapers blowing debris into our yard and never resolved as long as we lived here , noise and disrespectful residents throw garbage over the back wall.

Also need to take in consideration the traffic that goes through our community when 10 is closed and when events are going on, such as NASCAR.

We have lived in the community for some time and are concerned about traffic and safety due to the increased traffic.

Honestly, I would not wish anyone else have to deal with issues due to being behind an apartment complex. The apartment complex doesn't do anything about complaints and the hoa can't help because they no longer own the land.

Thank you.

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:53 PM
To: Ann Dolmage
Subject: Fwd: Application #PL-22-0068 - Rezone request.

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 2:23:47 PM MST
To: j holman [REDACTED]
Subject: Re: Application #PL-22-0068 - Rezone request.

Good afternoon Rick/Joanne,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

In terms of water, they would be pulling from the system just as any other customer. Obviously much more than a single residential home. However capacity is present for this or any other development. There are sustainability efforts to minimize the impact which are currently being addressed via a plan from staff.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 31, 2022, at 4:24 PM, j holman [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

Mr. Pineda: Thank you for attending the Coldwater Springs HOA meeting, Thursday, 7/28. It was greatly appreciated and informative.

My husband and I live within 4 blocks of VanBuren, just south of the Coldwater Springs Apartment complex, so we have already experienced the traffic congestion, the illegally parked cars while persons wait for school dismissal, and the road rage that occurs at the intersection of VanBuren and Fairway Drive. When the proposal for a 286 unit apartment complex was brought to our attention we felt we needed to get involved since Highland Prep West was unceremoniously thrust onto our area without much public input.

On review of the plat proposal there IS an entrance/exit onto Fairway as well as VanBuren. The Fairway exit/entrance will be problematic as it will compete for the the middle turn lane with vehicles entering/exiting from the Highland Prep West campus.

The exit/entrance onto VanBuren conflicts with students crossing at VanBuren and Fairway Drive at school start and dismissal times. This does not take into consideration the 500 students planning to attend the Highland Prep West campus.

A right-hand turn lane from eastbound VanBuren onto southbound Fairway Drive would be needed to lessen the impact on traffic continuing to travel east on VanBuren. In addition, a right-hand turn lane on northbound Fairway Drive onto eastbound VanBuren would be required to ease the backup that would occur on Fairway Drive.

Lastly, where will the water to support this complex come from? I don't believe we have surplus water supplies. This would need to be addressed in the proposal.

We already deal with the Coldwater Springs apartment complexes and wonder what their current occupancy rate is. We believe a smaller project, with appropriate traffic improvements, where ownership is attainable, is something we could support, but not another strip mall.

Thank you for presenting our concerns and thoughts to the council.

Rick & Joanne Holman
Homeowners in Coldwater Springs

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:54 PM
To: Ann Dolmage
Subject: Fwd: NW corner Fairway

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 2:14:13 PM MST
To: [REDACTED]
Subject: Re: NW corner Fairway

Good afternoon Eileen,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 31, 2022, at 3:18 PM, [REDACTED] wrote:

Mike I would like to express my disapproval for apartments on the NW corner on Fairway. I have lived here in Coldwater for 20 years. The congestion on fairway with the two schools is too much already.

Eileen

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:54 PM
To: Ann Dolmage
Subject: Fwd: Development on the Southwest corner of Van Buren and Fairway

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 2:13:06 PM MST
To: GLENN FALLER <[REDACTED]>
Subject: Re: Development on the Southwest corner of Van Buren and Fairway

Good afternoon Glenn,

Thank you for your email. I appreciate the feedback regarding the proposed project. I too have been here since 2001 and love this community. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 31, 2022, at 8:01 AM, GLENN FALLER <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

Mr. Pineda:

My concern is traffic flow on and off Fairway onto van Buren.

Before the new I-10 access ramps were constructed, Fairway was used as a cut through to avoid possible Avondale Blvd. and Van Buren. But now, with a Charter School in operation, and another opening in the Fall, someone should have thought about incorporating a right turn lane from Fairway North, to Van Buren East.

If there is to be a new development on the Southwest corner, they very well will need a right turn lane from Van Buren East to Fairway South

We have been residents of Coldwater Springs since 2002, and the Van Buren/Fairway intersection is being overwhelmed

Thank you.

Glenn & Mocha Faller

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:54 PM
To: Ann Dolmage
Subject: Fwd: Apartment build idea West Fairway x Van Buren

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:53:43 PM MST
To: John Jeffrey Fabrigas [REDACTED]
Subject: Re: Apartment build idea West Fairway x Van Buren

Good afternoon John

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 30, 2022, at 3:52 PM, John Jeffrey Fabrigas [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

I am in Coldwater Springs and my opinion about this is I do not like the idea of building there. It is going to be so busy there and me and my family won't like that. Thank you.

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:54 PM
To: Ann Dolmage
Subject: Fwd: Apartment building

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:52:26 PM MST
To: Michele Johns <[REDACTED]>
Subject: Re: Apartment building

Good afternoon Michele,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 30, 2022, at 10:22 AM, Michele Johns <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

Hi Mike,

I don't mind having an apartment building there but I would rather see a school or a reputable business go in there. Having a apartment building go in only brings crime, trash, and unwanted traffic into the neighborhood.

Thank you

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:55 PM
To: Ann Dolmage
Subject: Fwd: Apartment complex Fairway and Van buren

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:51:36 PM MST
To: Linda Lattanzio <[REDACTED]>
Subject: Re: Apartment complex Fairway and Van buren

Good afternoon Linda

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 30, 2022, at 8:39 AM, Linda Lattanzio <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

Hello Mr Pineda ,

I am a resident of Coldwater Spring and have lived here since 2015.

I am very concerned about the new development on Fairway and Van Buren, I have been unable to make the community meetings due to work and have not been able to voice my concerns . The traffic itself is going to be awful and with the new school that has challenges of its own for us that live here, its going to be an even bigger challenge for us if that apartment building goes up , as there is only 3 ways out of our community, Fairway Blvd, Coldwater Springs Blvd and West Maricopa street winding through misc streets in the community behind us.

The height of these apartments are going to be awful for the residents that live on the south side of that property and in our community in general this building is going to over power this community visually and be a complete eye sore and who ever thought this was a good idea definitely dose not live anywhere close to this development and I sure would like to have a conversation with him or her.

I understand growth in our community is essential and that's not what I am challenging here but the chose to put a high rise apartment building literally at the entrance of Coldwater Springs is an awful decision and the developer and city planner has had absolutely no concerned or regard for the 2000+ residents that live here and pay taxes. If these apartments do go up I will proably be renting my home out and move on from this area and I do believe there are several other residents that feel the same.

I Appreciate your time on this matter and please feel free to reach out to me anytime. I do hope we can put a stop to this devolpment.

Thank you ,
Linda Lattanzio

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:55 PM
To: Ann Dolmage
Subject: Fwd: Coldwater Springs new development

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:49:50 PM MST
To: S Gillen [REDACTED]
Subject: Re: Coldwater Springs new development

Good afternoon,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me. A small park would be a great idea. However, considering the developer purchased the property for return on investment a park would not provide sufficient return for them which I understand. Therefore it will be developed with something other than an amenity for use.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 30, 2022, at 8:35 AM, S Gillen <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

Mike,

We wanted to share our thoughts on the proposed new development on the west side of Fairways and Van Buren. We live at [REDACTED]

Our feelings are that the intersection is already overly congested, what with the new school on the east side and more and more development across the street. Just feels like we are losing the new small town feeling and selling out to expansion. While the schools are needed, we were surprised that a right turn lane was not added at the light. Once the school is in session and normal daily traffic ramps up, it will take almost 5 minutes to exit coldwater.

Just so we are not just complaining, how about making the space into a park, people could walk a loop, or walk their dog or just sit and watch the traffic on Van Buren.

Just our two cents.

Thanks for listening.

The Gillens

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:55 PM
To: Ann Dolmage
Subject: Fwd: New Development at Van Buren and Fairway cross roads.

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:45:44 PM MST
To: Mike H [REDACTED]
Subject: Re: New Development at Van Buren and Fairway cross roads.

Good afternoon Michael,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 30, 2022, at 8:06 AM, Mike H [REDACTED] wrote:

This Message Is From an External Sender

This message came from outside your organization.

Hello Counselman Pineda,

Like you, I am a resident of Coldwater Springs HOA. I live behind the already established Apartment complex called Coldwater Apartments. I find the noise often to loud and unbearable especially early in the morning and in the late over night hours. Now finding litter in my yard and other annoyances is just the tip of my concerns.

The biggest issues are traffic control, with the new high school already being built and add another apartment complex, the already hazardous cross streets of Van Buren and Fairway will become even worse. The already existing school, the elementary at the the NW corner creates havoc when it's students get released, unlike the proper way to pick up students , parents wait on fairway and the side streets Adams and others blocking entry to our circle we live in and causing congestion through out the area on Fairway dr. The already aggressive driving behavior on Fairway dr gets dramatically worse during this time as well. Lots of accidents happen any time of day at the intersection and now there is an additional school and then adding another apartment complex to the already overly hazardous intersection would bring about our worst case dreams, a child getting hit and killed. Certainly glad the new Fire Dept building was built because that intersection and small stretch of Fairway dr is going to need all the fast response it can get. Also when the 10 is closed for repairs, Van Buren becomes a via way for that traffic that is being detoured, those weekends are hard enough to navigate without more traffic being added to the scenario.

Please do not let our children and families become a statistic of vehicular homicide all in the name of tax revenue and municipal fees.

You have a chance to stop an already overly dangerous intersection from becoming a death trap. You can be our voice with City Council and prevent a very bad decision being made. At the least gather a few years of data with the new high school being included to see the increase of use and accidents at that intersection and along Fairway Dr.

Concerned member of Coldwater Springs HOA and Proud citizen of Avondale Arizona.

Best regards,
Michael Holcomb



Ps: I am sure my wife will be emailing you her opinions as well about this matter.

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:55 PM
To: Ann Dolmage
Subject: Fwd: Development near Coldwater Springs.

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:11:25 PM MST
To: Denise Page [REDACTED]
Subject: Re: Development near Coldwater Springs.

Good afternoon Denise,

Thanks for investing in our community!

I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 29, 2022, at 4:50 PM, Denise Page <[REDACTED]> wrote:

Hi Mike,

We're responding to the email today from our HOA about the apartment development near our property at [REDACTED] Avondale.

We are grateful that you are representing us.

We have owned our property since it was built in 2003. We have a Property Management company, United Metro, who ensure that we have the best tenants and keep the inside and outside in top condition. In fact we did a complete internal upgrade in April/May this year, between tenants.

We visit the area and are happy with the high standards of our community. We want to see those upheld and are concerned if this development is going to affect our community negatively.

Please accept our support for you representing us.

Terry and Denise Page.

Sent from my iPhone

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:55 PM
To: Ann Dolmage
Subject: Fwd: New apartments

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:09:27 PM MST
To: CHARLES GORE [REDACTED]
Subject: Re: New apartments

Good afternoon Charles

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 29, 2022, at 4:36 PM, CHARLES GORE [REDACTED] wrote:

Mike

I have lived in Coldwater Springs for 20 years. Over the last few years with the addition of the two complexes the infrastructure has suffered, lines at grocery stores, gas stations, restaurants, ect have continued to get worse, and now with the addition of the huge complex at I10 and Avondale I fear lines and traffic will become unbearable. The proposed complex will only add to the problem as well as cause traffic problems and

dangers to the two schools on opposite corners. I really think it's going to be bad for the community even though it will bring revenue to the city.

Sent from my iPhone

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:56 PM
To: Ann Dolmage
Subject: Fwd: Apartment Complex

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:08:47 PM MST
To: Bishop Anthony Holt <[REDACTED]>
Subject: Re: Apartment Complex

Good afternoon Anthony,

Thank you for your email. I appreciate the feedback regarding the proposed project. I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well. Feel free to contact me in regards to discussing other issues!

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 29, 2022, at 4:31 PM, Bishop Anthony Holt <[REDACTED]>
wrote:

This Message Is From an External Sender

This message came from outside your organization.

Good afternoon,

Aaron a long time Avondale resident I am exhausted with the need for more when our natural resources are running low and the beauty of our landscape is being over run with concrete and buildings that most cannot afford. Every inch of open space does not need to be closed in or surrounded by another resources sucking building. Where's the water coming from? What about the noise, carbon footprint and a host of other things that come to mind.

I'd love to further discuss this with you and the community.

Thank you

Ann Dolmage

From: Mike Pineda
Sent: Thursday, August 11, 2022 1:56 PM
To: Ann Dolmage
Subject: Fwd: Proposed Apartments

Sent from my iPhone

Begin forwarded message:

From: Mike Pineda <mpineda@avondaleaz.gov>
Date: August 3, 2022 at 1:07:14 PM MST
To: Sam Niko <[REDACTED]>
Subject: Re: Proposed Apartments

Good afternoon Sam

Thank you for your email. I appreciate the feedback regarding the proposed project. As I mentioned during the meeting, I have a meeting scheduled with the developer next week and I will share it with them.

Ultimately the decision rests with the mayor and council. Feedback such as yours will be provided to them as well to demonstrate resident concern.

My goal is to provide a voice to the community that I represent as I vote for you not me.

I plan on providing a debrief to the hoa board on 8/25. I'm sure they will provide an update to you as well.

Again, thank you for your feedback!

Councilmember
Mike Pineda

Sent from my iPhone

On Jul 28, 2022, at 9:35 PM, Sam Niko <[REDACTED]> wrote:

This Message Is From an External Sender

This message came from outside your organization.

I want to thank you for coming to tonight's HOA meeting. The information you provided was very helpful.

Our biggest concerns for any development on the SW corner of Van Buren and Fairway is the traffic and potential crime.

As for my wife and myself, I think of the 3 options you mentioned, I believe that the Townhouse option would be the best choice for that location.

I think that there would be less chance of crime if there were townhomes versus apartments.

Thank you again,

Sam Niko

[REDACTED], Avondale, AZ 85323

602-[REDACTED]



CERTIFICATE OF ADEQUATE SCHOOL FACILITIES

An application for Rezoning has been submitted to the City of Avondale, Development & Engineering Services Department, for review.

Project: Fairway Residences Project Manager: Carolyn Oberholtzer
Request: Major PAD Amendment / Site Plan and Design Review Acreage/Parcel Size: 14.17 acres
Current Density Allowed: 192 age restricted units Density Proposed: 20.04 du/ac
Total number of residential units proposed: 286

As an authorized representative of the District, please complete the questionnaire below.

Does the District have adequate capacity to accommodate the estimated enrollment from the proposed development?

Yes ☐ No ☒

If answered no, please summarize the needs of the district as they relate to serving the students generated by the proposed development.

The one-time capital cost to adding estimated students is \$1.38 M for approximate 3.2 classrooms with an ongoing operational cost to adding estimated students of \$245K per year.

Is a school site within the proposed development needed?

Yes ☐ No ☒

If answered yes, how many acres is needed for the school site?

Is the district currently working with the developer to provide or help meet the needs identified above through a developer assistance or impact agreement? Yes ☐ No ☒

If answered yes, please explain below:

*****If additional writing space is needed, please attach pages to this form*****

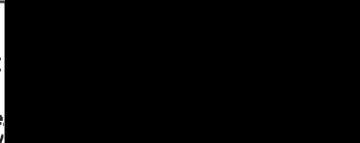
Date Reviewed: 4/20/2022

School District: Littleton Elementary School District

District Superintendent: Dr. Roger Freeman

Phone #: (623) 478-5611

E-mail: freeman.roger@littletonaz.org

Signature: 

It is the developer's responsibility to ensure this form is completed by an authorized representative of the District noted above and returned to the Development & Engineering Services Department prior to the scheduling of any City Council meetings

Development & Engineering Services Department
11465 W. Civic Center Drive, #110, Avondale, AZ 85323 • Phone (623) 333-4000 • Fax (623) 333-0400 • TDD (623) 333-0010
www.avondale.org/developmentservices

Ann Dolmage

From: Sandy Toothaker [REDACTED]
Sent: Thursday, August 25, 2022 9:28 AM
To: Jodie Novak
Subject: Proposed apartment complex

This Message Is From an External Sender

This message came from outside your organization.

Good morning, Ms. Novak,
I wanted to reach out to provide you with feedback on the proposed apartment complex on the southwest corner of Van Buren and Fairway.

As you're aware, Highland Preparatory recently opened and has created a concern with traffic and safety. With that said, I don't feel like it would be a good idea to add an apartment complex at the same intersection without addressing the current situation.

Thank you for your time and consideration.

Thank you for your consideration.

Sandy Toothaker
Coldwater Springs resident
[REDACTED]

From: [Marcella Carrillo](#)
To: [Avondale](#)
Subject: Fairway and Van Buren apartments
Date: Tuesday, August 30, 2022 2:30:08 PM

From: Monica Felix <[REDACTED]>
Sent: Monday, August 29, 2022 2:01:16 PM
To: Kenneth Weise <kweise@avondaleaz.gov>
Subject: Fairway and Van Buren apartments

This Message Is From an External Sender
This message came from outside your organization.

I'm writing to voice my opposition to the proposed apartments on Fairway and VanBuren near the Coldwater Springs subdivision. We have not received any correspondence from the developer about these apartments.

Adding apartments to that area will bring so many more people to an already crowded intersection. We would like to suggest townhomes or condominiums that people can purchase instead of apartments.

Thank you,

Monica Felix

Coldwater Springs Homeowner

[REDACTED]

Marcella Carrillo

From: Kenneth Weise
Sent: Monday, August 29, 2022 4:13 PM
To: Katrece Swenson
Subject: Fwd: Opposition to the Proposed Apartments on Fairway & VanBuren

Another one

Get [Outlook for Android](#)

From: Megan McHenry <[REDACTED]>
Sent: Monday, August 29, 2022 3:47:13 PM
To: Kenneth Weise <kweise@avondaleaz.gov>
Subject: Opposition to the Proposed Apartments on Fairway & VanBuren

This Message Is From an External Sender

This message came from outside your organization.

Hi Mr. Mayor,

I'm writing to voice my opposition to the proposed apartments on Fairway and VanBuren near the Coldwater Springs subdivision.

Adding apartments to that area will bring so many more people to an already crowded intersection. I would like to suggest townhomes or condominiums that people can purchase instead of apartments for rent.

During the council meeting last week (I attended online), the woman representing the developer said that anything else built on that land will bring just as much or more traffic. I completely disagree with her statement.

I'm not only considering the increased traffic but the increase in how many people are living in one small area. If houses or townhomes went there, it would be much less densely populated. If businesses or a community center went in there, the increase in 'population' would be temporary and only during business hours. With adding 286 apartments, that would mean a *permanent* population increase of 700+ people! Possibly even more than that since rent prices are ridiculously expensive and several families are now living in one space.

At the very least, I'm asking that the entrance/exit onto Fairway not be allowed. Adding an exit onto Fairway is a disaster waiting to happen.

I don't think that putting apartments on that corner is the right move for Avondale. Our infrastructure is already struggling to keep up with the current population. We love the space - not every open space has to be built up. Thank you for speaking up for our neighborhood.

Separately, southbound Fairway Drive needs a lane dedicated to right turns at VanBuren with or without the addition of apartments.

Thank you for your time,
Megan McHenry
CWS Resident since 2017

[REDACTED]

Avondale, AZ 85323



ORDINANCE NO. 2049-0822

AN ORDINANCE OF THE COUNCIL OF THE CITY OF AVONDALE, ARIZONA, AMENDING THE OFFICIAL ZONING ATLAS OF THE CITY OF AVONDALE FOR APPROXIMATELY 15.75 ACRES GENERALLY LOCATED AT THE SOUTHWEST CORNER OF VAN BUREN STREET AND FAIRWAY DRIVE, AS SHOWN IN APPLICATION PL-22-0068, AND REZONING SUCH PROPERTY FROM URBAN RESIDENTIAL (R1-6) TO FAIRWAY RESIDENCES PLANNED AREA DEVELOPMENT (PAD).

WHEREAS, the Council of the City of Avondale (the “City Council”) desires to amend the City of Avondale Zoning Atlas (the “Zoning Atlas”), pursuant to ARIZ. REV. STAT. § 9-462.04, to change the zoning description for $\pm$ 15.75 acres generally located at the southwest corner of Van Buren Street and Fairway Drive, as shown in application PL-22-0068, from Urban Residential (R1-6) to Fairway Residences Planned Area Development (PAD) (the “Zoning Atlas Amendment”); and

WHEREAS, all due and proper notices of the public hearings on the Zoning Atlas Amendment held by the City of Avondale Planning Commission (the “Commission”) and by the City Council were given in the time, form and substance provided by ARIZ. REV. STAT. § 9-462.04; and

WHEREAS, on July 20, 2022, the Commission held a public hearing on the Zoning Atlas Amendment, after which hearing the Commission recommended approval; and

WHEREAS, the City Council held an additional public hearing regarding the Zoning Atlas Amendment on August 22, 2022; and

WHEREAS, in accordance with Article II, Sections 1 and 2 of the Arizona Constitution, the City Council has considered the individual property rights and personal liberties of the residents of the City before adopting this Ordinance; and

WHEREAS, the City Council has considered the probable impact of the Zoning Atlas Amendment on the cost to construct housing for sale or rent and finds that the proposed Zoning Atlas Amendment will have no probable impact on the cost to construct housing for sale or rent.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF AVONDALE as follows:

SECTION 1. The recitals above are hereby incorporated as if fully set forth herein.

SECTION 2. The Zoning Atlas Amendment, is hereby approved, for $\pm$ 15.75 acres generally located at the northeast corner of Van Buren Street and 119th Avenue, as more particularly described and depicted on Exhibit A attached hereto and incorporated herein by reference, subject to the City of Avondale adopted codes, requirements, standards and regulations, and the following stipulations:

1. Development shall substantially conform to the Fairway Residences PAD Narrative electronically date stamped June 14, 2022, except as modified by these conditions.

2. Power lines less than 69 kV adjacent to the property shall be converted underground in the first phase of development.

3. Prior to issuance of any construction permits for the project, a Re-Plat shall be approved and recorded to combine the two parcels to be developed and to modify the boundaries of the City well site.

4. All off-site improvements shall be completed in the first phase of development.

5. Grandfathered groundwater rights for the property must be extinguished and pledged to the City of Avondale's designated account (26-002003.0000) prior to issuance of any construction permits for any portion of the project.

6. The development shall be designed and constructed in accordance with the City of Avondale General Engineering Requirements (GER) Manual and the City of Avondale Supplement to MAG Uniform Specifications and Details unless a standards deviation has been approved.

SECTION 3. If any provision of this Ordinance is for any reason held by any court of competent jurisdiction to be unenforceable, such provision or portion hereof shall be deemed separate, distinct and independent of all other provisions and such holding shall not affect the validity of the remaining portions of this Ordinance.

SECTION 4. The Mayor, the City Manager, the City Clerk and the City Attorney are hereby authorized and directed to execute all documents and take all steps necessary to carry out the purpose and intent of this Ordinance.

[SIGNATURES ON FOLLOWING PAGE]

PASSED AND ADOPTED by the Council of the City of Avondale, Arizona,
September 6, 2022.

Kenneth N. Weise, Mayor

ATTEST:

Marcella Carrillo, City Clerk

APPROVED:

Nicholle Harris, City Attorney

EXHIBIT A
TO
ORDINANCE NO. 2049-0822

[Legal Description and Map]

See following pages.



**Legal Description
Ascent Avondale
Zoning Boundary**

Job No. 21-1147

March 14, 2022

A portion of the Northeast quarter of Section 11, Township 1 North, Range 2 West of the Gila and Salt River Meridian, Maricopa County, Arizona, more particularly described as follows:

BEGINNING at a brass cap in hand hole at the Northeast corner of said Section 11, from which a brass cap flush at the North quarter corner of said Section 11 bears North 88 degrees 22 minutes 22 seconds West (Basis of Bearing), 2638.88 feet;

thence along the east line of said Northeast quarter, South 0 degrees 07 minutes 25 seconds East, 613.83 feet;

thence South 89 degrees 57 minutes 52 seconds West, 659.61 feet;

thence North 88 degrees 52 minutes 00 seconds West, 704.96 feet;

thence North 0 degrees 24 minutes 29 seconds East, 248.82 feet;

thence South 88 degrees 22 minutes 22 seconds East, 349.68 feet;

thence North 1 degrees 37 minutes 26 seconds East, 390.00 feet, to the North line of said Northeast quarter;

thence along said North line of the Northeast quarter, South 88 degrees 22 minutes 22 seconds East, 148.26 feet;

thence departing said North line of the Northeast quarter, South 0 degrees 07 minutes 03 seconds East, 172.08 feet;

thence South 88 degrees 22 minutes 22 seconds East, 193.03 feet;

thence North 0 degrees 07 minutes 03 seconds West, 172.08 feet, to said North line of the Northeast quarter;

thence along said North line of the Northeast quarter, South 88 degrees 22 minutes 22 seconds East, 659.85 feet to the POINT OF BEGINNING.



Said overall portion of land contains 686,380 square feet or 15.7571 acres, more or less, and being subject to any easements, restrictions, and/or rights-of-ways of record or otherwise.

This description shown hereon is not to be used to violate subdivision regulations of the state, county, and/or municipality or any other land division restrictions.

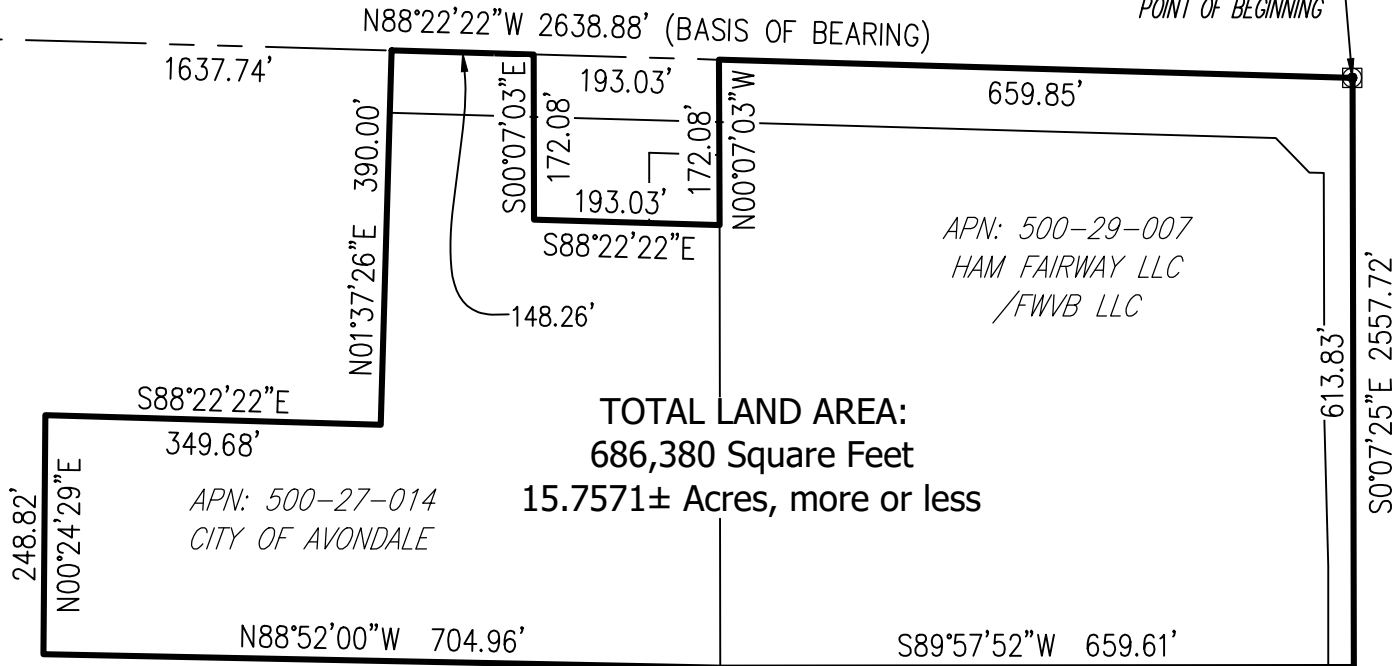
This legal description does not reflect a field survey by EPS Group and/or this Surveyor. This legal description is based solely on the ALTA/NSPS Land Title Survey as prepared by Alliance Land surveying, dated 1-10-2022.



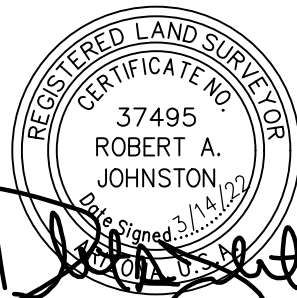
W VAN BUREN STREET (PUBLIC PAVED RD)

NORTH QUARTER CORNER
SECTION 11, T1N, R2W
FOUND BRASS CAP FLUSH

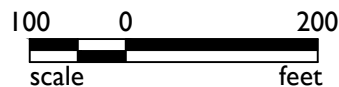
NORTHEAST CORNER
SECTION 11, T1N, R2W
FOUND BRASS CAP IN HAND HOLE
POINT OF BEGINNING



S FAIRWAY DRIVE
(PUBLIC PAVED RD)



EAST QUARTER CORNER
SECTION 11, T1N, R2W
FOUND BRASS CAP FLUSH



21-1147

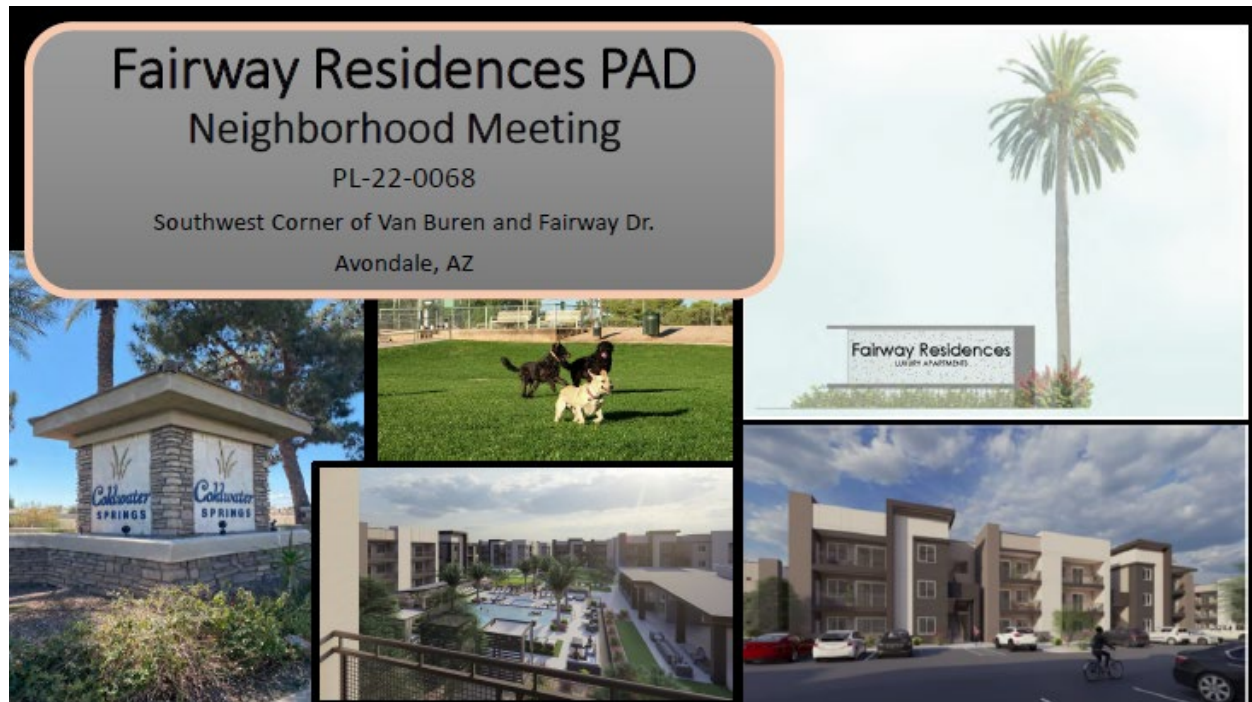
ZONING EXHIBIT

ASCENT AVONDALE



1130 N ALMA SCHOOL RD
Ste. 120 Mesa, AZ 85201
T: 480.503.2250 | F: 480.835.1799
www.epsgroupinc.com

Fairway Residences PAD
Summary of Coldwater Springs Neighborhood Meeting #2
August 29, 2022 at 5:00 pm
Case No. PL-22-0068



August 29, 2022, Coldwater Springs Neighborhood Meeting

Fairway Residences PAD

PL-22-0068

The virtual meeting opened to the public at 5:00 PM and the presentation began at 5:02 PM. Carolyn Oberholtzer introduced the Fairway Residences PAD at the southwest corner of Van Buren and Fairway Drive. Members of the Development Team and City Staff that attended the meeting are provided in Appendix A to this Summary. Approximately 30 residents attended.

Ms. Oberholtzer began the presentation with an aerial of the site highlighting notable points of interest in the site vicinity including the city-owned well site. Ms. Oberholtzer showed the City's General Plan map, pointing out the site location within a High-Density Residential Corridor. She explained that High-Density Residential permits between 12 to 30 units an acre and the proposed PAD intends to have only 20 an acre. She then showed a comparison of an Existing and Proposed Zoning Map, noting that the previously approved PAD for the site was commercial office for assisted living with a density of 28 units an acre. Ms. Oberholtzer showed the Conceptual Development Plan, highlighting the new PAD would be a gated multi-family community comprised of one, two, and three-bedroom units in two and three-story buildings. She noted the project would be mainly accessed from Van Buren with a resident-only entry on Fairway Drive that would be controlled with a remote fob.

Ms. Oberholtzer then covered the traffic study, comparing the previously approved commercial office and assisted living zoning with the proposed residential zoning. She explained that the study concluded that a commercial retail development would generate approximately 10,820 daily trips, 404 of those during AM Peak Hour and 974 during PM Peak, whereas the proposed use is projected to generate 1,869 daily trips, 111 during AM Peak Hour and 143 during PM Peak. She highlighted that traffic engineers and analysts have generally recognized that residential uses generate less traffic than commercial uses. Ms. Oberholtzer then showcased the Landscape Plan, with a description of the tree types to screen the project and used a line-of-sight exhibit to explain how setbacks and vegetation ensured the privacy of project neighbors.

Ms. Oberholtzer briefly covered the project building types, elevations, and 3D renderings, noting architectural features, perspectives, and resort-style amenities. Ms. Oberholtzer lastly explained an exhibit of the deceleration lane on Fairway Drive that would involve widening Fairway adjacent to the project. She added this lane was added in response to community feedback and was not required by the traffic study.

Ms. Oberholtzer and Mr. Brad Richardson of the Ascent Companies opened the meeting for questions. Many questions in the attached transcript can also be read here. Spoken questions are summarized here as well.

General:

A citizen asked what the rent range would be?

Mr. Richardson and Ms. Oberholtzer both explained that rent would likely be between mid-\$1700/month and \$2,500/month with the average rent around \$1,900/month. Residents would have to meet the income qualification which, which baseline is estimated to require approximately \$75,000/year. This would be higher than the city average household income of approximately \$62,500.

A citizen asked the development team to explain the low-income units.

Ms. Oberholtzer responded this was a market-rate project which would not contain low-income units.

A citizen asked what are the benefits and detriments to the Coldwater Springs?

Ms. Oberholtzer responded the development would buffer the residents on the north side of Coldwater Springs from the highly trafficked Van Buren. She added that residential is a relatively quiet land use and generates lower traffic counts. She explained there would be some growing pains, but any issues of this property are already well known and being addressed.

Mr. Richardson added this project would operate more like a condo community.

A citizen asked about if mature trees would be planted.

Ms. Oberholtzer explained the trees are fast growing and a screen would be established quickly. They will be planted at 24" box size. She utilized the exhibits to illustrate the tree size and location to the adjacent properties.

A citizen asked about a retention ditch along the west side of Fairway.

Mr. Richardson explained the project would preserve the retention area and add additional landscaping. Discussion followed about the ownership of the ditch and Mr. Richardson explained that he would be working with the HOA to take on the maintenance for the landscaping in the area.

A citizen asked what the average square footage would be?

Mr. Richardson responded the average would be about 1,000 square feet and have more of a condo feel than an apartment at this larger unit size. He explained that 40-45% of these units are 1-bedrooms which lowers the overall density and contributes to less traffic than units with more bedrooms would.

A citizen asked when construction would be complete.

Mr. Richardson explained about 20-24 months, or 2 years.

A citizen asked when construction would start.

Mr. Richardson responded probably March/April of 2023.

A citizen asked if the PowerPoint Presentation could be shared with the HOA Board.

Ms. Oberholtzer affirmed that it could.

Property:

A citizen asked why this property?

Ms. Oberholtzer responded that the area is designated for High-Density Residential, according to the City's General Plan, but much of it would not develop this way. She detailed the area had previously been designated for Urban Residential but has since transitioned away from this category. She explained the remaining stretch of High-Density Residential properties on Van Buren are located there likely due to the City's long-term vision of transitioning between employment uses on the north side of the street and residential uses on the south side. Due to this, the applicant's project aligns with city goals.

A citizen asked who currently owned the landscaped piece of land.

Mr. Richardson responded the strip of land between the proposed project and deceleration lane is owned by the project landowner and the landscaping is managed by Coldwater Springs. He explained how dialogue with the HOA had gone into building setback and additional landscaping to preserve the monument sign on the corner.

A citizen asked who owns the property.

Mr. Richardson responded there are two parcels, one owned by a local group and the other parcel, surrounding the fire station, is owned by the City. He explained the difficulties of developing the site and had been working with City staff and Planners for close to 15 months

already. The well site created additional challenges with locating the access point onto Van Buren. He added a priority was in mitigating impacts to traffic on Fairway Drive.

A citizen asked if this complex would belong to the Coldwater Springs HOA?

Both Ms. Oberholtzer and Mr. Richardson responded that the complex was separate from the Coldwater Springs HOA. Residents from the project would have their own internal amenities and should be excluded from using HOA amenities.

A citizen asked if a study had been done to identify if this project will impact property values?

Ms. Oberholtzer responded that she had done some research on Zillow and realtor website to compare sale prices for the portion of Coldwater Springs adjacent to the existing Coldwater Apartments on the east side of Fairway and found that there was no difference in closing prices when compared to those on the west side of Fairway. The project is likely to increase the surrounding property values.

A citizen asked what would happen if units could not be rented out.

Mr. Richardson explained that the project would adjust its pricing but typically this hasn't been a problem since previous developments have filled up by the time construction is completed due to market demand.

Traffic

General

A citizen asked what the exit plan is?

Ms. Oberholtzer explained that there would be a 'porkchop' constructed at the Van Buren access point, preventing left turns. It would allow for right out, right in, and left in turning movements but residents would have unrestricted turning abilities at the Fairway access point with a fob.

A citizen asked how the traffic study had been conducted?

Ms. Oberholtzer responded that CivTech had conducted the traffic study using a professional trip counter which can only be performed when schools are in session. Mr. Richardson added that the future high school traffic was also factored into the conclusion.

A citizen asked where the U-turn was supposed to take place?

Ms. Oberholtzer responded that u-turns may occur at the Van Buren and Fairway intersection.

A citizen asked if the traffic study was done before the freeway entrance onto Fairway.

Ms. Oberholtzer responded that it was performed after.

Fairway Drive

A citizen commented they were under the impression the Fairway Gate was accessible during limited time frames.

Ms. Oberholtzer responded that Fairway Gate would be remotely accessed by residents only. She explained if there would be potential to shut off the gate during certain hours if conflict arose with the school, however, it would be always accessible by emergency vehicles. She added that City staff would be working with the school to address queuing issues.

A citizen asked if the City or Developer would widen Fairway to two lanes?

Ms. Oberholtzer responded that Fairway is classified as a collector road and was not designed to have two lanes in each direction. However, if the southeast corner of Van Buren and Fairway develops, it is likely that there would be an opportunity for the addition of a northbound right turn lane. Widening the road south of the project would impact the existing homes.

A citizen asked about the Fairway Gate setback.

Ms. Oberholtzer explained the site plan was adjusted to accommodate more vehicles to prevent back up on Fairway Drive

A citizen commented that the Fairway Gate appears to conflict with the center median.

Ms. Oberholtzer used a graphic to demonstrate that the Fairway driveway would not conflict with the median and left turns would be possible.

Van Buren Signal

A citizen asked if a signal would be added on Van Buren for drivers wanting to go west?

Ms. Oberholtzer responded that a signal was not warranted by the traffic study and likely not an option because it would not meet city spacing requirements.

A citizen commented that without a light on Van Buren for residents to go west, project residents will use the signal on Fairway Drive.

Ms. Oberholtzer responded that residents will probably either exit onto Fairway and turn left at the signal or exit onto Van Buren and make a U-turn at the signal. Driving habits had likely already changed for residents in Coldwater Springs since the school opened and this would be the case for residents of the proposed project. The path of least resistance would likely mean that residents would not use Fairway Drive if it was backed up during pick up and drop off hours. She supported this with a figure from the traffic study that projected only 40 daily U-turns at the light on Van Buren. Mr. Richardson further explained the results of the traffic study analysis.

Final Notes:

Both Ms. Oberholtzer and Mr. Richardson added their contact information in the chat.

Numerous positive comments were received in the chat for a well-done presentation and were supportive of the project.

Councilmember Mike Pineda thanked everyone for attending and voicing their opinions and Ms. Oberholtzer and Mr. Richardson for providing the Coldwater Springs Community with an opportunity to be heard.

Vice Mayor Veronica Malone mentioned she could also be reached as well.

The meeting concluded at 6:27 PM.

Appendix A: List of Participants

Development Team	
Carolyn Oberholtzer	Bergin, Frakes, Smalley & Oberholtzer
Mitchell Willard	Bergin, Frakes, Smalley & Oberholtzer
Brad Richardson	Ascent Companies
Brian Nicolls	EPS Group
City Officials and Staff	
Veronica Malone	Avondale Vice Mayor
Mike Pineda	Avondale City Councilman
Jodie Novak	Avondale Acting Director of Development Services
Ann Dolmage	Avondale Senior Planner
Citizens	
38 members of the public attended	

**WAIVER OF CLAIMS FOR DIMINUTION OF VALUE
UNDER ARIZ. REV. STAT. §§ 12-1134 – 1136
BETWEEN THE
CITY OF AVONDALE
AND
HAM FAIRWAY, LLC AND
FWVB, LLC**

THIS WAIVER OF CLAIMS FOR DIMINUTION OF VALUE under ARIZ. REV. STAT. § 12-1134 - 1136 (this “Waiver”) is made September 6, 2022, between HAM FAIRWAY, LLC, an Arizona limited liability company and FWVB, LLC, and Arizona limited liability company (collectively, the “Owner”) and the City of Avondale, an Arizona municipal corporation (the “City”), regarding the approximately 8.06 acres of real property generally located at the southwest corner of Van Buren Street and Fairway Drive in Avondale, Arizona, described and depicted on Exhibit A attached hereto and incorporated as if fully set forth herein (the “Property”). Owner intends to encumber the Property with the following agreements and waivers.

1. Waiver of Claims Related to the Rezoning. The Owner agrees and understands that the City is entering into this Waiver in conjunction with that certain approval for rezoning of the Property, Application No. PL-22-0068 (the “Rezoning”) in good faith and with the understanding that, if the City approves the Rezoning, it will not be subject to a claim for diminished value of the Property from the Owner or other parties having an interest in the Property. Owner agrees and consents to all the conditions imposed as part of the ordinance rezoning the Property (the “Rezoning Ordinance”), including all stipulations adopted by the Council of the City of Avondale (the “City Council”) and, by signing this Waiver, hereby waives any and all claims, suits, damages, compensation and causes of action the Owner may have now or in the future under the provisions of ARIZ. REV. STAT. §§ 12-1134 through and including 12-1136 (but specifically excluding any provisions included therein relating to eminent domain) and resulting solely from actions relating to the Rezoning. Owner acknowledges and agrees that any stipulations imposed by the City Council as part of the Rezoning Ordinance will not result in a reduction of the fair market value of the Property as defined in ARIZ. REV. STAT. § 12-1136. The Owner acknowledges that additional stipulations may be imposed by the City Council, in its sole discretion, prior to approval of the Rezoning. Owner agrees and understands that its waiver of claims as set forth in this Waiver shall be deemed to extend to cover any changes to the Rezoning Ordinance and all stipulations to the Rezoning Ordinance approved by the City Council unless, not later than three business days following such City Council approval, Owner notifies the City, in writing, of its disagreement with such stipulation(s). In the event that Owner timely notifies the City of such disagreement, Owner shall not be deemed to have waived claims with respect to only the stipulations imposed or revised by the City Council prior to approval of the Rezoning Ordinance; provided, however, that if Owner does not submit a separate waiver of such claims, in a form acceptable to the City, prior to close of business on the fifth business day following approval of the Rezoning Ordinance, then the City may, after proper notice and hearing, rescind the Rezoning Ordinance, and if rescinded by the City Council acting in its sole discretion, this Waiver shall act as a bar to a claim for diminished value based upon the rescinded Rezoning Ordinance. The foregoing waiver of claims shall be of no further force and effect with

respect to the Rezoning in the event the City Council disapproves the Rezoning Ordinance, except that it shall serve as a bar to a claim for diminished value based upon denial of the Rezoning Ordinance.

2. Entire Agreement; Modification. This Waiver, any exhibits attached hereto and any addenda, collectively constitute the entire understanding and agreement of the Owner and the City and shall supersede all prior agreements or understandings between the Owner and City regarding waiver of claims pursuant to ARIZ. REV. STAT. § 12-1134 *et seq.* relating to the Rezoning. This Waiver may not be modified or amended except by written agreement by the Owner and City.

3. Applicable Law; Venue. This Waiver is entered into in Arizona and will be construed and interpreted under the laws of the State of Arizona. Any suit pertaining to this Waiver may be brought only in courts in Maricopa County, Arizona.

4. Conflict of Interest. This Waiver is subject to the cancellation provisions of ARIZ. REV. STAT. § 38-511.

5. Recording; Waiver Runs With Land. Within 10 days after the execution of this Waiver, the City Clerk shall file the Waiver in the Official Records of the County Recorder's Office, Maricopa County, Arizona, but a failure to timely do so shall not invalidate this Waiver. This Waiver runs with the land and is binding upon all present and future owners of the above-referenced Property.

6. Owner Authority. The Owner warrants and represents that it is the owner of all right, title and interest to the Property, and that no other person has an ownership interest in the Property. The person(s) who sign on behalf of Owner personally warrant and guarantee to the City they have the legal power to bind the Owner to this Waiver.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the date and year first set forth above.

“Owner”

HAM FAIRWAY, LLC,
an Arizona limited liability company

By: _____

ACKNOWLEDGMENT

STATE OF _____)
) ss.
COUNTY OF _____)

On _____, 2022, before me personally appeared _____, the _____ of HAM FAIRWAY, LLC, an Arizona limited liability company, whose identity was proven to me on the basis of satisfactory evidence to be the person who he/she claims to be, and acknowledged that he/she signed the above document on behalf of the company.

(affix notary seal here)

Notary Public

[SIGNATURES CONTINUE ON FOLLOWING PAGE]

“Owner”

FWVB, LLC,
an Arizona limited liability company

BY: ZEITLIN CAPITAL, LLC
an Arizona limited liability company
ITS: Manager

By: _____
Harry Zeitlin, Managing Member

ACKNOWLEDGMENT

STATE OF _____)
) ss.
COUNTY OF _____)

On _____, 2022, before me personally appeared Harry Zeitlin, the Managing Member of ZEITLIN CAPITAL, LLC, an Arizona limited liability company, the Manager of FWVB, LLC, an Arizona limited liability company, whose identity was proven to me on the basis of satisfactory evidence to be the person who he claims to be, and acknowledged that he signed the above document on behalf of the company.

(affix notary seal here)

Notary Public

[SIGNATURES CONTINUE ON FOLLOWING PAGE]

“City”

CITY OF AVONDALE, an Arizona
municipal corporation

Cherlene Penilla, Acting City Manager

ATTEST:

Marcella Carrillo, City Clerk

ACKNOWLEDGMENT

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On _____, 2022, before me personally appeared Cherlene Penilla, the Acting City Manager of the CITY OF AVONDALE, an Arizona municipal corporation, whose identity was proven to me on the basis of satisfactory evidence to be the person who she claims to be, and acknowledged that she signed the above document, on behalf of the City.

(affix notary seal here)

Notary Public

EXHIBIT A
TO
WAIVER OF CLAIMS FOR DIMINUTION OF VALUE
UNDER ARIZ. REV. STAT. §§ 12-1134 – 1136
BETWEEN THE
CITY OF AVONDALE
AND
HAM FAIRWAY, LLC AND
FWVB, LLC

[Legal Description of the Property]

See following page.

Escrow No. 55000932-055-DC2

LEGAL DESCRIPTION

Parcel 1, of COLDWATER SPRINGS, according to Book 514 of Maps, page 17, records of Maricopa County, Arizona.

Unofficial Document

CITY COUNCIL REPORT

SUBJECT: Western Avenue & Dysart Road Intersection Study 2022

MEETING DATE: 9/6/2022

TO: Mayor and Council

FROM: Aric Stewart, City Engineer, (623) 333-4241

THROUGH: Tracy Stevens, Acting Assistant City Manager, (623) 333-1014

STRATEGIC PLAN:

This agenda item supports the following Avondale Strategic Outcome Area:

- Connected Community - Avondale will work directly and closely with our communities to develop programs and infrastructure that connect residents to the city's resources, the region, and each other. An improvement in traffic flow at the Western Avenue and Dysart Road intersection would make this entrance to Old Town Avondale more inviting to customers coming to the area to do business.
-

PURPOSE:

Staff will provide an overview of the Western Avenue and Dysart Intersection Study and request input from City Council. Staff will incorporate this input in developing the 5-year capital improvement plan. This is for information and discussion only.

BACKGROUND:

On September 23, 2021, the City of Avondale entered into a professional services agreement with Kimley-Horn and Associates, Inc. (aka Kimley-Horn) to conduct a transportation planning study to define and evaluate alternatives for improving Western Avenue and Dysart Road Intersection. The purpose of the study was to look for opportunities to improve intersection traffic operations and safety considering intersection geometrics and its proximity to the Union Pacific Railroad (UPRR) at-grade railroad crossing.

DISCUSSION:

To define alternatives, an understanding of the existing traffic safety and operational conditions was conducted. Below is a summary of the results:

- A total of 20 crashes occurred over the five-year period (2016 to 2020). No fatal crashes have been reported and only one was a suspected serious injury. The two most common types of crashes were left turn (40%) and angle (25%) crashes. Of the left turn crashes, the majority involved a northbound left turn. Of the angle crashes, four of the five crashes occurred on the west leg. Three of four appeared to involve a cyclist and a right-turning vehicle.
- Existing capacity analysis was conducted utilizing year 2021 traffic volumes. The existing conditions results showed that north and southbound left turn movements currently operate at an acceptable level

of service (LOS) B or better during the peak hours. The eastbound left turns operate at LOS E in the AM peak and LOS F in the PM peak. The westbound left turns operate at LOS E in the AM peak and LOS F in the PM peak.

- A signal warrant analysis was conducted and is currently not warranted. Sensitivity analysis was conducted to determine when the signal would be warranted. It was estimated that a signal would be warranted in five years.

A total of five alternatives have been selected for discussion in this study. Alternatives 1 & 2 were developed on a qualitative basis. These alternatives were reviewed from a high-level and will need to be monitored over time to determine if the other alternatives should be considered for development. Alternatives 3-5 were developed and evaluated in more detail considering factors such as safety and traffic operations for 20-year horizon traffic volumes (year 2041). The alternatives are presented in the order of preference.

- Alternative 1 – This alternative provides immediate improvements to the existing conditions at a very low cost requiring only striping and signing. This alternative, which was recently implemented, is recommended at this time and will continue to be monitored over time by City staff to determine if this improvement can serve as a long-term solution.

Other alternatives are as follows:

- Alternative 2 – As discussed in the previous sections, this option achieves all the objectives including improving traffic operations and safety through restricting intersection movements to right in / right out only. Minor intersection improvements would be necessary to restrict the movements and are estimated to cost \$58,000. Design and construction can be completed relatively quickly.
- Alternative 3 – This alternative would accommodate all turning movements, would improve traffic operations and safety by installing a split phased traffic signal. Although the intersection improvements are minimal and do not impact adjacent properties or right of way, there is a significant increase in cost from Alternative 2 (approximately \$2.34 M) due to proximity and the anticipated need for advanced pre-emption and improvements by UPRR at the existing at-grade rail crossing. Design and construction are expected to be much longer due to coordination efforts and design clearances/requirements by UPRR.
- Alternative 4 – This alternative improves traffic operations and safety through installation of a multilane roundabout. This footprint of this alternative comes with significant impacts on the adjacent property owners and requires significant right of way. This intersection improvement results in a larger cost (approximately \$2.3 M) but avoids the need for improvements to the existing at-grade rail crossing.
- Alternative 5 – While this alternative improves traffic operations and safety by realignment of the west leg and installation of a traffic signal, the improvements significantly impact the adjacent property owners and require significant right-of-way as compared to Alternative 4. This alternative comes with the highest price tag (approximately \$2.8 M) due to the intersection improvements as well as the anticipated need for advanced pre-emption and improvements by UPRR at the existing at-grade rail crossing.

BUDGET IMPACT:

The Western Avenue and Dysart Road Intersection Study itself does not impact the current budget. The proposed striping in Alternative #1 was installed by our Traffic Engineering staff. The other alternatives identified in the report are not included in the 5-year capital improvement plan.

RECOMMENDATION:

This item is for discussion only. City staff is requesting feedback on the Final Report by City Council following the presentation.

Contact person for document distribution:



FINAL SCOPING DOCUMENT

Western Avenue &
Dysart Road
Avondale, Arizona

JULY 2022

Prepared for:

City of Avondale

Kimley»»Horn

FINAL SCOPING DOCUMENT

Western Avenue & Dysart Road Avondale, Arizona

JULY 2022

Prepared for:

City of Avondale
11465 W. Civic Center Drive
Avondale, Arizona 85323

Prepared By:

Kimley-Horn and Associates, Inc.
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020



July 2022

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Kimley»Horn

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EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. (“Kimley-Horn”), has been retained by the City of Avondale (the “City”) to define and evaluate intersection alternatives for improving Western Avenue and Dysart Road intersection. The City requested the review and alternative development to look for opportunities to improve intersection traffic operations and safety considering intersection geometrics and its proximity to an existing Union Pacific Railroad (UPRR) at-grade railroad crossing.

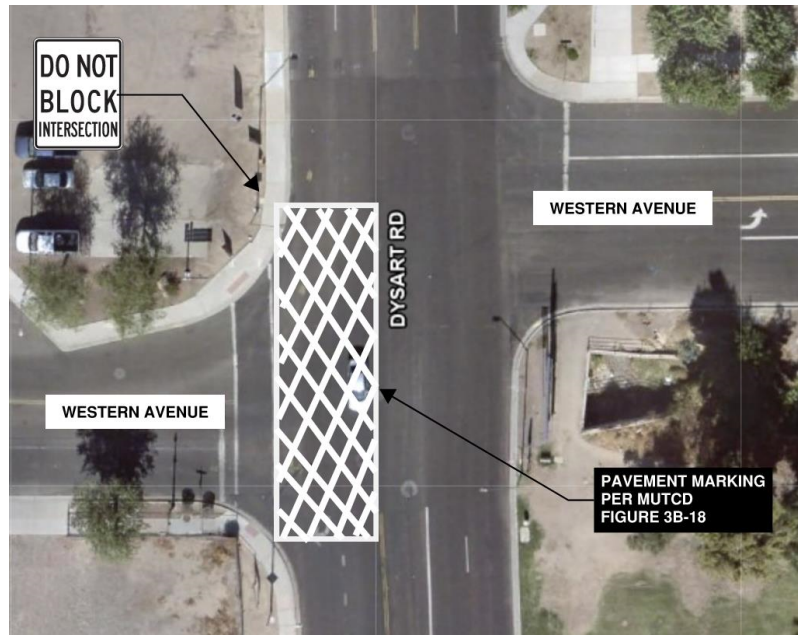
To define alternatives, an understanding of the existing traffic safety and operational conditions was conducted. Below is a summary of the results:

- A total of 20 crashes occurred over the five-year period (2016 to 2020). No fatal crashes have been reported and only one was a suspected serious injury. The two most common types of crashes were left turn (40%) and angle (25%) crashes. Of the left turn crashes, the majority involved a northbound left turn. Of the angle crashes, four of the five crashes occurred on the west leg. Three of four appeared to involve a cyclist and a right turning vehicles.
- Existing capacity analysis was conducted utilizing year 2021 traffic volumes. The existing conditions results showed that north and southbound left turn movements currently operate at acceptable level of service B or better during the peak hours. The eastbound left turns operate at LOS E in the AM peak and LOS F in the PM peak. The westbound left turns operate at LOS E in the AM peak and LOS F in the PM peak.
- Signal warrant analysis was conducted and is currently not warranted. Sensitivity analysis was conducted to determine when the signal would be warranted. It was estimated that a signal would be warranted in five years.

PRINCIPAL FINDINGS

Following discussions with the city, a total of five alternatives have been selected for discussion in this document. Alternatives 1 & 2 were developed on a qualitative basis. These alternatives were reviewed from a high-level and will need to be monitored over time to determine if the other alternatives should be considered for development. Alternatives 3-5 were developed and evaluated in more detail considering factors such as safety and traffic operations for 20-year horizon traffic volumes (year 2041). The alternatives are presented in the order of preference and are described on the pages that follow.

Alternative 1– This alternative was developed in coordination with City staff as an immediate solution to provide gaps in the traffic stream on Dysart Road for left turning vehicles. The alternative is described as providing ***Do Not Block Intersection*** pavement marking and signing, per the Manual on Uniform Traffic Control Devices (MUTCD) Figure 3B-18 and as shown in the illustration to the right. The objective is to create gaps in the southbound traffic stream to allow northbound and eastbound left turn maneuvers to occur when traffic queues block the intersection during the peak periods. This alternative provides an



immediate low-cost solution but was not evaluated to determine when or if it will require improvements over time. For this reason, it is recommended that the intersection be monitored from a safety and operations standpoint to determine if the alternatives that follow should be implemented.

Alternative 2 generally consists restricting traffic movements on the west leg of the intersection to right-in/right-out access only. This alternative consists of constructing a median on the west leg to restrict eastbound and northbound left turn movements. The median would be shaped like a “pork chop” and designed with flairs and radii that restrict the left-in turn movements and allows right-in/right-out only movements. Design should be conducted to maintain access to local driveways and businesses just west of Dysart. The median would be designed to provide a pedestrian refuge and crossing. Restriping and signing of the west leg would be necessary to restrict movements and warn users of the movement restrictions. Dysart Road will be stripped and signed to remove and restrict northbound left turn movements onto Western Avenue.

Alternative 2 pros include improvement to both safety and operations. With the northbound and eastbound left turn movements being the leading contributors to delay and safety concerns in the intersection. The removal of the left turn movements essentially removes this delay as well as the safety movements of concern. This option continues to maintain free-flow operations for the northbound direction of travel on Dysart Road, which removes the risk of vehicles queuing into the UPRR at grade crossing. The median provides a refuge for pedestrians on the west leg. The cost to implement this alternative is approximately \$58,000 and significantly less than Alternatives 3 through 5.

Alternative 2 con requires local traffic to find alternative ingress/egress routes to access the Old Town Avondale area. Strategic public outreach efforts are recommended to help communicate this alternative to the public. Wayfinding signage would be worth consideration to encourage vehicles to navigate on preferred routes and would enhance the area.

This alternative achieves the operational and safety objectives, removes the impacts to the adjacent parcel, can be designed and constructed relatively quickly, and estimated at a significantly reduced cost to the City's capital improvement program.

Alternatives 3 through 5 - were evaluated considering safety, traffic operations using 20-year horizon traffic volumes (year 2041), potential impacts (such as right-of-way and utilities), constructability, and cost estimates for the improvements. A summary of the results are provided in the table below:

Table 1 – Pros and Cons

ALTERNATIVE	PROS	CONS
Alternative 3: Signalized Intersection	- Operates at LOS B in the AM peak and LOS C in the PM peak - Mitigates the northbound left turn crashes through adding protective/permissive left turn phasing - Mitigates the conflict east/west left turn movements with split phasing operation - Avoids right-of way impacts	- ROW (1,300 sf) impacts to private business on the northwest corner of the intersection - Northbound queue length of 16 vehicles (400 feet) with stacking of vehicles across UPRR at grade railroad crossing - Southbound queue length of 37 vehicles (925 feet) during the PM peak - UPRR at grade railroad crossing and advanced pre-emption would be required - Cost is estimated at \$2.34 million
Alternative 4: Roundabout	- Operates at LOS A, except southbound operates at LOS B during PM peak - Mitigates the east/west conflicting left turn movements - Mitigates the northbound left turn crashes	- Significant ROW (9,000 sf) impacts to private business on the northwest corner of the intersection - Northbound rolling queue length of 8 vehicles (200 feet) with potential for stacking of vehicles across UPRR at grade railroad crossing - Southbound rolling queue length of 26 vehicles (650 feet) during the PM peak - Vertical crest at the UPRR crossing creates visibility constraint approaching the roundabout from the south - Constructability and maintenance of traffic - Cost is estimated at \$2.3 million
Alternative 5: Western Avenue Realignment	- Operates at LOS B in the AM and PM peak - Mitigates the northbound left turn crashes through adding protective/permissive left turn phasing - Mitigates the conflict east/west left turn movements with split phasing operation	- ROW (3,300 sf) impacts to private business on the northwest corner of the intersection - Northbound queue length of 13 vehicles (325 feet) with stacking of vehicles across UPRR at grade railroad crossing - Southbound queue length of 29 vehicles (725 feet) during the PM peak - UPRR at grade railroad crossing and advanced pre-emption would be required - Cost is estimated at \$2.8 million

ORDER OF PREFERENCE

Based on the information described in this document, Kimley-Horn has provided the City an order of preference for each of the alternatives evaluated with preferred option being listed first.

1. **Alternative 1** – This alternative provides the immediate improvements to the existing conditions at a very low cost requiring only striping and signing. This alternative is recommended to be monitored over time by City staff to determine if this improvement can serve as a long-term solution.
2. **Alternative 2** – As discussed in the previous sections, this option achieves all the objectives including improving traffic operations and safety through restricting intersection movements to right in / right out only. Minor intersection improvements would be necessary to restrict the movements and is estimated to cost \$58,000. Design and construction can be completed relatively quickly.
3. **Alternative 3** – This alternative would accommodate all turning movements, would improve traffic operations and safety by installing a split phased traffic signal. Although the intersection improvements are minimal and does not impact adjacent properties or right of way, there is a significant increase to cost from Alternative 2 (\$2.34 mil) due to proximity and the anticipated need for advanced pre-emption and improvements by UPRR at the existing at-grade rail crossing. Design and construction are expected to be much longer due to coordination efforts and design clearances/requirements by UPRR.
4. **Alternative 4** – This alternative improves traffic operations and safety through installation of a multi-lane roundabout. This footprint of this alternative comes with significant impacts to the adjacent property owners and requires significant right of way. This intersection improvements results in larger cost (\$2.3 mil) but avoids the need for improvements to the existing at-grade rail crossing.
5. **Alternative 5** – While this alternative improves traffic operations and safety by realignment of the west leg and installation of a traffic signal, the improvements significantly impact the adjacent property owners and require significant right-of-way as compared to Alternative 4. This alternative comes with the highest price tag (\$2.8 mil) due to the intersection improvements as well as the anticipated need for advanced pre-emption and improvements by UPRR at the existing at-grade rail crossing.

1.0 INTRODUCTION / PROJECT DESCRIPTION

1.1 FOREWARD

This Scoping Document was prepared to define and evaluate intersection alternatives for improving the operations and safety at the intersection of Western Avenue and Dysart Road, in Avondale, Arizona. The project is located in Sections 10, 11, 13, and 14 of Township 01, Range 01 West of the Gila and Salt River Base and Meridian, Maricopa County, Arizona as depicted in the project vicinity map is provided in **Figure 1**. The intent of this document is to identify the Preferred Alternative layout, estimated construction budget, and to analyze various design alternatives. This report also identifies phasing/prioritization options based on the projected traffic volumes and crash analysis data.

1.2 PURPOSE AND OBJECTIVES

The purpose and objective of this Scoping Document is to document the development of the alternatives, evaluate each alternative, and determine a preferred alternative that will improve the safety and operations of the intersection. The evaluation included the following items for each alternative:

- Year 2041 traffic conditions analysis
- Preparation of preliminary design concepts
- Define right-of-way (ROW) needs
- Define utility constraints and conflicts
- Identify traffic control devices (i.e., signals, signing and marking)
- Develop a high-level cost estimate

The purpose and objectives of this Scoping Document were:

- To determine the preferred alternative layout
- To improve the traffic operations and safety of the intersection
- To determine the need for any additional right-of-way or easements
- To develop a construction cost estimates the City can use to develop future budgets
- To analyze Design Alternatives that can be constructed as a part of the roadway improvements
- To identify phasing/prioritization options based on projected traffic volumes, which the City can use to develop construction schedules and identify available funding

Design and construction for improving the intersection is currently not funded. It is anticipated that construction of the Preferred Alternative will be City-funded and is not expected to require federal funding. Design and construction of the project will be administered by the City and will follow the AASHTO *A Policy on Geometric Design of Highways and Streets, 7th Edition 2018*, the Maricopa Association of Governments (MAG) Standard Details and Specifications, and City Supplements to MAG for the construction documents. Land acquisition including the acquisition of new rights-of-way and easements will be performed by the City.

Figure 1 – Project Vicinity Map (Source: Nearmap)



2.0 BACKGROUND DATA / EXISTING CONDITIONS

This section describes the existing conditions of the intersection and the surrounding area. Available record drawings of the original construction as well as subsequent improvement projects, incorporating all or part of the project area, were obtained from the City.

2.1 ROADWAY

The intersection of Western Avenue and Dysart Road currently operates under two-way stop control on the east and west approaches to the intersection. The north and south approaches are not stop controlled. The east and west legs are misaligned by approximately 60 feet, with the east leg being located farther to the north. The intersection is approximately 250 feet north of the Union Pacific Railroad (UPRR) at-grade crossing and approximately 500 feet north of the intersection of Dysart Road and MC-85 (Buckeye Road).

Dysart Road is currently classified as an arterial road with a 30mph posted speed northbound, 20mph posted speed southbound, and has two (2) through lanes in each direction and a striped two way left turn lane/median. Bike lanes begin approximately 150 feet to the north of the intersection.

The west leg of Western Avenue is currently classified as a minor collector with a 25mph posted speed and is a 2-lane road with one lane in each direction and angled on-street angled parking. At the Dysart Road intersection, the eastbound approach is marked with an exclusive left turn lane and an exclusive right turn lane. In the westbound direction, there is one receiving lane.

The east leg of Western Avenue is classified as a local road with a 25mph posted speed and is a 2-lane road with one lane in each direction and parallel on-street parallel parking. At the Dysart Road intersection, the westbound approach is marked with an exclusive left turn lane and an exclusive right turn lane. In the eastbound direction, there are two receiving lanes – one through lane and one left turn lane into the northeast corner business that provides 65 feet of storage.

There is existing sidewalk on both sides of Dysart Road north of the intersection and on both sides of Western Avenue west of the intersection. Western Avenue east of the intersection only has sidewalk on the north side of the road. Dysart Road south of the intersection only has sidewalk on the west side of the road. There are existing sidewalk ramps on the northwest and southwest corners. Currently pedestrian crossings are only provided on the west leg of the intersection.

Striped bike lanes are not provided through the intersection. There are existing bike lanes striped on Dysart Road which terminate 250 feet north of the intersection. Bike lanes continue along Dysart Road south of the MC85/Main Street intersection. There are no bike lanes provided along Western Avenue near the project limits.

There is existing street lighting along both Dysart Road and Western Avenue. Western Avenue east of the intersection has street lighting only along the north side of the road. The street lighting along Western Avenue west of the intersection is decorative.

2.2 RIGHT-OF-WAY

The existing right-of-way was determined based on ArcGIS data obtained from the Maricopa Association of Governments (MAG) database. The project is within the Old Town Business District of Avondale. The existing right-of-way varies between 30 feet and 47 feet along Dysart Road. The southwest corner property,

owned by the City, overlaps Dysart Road to the section line. The east leg of Western Avenue is entirely within a parcel owned by the City. The Southeast corner parcel is owned by UPRR. The northwest parcel is privately owned and currently functions as a mechanics shop. The right-of-way impacts are described for each alternative below in **Section 5.1**. Final determination of right-of-way and/or easement acquisition needs will be coordinated during final design.

2.3 TRANSIT FACILITIES AND ROUTES

The Valley Metro Avondale ZOOM route provides stops around Avondale and operates through this intersection utilizing the west, north, and south legs of the intersection. Three bus stops are within close proximity of the intersection. The Western Avenue and 3rd Street bus stop is located on the south side of Western Avenue approximately 1,400 feet west of the intersection at Deconcini Park. The Main Street & Dysart Road bus stop is located on the north side of MC85 and Main Street approximately 650 feet south and west of the intersection. The Riley Drive and Avondale Resource Center bus stop is located on the south side of Riley Drive approximately 2,600 feet north and east of the intersection.

Bus stops and bays were not included for this intersection.

2.4 UTILITIES

An Arizona 811 Blue Stake ticket was submitted, and local utility companies identified on the ticket were contacted to request available utility mapping. Both publicly and privately-owned utilities were found to have facilities in the immediate area of the project. **Table 2** includes a list of known utility companies with facilities located within the project area. Potential conflicts with known utility facilities will be verified and resolved during the final design process.

Table 2 – Existing Utilities

UTILITY COMPANY	UTILITY TYPE
Arizona Public Service (APS)	Electrical
CenturyLink	Coaxial, Fiber Optics
Cox Communications	CATV, Fiber Optics
City of Avondale	Water, Sewer, Storm Drain
Kinder Morgan	Petroleum Pipeline
Pauley Construction	Fiber Optics
Southwest Gas	Gas, High-Pressure Gas
Zayo Group	Fiber Optics
Union Pacific Railroad (UPRR)	Railroad

2.5 UNION PACIFIC RAILROAD CROSSING

There is an existing at-grade heavy rail crossing 200 feet south of the intersection with crossing gates and flashing traffic control devices. The Federal Railroad Administration (FRA) crossing inventory data lists four total trains per day and the maximum speed for trains through the crossing as 40mph. The striped roadway median narrows to a 6-foot width at the crossing, and a raised median is provided on the north and south legs of the crossing to house the railroad traffic control devices. The roadway transitions to a reverse horizontal curve and a vertical crest curve through the crossing with the tracks located at the apex of the

vertical curve. This creates a sight distance constraint for traffic between Western Avenue and MC85. The existing crossing equipment is estimated to be over 17 years old. According to the crossing inventory report dated October 5, 1995, there is existing signal equipment at the crossing to coordinate the timing of approaching trains with the existing traffic signal at MC85 and Dysart Road. The preemption has been classified as simultaneous preemption in the inventory form.

2.6 DRAINAGE

Kimley-Horn reviewed available as-builts, City GIS information, aerial imagery, and topographic survey to gain an understanding of existing drainage patterns and infrastructure within the project limits. Topographic survey was provided by the City; new survey information was not collected as part of this project.

There are several existing storm drain systems that drain from the north and west and outfalls on the southeast corner of the intersection. The storm drains discharge into an existing channel along the south side of Western Avenue which ultimately outfalls into the Agua Fria River to the east. A concrete U-shaped headwall serves at the outfall location for these storm drains into the channel, and the headwall is located approximately 9 feet from the existing back of curb. A metal handrail is provided along all three sides of the headwall.

Proposed improvements will need to maintain the historical drainage patterns of the intersection. Further investigation will be required during final design. This report does not analyze the existing capacities of the drainage infrastructure and there has been no indication from the City that there are any drainage issues within the project limits that would need to be improved with this project. The intent of the drainage improvements is to replace any drainage structures that are directly impacted by new roadway/intersection improvements.

The existing channel at the southeast corner of the intersection is within a FEMA Zone AH Floodplain. Zone AH corresponds to the area of one percent annual chance of shallow flooding with a constant water surface elevation (usually areas of ponding) where average depths are between one and three feet. Improvements within this area will require coordination with the Flood Control District of Maricopa County (FCDMC). A portion of the southern project limits is within Zone X with reduced flood risk due to levee. The FEMA Floodplain Map has been provided in **Appendix E**.

2.7 GEOTECHNICAL EVALUATION

Geotechnical investigations were not conducted as a part of this project. The roadway pavement structural section utilized during the development of this document is assumed to match the existing structural section. It is assumed the existing pavement structural section was constructed to match the City's standards. A geotechnical investigation should be considered as a part of final design to confirm if an increased pavement structural section will be needed.

2.8 TOPOGRAPHIC SURVEY

The City provided existing topographical survey information to Kimley-Horn for the development of this document. Additional topographic survey was not obtained. It is recommended that topographic survey be obtained for the final design phase.

3.0 TRAFFIC CONSIDERATIONS

The following section summarizes the traffic considerations that were taken into account in the development of design alternatives. This includes the crash history, volumes and growth rates, and a traffic signal warrant analysis for the study intersection. This section also includes a summary of the level-of-service (LOS) analysis of the existing intersection geometry using current (2021) traffic volumes as well as analysis of the intersection in horizon year 2041 under the existing No Build Scenario. The LOS analysis was necessary to define the existing and horizon year traffic conditions and define the potential traffic concerns.

LOS Analysis and other results associated with the proposed design alternatives is provided in **Section 4.0**.

3.1 CRASH HISTORY

A crash analysis of the study intersection was conducted using crash data provided by the City. Crash data was provided for a five-year period beginning January 1st, 2016 through December 31st, 2020, and included details about crash type, severity, and other factors. A copy of the raw crash data can be found in **Appendix A**.

Table 3 below summarizes the severity of the crashes broken out by the year that the crashes occurred.

Table 3 – Crash Severity by Year

Maximum Injury Severity Involved in Crash	Year					Severity Total
	2016	2017	2018	2019	2020	
No Injury	3	1	3	3	3	13
Possible Injury	0	1	1	1	0	3
Suspected Minor Injury	0	0	2	1	0	3
Suspected Serious Injury	0	1	0	0	0	1
Fatality	0	0	0	0	0	0
Annual Total	3	3	6	5	3	20

Table 4 lists the quantity of each crash type that occurred over the five-year period.

Table 4 – Crash Volume by Crash Type

Crash Volume by Crash Type	
Crash Type	No. Crashes
Angle	5
Left-Turn	8
Rear-End	4
Sideswipe (opposite direction)	1
Sideswipe (same direction)	1
Other	1
Total	20

Table 5 lists the volumes of crashes involving different transportation modes over the five-year period.

Table 5 – Crash Volume by Transportation Mode

Crash Volume by Transportation Mode	
Mode Involved	No. Crashes
Motor Vehicles Only	16
Pedestrian Involved	1
Cyclist Involved	3
Total	20

As shown in **Tables 3-5**, a total of 20 crashes occurred over the five-year period, with the most crashes occurring in 2018 and 2019. It should be noted that a global pandemic (COVID-19) began in early 2020, which generally resulted in lower traffic volumes and vehicle miles travelled. Had volumes remained at a normal level, the number of crashes in 2020 may have been higher.

Of the 20 total reported crashes, none were fatal and only one was a suspected serious injury. The majority (65%) of crashes were no-injury crashes.

The two most common types of crashes were left-turn (40%) and angle (25%) crashes. Of the left turn crashes, the majority involved a northbound left turn and a southbound through vehicle. Of the angle crashes, four of the five crashes occurred on the west leg. Of those four crashes, three appeared to involve a cyclist and a right turning vehicle.

Four of the 20 crashes (20%) involved either a bicyclist or pedestrian and all four crashes appeared to occur on the west leg of Western Avenue. The pedestrian crash involved a pedestrian in the crosswalk and a vehicle making an eastbound left turn. This crash type was coded as “Other”. The three cyclist crashes appeared to involve a cyclist and a right turning vehicle. These three crash types were coded as “Angle.” All of the crashes involving a bicyclist or pedestrian resulted in either suspected serious injury or suspected minor injury.

Although the total number of crashes at this intersection is relatively low for a five-year period, a notable portion of the crashes involved a bicycle or pedestrian and a notable portion were left turn crashes. It is recommended that improvements consider safety for non-vehicular modes in the design and evaluate opportunities to reduce or eliminate conflicts associated with left turn movements.

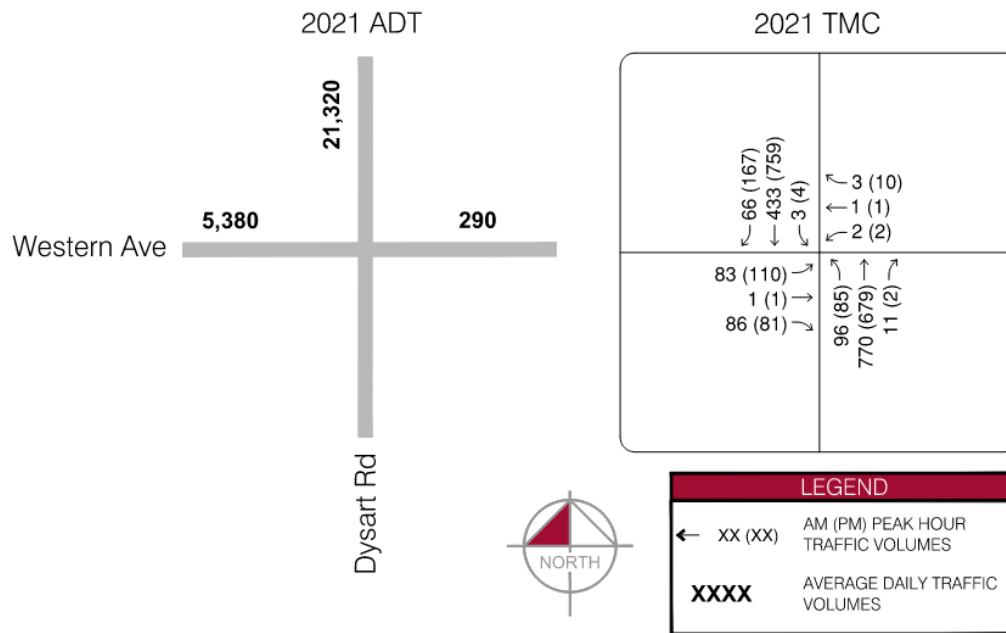
3.2 VOLUMES & GROWTH RATES

Turning movement counts (TMC) and average daily traffic (ADT) volumes for the intersection were collected in October of 2021. These counts were used as the basis for existing conditions and to estimate traffic volumes for the horizon year of 2041. A copy of the raw counts can be found in **Appendix B**.

Before developing growth rates, the existing conditions count data was reviewed to determine if an adjustment factor was necessary to account for traffic changes caused by the COVID-19 pandemic. Available historical volumes from 2017 were obtained from the City and compared to the 2021 counts. The volumes on Dysart Road were found to be higher in 2021 than in 2017, so no volume adjustment was applied to the 2021 counts for Dysart Road. The volumes on Western Avenue were found to be lower in 2021 than in 2017. To avoid a negative growth rate, an adjustment factor of 1.06 was applied to the 2021 volumes on both legs of Western Ave which increased them to 2017 levels.

The adjusted 2021 traffic volume data is shown in **Figure 2 – Existing (2021) Volumes (with COVID Adjustment)**.

Figure 2 – Existing (2021) Volumes (with COVID Adjustment)



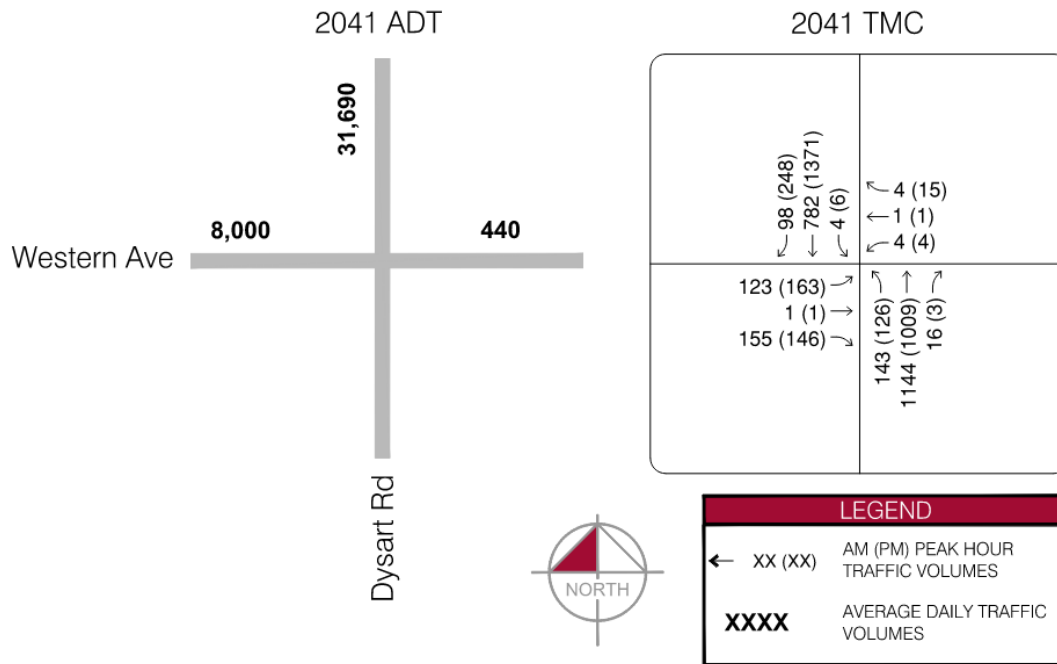
The adjusted 2021 traffic counts were compared to the predicted 2040 Volumes from the City's 2017 Transportation Master Plan to develop projected growth rates. Because of the following differences in the expected growth rates of the segments, separate growth rates were used for each approach:

- Notably, growth rates were predicted to be slightly higher on the segment of Dysart Road between Western Avenue and MC85 based on the 2040 segment data from the Transportation Master Plan. This growth appears to be driven by a possible future bridge connection to the south along Dysart Road over the Agua Fria River. Development to the west accessed via MC-85 is likely also a contributing factor. Based on feedback from the City, it is unknown if the bridge connection will come to fruition. Therefore, the chosen growth rate for the south leg reflects a conservative approach to analyzing the future traffic volumes.
- The west leg of Western Avenue is built out and is therefore not expected to experience high growth in the future.
- The east leg of Western Avenue does have some undeveloped parcels, but growth on this leg is limited because Western Avenue dead-ends approximately 1500 feet east of Dysart Road at 10th Street.

Based on the available data, a growth rate of 2.0 percent was selected for both legs of Western Avenue and the north leg of Dysart Road, and a growth rate of 3.0 percent was selected for the south leg of Dysart Road. Although growth on the west leg is expected to be minimal, a low 2% growth rate was applied to account for unlocalized traffic utilizing the west leg to connect to Dysart Road. This yields a more conservative estimate of future volumes. The chosen growth rates were presented to City staff for review and approval before proceeding with the analysis.

The adjusted 2021 traffic volume data and the chosen growth rates were used to estimate the traffic volumes for the horizon year of 2041. The resulting volumes are shown in **Figure 3**.

Figure 3 – Horizon Year (2041) Volumes



3.3 SIGNAL WARRANT ANALYSIS

A signal warrant analysis was performed to determine if a signal was warranted. The signal warrant was performed using methodology from the most current version of the *Manual on Uniform Traffic Control Devices (MUTCD)*. The most current version of the MUTCD is the 2009 Edition with Revision Numbers 1 and 2 incorporated, dated May 2012.

A copy of the signal warrant analysis calculations spreadsheet is included in **Appendix C**.

Existing Conditions Results

Using the raw (unadjusted) 2021 ADT data, the analysis showed that a signal is not warranted at the intersection under existing conditions.

20-Year Horizon Results

To evaluate the 20-year horizon, the 2021 traffic counts were grown to predict the ADT volumes for the horizon year of 2041 using the same growth rates described in Section 3.2 of this report. Using the projected horizon year volumes, the following three warrants are met:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour

Based on the horizon year results, it is expected that a signal will be warranted at some point between 2021 and 2041.

Sensitivity Analysis Results

To provide a more specific estimation of when the traffic volumes would warrant a signal, a sensitivity analysis was performed. Using the same growth rates, volumes were estimated starting with a 5-year horizon of 2026 to allow time for initial programming, design, and construction of a signal. For the year 2026, the following two signal warrants were satisfied:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume

Based on the sensitivity analysis, it is expected that a signal would be warranted at this location sometime within the next five years. Therefore, signalization of the intersection was taken into consideration when developing the alternatives and is discussed in more detail in **Section 4.0**.

3.4 EXISTING CONDITIONS ANALYSIS

The intersection was evaluated under the existing conditions. A Level-of-Service (LOS) analysis was performed using *HCM 6th Edition methodology* and *Synchro 11* analysis software. LOS is reported for minor movements in **Table 6**. LOS for mainline approaches and movements is not provided, because they are free flowing. Detailed *Synchro* reports are provided in **Appendix D**.

Table 6 – No Build LOS Results (2021)

Intersection	NB Approach			SB Approach			EB Approach			WB Approach		
	L	T	R	L	T	R	L	T	R	L	T	R
AM Peak	-			-			E			C		
	A	-	-	A	-	-	F		B	E		B
PM Peak	-			-			F			C		
	B	-	-	A	-	-	F		B	F		B

For 2021, the analysis showed that the eastbound approach operates at LOS E in the AM peak and LOS F in the PM peak. The westbound approach was shown to operate at LOS E in the AM peak and LOS F in the PM peak.

NO BUILD SCENARIO

To provide a baseline comparison for the design alternatives, the intersection was evaluated as a no build condition using the existing intersection geometry and the horizon year traffic volumes. LOS is reported for minor movements in **Table 7**.

Table 7 – No Build LOS Results (2041)

Intersection	NB Approach			SB Approach			EB Approach			WB Approach		
	L	T	R	L	T	R	L	T	R	L	T	R
AM Peak	-			-			F			F		
	B	-	-	B	-	-	F		C	F		B
PM Peak	-			-			F			F		
	C	-	-	B	-	-	F		E	F		B

For 2041, no-build conditions are expected to worsen with the increase in volumes. The analysis showed that both side street approaches are projected to operate at LOS F during the AM and PM peak hours. This is primarily driven by the left turn movements which will experience significant queuing and delays due to a lack of available gaps in mainline traffic.

4.0 ALTERNATIVES DEVELOPMENT

4.1 ALTERNATIVES DEVELOPMENT

Kimley-Horn has developed five alternatives to improve intersection operations and safety.

The alternatives development took into consideration feedback from City staff, traffic operations (LOS and queuing), lane configuration, proximity to adjacent intersections/driveways, utility and right-of-way constraints, Americans with Disabilities Act (ADA) requirements, driver comfort, sight lines, and property impacts. All the alternatives were developed to improve traffic operations, safety, avoid encroachment into the UPRR right-of-way on the southeast corner, and avoid reconstruction of the headwall on the southeast corner.

4.1.1 ALTERNATIVE 1 – DO NOT BLOCK INTERSECTION STRIPING/SIGNING

This alternative was developed in coordination with City staff as an immediate solution to provide gaps in the traffic stream on Dysart Road for left turning vehicles. The alternative is described as providing **Do Not Block Intersection** pavement marking and signing, per the Manual on Uniform Traffic Control Devices (MUTCD) Figure 3B-18. The objective is to create gaps in the southbound traffic stream to allow northbound and eastbound left turn maneuvers to occur when traffic queues block the intersection during the peak periods. This alternative provides an immediate low-cost solution but was not evaluated to determine when or if it will require improvements over time. This alternative will be evaluated over time to determine if other improvements will be necessary.

4.1.2 ALTERNATIVE 2 – WESTERN AVENUE RIGHT IN/RIGHT OUT

This alternative was developed with the objective of meeting the traffic and safety operational goals while removing the need for UPRR at-grade railroad crossing improvements, avoiding the need for right of way acquisition, and minimizing impacts to utilities.

Alternative 2 proposes restricting traffic movements on the west leg of the intersection to right-in/right-out access only. This alternative would consist of constructing a median on the west leg to restrict eastbound and northbound left turn movements. The median would be shaped like a “pork chop” and designed with flairs and radii that restrict the left-in turn movements and allows right-in/right-out movements. Design should be conducted to maintain access to local driveways and businesses just west of Dysart. The median would be designed to provide a pedestrian refuge and crossing. Restriping and signing of the west leg would be necessary to restrict movements and warn users of the movement restrictions. Dysart Road will be stripped and signed to remove and restrict northbound left turn movements onto Western Avenue.

Alternative 2 was not analyzed but is expected to improve both safety and operations. As previously reported, the northbound and eastbound left turn movements are the leading contributors to delay and safety concerns in the intersection. The removal of the left turn movements essentially removes this delay. Additionally, this option maintains free-flow operations for the northbound direction of travel which means it will not introduce the risk of vehicles queuing into the UPRR at-grade crossing and removes the need for advanced preemption. The alternative removes the west and northbound left-turn conflicts and improves safety through this conflict removal. Finally, the “pork chop” median provides a refuge and reduces the crossing distance for bicycles and pedestrians on the west leg.

It should be noted that Alternative 2 would require traffic to find alternative ingress/egress routes to access the Old Town Avondale area. Riley Drive, located approximately 0.25 miles to the north, is the closest signalized option to access the area directly from Dysart. Other alternate routes may include 4th Street, Central Avenue, Hill Drive, 5th Street, and 6th Street. Rerouted volumes would include the northbound left turn (north to west) and eastbound left turn (east to north).

Strategic Public Outreach efforts are recommended to help communicate this alternative to the public. Wayfinding signage may be worth consideration to encourage vehicles to navigate on preferred routes and would enhance the area.

Alternative 2 estimate of probable cost can be found in **Section 6.0** and brings the most operational and safety benefits to the intersection.

4.1.3 ALTERNATIVE 3 – SIGNALIZED INTERSECTION

Alternative 3 proposes the construction of a traffic signal while maintaining the existing intersection alignment and geometry. To mitigate the misalignment of travel lanes, the traffic signal operations is recommended to be split phasing for east and westbound approaches. This alternative was considered because it reduces the amount of reconstruction in the intersection and would provide an operational and safety improvements. A new pedestrian crossing would be provided on the north leg. A list of the improvements and associated impacts are summarized below.

- The alignment of the intersection will remain in its existing configuration
- The roadway improvements include reconstruction of pavement, curb & gutter, and sidewalk on the north leg to provide a new pedestrian crossing
- Drainage improvements are not required with this alternative
- Pavement marking and signing will be provided to accommodate a crosswalk and stop bars. The existing lane configurations will be maintained on Dysart Road and Western Avenue
- A new traffic signal will be constructed for the intersection. Operations of the signal consist of split phasing the east/westbound approaches
- Street lighting improvements include removing existing lighting and constructing new street lighting with the traffic signal
- Landscape restoration will be required for the impacted areas behind sidewalk on the north corners
- The northwest corner parcel is not impacted by the improvements
- The utility impacts may include relocation of communications pedestals/pull boxes and electrical pull boxes
- Right-of-way will need to be acquired on the northwest corner. The southwest corner property is owned by the City of Avondale and does need to be designated unless the City elects to do so. The traffic signal equipment can be placed within existing right-of-way on the south corners
- The construction of the traffic signal will require preemption and UPRR coordination
- There are no major constraints that would hinder the City's ability to construct the realignment. The advanced preemption and right-of-way acquisition will be the City's biggest concerns. Coordination with UPRR and property owners would significantly delay the schedule and add significant costs to the project
- Alternative 3 will require minimal traffic control to construct the new ADA curb ramps and install the new traffic signal equipment. One travel lane in each direction will be maintained during the construction of the new curb ramps.

Traffic analysis for Alternative 3 was conducted using HCM 6th Edition methodology and *Synchro 11* analysis software. The intersection was evaluated for 2021 existing volumes and 2041 horizon volumes. *Synchro* 95th percentile queues and an assumed vehicle length of 25 feet was used to estimate queues. As mentioned above, split phasing was used to develop signal timings for the analysis due to intersection geometrics. Detailed *Synchro* reports are provided in **Appendix D**. Results of the Alternative 3 traffic analysis indicate the following:

- Under horizon year volumes (2041), the overall intersection would operate at LOS B in the AM hours and LOS C in the PM peak hours.
- Some side street movements would operate at LOS E due to control delay.
- The maximum queue for the northbound approach would be 16 vehicles, occurring during the AM hours. The maximum queue for the southbound approach would be 37 vehicles, occurring during the PM hours.

Based on the results, the overall intersection would operate at an acceptable LOS for Alternative 3. While the side streets may operate at a LOS E, this is driven primarily by control delay and would be significantly less compared to the unsignalized No Build Scenario

It should be noted that northbound queue lengths on the south leg may exceed available storage and extend into the UPRR at grade railroad crossing. To avoid a conflict between trains and vehicles, an advanced preemption system would need to be implemented at the railroad and connected to the traffic signal. Coordination with UPRR for the design and construction of the preemption equipment within their right-of-way would be necessary.

Coordination and design would require Arizona Corporation Commission (ACC) hearing approval of the traffic control changes at the crossing will be required.

This alternative is expected extend the project delivery schedule by an additional 2 years to gain UPRR approval and design.

Appendix F provides a preliminary design concept of Alternative 3 improvements and associated impacts. The new traffic signal will improve the safety and operations of the intersection. The advanced preemption required for the new traffic signal will assist the queuing vehicles to clear the tracks prior to trains approaching the crossing. The split-phase signal operation will control the movements to avoid conflicts between the east and west approaches. Alternative 3 estimate of probable cost can be found in **Section 6.0**. There is potential for schedule delays due to UPRR coordination, right-of-way acquisition, and coordination with property owners.

4.1.4 ALTERNATIVE 4 - ROUNDABOUT

Alternative 4 proposes total reconstruction of the intersection as a roundabout. The roundabout was considered as an alternative to address the misalignment of the east and west legs at the intersection and to provide efficient traffic flow without the need for a new traffic signal. Additionally, a roundabout would not require preemption at the UPRR at grade crossing.

Based on the 20-year horizon traffic volumes developed, we determined that the peak hour traffic volumes entering the intersection is approximately 1,900 vehicles per hour (vph). Based on the FHWA Roundabout Guide, the threshold between a single lane versus a multi-lane roundabout is 1,800 vph. Based on these

volumes, horizon-year entry volumes for the intersection are expected to exceed the minimum volume for a single-lane roundabout. Based on this criterion, a multi-lane roundabout alternative was developed.

The roundabout alignment was shifted to the northwest to minimize encroachment into the UPRR right-of-way and avoid impacts to the existing drainage headwall structure, channel, and the FEMA Floodplain Zone AH which is located within the existing channel along Western Avenue. Each of the approach legs to the roundabout experience a realignment to enter the roundabout. The geometric parameters of the roundabout include the following:

- Size (diameter, ft) – 150-foot inscribed circle
- Design Speed – 25mph
- Design Vehicle – WB50
- Circulating Lanes – 1 lane
- Entry Lanes – Dysart Rd (2 Lanes), Western Ave (1 Lane)
- Exit Lanes – Dysart Rd (2 Lanes), Western Ave (1 Lane)
- Lane Widths – 12 feet
- Splitter Islands – 3 feet minimum
- Sidewalks – 6 feet

The roundabout will function as a multi-lane in the north/south direction with two thru-lanes and will have one circulating lane for the east/west direction. The traffic volumes for the east/west direction do not meet the requirements for two circulating lanes. A list of the improvements and the associated impacts are summarized below.

- The alignment of the intersection will be shifted to the northwest. The west leg of Western Avenue will be realigned and shifted north to align with the roundabout. The north, east, and south legs will be adjusted to align with the roundabout
- The roadway improvements include reconstruction of pavement, curb & gutter, and sidewalk within 250 feet of the intersection. Splitter islands were added to each approach to accommodate pedestrian crossings. Sidewalk ramps will be constructed on each leg of the intersection. A splitter island was developed on the west leg to create bypass right turn lane for eastbound traffic turning right onto Dysart Road
- Drainage improvements include replacement of catch basins near existing facilities. The existing drainage patterns will be maintained, and new facilities will be constructed where required within the roundabout layout
- Pavement marking and signing improvements are necessary provided for the roundabout
- A traffic signal nor pedestrian crossing devices were considered for this alternative
- Street lighting improvements include relocating existing lighting, relocating decorative lighting, and constructing new street lighting within the roundabout
- Landscape restoration will be required for the impacted areas behind sidewalk. The roundabout provides additional opportunities to add landscaping within the splitter islands and center circle
- The northwest corner parcel is severely impacted by the improvements. The double driveway on Western Avenue will be removed and the driveway for the northwest corner parcel on Dysart Road will be reconstructed. The onsite parking, which is a mix of asphalt and exposed dirt will be impacted and require improvements

- There are various utility impacts expected with the improvements including communications pedestals/pull boxes, electrical pull boxes, fire hydrant relocation, valve adjustments, manhole adjustments
- Bike lanes are not provided through the roundabout. The design expects cyclist will travel through the roundabout like vehicular traffic
- Right-of-way will need to be acquired on the northwest and southwest corners
- There are no improvements expected at the UPRR at grade crossing. The improvements will tie-in prior to the crossing and preemption will not be required for the roundabout
- There are no major constraints that would hinder the City's ability to construct the roundabout. The amount of right-of-way acquisition and impacts to the northwest corner parcel would be the City's biggest concern. Coordination with the property owner could significantly delay the schedule.
- Alternative 4 will require multiple phases to construct the full roundabout. The contractor will need to submit a traffic control plan and construction phasing plan for the City's approval prior to construction. The recommended phasing for this Alternative is to begin with the outside limits of the roundabout, starting with the northwest corner, then constructing the inner circle, and finishing with constructing each of the splitter islands. Phasing the construction in this manner will allow the City to maintain one travel lane in each direction.

RODEL analysis software was utilized to evaluate the roundabout operations, including level of service (LOS) and queueing potential. Traffic analysis was conducted utilizing the 20-year horizon traffic volumes, all approaches. Results of roundabout indicate the following:

- The intersection operates at LOS A for both the AM and PM hours, except for the southbound approach which operates at LOS B during the PM hours.
- The maximum queue for the northbound approach would be 8 vehicles, occurring during the AM hours. The maximum queue for the southbound approach would be 26 vehicles, occurring during the PM hours.

A LOS D or better is generally considered to be an acceptable LOS. Based on the results, the roundabout would be expected to operate at an acceptable LOS under the 20-year horizon (year 2041) traffic conditions. The queuing analysis results present concern over the stacking of vehicles in both the north/south direction on Dysart Road. Detailed *RODEL* reports are provided in **Appendix D**

From a safety perspective, roundabouts generally help reduce speeds and conflict points, creating a generally safer environment for vehicles and pedestrians. As described in **Section 3.1** there is an existing pattern of bicycle/pedestrian crashes on the west leg of this intersection as well as a high relative percentage of northbound left turn crashes. The roundabout would mitigate the left turn crashes by removing left turn conflicts.

Appendix F provides a preliminary design concept of the Alternative 4 Roundabout improvements and associated impacts. The constant circulating flow of the roundabout allows vehicles to navigate the intersection from each leg under a yield condition. The roundabout improves the intersection operations but creates queuing concerns at the UPRR at grade crossing. The roundabout improves safety by reducing the number of conflict points in the intersection and reduces the potential severity of crashes with the reduced travel speeds in the intersection and realigns the legs of the intersection to improve sight lines. The queuing coupled with vertical sight distance constraints presents potential for rear end crashes. Alternative 4 estimate of probable cost, which can be found in **Section 6.0**. Alternative 4 does not have any major

constraints that would prevent the City from constructing the roundabout. There is potential for schedule delays associated with right-of-way acquisition and coordination with property owners.

4.1.5 ALTERNATIVE 5 – WESTERN AVE REALIGNMENT

Alternative 5 proposes a partial reconstruction of the intersection to realign the west leg of Western Avenue to align with the east leg. Improvements also include the installation of a new traffic signal. This alternative was considered because it provides a more standard intersection geometric configuration, allows the traffic signal to operate more efficiently, and reduces the amount of reconstruction in comparison to Alternative 4.

The intersection would be realigned by shifting the west leg to the north to align the east and west legs. A slight skew was introduced at the intersection to minimize the impact to right-of-way on the northwest corner. The east leg would consist of restriping to align travel lanes at the intersection. The intersection configuration consists of single thru lane, left-turn lane, and right-turn lane for east and westbound approaches to the intersection. Dysart maintains two north/south travel lanes and striped two-way left turn lane. A “pork chop” median island was designed to maintain the existing curb line along the eastbound right-turn lane. A list of the improvements and associated impacts are summarized below.

- The west leg of Western Avenue will be realigned and shifted north to align with the existing east leg alignment
- The roadway improvements include reconstruction of pavement, curb & gutter, and sidewalk along the west leg for approximately 250 feet
- A “pork chop” median will be constructed on the west leg. The existing curb & gutter on the south side of Western Ave will be protected in place. New sidewalk ramps will be constructed on the north leg and pedestrian crossings will be provided on the north and west legs
- Drainage improvements include replacement of catch basins near existing facilities and constructing new catch basins. The existing drainage patterns will be maintained, and new facilities will be constructed along the “pork chop” median
- Pavement marking and signing will be provided. A channelized EB right-turn lane will be added to the west leg. The lane configuration on Dysart Road will not be changed
- A new traffic signal will be constructed for the intersection, which is not expected to be warranted for five years
- Street lighting improvements include relocating existing lighting, relocating decorative lighting, and constructing new street lighting with the traffic signal
- Landscape restoration will be required for the impacted areas behind sidewalk on the north corners. Additional landscape improvements can be provided within the “pork chop” median
- The northwest corner parcel is impacted by the improvements. The double driveway on Western Avenue will be reconstructed as a single driveway in the existing western-most driveway footprint. The onsite parking, which is a mix of asphalt and exposed dirt will be impacted by the new improvements
- There are various utility impacts expected with the improvements including communications pedestals/pull boxes, electrical pull boxes, fire hydrant relocation, valve adjustments, manhole adjustments
- Right-of-way will need to be acquired on the northwest corner. The southwest corner property is owned by the City of Avondale and does need to be designated unless the City elects to do so. The traffic signal equipment can be placed within existing right-of-way on the south corners
- The construction of the traffic signal will require preemption and UPRR coordination

- There are no major constraints that would hinder the City's ability to construct the realignment. The advanced preemption and amount of right-of-way acquisition and impacts to the northwest corner parcel will be the City's biggest concerns. Coordination with UPRR and property owners would significantly delay the schedule and add significant costs to the project
- Alternative 5 will require multiple phases to construct the new alignment for the west leg of the intersection. The contractor will need to construct the northwest corner improvements as the first phase and construct the "pork chop" median second to maintain 1 travel lane in each direction. The traffic signal installation will be the final phase of construction.

Traffic analysis for Alternative 5 was conducted using HCM 6th Edition methodology and *Synchro 11* analysis software. The intersection was evaluated for 2041 horizon volumes. *Synchro* 95th percentile queues and an assumed vehicle length of 25 feet was used to estimate queues. Permissive-protected left turn phasing was assumed for the northbound and southbound directions to accommodate northbound turning volumes and potentially mitigate northbound left crashes. Detailed *Synchro* reports are provided in **Appendix D**. Results of Alternative 5 traffic analysis indicate the following:

- Under horizon year volumes (2041), the overall intersection would operate at LOS B in the AM and PM peak hours, with all individual approaches and movements operating at LOS D or better.
- The maximum queue for the northbound approach would be 13 vehicles, occurring during the AM hours. The maximum queue for the southbound approach would be 29 vehicles, occurring during the PM hours.

Based on the results, the overall intersection is expected to operate at an acceptable LOS for Alternative 5. However, it should be noted that northbound queue lengths on the south leg may exceed available storage and extend into the UPRR at grade crossing. To avoid a conflict between vehicles and the UPRR crossing, an advanced preemption system would need to be implemented at the railroad and connected to the traffic signal. Coordination with UPRR for the design and construction of the preemption equipment within their right-of-way would be necessary. Coordination and design would require Arizona Corporation Commission (ACC) hearing approval of the traffic control changes at the crossing will be required.

This alternative is expected extend the project delivery schedule to gain UPRR approval and design.

Appendix F provides a preliminary design concept of Alternative 5 improvements and associated impacts. The realignment improves the intersection operations. Safety concerns associated with vehicles queuing onto the UPRR at grade crossing is mitigated with the installation of advanced preemption. Shifting the west leg north to align with the east leg adds additional storage to the south leg beyond the UPRR crossing. The realignment removes the east/west conflicting left-turn movements on Western Avenue and improves sight lines for vehicles entering Dysart Road. Alternative 5 estimate of probable cost can be found in **Section 6.0**. Alternative 5 does not have any major constraints that would prevent the City from constructing the realignment. There is potential for schedule delays due to UPRR coordination, right-of-way acquisition, and coordination with property owners.

5.0 DEVELOPMENT CONSIDERATIONS

This section discusses additional development considerations that will need to be taken into consideration for final design and construction of the preferred alternative.

5.1 RIGHT-OF-WAY / EASEMENTS

The proposed intersection improvements for the top two alternatives will not require additional right-of-way and easement acquisition. The proposed improvements are expected to fall within existing right-of-way. Alternatives 3 through 5 would require right-of-way and easements to construct. The need will be determined during the final design phase should the City decide to proceed forward with any one of the alternatives.

5.2 UPRR COORDINATION

The UPRR has an existing at-grade crossing roughly 200 feet south of Western Avenue on Dysart Road. Alternatives 1 and 2 do not include traffic signal improvements or improvements to the UPRR at-grade crossing and removes the need for coordination or approval from UPRR.

Should the City decide to install either Alternative 3 or 5 discussed herein, coordination and improvements with UPRR will be required. The process will also require coordination and approval by the Arizona Corporation Commission (ACC).

Alternative 4 objective was to provide a conceptual design that would avoid impacts to UPRR right-of-way. Final design of this alternative would need to be completed to maintain this objective otherwise the potential for UPRR coordination and clearance would be required.

5.3 PUBLIC OUTREACH

At the early stages and prior to completion of final design, the City should consider conducting public outreach with the local community to make them aware of the operational enhancements and obtain feedback.

5.4 UTILITY IMPACTS

Due to the surface nature of the improvements, impacts to sub-surface utilities are expected to be minimal. If conflicts are found, utility relocations may be necessary to accommodate proposed curbing and pavement replacement.

Impacts to existing above-ground utilities are expected to include valve and manhole adjustments to grade. Coordination with the private utility companies will be necessary to relocate impacted facilities and will be part of the final design process. A list of utilities with known facilities in the project area was provided in **Section 2.5**.

5.5 PAVEMENT DESIGN

The City has provided a standard pavement section for arterial and collector roadways. The project shall follow the standards provided by the City of Avondale. The typical pavement section for arterial roadways includes a minimum 4-inch asphaltic pavement section with 2 lifts and 10-inch aggregate base course. The subgrade shall be compacted and prepared according to the City design standards. The pavement section

detailed above shall be the minimum pavement depth provided during construction. Geotechnical investigation is recommended with final design and construction where pavement improvements become necessary.

6.0 ESTIMATED COSTS

An estimate of probable cost was developed for each Alternative utilizing unit prices obtained from the City's recent bid history as well as other municipal bid tabulation results from similar projects. It should be noted that these estimates were developed for current 2022 construction conditions and unit pricing is subject to change based on material availability and other economic factors. Additional price escalation was not taken into account.

The estimated costs include construction items, general items (such as mobilization, traffic control, QC/QC), right-of-way acquisitions, design fees, and contingencies. General items are calculated as percentages of the construction items subtotal based on experience with similar projects. The estimates provide costs for the preliminary design level concepts presented in **Appendix G**.

The estimated probable costs are as follows:

- **Alternative 1 – Do Not Block Intersection Signing and Striping**

○ Construction Subtotal.....	\$10,000.00*
○ General Items.....	\$0.00
○ Unidentified Item Allowance (30%).....	\$0.00
○ Right-of-Way Acquisition.....	\$0.00
○ UPRR Coordination.....	\$0.00
○ Advanced Preemption.....	\$0.00
○ UPRR Crossing Equipment	\$0.00
○ Design Fee (50%).....	\$0.00*
○ Total.....	\$10,000.00

*Cost may vary. Design and construction assumed to be completed by City Staff

- **Alternative 2 – Western Avenue Right In/Right Out**

○ Construction Subtotal.....	\$31,800.00
○ General Items.....	\$10,300.00
○ Unidentified Item Allowance (30%).....	\$9,540.00
○ Right-of-Way Acquisition.....	\$0.00
○ UPRR Coordination.....	\$0.00
○ Advanced Preemption.....	\$0.00
○ UPRR Crossing Equipment	\$0.00
○ Design Fee (50%).....	\$15,900.00
○ Total.....	\$57,240.00

- **Alternative 3 – Signalized Intersection**

○ Construction Subtotal.....	\$584,768.00
○ General Items.....	\$140,000.00
○ Unidentified Item Allowance (30%).....	\$175,430.40
○ Right-of-Way Acquisition.....	\$15,600.00
○ UPRR Coordination.....	\$150,000.00
○ Advanced Preemption.....	\$600,000.00

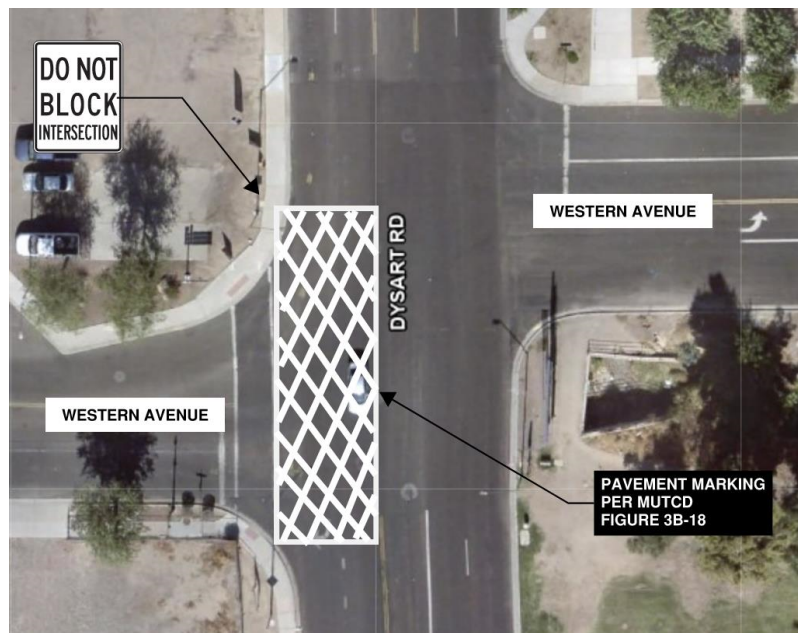
- UPRR Crossing Equipment\$700,000.00
- Design Fee (10%)\$114,029.76
- **Total**.....**\$2,339,828.16**
- **Alternative 4 - Roundabout**
 - Construction Subtotal.....\$1,506,344.00
 - General Items.....\$350,000.00
 - Unidentified Item Allowance (30%).....\$451,903.20
 - Right-of-Way Acquisition.....\$135,000.00
 - UPRR Coordination.....\$0.00
 - Advanced Preemption.....\$0.00
 - UPRR Crossing Equipment\$0.00
 - Design Fee (10%)\$195,824.72
 - **Total**.....**\$2,290,376.92**
- **Alternative 5 – Western Avenue Realignment**
 - Construction Subtotal.....\$892,430.00
 - General Items.....\$210,000.00
 - Unidentified Item Allowance (30%).....\$267,729.00
 - Right-of-Way Acquisition.....\$49,500.00
 - UPRR Coordination.....\$150,000.00
 - Advanced Preemption.....\$600,000.00
 - UPRR Crossing Equipment\$700,000.00
 - Design Fee (10%)\$116,015.90
 - **Total**.....**\$2,775,674.90**

CONCLUSION AND RECOMMENDATIONS

The City requested a review of this intersection to improve traffic operations due to increasing traffic volumes and its proximity to an at-grade railroad crossing. This scoping document evaluated the crash data, traffic volumes, impacts generated by the proposed improvements, and cost associated with each to determine a preferred alternative for consideration. The alternatives that were evaluated included a multi-lane roundabout, realigning Western Ave, and signaling the intersection.

Alternatives 1 & 2 were developed on a qualitative basis following discussions with the City staff.

Alternative 1– This alternative was developed in coordination with City staff as an immediate solution to provide gaps in the traffic stream on Dysart Road for left turning vehicles. The alternative is described as providing **Do Not Block Intersection** pavement marking and signing, per the Manual on Uniform Traffic Control Devices (MUTCD) Figure 3B-18 and as shown in the illustration to the right. The objective is to create gaps in the southbound traffic stream to allow northbound and eastbound left turn maneuvers to occur when traffic queues block the intersection during the peak periods. This alternative provides an



immediate low-cost solution but was not evaluated to determine when or if it will require improvements over time. For this reason, it is recommended that the intersection be monitored from a safety and operations standpoint to determine if the alternatives that follow should be implemented.

Alternative 2 generally consists restricting traffic movements on the west leg of the intersection to right-in/right-out access only. This alternative consists of constructing a median on the west leg to restrict eastbound and northbound left turn movements. The median would be shaped like a “pork chop” and designed with flairs and radii that restrict the left-in turn movements and allows right-in/right-out only movements. Design should be conducted to maintain access to local driveways and businesses just west of Dysart. The median would be designed to provide a pedestrian refuge and crossing. Restriping and signing of the west leg would be necessary to restrict movements and warn users of the movement restrictions. Dysart Road will be stripped and signed to remove and restrict northbound left turn movements onto Western Avenue.

Alternative 2 pros include improvement to both safety and operations. With the northbound and eastbound left turn movements being the leading contributors to delay and safety concerns in the intersection. The removal of the left turn movements essentially removes this delay as well as the safety movements of concern. This option continues to maintain free-flow operations for the northbound direction of travel on Dysart Road, which removes the risk of vehicles queuing into the UPRR at grade crossing. The median

provides a refuge for pedestrians on the west leg. The cost to implement this alternative is approximately \$58,000 and significantly less than Alternatives 3 through 5.

Alternative 2 con requires local traffic to find alternative ingress/egress routes to access the Old Town Avondale area. Strategic public outreach efforts are recommended to help communicate this alternative to the public. Wayfinding signage would be worth consideration to encourage vehicles to navigate on preferred routes and would enhance the area.

This alternative achieves the operational and safety objectives, removes the impacts to the adjacent parcel, can be designed and constructed relatively quickly, and estimated at a significantly reduced cost to the City's capital improvement program.

Alternatives 3 through 5 - were evaluated considering safety, traffic operations using 20-year horizon traffic volumes (year 2041), potential impacts (such as right-of-way and utilities), constructability, and cost estimates for the improvements. A summary of the results are provided in the table below:

ALTERNATIVE	PROS	CONS
Alternative 3: Signalized Intersection	• Operates at LOS B in the AM peak and LOS C in the PM peak • Mitigates the northbound left turn crashes through adding protective/permissive left turn phasing • Mitigates the conflict east/west left turn movements with split phasing operation • Avoids right-of way impacts	• ROW (1,300 sf) impacts to private business on the northwest corner of the intersection • Northbound queue length of 16 vehicles (400 feet) with stacking of vehicles across UPRR at grade railroad crossing • Southbound queue length of 37 vehicles (925 feet) during the PM peak • UPRR at grade railroad crossing and advanced pre-emption would be required • Cost is estimated at \$2.34 million
Alternative 4: Roundabout	• Operates at LOS A, except southbound operates at LOS B during PM peak • Mitigates the east/west conflicting left turn movements • Mitigates the northbound left turn crashes	• Significant ROW (9,000 sf) impacts to private business on the northwest corner of the intersection • Northbound rolling queue length of 8 vehicles (200 feet) with potential for stacking of vehicles across UPRR at grade railroad crossing • Southbound rolling queue length of 26 vehicles (650 feet) during the PM peak • Vertical crest at the UPRR crossing creates visibility constraint approaching the roundabout from the south • Constructability and maintenance of traffic • Cost is estimated at \$2.3 million
Alternative 5: Western Avenue Realignment	• Operates at LOS B in the AM and PM peak • Mitigates the northbound left turn crashes through adding protective/permissive left turn phasing • Mitigates the conflict east/west left turn movements with split phasing operation	• ROW (3,300 sf) impacts to private business on the northwest corner of the intersection • Northbound queue length of 13 vehicles (325 feet) with stacking of vehicles across UPRR at grade railroad crossing • Southbound queue length of 29 vehicles (725 feet) during the PM peak • UPRR at grade railroad crossing and advanced pre-emption would be required • Cost is estimated at \$2.8 million

ORDER OF PREFERENCE

Based on the information described in this document, Kimley-Horn has provided the City an order of preference for each of the alternatives evaluated with preferred option being listed first.

6. **Alternative 1** – This alternative provides the immediate improvements to the existing conditions at a very low cost requiring only striping and signing. This alternative is recommended to be monitored over time by City staff to determine if this improvement can serve as a long-term solution.
7. **Alternative 2** – As discussed in the previous sections, this option achieves all the objectives including improving traffic operations and safety through restricting intersection movements to right in / right out only. Minor intersection improvements would be necessary to restrict the movements and is estimated to cost \$58,000. Design and construction can be completed relatively quickly.
8. **Alternative 3** – This alternative would accommodate all turning movements, would improve traffic operations and safety by installing a split phased traffic signal. Although the intersection improvements are minimal and does not impact adjacent properties or right of way, there is a significant increase to cost from Alternative 2 (\$2.34 mil) due to proximity and the anticipated need for advanced pre-emption and improvements by UPRR at the existing at-grade rail crossing. Design and construction are expected to be much longer due to coordination efforts and design clearances/requirements by UPRR.
9. **Alternative 4** – This alternative improves traffic operations and safety through installation of a multi-lane roundabout. This footprint of this alternative comes with significant impacts to the adjacent property owners and requires significant right of way. This intersection improvements results in larger cost (\$2.3 mil) but avoids the need for improvements to the existing at-grade rail crossing.
10. **Alternative 5** – While this alternative improves traffic operations and safety by realignment of the west leg and installation of a traffic signal, the improvements significantly impact the adjacent property owners and require significant right-of-way as compared to Alternative 4. This alternative comes with the highest price tag (\$2.8 mil) due to the intersection improvements as well as the anticipated need for advanced pre-emption and improvements by UPRR at the existing at-grade rail crossing.

APPENDIX

- *Appendix A – Crash Data*
- *Appendix B – Volumes & Growth Rate Calculations*
- *Appendix C – Traffic Signal Warrant Study*
- *Appendix D – Traffic Analysis Reports*
- *Appendix E – FEMA Floodplain Map*
- *Appendix F – Alternatives Design Exhibits*
- *Appendix G – Alternatives Opinion of Probable Cost*

Appendix A

Crash Data

Incident ID	Incident Date & Time	Incident On Road		Incident Crossing Feature	Incident Injury Severity Description	Incident First Harmful Description	Incident Collision Manner Desc	Incident Light Condition Desc	Incident Intersection Type Desc	Incident Junction Relation Desc	Unit Body Style Desc	Unit Travel Direction Desc	Unit Action Desc	Unit Number	Unit Event Sequence Desc1	Person Type Desc	Person Safety Device Desc	Person Violation Desc1	Person Physical Desc0
3088372	5/10/2016 5:37:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Angle (Front To Side)(Other Than Left Turn)	Dawn	Four Way Intersection	Intersection Interchange	Passenger 4Dsd Sedan 4 Dr	2 - South	Going Straight Ahead	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Unknown	0 - No Apparent Influence
3088372	5/10/2016 5:37:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Angle (Front To Side)(Other Than Left Turn)	Dawn	Four Way Intersection	Intersection Interchange	Motorcycle Mc Motorcycle	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Helmet Used	Unknown	0 - No Apparent Influence
3129209	9/2/2016 10:28:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Not Reported	Railway Grade Crossing	Passenger 4Dsw Station Wagon 4 Dr	2 - South	Slowing In Trafficway	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Followed Too Closely	0 - No Apparent Influence
3129209	9/2/2016 10:28:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Not Reported	Railway Grade Crossing	Truck Tk Truck	2 - South	Stopped In Trafficway	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Speed Too Fast For Conditions	0 - No Apparent Influence
3176039	12/14/2016 1:24:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Four Way Intersection	Intersection Non Interchange	Passenger 4Dsd Sedan 4 Dr	6 - Northeast	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3176039	12/14/2016 1:24:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Four Way Intersection	Intersection Non Interchange	Passenger 4Dsd Sedan 4 Dr	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3197234	2/9/2017 8:33:00 AM	07 DYSART	RD	Western Ave	Suspected Serious Injury	Pedestrian	Other	Daylight	Four Way Intersection	Intersection Non Interchange	Passenger Pu Pickup	3 - East	Making Left Turn	1	Pedestrian	Driver	Shoulder And Lap Belt	Other	0 - No Apparent Influence
3197234	2/9/2017 8:33:00 AM	07 DYSART	RD	Western Ave	Suspected Serious Injury	Pedestrian	Other	Daylight	Four Way Intersection	Intersection Non Interchange	Invalid	2 - South	Working On Road	2	Motor Vehicle In Transport	Pedestrian	Not Applicable	No Improper Action	0 - No Apparent Influence
3285907	10/3/2017 7:47:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Four Way Intersection	Intersection Related Non Interchange	Passenger 4Dsd Sedan 4 Dr	2 - South	Going Straight Ahead	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Speed Too Fast For Conditions	0 - No Apparent Influence
3285907	10/3/2017 7:47:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Four Way Intersection	Intersection Related Non Interchange	Passenger 4Dsd Sedan 4 Dr	2 - South	Stopped In Trafficway	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3293919	11/4/2017 12:06:00 PM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Sideswipe Opposite Direction	Daylight	T Intesection	Intersection Non Interchange	Passenger 4Dsw Station Wagon 4 Dr	4 - West	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3293919	11/4/2017 12:06:00 PM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Sideswipe Opposite Direction	Daylight	T Intesection	Intersection Non Interchange	Passenger Pu Pickup	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3293919	11/4/2017 12:06:00 PM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Sideswipe Opposite Direction	Daylight	T Intesection	Intersection Non Interchange	Passenger 4Dsd Sedan 4 Dr	3 - East	Stopped In Trafficway	3	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3324016	1/11/2018 12:58:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Angle (Front To Side)(Other Than Left Turn)	Daylight	T Intesection	Intersection Non Interchange	Passenger 4Dsw Station Wagon 4 Dr	3 - East	Going Straight Ahead	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Unknown	0 - No Apparent Influence
3324016	1/11/2018 12:58:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Angle (Front To Side)(Other Than Left Turn)	Daylight	T Intesection	Intersection Non Interchange	Passenger 4Dsd Sedan 4 Dr	1 - North	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Unknown	0 - No Apparent Influence
3329349	1/26/2018 11:48:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Four Way Intersection	Intersection Related Non Interchange	Not Reported	2 - South	Unknown	1	Motor Vehicle In Transport	Driver	Unknown	Unknown	
3329349	1/26/2018 11:48:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Four Way Intersection	Intersection Related Non Interchange	Passenger 4Dsd Sedan 4 Dr	6 - Northeast	Making Left Turn	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3329350	1/26/2018 3:40:00 PM	07 WESTERN	AVE	Dysart Rd	Suspected Minor Injury	Pedalcycle	Angle (Front To Side)(Other Than Left Turn)	Daylight	Four Way Intersection	Intersection Related Non Interchange	Passenger 12Pu Pickup 1 2 Ton	8 - Southeast	Making Right Turn	1	Pedalcycle	Driver	Shoulder And Lap Belt	Speed Too Fast For Conditions	0 - No Apparent Influence
3329350	1/26/2018 3:40:00 PM	07 WESTERN	AVE	Dysart Rd	Suspected Minor Injury	Pedalcycle	Angle (Front To Side)(Other Than Left Turn)	Daylight	Four Way Intersection	Intersection Related Non Interchange	Invalid	1 - North	Going Straight Ahead	2	Motor Vehicle In Transport	Pedalcyclist	Helmet Used	No Improper Action	0 - No Apparent Influence
3402897	8/8/2018 10:43:00 AM	07 DYSART	RD	Western Ave	Suspected Minor Injury	Pedalcycle	Angle (Front To Side)(Other Than Left Turn)	Daylight	Not Reported	Intersection T Inter	Invalid	1 - North	Going Straight Ahead	1	Motor Vehicle In Transport	Pedalcyclist	Unknown	Unknown	0 - No Apparent Influence
3402897	8/8/2018 10:43:00 AM	07 DYSART	RD	Western Ave	Suspected Minor Injury	Pedalcycle	Angle (Front To Side)(Other Than Left Turn)	Daylight	Not Reported	Intersection T Inter	Passenger 2Dsd Sedan 2 Dr	2 - South	Making Right Turn	2	Pedalcycle	Driver	Shoulder And Lap Belt	Ran Stop Sign	0 - No Apparent Influence
3415808	9/17/2018 8:13:00 AM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection 4 Way	Passenger 4Dsd Sedan 4 Dr	3 - East	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3415808	9/17/2018 8:13:00 AM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection 4 Way	Passenger 4Dsw Station Wagon 4 Dr	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3462104	11/17/2018 10:29:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection	Passenger 4Dsd Sedan 4 Dr	6 - Northeast	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3462104	11/17/2018 10:29:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection	Passenger 4Dsd Sedan 4 Dr	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3482597	2/5/2019 3:50:00 PM	07 DYSART	RD	Buckeye Rd	No Injury	Motor Vehicle In Transport	Unknown	Daylight	Not Reported	Railway Grade Crossing	Not Reported	1 - North	Unknown	1	Motor Vehicle In Transport	Driver	Unknown	Unknown	

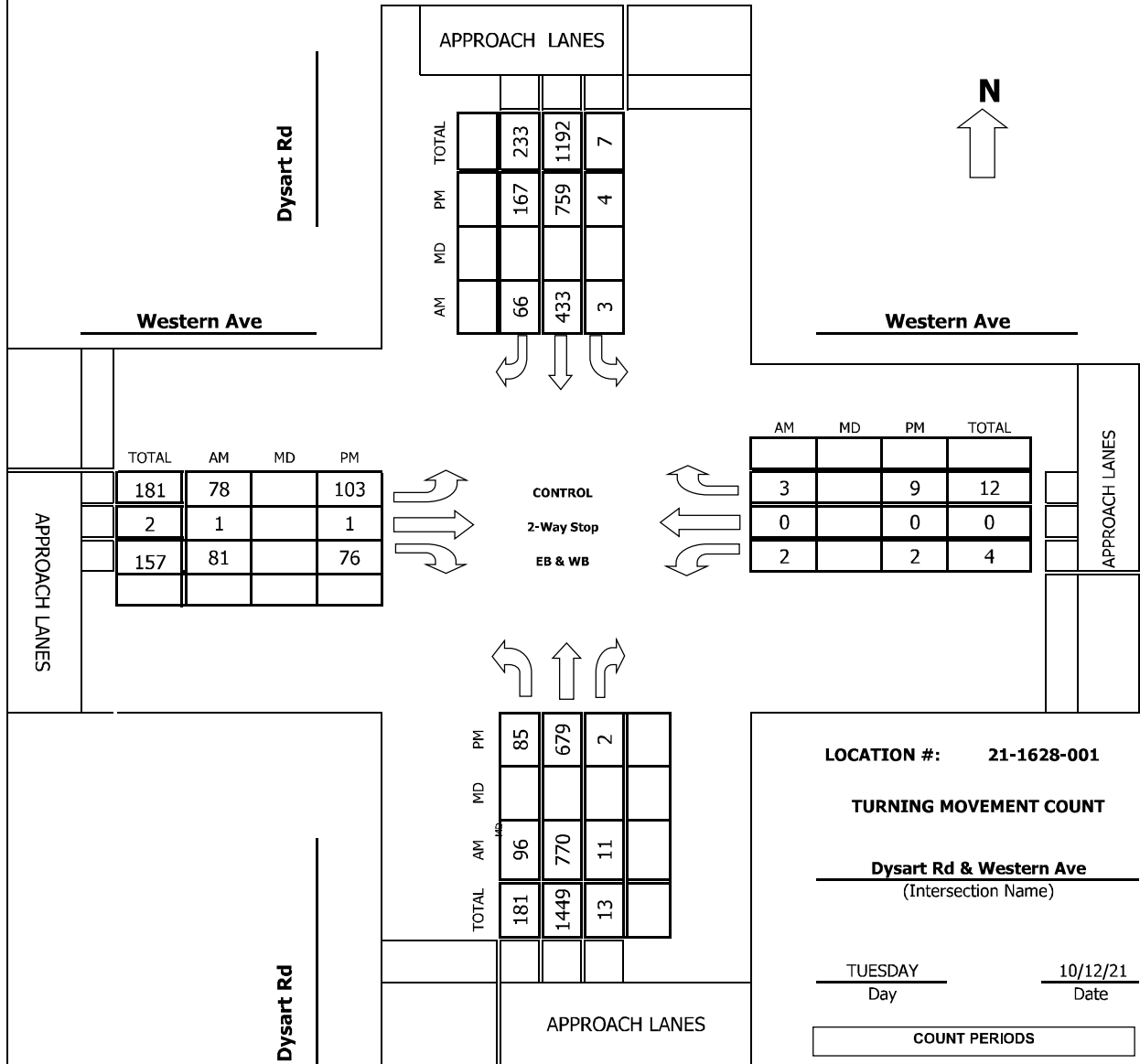
3482597	2/5/2019 3:50:00 PM	07 DYSART	RD	Buckeye Rd	No Injury	Motor Vehicle In Transport	Unknown	Daylight	Not Reported	Railway Grade Crossing	Passenger 4Dsd Sedan 4 Dr	1 - North	Stopped In Trafficway	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3506401	3/31/2019 7:52:00 AM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection T Inter	Unknown	3 - East	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Unknown	0 - No Apparent Influence
3506401	3/31/2019 7:52:00 AM	07 DYSART	RD	Western Ave	Possible Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection T Inter	Unknown	4 - West	Making Left Turn	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Unknown	0 - No Apparent Influence
3540747	7/3/2019 8:01:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Sideswipe Same Direction	Dark Lighted	Not At An Intersection	Not Junction Related	Passenger 12Pu Pickup 1 2 Ton	6 - Northeast	Making Left Turn	1	Motor Vehicle In Transport	Driver	Unknown	Unknown	
3540747	7/3/2019 8:01:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Sideswipe Same Direction	Dark Lighted	Not At An Intersection	Not Junction Related	Passenger 4Dsd Sedan 4 Dr	1 - North	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3544171	7/11/2019 7:01:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection 4 Way	Truck Vn Van	3 - East	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3544171	7/11/2019 7:01:00 AM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection 4 Way	Truck Tt Truck Tractor	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3611893	12/12/2019 9:42:00 AM	07 WESTERN	AVE	Dysart Rd	Suspected Minor Injury	Pedalcycle	Angle (Front To Side)(Other Than Left Turn)	Daylight	Not Reported	Intersection Related	Unknown	3 - East	Making Right Turn	1	Pedalcycle	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3611893	12/12/2019 9:42:00 AM	07 WESTERN	AVE	Dysart Rd	Suspected Minor Injury	Pedalcycle	Angle (Front To Side)(Other Than Left Turn)	Daylight	Not Reported	Intersection Related	Invalid	1 - North	Crossing Road	2	Motor Vehicle In Transport	Pedalcyclist	None Used	No Improper Action	0 - No Apparent Influence
3617877	12/20/2019 12:47:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection 4 Way	Passenger 4Dsd Sedan 4 Dr	6 - Northeast	Making Left Turn	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Failed To Yield Right Of Way	0 - No Apparent Influence
3617877	12/20/2019 12:47:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Daylight	Not Reported	Intersection 4 Way	Passenger 12Pu Pickup 1 2 Ton	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3629697	1/27/2020 2:25:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Not Reported	Intersection Related	Passenger 4Dsd Sedan 4 Dr	2 - South	Going Straight Ahead	1	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	Followed Too Closely	0 - No Apparent Influence
3629697	1/27/2020 2:25:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Not Reported	Intersection Related	Passenger 4Dsd Sedan 4 Dr	2 - South	Stopped In Trafficway	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3683736	9/6/2020 2:44:00 PM	07 DYSART	RD	Main St	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Not Reported	Intersection Related	Unknown	99 - Unknown	Unknown	1	Motor Vehicle In Transport	Driver	Unknown	Unknown	
3683736	9/6/2020 2:44:00 PM	07 DYSART	RD	Main St	No Injury	Motor Vehicle In Transport	Rear End	Daylight	Not Reported	Intersection Related	Passenger 4Dsw Station Wagon 4 Dr	2 - South	Stopped In Trafficway	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence
3712421	11/17/2020 6:07:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Dark Lighted	Not Reported	Intersection 4 Way	Unknown	6 - Northeast	Making Left Turn	1	Motor Vehicle In Transport	Driver	Unknown	Failed To Yield Right Of Way	
3712421	11/17/2020 6:07:00 PM	07 DYSART	RD	Western Ave	No Injury	Motor Vehicle In Transport	Left Turn	Dark Lighted	Not Reported	Intersection 4 Way	Passenger 4Dsd Sedan 4 Dr	2 - South	Going Straight Ahead	2	Motor Vehicle In Transport	Driver	Shoulder And Lap Belt	No Improper Action	0 - No Apparent Influence

Appendix B

Volumes & Growth Rate Calculations

Project #: 21-1628-001

TMC SUMMARY OF Dysart Rd & Western Ave



LOCATION #: 21-1628-001

TURNING MOVEMENT COUNT

Dysart Rd & Western Ave
(Intersection Name)

TUESDAY 10/12/21
Day Date

COUNT PERIODS

AM	630AM	-	830AM
NOON		-	
PM	245PM	-	445PM

AM PEAK HOUR 700 AM

NOON PEAK HOUR

PM PEAK HOUR 315 PM

Intersection Turning Movement

Prepared by:



FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745



veracitytrafficgroup

N-S STREET: **Dysart Rd**

DATE: **10/12/21**

LOCATION: **Avondale**

E-W STREET: **Western Ave**

DAY: **TUESDAY**

PROJECT# **21-1628-001**

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 0	EL 1	ET 0	ER 1	WL 1	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM	11	89	1	2	61	16	13	0	7	0	0	0	200
6:45 AM	14	135	0	4	95	16	16	0	17	0	0	0	297
7:00 AM	20	184	1	3	109	17	24	0	20	2	0	0	380
7:15 AM	23	177	2	0	83	18	21	1	20	0	0	0	345
7:30 AM	29	201	4	0	109	12	12	0	22	0	0	2	391
7:45 AM	24	208	4	0	132	19	21	0	19	0	0	1	428
8:00 AM	16	149	0	1	105	25	14	2	14	0	1	4	331
8:15 AM	14	145	1	0	97	19	20	0	17	0	0	0	313
8:30 AM													
8:45 AM													
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	151	1288	13	10	791	142	141	3	136	2	1	7	2685
Approach %	10.40	88.71	0.90	1.06	83.88	15.06	50.36	1.07	48.57	20.00	10.00	70.00	
App/Depart	1452	/	1436	943	/	929	280	/	26	10	/	294	

AM Peak Hr Begins at: 700 AM

PEAK

Volumes	96	770	11	3	433	66	78	1	81	2	0	3	1544
Approach %	10.95	87.80	1.25	0.60	86.25	13.15	48.75	0.63	50.63	40.00	0.00	60.00	

PEAK HR.

FACTOR:	0.929	0.831	0.909	0.625	0.902
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CONTROL: **2-Way Stop (EB & WB)**

COMMENT 1:

GPS: **33.435386, -112.341016**

Intersection Turning Movement



FIELD DATA SERVICES OF ARIZONA, INC.
520.316.6745



veracitytrafficgroup

N-S STREET: **Dysart Rd** DATE: **10/12/21** LOCATION: **Avondale**
E-W STREET: **Western Ave** DAY: **TUESDAY** PROJECT#: **21-1628-001**

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	0	0	2	0	1	0	1	1	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM	21	176	2	0	189	47	22	0	19	0	1	2	479
3:00 PM	21	160	1	3	179	60	25	0	14	0	0	4	467
3:15 PM	23	171	0	2	224	38	23	1	13	1	0	3	499
3:30 PM	10	163	1	0	179	36	26	0	19	1	0	1	436
3:45 PM	25	191	1	1	171	44	28	0	22	0	0	1	484
4:00 PM	27	154	0	1	185	49	26	0	22	0	0	4	468
4:15 PM	21	153	2	0	173	39	25	0	21	0	0	0	434
4:30 PM	25	160	1	0	185	35	24	0	15	0	0	1	446
4:45 PM													
5:00 PM													
5:15 PM													
5:30 PM													
5:45 PM													
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	173	1328	8	7	1485	348	199	1	145	2	1	16	3713
Approach %	11.46	88.01	0.53	0.38	80.71	18.91	57.68	0.29	42.03	10.53	5.26	84.21	
App/Depart	1509	/	1543	1840	/	1632	345	/	16	19	/	522	

PM Peak Hr Begins at: 315 PM

PEAK

Volumes	85	679	2	4	759	167	103	1	76	2	0	9	1887
Approach %	11.10	88.64	0.26	0.43	81.61	17.96	57.22	0.56	42.22	18.18	0.00	81.82	

PEAK HR.

FACTOR:	0.882	0.881	0.900	0.688	0.945
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CONTROL: **2-Way Stop (EB & WB)**
COMMENT 1: **0**
GPS: **33.435386, -112.341016**

Pedestrian & Bicycle Study

N-S STREET: Dysart Rd
E-W STREET: Western Ave

Date: 10/12/21
Day: TUESDAY

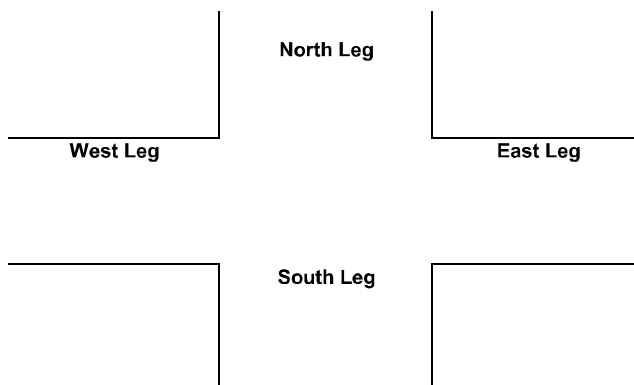
City: Avondale
Project #: 21-1628-001

	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
6:30 AM	0	0	0	2
6:45 AM	0	0	0	6
7:00 AM	0	1	0	7
7:15 AM	1	0	0	2
7:30 AM	1	1	2	1
7:45 AM	0	0	1	1
8:00 AM	0	1	0	0
8:15 AM	0	0	2	0
TOTAL	2	3	5	19

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

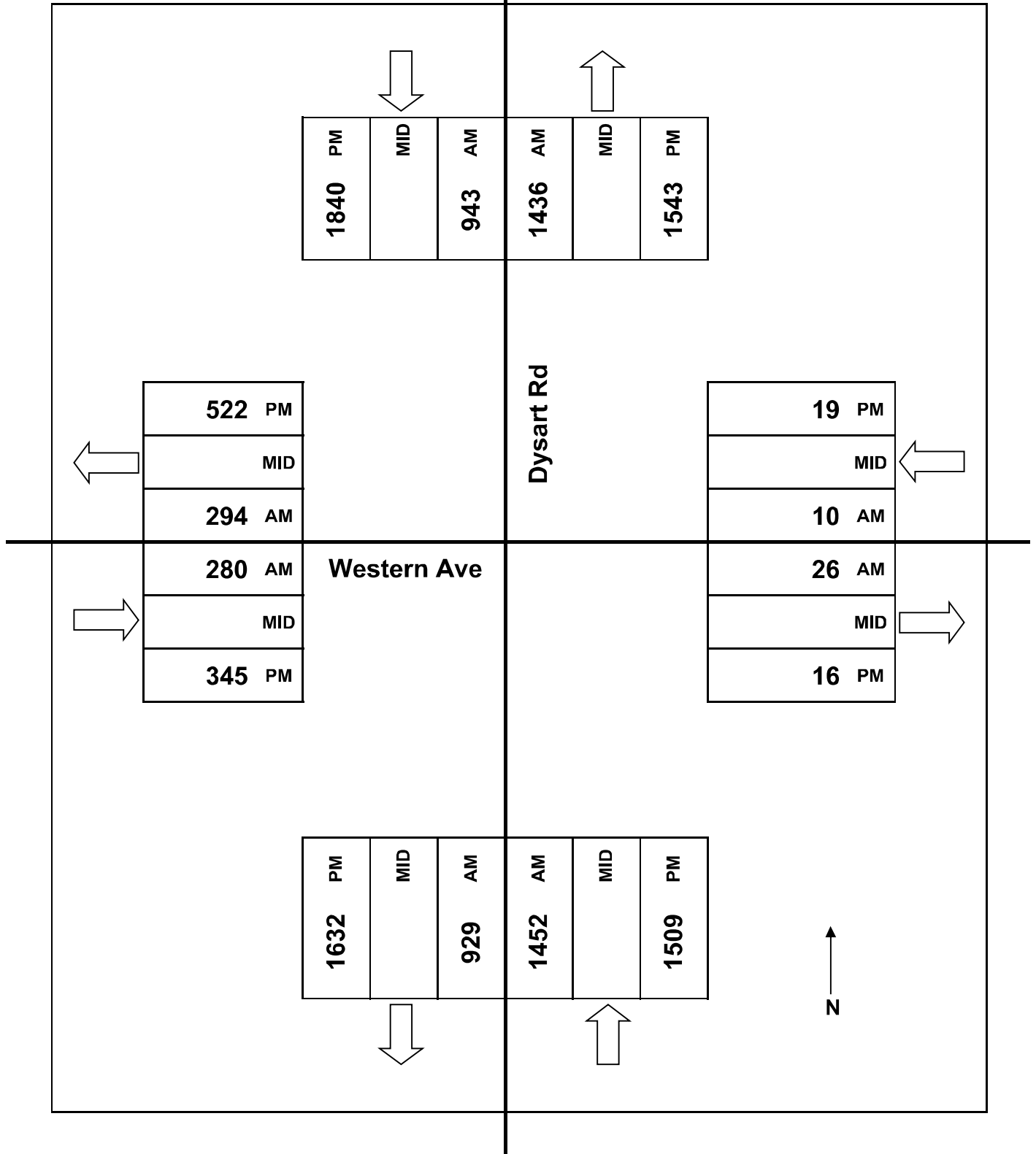
	PEDESTRIANS			
	N-LEG	S-LEG	E-LEG	W-LEG
2:45 PM	0	0	0	0
3:00 PM	0	0	0	2
3:15 PM	0	0	1	4
3:30 PM	0	0	0	2
3:45 PM	1	0	1	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	1
4:30 PM	0	0	0	0
TOTAL	1	0	2	9

	BICYCLES			
	N-LEG	S-LEG	E-LEG	W-LEG
2:45 PM	0	0	0	0
3:00 PM	0	0	0	0
3:15 PM	0	0	0	1
3:30 PM	0	0	0	1
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
TOTAL	0	0	0	2



JOB# 21-1628-001
VALIDATED: _____

DATE: 10/12/21
DAY: TUESDAY



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

Volumes for: Tuesday, October 12, 2021

City: Avondale

Project #: 21-1628-002

Location: Dysart Rd north of Western Ave

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	24	25			12:00	172	163		
00:15	9	15			12:15	155	164		
00:30	12	20			12:30	132	157		
00:45	15	60	11	71	12:45	118	577	181	665
01:00	12	13			13:00	166	178		
01:15	8	20			13:15	172	166		
01:30	5	4			13:30	145	195		
01:45	4	29	5	42	13:45	144	627	209	748
02:00	1	2			14:00	184	195		
02:15	8	8			14:15	173	247		
02:30	11	9			14:30	169	212		
02:45	10	30	11	30	14:45	200	726	236	890
03:00	14	13			15:00	189	242		
03:15	19	9			15:15	197	264		
03:30	18	9			15:30	190	215		
03:45	33	84	23	54	15:45	220	796	216	937
04:00	28	24			16:00	184	235		
04:15	50	22			16:15	178	212		
04:30	57	34			16:30	185	220		
04:45	76	211	46	126	16:45	198	745	203	870
05:00	68	35			17:00	186	220		
05:15	90	36			17:15	187	205		
05:30	77	49			17:30	195	195		
05:45	91	326	45	165	17:45	185	753	226	846
06:00	89	48			18:00	161	221		
06:15	111	51			18:15	156	168		
06:30	102	79			18:30	177	193		
06:45	151	453	115	293	18:45	132	626	210	792
07:00	208	129			19:00	143	183		
07:15	198	101			19:15	102	192		
07:30	215	121			19:30	90	162		
07:45	230	851	151	502	19:45	96	431	107	644
08:00	167	131			20:00	88	136		
08:15	165	116			20:15	69	96		
08:30	158	117			20:30	67	96		
08:45	156	646	109	473	20:45	60	284	94	422
09:00	128	115			21:00	55	87		
09:15	143	107			21:15	66	95		
09:30	147	117			21:30	62	79		
09:45	139	557	111	450	21:45	49	232	65	326
10:00	154	123			22:00	41	82		
10:15	146	128			22:15	38	42		
10:30	165	103			22:30	31	57		
10:45	165	630	142	496	22:45	22	132	39	220
11:00	163	140			23:00	30	47		
11:15	159	157			23:15	22	27		
11:30	160	141			23:30	14	21		
11:45	175	657	152	590	23:45	15	81	21	116

Total Vol. 4534 3292 **7826** 6010 7476 **13486**

GPS Coordinates: 33.435799, -112.341059

Daily Totals

NB	SB	EB	WB	Combined
10544	10768			21312

AM

PM

Split %	57.9%	42.1%	36.7%	44.6%	55.4%	63.3%
Peak Hour	07:00	11:45	07:00	15:00	14:45	14:45
Volume	851	636	1353	796	957	1733
P.H.F.	0.93	0.97	0.89	0.90	0.91	0.94

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

Volumes for: Tuesday, October 12, 2021

City: Avondale

Project #: 21-1628-003

Location: Western Ave east of Dysart Rd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			0	0	12:00			4	3
00:15			0	1	12:15			3	5
00:30			0	0	12:30			2	4
00:45			0	0	12:45			2	11
01:00			0	0	13:00			3	5
01:15			0	0	13:15			2	2
01:30			0	0	13:30			2	2
01:45			0	0	13:45			3	10
02:00			0	0	14:00			0	0
02:15			0	0	14:15			3	0
02:30			0	0	14:30			4	1
02:45			0	0	14:45			2	9
03:00			0	0	15:00			4	4
03:15			0	0	15:15			3	4
03:30			0	0	15:30			1	2
03:45			0	0	15:45			2	10
04:00			0	0	16:00			1	4
04:15			2	0	16:15			2	0
04:30			2	1	16:30			1	1
04:45			1	5	16:45			2	6
05:00			1	3	17:00			1	3
05:15			0	0	17:15			1	2
05:30			1	0	17:30			2	4
05:45			0	2	17:45			1	5
06:00			0	0	18:00			0	0
06:15			0	0	18:15			0	0
06:30			3	0	18:30			5	4
06:45			4	7	18:45			1	6
07:00			4	2	19:00			1	3
07:15			3	0	19:15			0	3
07:30			4	2	19:30			1	1
07:45			4	15	19:45			0	2
08:00			3	5	20:00			0	0
08:15			1	0	20:15			0	0
08:30			2	1	20:30			1	0
08:45			3	9	20:45			0	1
09:00			3	0	21:00			0	0
09:15			3	4	21:15			0	0
09:30			1	0	21:30			0	0
09:45			3	10	21:45			0	0
10:00			6	3	22:00			0	0
10:15			3	4	22:15			0	0
10:30			7	1	22:30			0	0
10:45			2	18	22:45			0	0
11:00			4	2	23:00			1	2
11:15			4	3	23:15			0	0
11:30			3	4	23:30			0	0
11:45			7	18	23:45			0	1

Total Vol. 84 52 **136** 61 70 **131**

GPS Coordinates: 33.435490, -112.340437

Daily Totals

NB	SB	EB	WB	Combined
		145	122	267

AM

PM

Split %	61.8%	38.2%	50.9%	46.6%	53.4%	49.1%
Peak Hour	09:45	10:45	10:00	14:15	12:15	12:15
Volume	19	16	33	13	15	25
P.H.F.	0.68	0.57	0.92	0.81	0.75	0.78

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

Volumes for: Tuesday, October 12, 2021

City: Avondale

Project #: 21-1628-004

Location: Western Ave west of Dysart Rd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			3	4	12:00			31	40
00:15			1	4	12:15			33	43
00:30			6	5	12:30			34	44
00:45			4	14	12:45			37	135
01:00			3	3	13:00			55	43
01:15			2	3	13:15			44	45
01:30			1	0	13:30			44	57
01:45			2	8	13:45			27	170
02:00			1	1	14:00			39	51
02:15			3	3	14:15			41	45
02:30			2	1	14:30			40	68
02:45			4	10	14:45			41	161
03:00			5	5	15:00			39	81
03:15			9	4	15:15			37	61
03:30			2	2	15:30			45	46
03:45			5	21	15:45			50	171
04:00			8	7	16:00			48	76
04:15			9	4	16:15			46	60
04:30			12	7	16:30			39	60
04:45			14	43	16:45			47	180
05:00			13	7	17:00			47	60
05:15			18	7	17:15			38	49
05:30			3	7	17:30			37	40
05:45			25	59	17:45			32	154
06:00			19	19	18:00			35	58
06:15			15	15	18:15			46	40
06:30			20	27	18:30			31	47
06:45			33	87	18:45			28	140
07:00			44	37	19:00			24	33
07:15			42	41	19:15			20	38
07:30			34	41	19:30			16	29
07:45			40	160	19:45			19	79
08:00			30	42	20:00			21	25
08:15			37	33	20:15			28	16
08:30			27	26	20:30			16	13
08:45			23	117	20:45			17	82
09:00			30	29	21:00			9	16
09:15			31	33	21:15			14	25
09:30			35	39	21:30			22	8
09:45			28	124	21:45			10	55
10:00			38	29	22:00			16	17
10:15			31	34	22:15			9	8
10:30			34	29	22:30			12	6
10:45			37	140	22:45			7	44
11:00			25	33	23:00			4	6
11:15			35	42	23:15			9	5
11:30			29	28	23:30			3	5
11:45			36	125	23:45			4	20

Total Vol. 908 925 **1833** 1391 1827 **3218**

GPS Coordinates: 33.435349, -112.341574

Daily Totals

NB	SB	EB	WB	Combined
		2299	2752	5051

AM

Split %	49.5%	50.5%	36.3%
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Peak Hour	07:00	11:45	07:00
Volume	160	175	322
P.H.F.	0.91	0.91	0.97

PM

43.2%	56.8%	63.7%
-------	-------	--------------

	15:30	14:30	15:45
	189	279	448
	0.95	0.86	0.90

Counts		2021 Existing AM												2021 Existing PM											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		96	770	11	3	433	66	78	1	81	2	1	3	85	679	2	4	759	167	103	1	76	2	1	9

Existing Year	2021	Proposed Dysart Growth Rate (North Leg):												Proposed Dysart COVID Adjustment:												1.00
Opening Year	N/A	Proposed Dysart Growth Rate (South Leg):												Proposed Western COVID Adjustment:												1.06
Horizon Year	2041	Proposed Western Growth Rate (West Leg):																								
		Proposed Western Growth Rate (East Leg):																								

Adjustment		AM												PM											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.06	1.06	1.06	1.06	1.06

Future Growth		AM												PM											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		2.0%	2.0%	2.0%	2.0%	3.0%	2.0%	2.0%	2.0%	3.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	3.0%	2.0%	2.0%	2.0%	3.0%	3.0%	2.0%	2.0%

Counts		2021 Existing AM with Adjustment												2021 Existing PM with Adjustment											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		96	770	11	3	433	66	83	1	86	2	1	3	85	679	2	4	759	167	110	1	81	2	1	10

Counts		2021 Existing AM Other Developments												2021 Existing PM Other Developments											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts		2021 Existing AM Final												2021 Existing PM Final											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		96	770	11	3	433	66	83	1	86	2	1	3	85	679	2	4	759	167	110	1	81	2	1	10

Counts		2041 Background AM Base												2041 Background PM Base											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		143	1144	16	4	782	98	123	1	155	4	1	4	126	1009	3	6	1371	248	163	1	146	4	1	15

Counts		2041 Background AM Other Developments												2041 Background PM Other Developments											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts		2041 Background AM Final												2041 Background PM Final											
Intersection		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1		143	1144	16	4	782	98	123	1	155	4	1	4	126	1009	3	6	1371	248	163	1	146	4	1	15

	Raw 2021 Daily Volume	Adjusted 2021 Daily Volume	2041 ADT
Dysart N Leg	21312	21320	31690
Dysart S Leg		0	0
Western W Leg	5051	5380	8000
Western E Leg	267	290	440

City of Avondale
Dysart & Western RAB Feasibility Analysis

City of Avondale Historical vs Current Daily Traffic Volume Comparison (for COVID Adjustments)					
Location			Year		Growth Rate
			2017	2021	
1	Dysart Rd	between Western Ave & MC-85	16820	21312	6.10%
2	Western Ave	west of Dysart Rd	5380	5051	-1.57%

COVID Adjustment Analysis & Recommendations:

Data:

- Available Historical Volumes from 2017 were obtained from the City of Avondale and compared to current 2021 counts on Dysart and on Western.

Dysart Results:

- The volumes on Dysart are higher in 2021 than in 2017.
- Recommendation: No volume adjustment for 2021 counts on Dysart.

Western Results:

- The volumes on Western are lower in 2021 than in 2017.
- Recommendation: To avoid a negative growth rate, apply an adjustment factor to 2021 volumes on Western to bring them up to 2017 levels. Apply the adjustment to both approaches (eastbound and westbound).

Proposed Dysart Volume Adjustment Factor:

1.00

Proposed Western Volume Adjustment Factor:

1.06

City of Avondale Current vs Future Daily Traffic Volume Comparison (for Horizon-Year Growth Rate)				
Location			Year	
			2021	2040
A	Dysart Rd	North of Western	21312	30741
B	Western	West of Dysart	5380	7483
C	Dysart Rd	South of Western	19713	37476

*Note: COVID-Adjusted 2021 volume is used
*Note: 2021 Daily counts are estimated using a calculated K factor applied to the peak hour volumes

Growth Rate Analysis & Recommendations:

- Data:
- October 2021 ADT Counts on Dysart (collected by FDS)
 - October 2021 TMC Counts at Western & Dysart (collected by FDS)
 - 2040 Volumes from Transportation Master Plan (see Vol Maps Tab)

- Dysart Obsevatons:
- Agua Fria Bridge connection is expected to increase volumes in this localized area on Dysart.

- Western Observations:
- Growth on Western likely to be lower than along Dysart. Dysart growth largely driven by bridge connection.

Recommendation: Use separate growth rate for movements to/from the side street vs mainline.

Proposed Dysart Growth Rate (North Leg):	2.0%	*Note: Based on caculations above, rounded to the nearest whole number
Proposed Dysart Growth Rate (South Leg):	3.0%	*Note: Based on caculations above, rounded to the nearest whole number
Proposed Western Growth Rate (West Leg):	2.0%	*Note: Based on caculations above, rounded to the nearest whole number
Proposed Western Growth Rate (East Leg):	2.0%	*Note: No 2040 data available for east leg, use same growth rate as west leg.

City of Avondale

Dysart & Western RAB Feasibility Analysis

K Factor Calculation					
Location			Year		K Factor
			2021	2021	
			ADT	PM Peak Hr TMC	
A	Dysart Rd	North of Western	21312	1733	8.13%

Notes:

Data:

- October 2021 ADT Counts on Dysart (collected by FDS)

K Factor = PM Peak Hour / Daily Total

Appendix C

Traffic Signal Warrant Study

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2009 MUTCD)

MAJOR STREET: DYSART RD NB SB # OF APPROACH LANES: 2

MINOR STREET: WESTERN AVE EB WB # OF APPROACH LANES: 1

CITY, STATE: AVONDALE, AZ

COMMENTS: EXISTING 2021 VOLUMES

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2	WARRANT 3
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	Four-Hour	Peak Hour
THRESHOLD VALUES					600	150		900	75		480	120		720	60			
06:00 AM	TO	07:00 AM	293	87					Y					Y				
07:00 AM	TO	08:00 AM	502	160		Y			Y		Y	Y	Y		Y			
08:00 AM	TO	09:00 AM	473	117					Y					Y				
09:00 AM	TO	10:00 AM	450	124					Y			Y			Y			
10:00 AM	TO	11:00 AM	496	140					Y		Y	Y	Y		Y			
11:00 AM	TO	12:00 PM	590	125					Y		Y	Y	Y		Y			
12:00 PM	TO	01:00 PM	665	135	Y				Y		Y	Y	Y		Y			
01:00 PM	TO	02:00 PM	748	170	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
02:00 PM	TO	03:00 PM	890	161	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	
03:00 PM	TO	04:00 PM	937	171	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
04:00 PM	TO	05:00 PM	870	180	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	
05:00 PM	TO	06:00 PM	846	154	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	
06:00 PM	TO	07:00 PM	792	140	Y				Y		Y	Y	Y	Y	Y	Y	Y	
07:00 PM	TO	08:00 PM	644	79	Y				Y		Y				Y			
08:00 PM	TO	09:00 PM	422	82					Y						Y			
09:00 PM	TO	10:00 PM	326	55														
			9,944	2,080	8	6	5	1	15	1	11	11	10	6	15	6	1	0
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					NOT SATISFIED			NOT SATISFIED			NOT SATISFIED						NOT SATISFIED	NOT SATISFIED

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2009 MUTCD)

MAJOR STREET: DYSART RD NB SB # OF APPROACH LANES: 2

MINOR STREET: WESTERN AVE EB WB # OF APPROACH LANES: 1

CITY, STATE: AVONDALE, AZ

COMMENTS: 2041 PROJECTED VOLUMES

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES					600	150		900	75		480	120		720	60			
06:00 AM	TO	07:00 AM	435	129					Y			Y			Y			
07:00 AM	TO	08:00 AM	746	238	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
08:00 AM	TO	09:00 AM	703	174	Y	Y	Y		Y		Y	Y	Y	Y				
09:00 AM	TO	10:00 AM	669	184	Y	Y	Y		Y		Y	Y	Y	Y				
10:00 AM	TO	11:00 AM	737	208	Y	Y	Y		Y		Y	Y	Y	Y	Y			
11:00 AM	TO	12:00 PM	877	186	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
12:00 PM	TO	01:00 PM	988	201	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
01:00 PM	TO	02:00 PM	1,111	253	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
02:00 PM	TO	03:00 PM	1,322	239	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
03:00 PM	TO	04:00 PM	1,392	254	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
04:00 PM	TO	05:00 PM	1,293	267	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
05:00 PM	TO	06:00 PM	1,257	229	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
06:00 PM	TO	07:00 PM	1,177	208	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
07:00 PM	TO	08:00 PM	957	117	Y			Y	Y	Y	Y		Y	Y	Y			
08:00 PM	TO	09:00 PM	627	122	Y				Y		Y	Y		Y				
09:00 PM	TO	10:00 PM	484	82					Y				Y					
			14,775	3,091	14	12	12	8	16	8	15	14	13	11	16	11	9	5
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					SATISFIED			SATISFIED			SATISFIED						SATISFIED	SATISFIED

02/09/22
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2009 MUTCD)

MAJOR STREET: DYSART RD NB SB # OF APPROACH LANES: 2

MINOR STREET: WESTERN AVE EB WB # OF APPROACH LANES: 1

CITY, STATE: AVONDALE, AZ

COMMENTS: SENSITIVITY ANALYSIS

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES					600	150		900	75		480	120		720	60			
06:00 AM	TO	07:00 AM	323	129					Y			Y			Y			
07:00 AM	TO	08:00 AM	554	238		Y			Y		Y	Y	Y		Y			
08:00 AM	TO	09:00 AM	522	174		Y			Y		Y	Y	Y		Y			
09:00 AM	TO	10:00 AM	497	184		Y			Y		Y	Y	Y		Y			
10:00 AM	TO	11:00 AM	548	208		Y			Y		Y	Y	Y		Y			
11:00 AM	TO	12:00 PM	651	186	Y	Y	Y		Y		Y	Y	Y		Y			
12:00 PM	TO	01:00 PM	734	201	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y		
01:00 PM	TO	02:00 PM	826	253	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	
02:00 PM	TO	03:00 PM	983	239	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
03:00 PM	TO	04:00 PM	1,035	254	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
04:00 PM	TO	05:00 PM	961	267	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
05:00 PM	TO	06:00 PM	934	229	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
06:00 PM	TO	07:00 PM	874	208	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	
07:00 PM	TO	08:00 PM	711	117	Y				Y		Y				Y			
08:00 PM	TO	09:00 PM	466	122					Y			Y			Y			
09:00 PM	TO	10:00 PM	360	82					Y						Y			
			10,979	3,091	9	12	8	4	16	4	13	14	12	7	16	7	6	0
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					SATISFIED			NOT SATISFIED			NOT SATISFIED						SATISFIED	NOT SATISFIED

02/09/22
Kimley-Horn and Associates

Appendix D

Traffic Analysis Reports

HCM 6th TWSC
3: Dysart Rd & Western Ave

02/14/2022

Intersection

Int Delay, s/veh 5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	0	86	2	0	3	96	770	11	3	433	66
Future Vol, veh/h	83	0	86	2	0	3	96	770	11	3	433	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	95	0	-	75	55	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	62	62	62	93	93	93	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	0	95	3	0	5	103	828	12	4	522	80

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1190	- 301	1309	- 420
Stage 1	570	- -	1040	- -
Stage 2	620	- -	269	- -
Critical Hdwy	7.54	- 6.94	7.54	- 6.94
Critical Hdwy Stg 1	6.54	- -	6.54	- -
Critical Hdwy Stg 2	6.54	- -	6.54	- -
Follow-up Hdwy	3.52	- 3.32	3.52	- 3.32
Pot Cap-1 Maneuver	143	0 695	117	0 582
Stage 1	474	0 -	246	0 -
Stage 2	442	0 -	713	0 -
Platoon blocked, %				
Mov Cap-1 Maneuver	130	- 695	93	- 582
Mov Cap-2 Maneuver	130	- -	93	- -
Stage 1	424	- -	220	- -
Stage 2	392	- -	613	- -

Approach	EB	WB	NB	SB
HCM Control Delay, s	45.2	24.8	1	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	971	-	-	130	695	93	582	791	-
HCM Lane V/C Ratio	0.106	-	-	0.702	0.136	0.035	0.008	0.005	-
HCM Control Delay (s)	9.1	-	-	80.7	11	45.1	11.2	9.6	-
HCM Lane LOS	A	-	-	F	B	E	B	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.9	0.5	0.1	0	0	-

HCM 6th TWSC
3: Dysart Rd & Western Ave

02/14/2022

Intersection												
Int Delay, s/veh	31											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	0	81	2	0	10	85	679	2	4	759	167
Future Vol, veh/h	110	0	81	2	0	10	85	679	2	4	759	167
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	95	0	-	75	55	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	69	69	69	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	122	0	90	3	0	14	97	772	2	5	863	190
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1548	-	527	1409	-	387	1053	0	0	774	0	0
Stage 1	968	-	-	967	-	-	-	-	-	-	-	-
Stage 2	580	-	-	442	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 78	0	496	99	0	611	657	-	-	837	-	-
Stage 1	273	0	-	273	0	-	-	-	-	-	-	-
Stage 2	467	0	-	564	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 67	-	496	72	-	611	657	-	-	837	-	-
Mov Cap-2 Maneuver	~ 67	-	-	72	-	-	-	-	-	-	-	-
Stage 1	233	-	-	233	-	-	-	-	-	-	-	-
Stage 2	389	-	-	459	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	307.9		18.7		1.3		0					
HCM LOS	F		C									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	657	-	-	67	496	72	611	837	-	-		
HCM Lane V/C Ratio	0.147	-	-	1.824	0.181	0.04	0.024	0.005	-	-		
HCM Control Delay (s)	11.4	-	-	\$ 524.4	13.9	57.1	11	9.3	-	-		
HCM Lane LOS	B	-	-	F	B	F	B	A	-	-		
HCM 95th %tile Q(veh)	0.5	-	-	11.1	0.7	0.1	0.1	0	-	-		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th TWSC

3: Dysart Rd & Western Ave

02/14/2022

Intersection												
Int Delay, s/veh	85.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	123	0	155	4	0	4	143	1144	16	4	782	98
Future Vol, veh/h	123	0	155	4	0	4	143	1144	16	4	782	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	95	0	-	75	55	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	62	62	62	93	93	93	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	135	0	170	6	0	6	154	1230	17	5	942	118
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1934	-	530	2028	-	624	1060	0	0	1247	0	0
Stage 1	1011	-	-	1547	-	-	-	-	-	-	-	-
Stage 2	923	-	-	481	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.94	7.54	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	3.32	3.52	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 40	0	493	34	0	428	653	-	-	554	-	-
Stage 1	257	0	-	119	0	-	-	-	-	-	-	-
Stage 2	290	0	-	535	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 32	-	493	18	-	428	653	-	-	554	-	-
Mov Cap-2 Maneuver	~ 32	-	-	18	-	-	-	-	-	-	-	-
Stage 1	196	-	-	91	-	-	-	-	-	-	-	-
Stage 2	218	-	-	347	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	762.5		152.3		1.3		0.1					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	653	-	-	32	493	18	428	554	-	-		
HCM Lane V/C Ratio	0.235	-	-	4.224	0.345	0.358	0.015	0.009	-	-		
HCM Control Delay (s)	12.2	-	-	1703.1	16.1	291.1	13.5	11.6	-	-		
HCM Lane LOS	B	-	-	F	C	F	B	B	-	-		
HCM 95th %tile Q(veh)	0.9	-	-	16.1	1.5	1	0	0	-	-		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th TWSC
3: Dysart Rd & Western Ave

02/14/2022

Intersection

Int Delay, s/veh 553.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	0	146	4	0	15	126	1009	3	6	1371	248
Future Vol, veh/h	163	0	146	4	0	15	126	1009	3	6	1371	248
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	95	0	-	75	55	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	69	69	69	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	181	0	162	6	0	22	143	1147	3	7	1558	282

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	2573	- 920	2228	- 575 1840
Stage 1	1713	- -	1435	- - -
Stage 2	860	- -	793	- - -
Critical Hdwy	7.54	- 6.94	7.54	- 6.94 4.14
Critical Hdwy Stg 1	6.54	- -	6.54	- - -
Critical Hdwy Stg 2	6.54	- -	6.54	- - -
Follow-up Hdwy	3.52	- 3.32	3.52	- 3.32 2.22
Pot Cap-1 Maneuver	~ 13	0 273	24	0 461 327
Stage 1	~ 94	0 -	140	0 - -
Stage 2	317	0 -	348	0 - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	~ 8	- 273	6	- 461 327
Mov Cap-2 Maneuver	~ 8	- -	6	- - -
Stage 1	~ 53	- -	79	- - -
Stage 2	~ 170	- -	140	- - -

Approach	EB	WB	NB	SB
HCM Control Delay \$	5630.9	243.7	2.7	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	327	-	-	8	273	6	461	603	-
HCM Lane V/C Ratio	0.438	-	-22.639	0.594	0.966	0.047	0.011	-	-
HCM Control Delay (s)	24.3	-	\$ 10642.5	353	1108.2	13.2	11	-	-
HCM Lane LOS	C	-	-	F	E	F	B	B	-
HCM 95th %tile Q(veh)	2.1	-	-	24.4	3.5	1.5	0.1	0	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Scheme Summary

Control Data

Control Data and Model Parameters

Avondale Roundabout Analysis	2021 Synthetic Flow Profile (veh)
Western/Dysart Intersection	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
AM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	No
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	NB Dysart	0	0	24.00	2	24.00	2	164.00	66.00	30.00
2	WB Western	90	0	14.00	1	14.00	1	164.00	66.00	30.00
3	SB Dysart	180	0	24.00	2	24.00	2	164.00	66.00	30.00
4	EB Western	270	0	14.00	1	14.00	1	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	NB Dysart	164.00	18.00	1	24.00	2	24.00	2
2	WB Western	164.00	33.00	2	14.00	1	14.00	1
3	SB Dysart	164.00	18.00	1	24.00	2	24.00	2
4	EB Western	164.00	33.00	2	14.00	1	14.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	NB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	WB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0
3	SB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
4	EB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0

Traffic Flow Data (veh/hr)

2021 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	NB Dysart	0	96	770	11	0	5.0	1.00
2	WB Western	0	2	1	3	0	5.0	1.00
3	SB Dysart	0	3	433	66	0	5.0	1.00
4	EB Western	0	83	1	86	0	5.0	1.00

2021 AM Peak Synthetic Flow Profile - Timeslice 7.5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	NB Dysart	0.750	1.125	0.750	0	30	60
2	WB Western	0.750	1.125	0.750	0	30	60
3	SB Dysart	0.750	1.125	0.750	0	30	60
4	EB Western	0.750	1.125	0.750	0	30	60

Operational Results

2021 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	NB Dysart	None	877		87		521	1930		0.4643	
2	WB Western	None	6		949		15	823		0.0075	
3	SB Dysart	None	502		99		856	1919		0.2669	
4	EB Western	None	170		438		163	1012		0.1724	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	3.55		3.55	2.75		A		A
2	WB Western	None	0.00		0.00	0.00		A		A
3	SB Dysart	None	2.74		2.74	1.18		A		A
4	EB Western	None	4.03		4.03	0.59		A		A

2021 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	NB Dysart	None	989		98		587		1920		0.5194
2	WB Western	None	7		1070		17		778		0.0088
3	SB Dysart	None	566		112		965		1907		0.2987
4	EB Western	None	192		494		184		991		0.1951

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	3.80		3.80	2.75		A		A
2	WB Western	None	0.00		0.00	0.00		A		A
3	SB Dysart	None	2.82		2.82	1.18		A		A
4	EB Western	None	4.13		4.13	0.59		A		A

Approach Flow Profile

2021 AM Peak - Approach Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	91.20	0.62	52.20	17.68
7.5 - 15.0	106.18	0.73	60.78	20.58
15.0 - 22.5	117.51	0.80	67.26	22.78
22.5 - 30.0	123.61	0.85	70.76	23.96
30.0 - 37.5	123.61	0.85	70.76	23.96
37.5 - 45.0	117.51	0.80	67.26	22.78
45.0 - 52.5	106.18	0.73	60.78	20.58
52.5 - 60.0	91.20	0.62	52.20	17.68
Peak 15 min	123.61	0.85	70.76	23.96
Peak 60 min	109.63	0.75	62.75	21.25

Exit Flow Profile

2021 AM Peak - Exit Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	54.16	1.56	88.98	16.94
7.5 - 15.0	63.04	1.81	103.55	19.72
15.0 - 22.5	69.78	2.01	114.61	21.83
22.5 - 30.0	73.42	2.11	120.61	22.97
30.0 - 37.5	73.43	2.11	120.65	22.97
37.5 - 45.0	69.82	2.01	114.73	21.85
45.0 - 52.5	63.11	1.82	103.72	19.75
52.5 - 60.0	54.22	1.56	89.11	16.97
0-60	521	15	856	163
%Trucks	5.00	5.00	5.00	5.00

Economics

Economic Input Data

2021 - Vehicle Delay Parameters

Peaks	Peak / Day	Days / Year	Delay Cost (\$ / hour)
AM Peak	1	325	15.00
OFF Peak	14	325	15.00
PM Peak	1	325	15.00

2021 - Accident Severity Proportions and Costs

Accident Type	Proportion (%)	Cost (\$)
Fatal Vehicle Accident	0.3	0
Incapacitating Vehicle Accident	17.7	0
Non-incapacitating Vehicle Accident	82	0
Damage Only Vehicle Accident	100	0
Pedestrian Injury Accident	100	0

Economics - Results Data

2021 Delay and Accident Costs

Peak	Delay Costs		Accident Costs			Total Costs	
	Delays Veh.hrs	Costs (\$)	Accident Types	Annual Accidents	Accident Costs	Cost Type	Costs (\$/year)
AM	466.78	7002	Vehicles Injury	0.00	0	Vehicle Delay Cost	7002
OFF	0.00	0	Vehicles DO	0.00	0	Vehicle Injury Acc Cost	0
PM	0.00	0	Pedestrians	0.00	0	Vehicle DO Acc Cost	0
						Pedestrian Accident Cost	0
						Total Accident Cost	0
Total	466.78	7002	Totals	0.00	0	TOTAL COST	7002

Global Results

Performance and Accidents

2021 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1555		1555
Capacity	veh/hr	5683		5683
Average Delay	sec/veh	3.33		3.33
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	1.44		1.44

Scheme Summary

Control Data

Control Data and Model Parameters

Avondale Roundabout Analysis	2021 Synthetic Flow Profile (veh)
Western/Dysart Intersection	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
PM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	No
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	NB Dysart	0	0	24.00	2	24.00	2	164.00	66.00	30.00
2	WB Western	90	0	14.00	1	14.00	1	164.00	66.00	30.00
3	SB Dysart	180	0	24.00	2	24.00	2	164.00	66.00	30.00
4	EB Western	270	0	14.00	1	14.00	1	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	NB Dysart	164.00	18.00	1	24.00	2	24.00	2
2	WB Western	164.00	33.00	2	14.00	1	14.00	1
3	SB Dysart	164.00	18.00	1	24.00	2	24.00	2
4	EB Western	164.00	33.00	2	14.00	1	14.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	NB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	WB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0
3	SB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
4	EB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0

Traffic Flow Data (veh/hr)

2021 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	NB Dysart	0	85	679	2	0	5.0	1.00
2	WB Western	0	2	1	10	0	5.0	1.00
3	SB Dysart	0	4	759	167	0	5.0	1.00
4	EB Western	0	110	1	81	0	5.0	1.00

2021 PM Peak Synthetic Flow Profile - Timeslice 7.5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	NB Dysart	0.750	1.125	0.750	0	30	60
2	WB Western	0.750	1.125	0.750	0	30	60
3	SB Dysart	0.750	1.125	0.750	0	30	60
4	EB Western	0.750	1.125	0.750	0	30	60

Operational Results

2021 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow		Capacity	
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass
1	NB Dysart	None	766		115		842		1904	0.4111
2	WB Western	None	13		874		7		851	0.0158
3	SB Dysart	None	930		88		799		1929	0.4931
4	EB Western	None	192		765		253		891	0.2226

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	3.30		3.30	2.22		A		A
2	WB Western	None	4.09		4.09	0.05		A		A
3	SB Dysart	None	4.05		4.05	3.34		A		A
4	EB Western	None	4.86		4.86	0.83		A		A

2021 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	NB Dysart	None	864		130		949	1890		0.4606	
2	WB Western	None	15		985		8	809		0.0183	
3	SB Dysart	None	1049		99		901	1918		0.5518	
4	EB Western	None	217		862		285	855		0.2561	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	3.49		3.49	2.22		A		A
2	WB Western	None	4.20		4.20	0.05		A		A
3	SB Dysart	None	4.36		4.36	3.34		A		A
4	EB Western	None	5.11		5.11	0.83		A		A

Approach Flow Profile

2021 PM Peak - Approach Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	79.66	1.35	96.71	19.97
7.5 - 15.0	92.74	1.57	112.60	23.25
15.0 - 22.5	102.63	1.74	124.61	25.73
22.5 - 30.0	107.97	1.83	131.09	27.06
30.0 - 37.5	107.97	1.83	131.09	27.06
37.5 - 45.0	102.63	1.74	124.61	25.73
45.0 - 52.5	92.74	1.57	112.60	23.25
52.5 - 60.0	79.66	1.35	96.71	19.97
Peak 15 min	107.97	1.83	131.09	27.06
Peak 60 min	95.75	1.63	116.25	24.00

Exit Flow Profile

2021 PM Peak - Exit Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	87.52	0.73	83.05	26.30
7.5 - 15.0	101.84	0.85	96.66	30.60
15.0 - 22.5	112.72	0.94	106.99	33.87
22.5 - 30.0	118.62	0.99	112.58	35.64
30.0 - 37.5	118.68	0.99	112.62	35.66
37.5 - 45.0	112.86	0.94	107.09	33.91
45.0 - 52.5	102.04	0.85	96.81	30.66
52.5 - 60.0	87.67	0.73	83.17	26.34
0-60	842	7	799	253
%Trucks	5.00	5.00	5.00	5.00

Economics

Economic Input Data

2021 - Vehicle Delay Parameters

Peaks	Peak / Day	Days / Year	Delay Cost (\$ / hour)
AM Peak	1	325	15.00
OFF Peak	14	325	15.00
PM Peak	1	325	15.00

2021 - Accident Severity Proportions and Costs

Accident Type	Proportion (%)	Cost (\$)
Fatal Vehicle Accident	0.3	0
Incapacitating Vehicle Accident	17.7	0
Non-incapacitating Vehicle Accident	82	0
Damage Only Vehicle Accident	100	0
Pedestrian Injury Accident	100	0

Economics - Results Data

2021 Delay and Accident Costs

Delay Costs			Accident Costs			Total Costs	
Peak	Delays Veh.hrs	Costs (\$)	Accident Types	Annual Accidents	Accident Costs	Cost Type	Costs (\$/year)
AM	466.78	7002	Vehicles Injury	0.00	0	Vehicle Delay Cost	16859
OFF	0.00	0	Vehicles DO	0.00	0	Vehicle Injury Acc Cost	0
PM	657.18	9858	Pedestrians	0.00	0	Vehicle DO Acc Cost	0
						Pedestrian Accident Cost	0
						Total Accident Cost	0
Total	1123.97	16859	Totals	0.00	0	TOTAL COST	16859

Global Results

Performance and Accidents

2021 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1901		1901
Capacity	veh/hr	5574		5574
Average Delay	sec/veh	3.83		3.83
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	2.02		2.02

Scheme Summary

Control Data

Control Data and Model Parameters

Avondale Roundabout Analysis	2041 Synthetic Flow Profile (veh)
Western/Dysart Intersection	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
AM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	No
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	NB Dysart	0	0	24.00	2	24.00	2	164.00	66.00	30.00
2	WB Western	90	0	14.00	1	14.00	1	164.00	66.00	30.00
3	SB Dysart	180	0	24.00	2	24.00	2	164.00	66.00	30.00
4	EB Western	270	0	14.00	1	14.00	1	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	NB Dysart	164.00	18.00	1	24.00	2	24.00	2
2	WB Western	164.00	33.00	2	14.00	1	14.00	1
3	SB Dysart	164.00	18.00	1	24.00	2	24.00	2
4	EB Western	164.00	33.00	2	14.00	1	14.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	NB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	WB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0
3	SB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
4	EB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0

Traffic Flow Data (veh/hr)

2041 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	NB Dysart	0	143	1144	16	0	5.0	1.00
2	WB Western	0	4	1	4	0	5.0	1.00
3	SB Dysart	0	4	782	98	0	5.0	1.00
4	EB Western	0	123	1	155	0	5.0	1.00

2041 AM Peak Synthetic Flow Profile - Timeslice 7.5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	NB Dysart	0.750	1.125	0.750	0	30	60
2	WB Western	0.750	1.125	0.750	0	30	60
3	SB Dysart	0.750	1.125	0.750	0	30	60
4	EB Western	0.750	1.125	0.750	0	30	60

Operational Results

2041 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow		Capacity	
			Entry	Bypass	Entry	Bypass	Exit Flow	Entry	Bypass	Average VCR
1	NB Dysart	None	1303		128		941	1891		0.7086
2	WB Western	None	9		1410		21	652		0.0145
3	SB Dysart	None	884		148		1271	1872		0.4831
4	EB Western	None	279		790		242	882		0.3275

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	6.26		6.26	7.74		A		A
2	WB Western	None	4.43		4.43	0.04		A		A
3	SB Dysart	None	3.79		3.79	2.99		A		A
4	EB Western	None	5.62		5.62	1.42		A		A

2041 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	NB Dysart	None	1469		144		1061	1876		0.7955	
2	WB Western	None	10		1589		24	586		0.0175	
3	SB Dysart	None	997		167		1432	1855		0.5422	
4	EB Western	None	315		891		273	844		0.3774	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	7.37		7.37	7.74		A		A
2	WB Western	None	5.74		5.74	0.04		A		A
3	SB Dysart	None	4.09		4.09	2.99		A		A
4	EB Western	None	6.04		6.04	1.42		A		A

Approach Flow Profile

2041 AM Peak - Approach Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	135.50	0.94	91.93	29.01
7.5 - 15.0	157.75	1.09	107.03	33.78
15.0 - 22.5	174.58	1.21	118.44	37.38
22.5 - 30.0	183.66	1.27	124.60	39.33
30.0 - 37.5	183.66	1.27	124.60	39.33
37.5 - 45.0	174.58	1.21	118.44	37.38
45.0 - 52.5	157.75	1.09	107.03	33.78
52.5 - 60.0	135.50	0.94	91.93	29.01
Peak 15 min	183.66	1.27	124.60	39.33
Peak 60 min	162.87	1.13	110.50	34.88

Exit Flow Profile

2041 AM Peak - Exit Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	97.80	2.18	132.06	25.15
7.5 - 15.0	113.81	2.54	153.60	29.25
15.0 - 22.5	125.97	2.81	169.97	32.38
22.5 - 30.0	132.57	2.96	178.90	34.07
30.0 - 37.5	132.63	2.96	179.12	34.11
37.5 - 45.0	126.13	2.82	170.47	32.45
45.0 - 52.5	114.04	2.55	154.25	29.35
52.5 - 60.0	97.98	2.19	132.49	25.21
0-60	941	21	1271	242
%Trucks	5.00	5.00	5.00	5.00

Economics

Economic Input Data

2041 - Vehicle Delay Parameters

Peaks	Peak / Day	Days / Year	Delay Cost (\$ / hour)
AM Peak	1	325	15.00
OFF Peak	14	325	15.00
PM Peak	1	325	15.00

2041 - Accident Severity Proportions and Costs

Accident Type	Proportion (%)	Cost (\$)
Fatal Vehicle Accident	0.3	0
Incapacitating Vehicle Accident	17.7	0
Non-incapacitating Vehicle Accident	82	0
Damage Only Vehicle Accident	100	0
Pedestrian Injury Accident	100	0

Economics - Results Data

2041 Delay and Accident Costs

Delay Costs			Accident Costs			Total Costs	
Peak	Delays Veh.hrs	Costs (\$)	Accident Types	Annual Accidents	Accident Costs	Cost Type	Costs (\$/year)
AM	1183.64	17755	Vehicles Injury	0.00	0	Vehicle Delay Cost	62879
OFF	0.00	0	Vehicles DO	0.00	0	Vehicle Injury Acc Cost	0
PM	3008.26	45124	Pedestrians	0.00	0	Vehicle DO Acc Cost	0
						Pedestrian Accident Cost	0
						Total Accident Cost	0
Total	4191.90	62879	Totals	0.00	0	TOTAL COST	62879

Global Results

Performance and Accidents

2041 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2475		2475
Capacity	veh/hr	5297		5297
Average Delay	sec/veh	5.30		5.30
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	3.64		3.64

Scheme Summary

Control Data

Control Data and Model Parameters

Avondale Roundabout Analysis	2041 Synthetic Flow Profile (veh)
Western/Dysart Intersection	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
PM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	No
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	NB Dysart	0	0	24.00	2	24.00	2	164.00	66.00	30.00
2	WB Western	90	0	14.00	1	14.00	1	164.00	66.00	30.00
3	SB Dysart	180	0	24.00	2	24.00	2	164.00	66.00	30.00
4	EB Western	270	0	14.00	1	14.00	1	164.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	NB Dysart	164.00	18.00	1	24.00	2	24.00	2
2	WB Western	164.00	33.00	2	14.00	1	14.00	1
3	SB Dysart	164.00	18.00	1	24.00	2	24.00	2
4	EB Western	164.00	33.00	2	14.00	1	14.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	NB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
2	WB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0
3	SB Dysart	0	1.000	0	1.000	20.00	3584	0	24.00	3584	0
4	EB Western	0	1.000	0	1.000	20.00	2091	0	14.00	2091	0

Traffic Flow Data (veh/hr)

2041 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers	
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	NB Dysart	0	126	1009	3	0	5.0	1.00
2	WB Western	0	4	1	15	0	5.0	1.00
3	SB Dysart	0	6	1371	248	0	5.0	1.00
4	EB Western	0	163	1	146	0	5.0	1.00

2041 PM Peak Synthetic Flow Profile - Timeslice 7.5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	NB Dysart	0.750	1.125	0.750	0	30	60
2	WB Western	0.750	1.125	0.750	0	30	60
3	SB Dysart	0.750	1.125	0.750	0	30	60
4	EB Western	0.750	1.125	0.750	0	30	60

Operational Results

2041 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow		Capacity	
			Entry	Bypass	Entry	Bypass	Exit Flow	Entry	Bypass	Average VCR
1	NB Dysart	None	1138		170		1520	1852		0.6310
2	WB Western	None	20		1298		10	694		0.0302
3	SB Dysart	None	1625		131		1187	1888		0.9023
4	EB Western	None	310		1380		375	663		0.4954

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	5.20		5.20	5.49		A		A
2	WB Western	None	5.11		5.11	0.09		A		A
3	SB Dysart	None	14.92		14.92	25.49		B		B
4	EB Western	None	9.86		9.86	3.06		A		A

2041 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow		Capacity	
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass
1	NB Dysart	None	1283		191		1698		1832	0.7095
2	WB Western	None	23		1462		11		633	0.0360
3	SB Dysart	None	1832		148		1337		1873	1.0165
4	EB Western	None	350		1540		420		604	0.5927

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	NB Dysart	None	5.92		5.92	5.49		A		A
2	WB Western	None	5.42		5.42	0.09		A		A
3	SB Dysart	None	19.93		19.93	25.49		C		C
4	EB Western	None	11.51		11.51	3.06		B		B

Approach Flow Profile

2041 PM Peak - Approach Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	118.34	2.08	168.99	32.24
7.5 - 15.0	137.78	2.42	196.74	37.53
15.0 - 22.5	152.48	2.68	217.73	41.54
22.5 - 30.0	160.40	2.82	229.05	43.70
30.0 - 37.5	160.40	2.82	229.05	43.70
37.5 - 45.0	152.48	2.68	217.73	41.54
45.0 - 52.5	137.78	2.42	196.74	37.53
52.5 - 60.0	118.34	2.08	168.99	32.24
Peak 15 min	160.40	2.82	229.05	43.70
Peak 60 min	142.25	2.50	203.12	38.75

Exit Flow Profile

2041 PM Peak - Exit Flows (Veh / Hour)

Time Slice	NB Dysart	WB Western	SB Dysart	EB Western
0.0 - 7.5	157.93	1.04	123.34	38.95
7.5 - 15.0	183.35	1.21	143.47	45.24
15.0 - 22.5	201.14	1.33	158.51	49.74
22.5 - 30.0	211.27	1.39	166.92	52.28
30.0 - 37.5	213.16	1.40	167.25	52.63
37.5 - 45.0	205.29	1.35	159.32	50.53
45.0 - 52.5	188.91	1.23	144.30	46.29
52.5 - 60.0	159.25	1.05	123.71	39.20
0-60	1520	10	1187	375
%Trucks	5.00	5.00	5.00	5.00

Economics

Economic Input Data

2041 - Vehicle Delay Parameters

Peaks	Peak / Day	Days / Year	Delay Cost (\$ / hour)
AM Peak	1	325	15.00
OFF Peak	14	325	15.00
PM Peak	1	325	15.00

2041 - Accident Severity Proportions and Costs

Accident Type	Proportion (%)	Cost (\$)
Fatal Vehicle Accident	0.3	0
Incapacitating Vehicle Accident	17.7	0
Non-incapacitating Vehicle Accident	82	0
Damage Only Vehicle Accident	100	0
Pedestrian Injury Accident	100	0

Economics - Results Data

2041 Delay and Accident Costs

Delay Costs			Accident Costs			Total Costs	
Peak	Delays Veh.hrs	Costs (\$)	Accident Types	Annual Accidents	Accident Costs	Cost Type	Costs (\$/year)
AM	1183.64	17755	Vehicles Injury	0.00	0	Vehicle Delay Cost	62879
OFF	0.00	0	Vehicles DO	0.00	0	Vehicle Injury Acc Cost	0
PM	3008.26	45124	Pedestrians	0.00	0	Vehicle DO Acc Cost	0
						Pedestrian Accident Cost	0
						Total Accident Cost	0
Total	4191.90	62879	Totals	0.00	0	TOTAL COST	62879

Global Results

Performance and Accidents

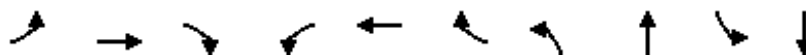
2041 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	3093		3093
Capacity	veh/hr	5097		5097
Average Delay	sec/veh	10.77		10.77
L.O.S. (Signal)	A – F	B		B
L.O.S. (Unsig)	A – F	B		B
Total Delay	veh.hrs	9.26		9.26

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↑↑
Traffic Volume (vph)	83	1	86	2	1	3	96	770	3	433
Future Volume (vph)	83	1	86	2	1	3	96	770	3	433
Lane Group Flow (vph)	91	1	95	3	2	5	103	840	4	602
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	15.0	50.0	12.0	47.0
Total Split (%)	31.1%	31.1%	31.1%	31.1%	31.1%	31.1%	16.7%	55.6%	13.3%	52.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.52	0.00	0.34	0.02	0.01	0.02	0.16	0.32	0.01	0.26
Control Delay	46.8	32.0	10.9	32.0	32.0	0.0	3.5	4.9	3.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	32.0	10.9	32.0	32.0	0.0	3.5	4.9	3.3	7.0
Queue Length 50th (ft)	49	1	0	2	1	0	11	56	1	63
Queue Length 95th (ft)	92	5	40	6	5	0	28	154	3	100
Internal Link Dist (ft)		658			1470			434		959
Turn Bay Length (ft)	95		95	100		100	55		250	
Base Capacity (vph)	368	486	483	368	486	467	676	2662	558	2341
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.00	0.20	0.01	0.00	0.01	0.15	0.32	0.01	0.26

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 3: Dysart Rd & Western Ave



HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

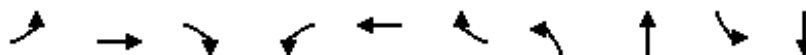
02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	1	86	2	1	3	96	770	11	3	433	66
Future Volume (veh/h)	83	1	86	2	1	3	96	770	11	3	433	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	1	95	3	2	5	103	828	12	4	522	80
Peak Hour Factor	0.91	0.91	0.91	0.62	0.62	0.62	0.93	0.93	0.93	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	169	144	197	169	144	701	2704	39	535	2188	334
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.75	0.75	0.01	0.71	0.71
Sat Flow, veh/h	1409	1870	1585	1300	1870	1585	1781	3586	52	1781	3090	472
Grp Volume(v), veh/h	91	1	95	3	2	5	103	410	430	4	299	303
Grp Sat Flow(s),veh/h/ln	1409	1870	1585	1300	1870	1585	1781	1777	1861	1781	1777	1785
Q Serve(g_s), s	5.7	0.0	5.2	0.2	0.1	0.3	1.2	6.6	6.6	0.1	5.3	5.4
Cycle Q Clear(g_c), s	5.7	0.0	5.2	0.2	0.1	0.3	1.2	6.6	6.6	0.1	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.26
Lane Grp Cap(c), veh/h	206	169	144	197	169	144	701	1340	1403	535	1258	1264
V/C Ratio(X)	0.44	0.01	0.66	0.02	0.01	0.03	0.15	0.31	0.31	0.01	0.24	0.24
Avail Cap(c_a), veh/h	446	488	414	419	488	414	818	1340	1403	674	1258	1264
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	37.2	39.6	37.3	37.3	37.3	2.7	3.5	3.5	3.7	4.6	4.6
Incr Delay (d2), s/veh	1.5	0.0	5.1	0.0	0.0	0.1	0.1	0.6	0.6	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.2	0.1	0.0	0.1	0.3	2.0	2.0	0.0	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	37.2	44.7	37.4	37.3	37.4	2.8	4.1	4.1	3.7	5.1	5.1
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h	187				10				943			
Approach Delay, s/veh	43.0				37.4				4.0			
Approach LOS	D				D				A			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	72.4		12.7	9.1	68.2		12.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	45.5		23.5	10.5	42.5		23.5				
Max Q Clear Time (g_c+I1), s	2.1	8.6		7.7	3.2	7.4		2.3				
Green Ext Time (p_c), s	0.0	6.2		0.5	0.1	4.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	8.7											
HCM 6th LOS	A											

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↰	↑↑
Traffic Volume (vph)	110	1	81	2	1	10	85	679	4	759
Future Volume (vph)	110	1	81	2	1	10	85	679	4	759
Lane Group Flow (vph)	122	1	90	3	1	14	97	774	5	1053
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	13.0	52.0	13.0	52.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%	27.8%	14.4%	57.8%	14.4%	57.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.60	0.00	0.29	0.01	0.00	0.05	0.24	0.30	0.01	0.47
Control Delay	47.3	30.0	9.7	30.0	30.0	0.3	5.1	5.6	4.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	30.0	9.7	30.0	30.0	0.3	5.1	5.6	4.0	9.7
Queue Length 50th (ft)	66	1	0	2	1	0	12	58	1	143
Queue Length 95th (ft)	114	5	38	6	4	0	29	148	4	230
Internal Link Dist (ft)		658			1470			434		959
Turn Bay Length (ft)	95		95	100		100	55		250	
Base Capacity (vph)	321	424	430	321	424	416	422	2590	588	2257
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.00	0.21	0.01	0.00	0.03	0.23	0.30	0.01	0.47

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 3: Dysart Rd & Western Ave



HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

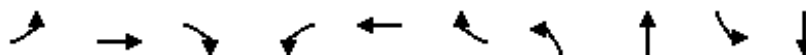
02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1	81	2	1	10	85	679	2	4	759	167
Future Volume (veh/h)	110	1	81	2	1	10	85	679	2	4	759	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1	90	3	1	14	97	772	2	5	862	190
Peak Hour Factor	0.90	0.90	0.90	0.69	0.69	0.69	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	210	178	226	210	178	468	2659	7	550	1989	438
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.73	0.73	0.01	0.69	0.69
Sat Flow, veh/h	1398	1870	1585	1306	1870	1585	1781	3636	9	1781	2895	638
Grp Volume(v), veh/h	122	1	90	3	1	14	97	377	397	5	529	523
Grp Sat Flow(s),veh/h/ln	1398	1870	1585	1306	1870	1585	1781	1777	1869	1781	1777	1756
Q Serve(g_s), s	7.6	0.0	4.8	0.2	0.0	0.7	1.3	6.5	6.5	0.1	11.9	11.9
Cycle Q Clear(g_c), s	7.7	0.0	4.8	0.2	0.0	0.7	1.3	6.5	6.5	0.1	11.9	11.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.36
Lane Grp Cap(c), veh/h	236	210	178	226	210	178	468	1299	1366	550	1221	1206
V/C Ratio(X)	0.52	0.00	0.51	0.01	0.00	0.08	0.21	0.29	0.29	0.01	0.43	0.43
Avail Cap(c_a), veh/h	398	426	361	377	426	361	546	1299	1366	707	1221	1206
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	35.5	37.6	35.6	35.5	35.8	4.1	4.1	4.1	4.3	6.3	6.3
Incr Delay (d2), s/veh	1.7	0.0	2.2	0.0	0.0	0.2	0.2	0.6	0.5	0.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.0	0.1	0.0	0.3	0.4	2.0	2.1	0.0	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	35.5	39.8	35.6	35.5	36.0	4.3	4.7	4.7	4.3	7.4	7.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		213			18			871			1057	
Approach Delay, s/veh		40.3			35.9			4.6			7.4	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	70.3		14.6	9.1	66.3		14.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	47.5		20.5	8.5	47.5		20.5				
Max Q Clear Time (g_c+I1), s	2.1	8.5		9.7	3.3	13.9		2.7				
Green Ext Time (p_c), s	0.0	5.6		0.5	0.1	8.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	123	1	155	4	1	4	143	1144	4	782
Future Volume (vph)	123	1	155	4	1	4	143	1144	4	782
Lane Group Flow (vph)	135	1	170	6	2	6	154	1247	5	1060
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	18.0	55.0	10.0	47.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%	27.8%	20.0%	61.1%	11.1%	52.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.62	0.00	0.44	0.03	0.01	0.02	0.39	0.49	0.01	0.50
Control Delay	46.8	28.0	8.7	29.2	29.0	0.0	6.8	7.5	4.8	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	28.0	8.7	29.2	29.0	0.0	6.8	7.5	4.8	11.8
Queue Length 50th (ft)	73	1	0	3	1	0	20	118	1	157
Queue Length 95th (ft)	121	5	50	9	5	0	48	302	4	239
Internal Link Dist (ft)		658			1470			434		959
Turn Bay Length (ft)	95		95	100		100	55		250	
Base Capacity (vph)	321	424	491	321	424	458	483	2550	338	2119
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.00	0.35	0.02	0.00	0.01	0.32	0.49	0.01	0.50

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 3: Dysart Rd & Western Ave



HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

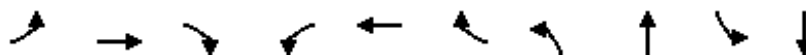
02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	1	155	4	1	4	143	1144	16	4	782	98
Future Volume (veh/h)	123	1	155	4	1	4	143	1144	16	4	782	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	1	170	6	2	6	154	1230	17	5	942	118
Peak Hour Factor	0.91	0.91	0.91	0.62	0.62	0.62	0.93	0.93	0.93	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	250	212	242	250	212	453	2547	35	341	2103	263
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.71	0.71	0.01	0.66	0.66
Sat Flow, veh/h	1407	1870	1585	1214	1870	1585	1781	3589	50	1781	3178	398
Grp Volume(v), veh/h	135	1	170	6	2	6	154	609	638	5	527	533
Grp Sat Flow(s),veh/h/ln	1407	1870	1585	1214	1870	1585	1781	1777	1861	1781	1777	1799
Q Serve(g_s), s	8.3	0.0	9.4	0.4	0.1	0.3	2.2	13.6	13.6	0.1	12.8	12.8
Cycle Q Clear(g_c), s	8.4	0.0	9.4	0.4	0.1	0.3	2.2	13.6	13.6	0.1	12.8	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.22
Lane Grp Cap(c), veh/h	267	250	212	242	250	212	453	1261	1321	341	1176	1191
V/C Ratio(X)	0.51	0.00	0.80	0.02	0.01	0.03	0.34	0.48	0.48	0.01	0.45	0.45
Avail Cap(c_a), veh/h	399	426	361	356	426	361	624	1261	1321	438	1176	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	33.8	37.8	34.0	33.8	33.9	5.1	5.8	5.8	5.4	7.3	7.3
Incr Delay (d2), s/veh	1.5	0.0	6.9	0.0	0.0	0.1	0.4	1.3	1.3	0.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	4.0	0.1	0.0	0.1	0.7	4.5	4.7	0.0	4.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	33.8	44.7	34.0	33.8	34.0	5.5	7.1	7.0	5.5	8.5	8.5
LnGrp LOS	D	C	D	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h	306			14			1401			1065		
Approach Delay, s/veh	42.1			34.0			6.9			8.5		
Approach LOS	D			C			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	68.4		16.5	9.4	64.1		16.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	50.5		20.5	13.5	42.5		20.5				
Max Q Clear Time (g_c+I1), s	2.1	15.6		11.4	4.2	14.8		2.4				
Green Ext Time (p_c), s	0.0	10.9		0.7	0.3	8.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	11.5											
HCM 6th LOS	B											

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	←	→	→	←	→	→	←	→	←	→
Traffic Volume (vph)	163	1	146	4	1	15	126	1009	6	1371
Future Volume (vph)	163	1	146	4	1	15	126	1009	6	1371
Lane Group Flow (vph)	181	1	162	6	1	22	143	1150	7	1840
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	15.0	53.0	12.0	50.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%	27.8%	16.7%	58.9%	13.3%	55.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.72	0.00	0.39	0.02	0.00	0.06	0.59	0.47	0.02	0.91
Control Delay	50.5	27.0	7.9	28.0	27.0	0.3	22.6	8.1	5.2	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	27.0	7.9	28.0	27.0	0.3	22.6	8.1	5.2	26.6
Queue Length 50th (ft)	97	1	0	3	1	0	26	123	1	448
Queue Length 95th (ft)	160	4	49	9	4	0	86	262	5	#708
Internal Link Dist (ft)		658			1470			434		959
Turn Bay Length (ft)	95		95	100		100	55		250	
Base Capacity (vph)	321	424	485	321	424	416	286	2471	393	2021
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.00	0.33	0.02	0.00	0.05	0.50	0.47	0.02	0.91

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Dysart Rd & Western Ave

Ø1 12 s	Ø2 (R) 53 s	Ø4 25 s
Ø5 15 s	Ø6 (R) 50 s	Ø8 25 s

HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1	146	4	1	15	126	1009	3	6	1371	248
Future Volume (veh/h)	163	1	146	4	1	15	126	1009	3	6	1371	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	1	162	6	1	22	143	1147	3	7	1558	282
Peak Hour Factor	0.90	0.90	0.90	0.69	0.69	0.69	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	293	248	271	293	248	235	2489	7	359	1930	341
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.68	0.68	0.01	0.64	0.64
Sat Flow, veh/h	1388	1870	1585	1223	1870	1585	1781	3636	10	1781	3018	533
Grp Volume(v), veh/h	181	1	162	6	1	22	143	561	589	7	902	938
Grp Sat Flow(s),veh/h/ln	1388	1870	1585	1223	1870	1585	1781	1777	1869	1781	1777	1774
Q Serve(g_s), s	11.4	0.0	8.6	0.4	0.0	1.1	2.3	13.1	13.1	0.1	33.4	36.4
Cycle Q Clear(g_c), s	11.4	0.0	8.6	0.4	0.0	1.1	2.3	13.1	13.1	0.1	33.4	36.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.30
Lane Grp Cap(c), veh/h	297	293	248	271	293	248	235	1216	1279	359	1136	1135
V/C Ratio(X)	0.61	0.00	0.65	0.02	0.00	0.09	0.61	0.46	0.46	0.02	0.79	0.83
Avail Cap(c_a), veh/h	396	426	361	358	426	361	347	1216	1279	492	1136	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	32.0	35.7	32.2	32.0	32.5	19.1	6.5	6.5	6.0	11.9	12.4
Incr Delay (d2), s/veh	2.0	0.0	2.9	0.0	0.0	0.2	2.5	1.3	1.2	0.0	5.7	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	3.5	0.1	0.0	0.4	2.1	4.5	4.7	0.0	13.0	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	32.0	38.6	32.2	32.0	32.6	21.7	7.8	7.7	6.1	17.6	19.4
LnGrp LOS	D	C	D	C	C	C	C	A	A	A	B	B
Approach Vol, veh/h	344			29			1293			1847		
Approach Delay, s/veh	38.7			32.5			9.3			18.5		
Approach LOS	D			C			A			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.3	66.1	18.6		9.4	62.1	18.6					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	7.5	48.5	20.5		10.5	45.5	20.5					
Max Q Clear Time (g_c+I1), s	2.1	15.1	13.4		4.3	38.4	3.1					
Green Ext Time (p_c), s	0.0	9.5	0.7		0.2	5.9	0.0					
Intersection Summary												
HCM 6th Ctrl Delay 17.2												
HCM 6th LOS B												

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↩	↩↪	↩	↩↪	↩	↩↪	↩↪	↩↪
Traffic Volume (vph)	1	86	1	3	96	770	3	433
Future Volume (vph)	1	86	1	3	96	770	3	433
Lane Group Flow (vph)	92	95	5	5	103	840	4	602
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	4		8		5	2	1	6
Permitted Phases		4		8	2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	15.0	15.0	20.0	68.0	12.0	60.0
Total Split (%)	20.8%	20.8%	12.5%	12.5%	16.7%	56.7%	10.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.54	0.35	0.06	0.02	0.16	0.31	0.01	0.25
Control Delay	62.7	6.0	55.3	0.3	4.5	5.8	5.0	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	6.0	55.3	0.3	4.5	5.8	5.0	8.1
Queue Length 50th (ft)	69	0	4	0	11	58	1	65
Queue Length 95th (ft)	120	20	12	0	41	204	4	133
Internal Link Dist (ft)	658		1512			434		959
Turn Bay Length (ft)		95		75	55		250	
Base Capacity (vph)	303	383	158	262	700	2737	542	2413
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.25	0.03	0.02	0.15	0.31	0.01	0.25

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 3: Dysart Rd & Western Ave



HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	1	86	2	1	3	96	770	11	3	433	66
Future Volume (veh/h)	83	1	86	2	1	3	96	770	11	3	433	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	1	95	3	2	5	103	828	12	4	522	80
Peak Hour Factor	0.91	0.91	0.91	0.62	0.62	0.62	0.93	0.93	0.93	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	2	127	13	9	19	671	2700	39	514	2219	339
Arrive On Green	0.08	0.08	0.08	0.01	0.01	0.01	0.04	0.75	0.75	0.01	0.72	0.72
Sat Flow, veh/h	1763	19	1585	1090	726	1585	1781	3586	52	1781	3090	472
Grp Volume(v), veh/h	92	0	95	5	0	5	103	410	430	4	299	303
Grp Sat Flow(s),veh/h/ln	1782	0	1585	1816	0	1585	1781	1777	1861	1781	1777	1785
Q Serve(g_s), s	6.0	0.0	7.0	0.3	0.0	0.4	1.7	8.9	8.9	0.1	6.9	6.9
Cycle Q Clear(g_c), s	6.0	0.0	7.0	0.3	0.0	0.4	1.7	8.9	8.9	0.1	6.9	6.9
Prop In Lane	0.99		1.00	0.60		1.00	1.00		0.03	1.00		0.26
Lane Grp Cap(c), veh/h	143	0	127	21	0	19	671	1338	1401	514	1276	1282
V/C Ratio(X)	0.65	0.00	0.75	0.23	0.00	0.27	0.15	0.31	0.31	0.01	0.23	0.24
Avail Cap(c_a), veh/h	304	0	271	159	0	139	830	1338	1401	616	1276	1282
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	0.0	54.0	58.8	0.0	58.8	3.7	4.8	4.8	4.7	5.7	5.8
Incr Delay (d2), s/veh	4.8	0.0	8.5	5.4	0.0	7.4	0.1	0.6	0.6	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	3.1	0.2	0.0	0.2	0.5	3.1	3.2	0.0	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	0.0	62.5	64.2	0.0	66.2	3.8	5.4	5.3	4.7	6.2	6.2
LnGrp LOS	E	A	E	E	A	E	A	A	A	A	A	A
Approach Vol, veh/h		187			10			943			606	
Approach Delay, s/veh		60.5			65.2			5.2			6.2	
Approach LOS		E			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	94.9		14.1	9.3	90.6		5.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	63.5		20.5	15.5	55.5		10.5				
Max Q Clear Time (g_c+I1), s	2.1	10.9		9.0	3.7	8.9		2.4				
Green Ext Time (p_c), s	0.0	6.4		0.6	0.2	4.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			11.8									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↩	↩	↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	1	81	1	10	85	679	4	759
Future Volume (vph)	1	81	1	10	85	679	4	759
Lane Group Flow (vph)	123	90	4	14	97	774	5	1053
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	4		8		5	2	1	6
Permitted Phases		4		8	2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	15.0	15.0	15.0	68.0	12.0	65.0
Total Split (%)	20.8%	20.8%	12.5%	12.5%	12.5%	56.7%	10.0%	54.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.61	0.34	0.05	0.08	0.25	0.29	0.01	0.45
Control Delay	63.2	11.9	55.3	1.0	6.1	6.4	5.8	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	11.9	55.3	1.0	6.1	6.4	5.8	10.9
Queue Length 50th (ft)	92	0	3	0	12	60	1	148
Queue Length 95th (ft)	150	43	11	0	41	191	5	299
Internal Link Dist (ft)	658		1512			434		959
Turn Bay Length (ft)		95		75	55		250	
Base Capacity (vph)	303	349	157	225	426	2683	562	2343
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.26	0.03	0.06	0.23	0.29	0.01	0.45

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 3: Dysart Rd & Western Ave



HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1	81	2	1	10	85	679	2	4	759	167
Future Volume (veh/h)	110	1	81	2	1	10	85	679	2	4	759	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1	90	3	1	14	97	772	2	5	862	190
Peak Hour Factor	0.90	0.90	0.90	0.69	0.69	0.69	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1	142	25	8	30	440	2673	7	534	2030	447
Arrive On Green	0.09	0.09	0.09	0.02	0.02	0.02	0.04	0.74	0.74	0.01	0.70	0.70
Sat Flow, veh/h	1767	14	1585	1352	451	1585	1781	3636	9	1781	2895	638
Grp Volume(v), veh/h	123	0	90	4	0	14	97	377	397	5	529	523
Grp Sat Flow(s),veh/h/ln	1782	0	1585	1803	0	1585	1781	1777	1869	1781	1777	1756
Q Serve(g_s), s	8.1	0.0	6.6	0.3	0.0	1.0	1.7	8.6	8.6	0.1	15.2	15.2
Cycle Q Clear(g_c), s	8.1	0.0	6.6	0.3	0.0	1.0	1.7	8.6	8.6	0.1	15.2	15.2
Prop In Lane	0.99		1.00	0.75		1.00	1.00		0.01	1.00		0.36
Lane Grp Cap(c), veh/h	160	0	142	34	0	30	440	1306	1374	534	1246	1231
V/C Ratio(X)	0.77	0.00	0.63	0.12	0.00	0.47	0.22	0.29	0.29	0.01	0.42	0.42
Avail Cap(c_a), veh/h	304	0	271	158	0	139	524	1306	1374	634	1246	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	0.0	52.7	57.9	0.0	58.3	5.3	5.3	5.3	5.2	7.6	7.6
Incr Delay (d2), s/veh	7.6	0.0	4.6	1.5	0.0	11.1	0.3	0.6	0.5	0.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	2.8	0.1	0.0	0.5	0.6	3.0	3.2	0.0	5.7	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	0.0	57.3	59.4	0.0	69.3	5.5	5.9	5.9	5.2	8.7	8.7
LnGrp LOS	E	A	E	E	A	E	A	A	A	A	A	A
Approach Vol, veh/h		213			18			871			1057	
Approach Delay, s/veh		59.4			67.1			5.8			8.7	
Approach LOS		E			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	92.7		15.3	9.3	88.7		6.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	63.5		20.5	10.5	60.5		10.5				
Max Q Clear Time (g_c+I1), s	2.1	10.6		10.1	3.7	17.2		3.0				
Green Ext Time (p_c), s	0.0	5.7		0.7	0.1	9.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			13.0									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↩	↩	↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	1	155	1	4	143	1144	4	782
Future Volume (vph)	1	155	1	4	143	1144	4	782
Lane Group Flow (vph)	136	170	8	6	154	1247	5	1060
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	4		8		5	2	1	6
Permitted Phases		4		8	2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	15.0	15.0	20.0	68.0	12.0	60.0
Total Split (%)	20.8%	20.8%	12.5%	12.5%	16.7%	56.7%	10.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.63	0.50	0.09	0.03	0.40	0.47	0.02	0.46
Control Delay	62.6	11.9	55.8	0.2	8.0	8.7	6.5	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	11.9	55.8	0.2	8.0	8.7	6.5	12.7
Queue Length 50th (ft)	102	0	6	0	21	123	1	163
Queue Length 95th (ft)	161	61	15	0	68	390	5	309
Internal Link Dist (ft)	658		1512			434		959
Turn Bay Length (ft)		95		75	55		250	
Base Capacity (vph)	303	411	157	262	470	2643	351	2289
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.41	0.05	0.02	0.33	0.47	0.01	0.46

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

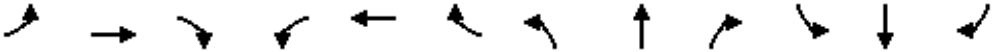
Splits and Phases: 3: Dysart Rd & Western Ave



HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Traffic Volume (veh/h)	123	1	155	4	1	4	143	1144	16	4	782	98
Future Volume (veh/h)	123	1	155	4	1	4	143	1144	16	4	782	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	1	170	6	2	6	154	1230	17	5	942	118
Peak Hour Factor	0.91	0.91	0.91	0.62	0.62	0.62	0.93	0.93	0.93	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	2	202	21	7	25	417	2515	35	314	2105	264
Arrive On Green	0.13	0.13	0.13	0.02	0.02	0.02	0.04	0.70	0.70	0.01	0.66	0.66
Sat Flow, veh/h	1769	13	1585	1352	451	1585	1781	3589	50	1781	3178	398
Grp Volume(v), veh/h	136	0	170	8	0	6	154	609	638	5	527	533
Grp Sat Flow(s),veh/h/ln	1782	0	1585	1803	0	1585	1781	1777	1861	1781	1777	1799
Q Serve(g_s), s	8.7	0.0	12.6	0.5	0.0	0.4	3.1	18.7	18.7	0.1	17.1	17.1
Cycle Q Clear(g_c), s	8.7	0.0	12.6	0.5	0.0	0.4	3.1	18.7	18.7	0.1	17.1	17.1
Prop In Lane	0.99		1.00	0.75		1.00	1.00		0.03	1.00		0.22
Lane Grp Cap(c), veh/h	227	0	202	28	0	25	417	1245	1305	314	1177	1191
V/C Ratio(X)	0.60	0.00	0.84	0.29	0.00	0.24	0.37	0.49	0.49	0.02	0.45	0.45
Avail Cap(c_a), veh/h	304	0	271	158	0	139	567	1245	1305	414	1177	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	51.2	58.4	0.0	58.4	7.1	8.2	8.2	7.4	9.7	9.7
Incr Delay (d2), s/veh	2.5	0.0	16.2	5.5	0.0	5.0	0.5	1.4	1.3	0.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	5.9	0.3	0.0	0.2	1.1	7.1	7.4	0.0	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	0.0	67.4	63.9	0.0	63.4	7.7	9.5	9.5	7.5	11.0	10.9
LnGrp LOS	D	A	E	E	A	E	A	A	A	A	B	B
Approach Vol, veh/h		306			14			1401			1065	
Approach Delay, s/veh		60.6			63.7			9.3			10.9	
Approach LOS		E			E			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	88.6		19.8	9.9	84.0		6.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	63.5		20.5	15.5	55.5		10.5				
Max Q Clear Time (g_c+I1), s	2.1	20.7		14.6	5.1	19.1		2.5				
Green Ext Time (p_c), s	0.0	11.5		0.7	0.3	8.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.8									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Queues

3: Dysart Rd & Western Ave

02/14/2022



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↩	↪	↩	↪	↩	↩↪	↩	↩↪
Traffic Volume (vph)	1	146	1	15	126	1009	6	1371
Future Volume (vph)	1	146	1	15	126	1009	6	1371
Lane Group Flow (vph)	182	162	7	22	143	1150	7	1840
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	4		8		5	2	1	6
Permitted Phases		4		8	2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	25.0	25.0	15.0	15.0	15.0	68.0	12.0	65.0
Total Split (%)	20.8%	20.8%	12.5%	12.5%	12.5%	56.7%	10.0%	54.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.73	0.46	0.08	0.13	0.68	0.46	0.02	0.87
Control Delay	66.4	12.1	55.6	1.5	38.7	9.9	7.5	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	12.1	55.6	1.5	38.7	9.9	7.5	27.5
Queue Length 50th (ft)	136	5	5	0	58	192	2	643
Queue Length 95th (ft)	210	65	16	0	125	336	7	#914
Internal Link Dist (ft)	658		1512			434		959
Turn Bay Length (ft)		95		75	55		250	
Base Capacity (vph)	303	398	156	225	233	2520	363	2115
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.41	0.04	0.10	0.61	0.46	0.02	0.87

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Dysart Rd & Western Ave

Ø1 12 s	Ø2 (R) 68 s	Ø4 25 s	Ø8 15 s
Ø5 15 s	Ø6 (R) 65 s		

HCM 6th Signalized Intersection Summary

3: Dysart Rd & Western Ave

02/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1	146	4	1	15	126	1009	3	6	1371	248
Future Volume (veh/h)	163	1	146	4	1	15	126	1009	3	6	1371	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	1	162	6	1	22	143	1147	3	7	1558	282
Peak Hour Factor	0.90	0.90	0.90	0.69	0.69	0.69	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1	196	40	7	41	205	2515	7	344	1985	351
Arrive On Green	0.12	0.12	0.12	0.03	0.03	0.03	0.04	0.69	0.69	0.01	0.66	0.66
Sat Flow, veh/h	1772	10	1585	1537	256	1585	1781	3636	10	1781	3018	533
Grp Volume(v), veh/h	182	0	162	7	0	22	143	561	589	7	902	938
Grp Sat Flow(s),veh/h/ln	1782	0	1585	1793	0	1585	1781	1777	1869	1781	1777	1774
Q Serve(g_s), s	12.0	0.0	12.0	0.5	0.0	1.6	3.0	17.1	17.1	0.2	42.3	46.1
Cycle Q Clear(g_c), s	12.0	0.0	12.0	0.5	0.0	1.6	3.0	17.1	17.1	0.2	42.3	46.1
Prop In Lane	0.99		1.00	0.86		1.00	1.00		0.01	1.00		0.30
Lane Grp Cap(c), veh/h	221	0	196	46	0	41	205	1229	1292	344	1169	1167
V/C Ratio(X)	0.82	0.00	0.83	0.15	0.00	0.54	0.70	0.46	0.46	0.02	0.77	0.80
Avail Cap(c_a), veh/h	304	0	271	157	0	139	285	1229	1292	440	1169	1167
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	51.3	57.2	0.0	57.7	24.5	8.3	8.3	7.4	14.3	14.9
Incr Delay (d2), s/veh	12.3	0.0	13.7	1.5	0.0	10.5	4.3	1.2	1.2	0.0	5.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	5.5	0.2	0.0	0.8	3.0	6.5	6.8	0.1	17.2	18.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.6	0.0	65.0	58.7	0.0	68.3	28.8	9.6	9.5	7.4	19.2	20.9
LnGrp LOS	E	A	E	E	A	E	C	A	A	A	B	C
Approach Vol, veh/h		344			29			1293			1847	
Approach Delay, s/veh		64.2			65.9			11.7			20.0	
Approach LOS		E			E			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	87.5		19.4	9.6	83.4		7.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	63.5		20.5	10.5	60.5		10.5				
Max Q Clear Time (g_c+I1), s	2.2	19.1		14.0	5.0	48.1		3.6				
Green Ext Time (p_c), s	0.0	10.1		0.9	0.2	9.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

Appendix E

FEMA Floodplain Map

National Flood Hazard Layer FIRMette



112°20'46"W 33°26'22"N



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

1:6,000

112°20'9"W 33°25'52"N

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
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



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

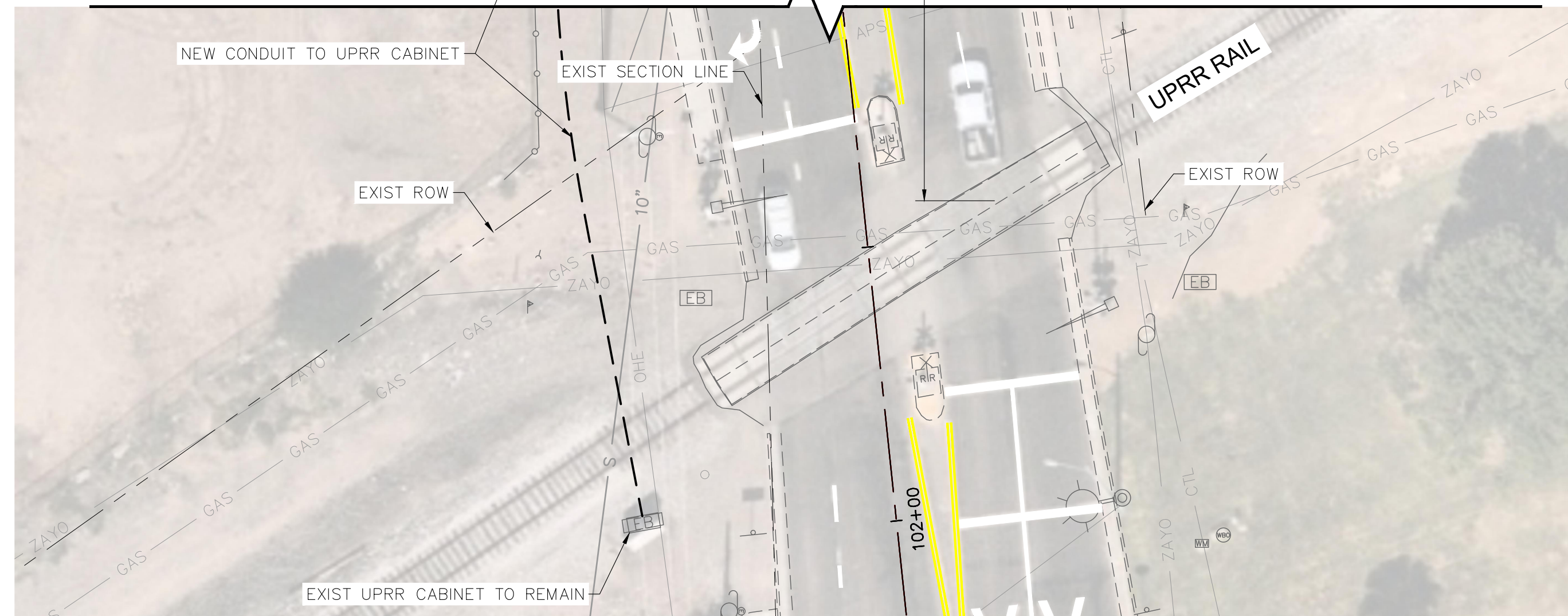
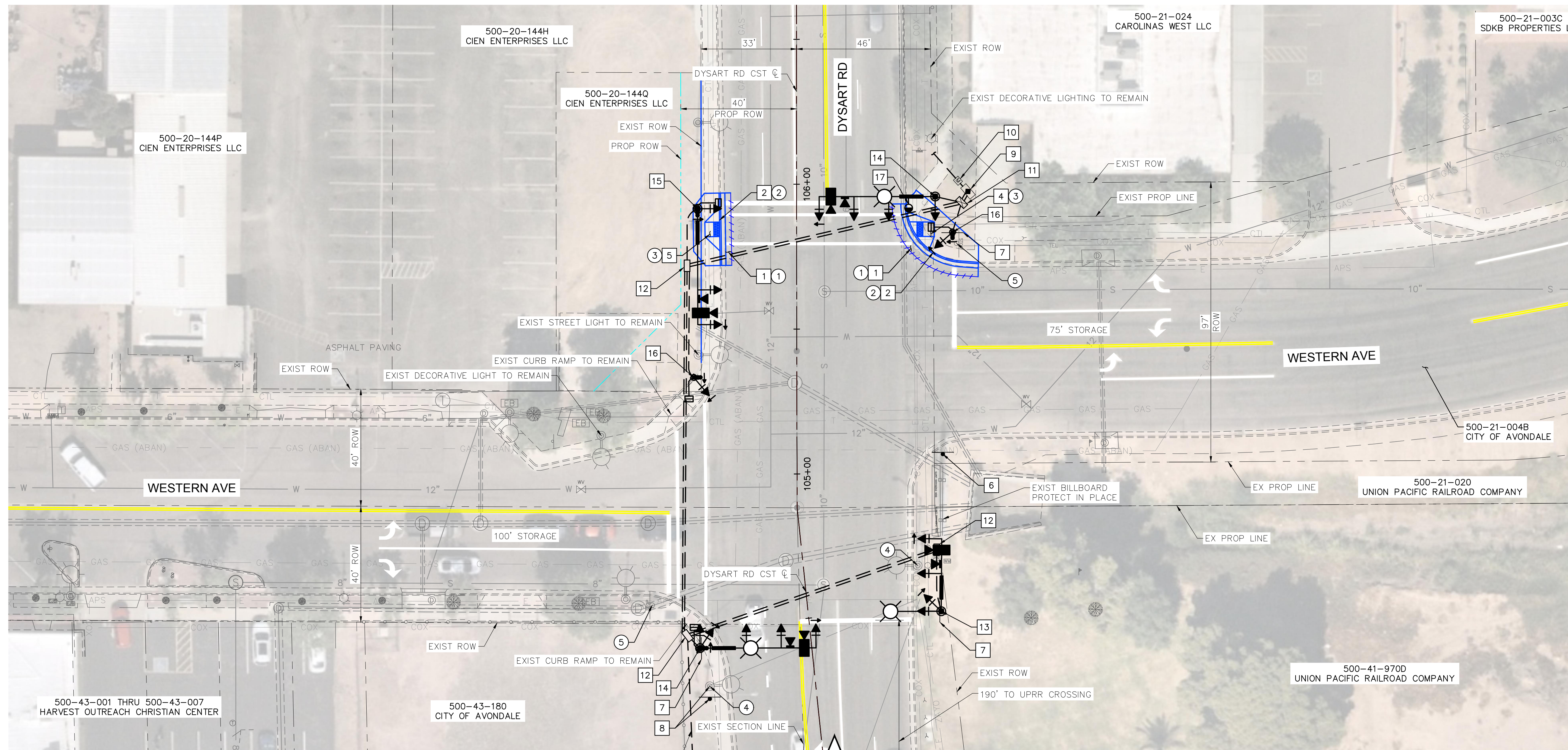
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/15/2022 at 1:44 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded 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.

Appendix F

Alternatives Design Exhibits

K:\PHX_Roadway\191323126 - Avondale-Dysart & Western\Roadway\20220207_PA Alternatives\20220207_Split_Alternative 3.dwg Jul 26, 2022 DavidRodriguez
XREFS: xAER_191323126 xROW_191323126 xTOPO_191323126 xUT_191323126 xSM_ALT 2_191323126 xTS_ALT 2_191323126



CONSTRUCTION NOTES

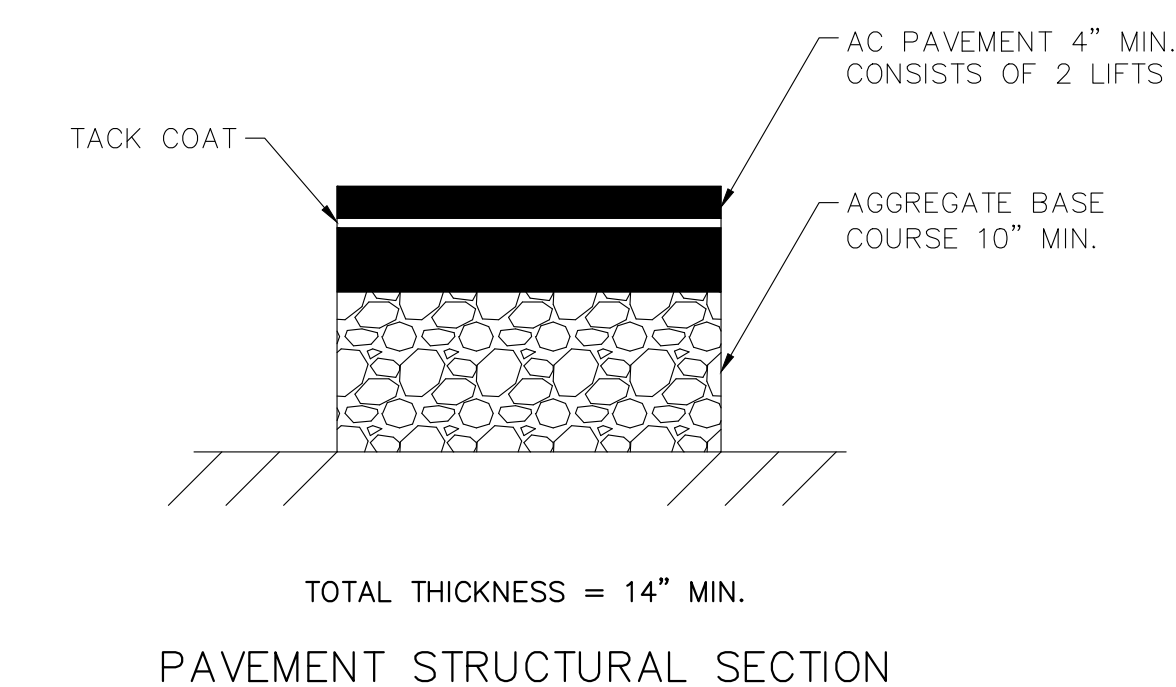
- 1 AC PAVEMENT PER PAVEMENT STRUCTURAL SECTION
- 2 VERTICAL CURB & GUTTER, MAG DET 220, TYPE A, H=6"
- 4 CONCRETE SIDEWALK RAMP, COA DET A1235-1
- 5 CONCRETE SIDEWALK RAMP, COA DET A1235-5
- 6 R9-3 SIGN AND POST PER COA DET A1600
- 7 R9-3 SIGN TO BE MOUNTED ON SIGNAL POLE
- 8 RELOCATE EXIST W4-2 SIGN TO NEW POST PER COA DET A1600
- 9 TRAFFIC SIGNAL CONTROLLER CABINET
- 10 METER PEDESTAL
- 11 NO. 7 PULLBOX WITH EXTENSION PER COA DET A1710
- 12 NO. 7 PULLBOX PER COA DET A1710
- 13 TYPE Q POLE WITH 25' SIGNAL MAST ARM AND 15' LUMINAIRE MAST ARM PER MCDOT DET 4743
- 14 TYPE Q POLE WITH 40' SIGNAL MAST ARM AND 15' LUMINAIRE MAST ARM PER MCDOT DET 4743
- 15 TYPE J POLE WITH 40' SIGNAL MAST ARM PER MCDOT DET 4742
- 16 16' TYPE A POLE PER MCDOT DET 4738
- 17 CCTV CAMERA TO BE MOUNTED ON SIGNAL POLE

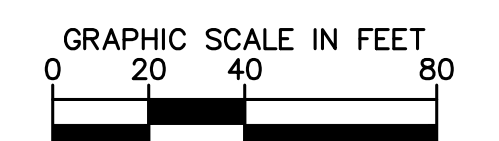
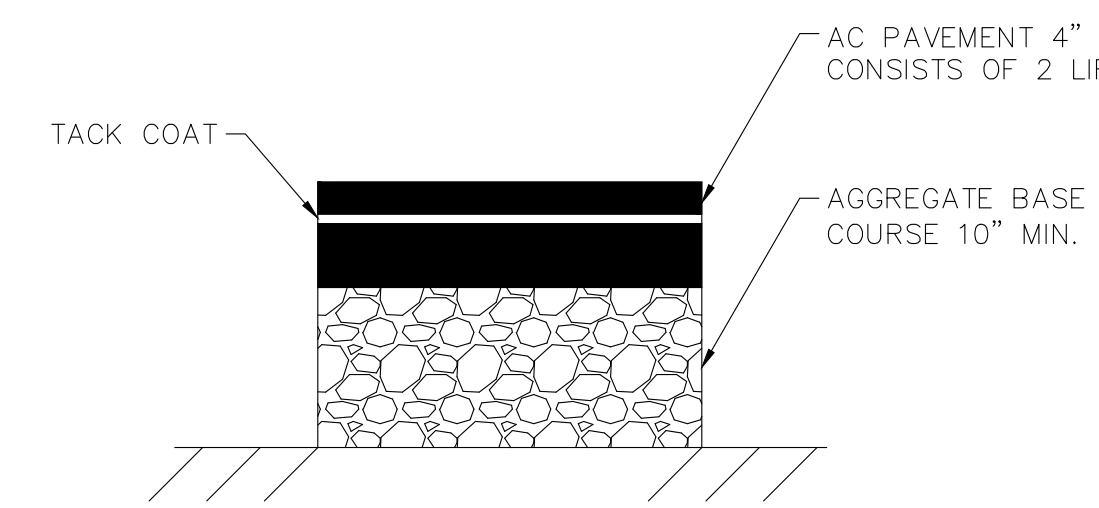
REMOVAL NOTES

- 1 REMOVE AC PAVEMENT
- 2 REMOVE CONCRETE CURB & GUTTER
- 3 REMOVE CONCRETE PAVEMENT, SIDEWALK, & DRIVEWAYS
- 4 REMOVE STREET LIGHT
- 5 REMOVE STOP SIGN AND STREET NAME SIGN ASSEMBLY AND POST

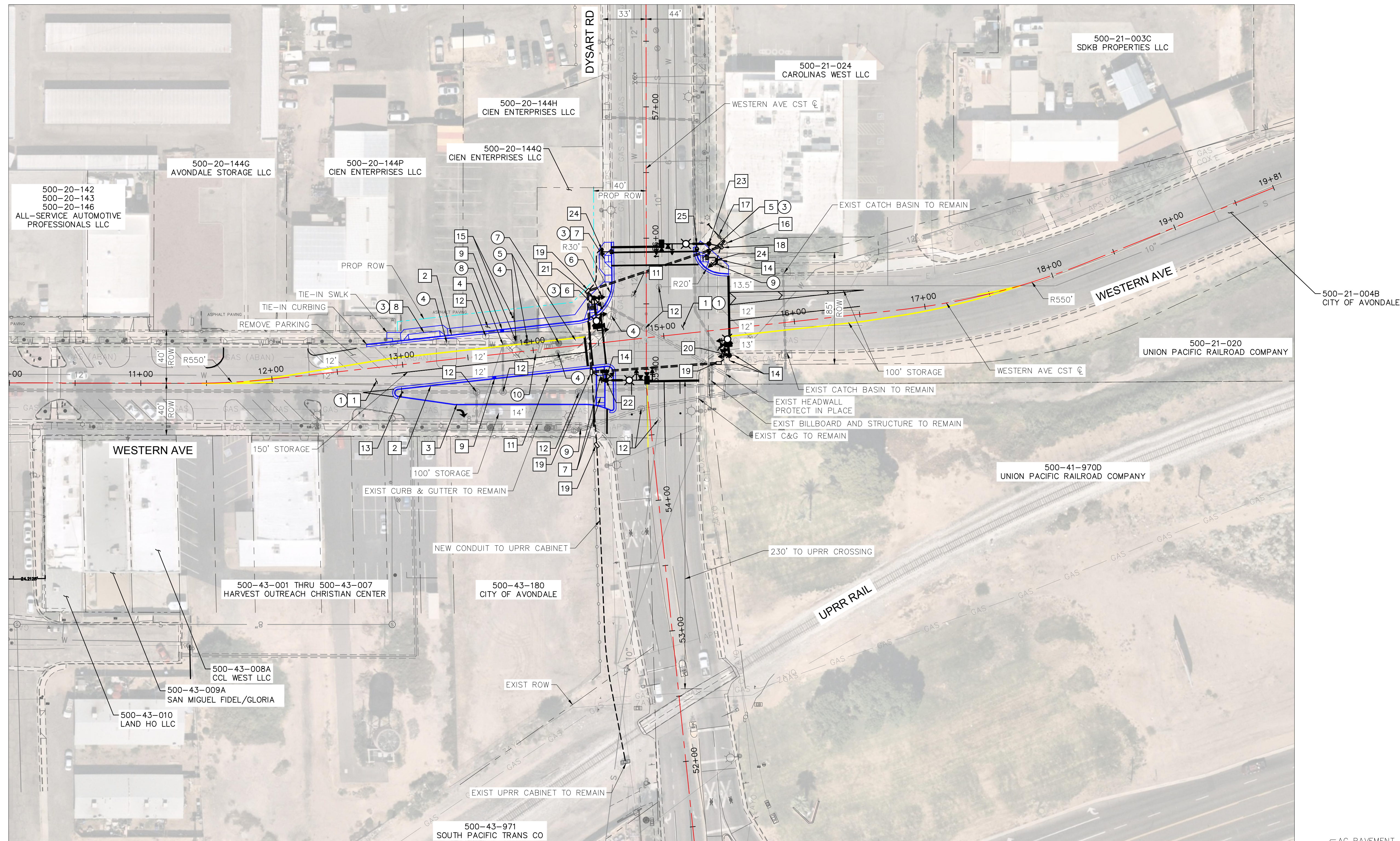
NOTES:

1. EAST/WEST SIGNAL OPERATIONS TO BE SPLIT PHASE OPERATIONS.
2. RAILROAD ADVANCED PRE-EMPTION TO BE DESIGNED AND CONSTRUCTED BY UPRR.





K:\PHX_Roadway\191323126 - Avondale-Dysart & Western\Roadway\20220207_PA Alternatives\20220207_Realign_Alternative 2.dwg Jul 26, 2022 David Rodriguez
XREFS: xAER 191323126 xROW 191323126 xTOPO 191323126 xUT 191323126 xBW ALT 3 191323126



CONSTRUCTION NOTES

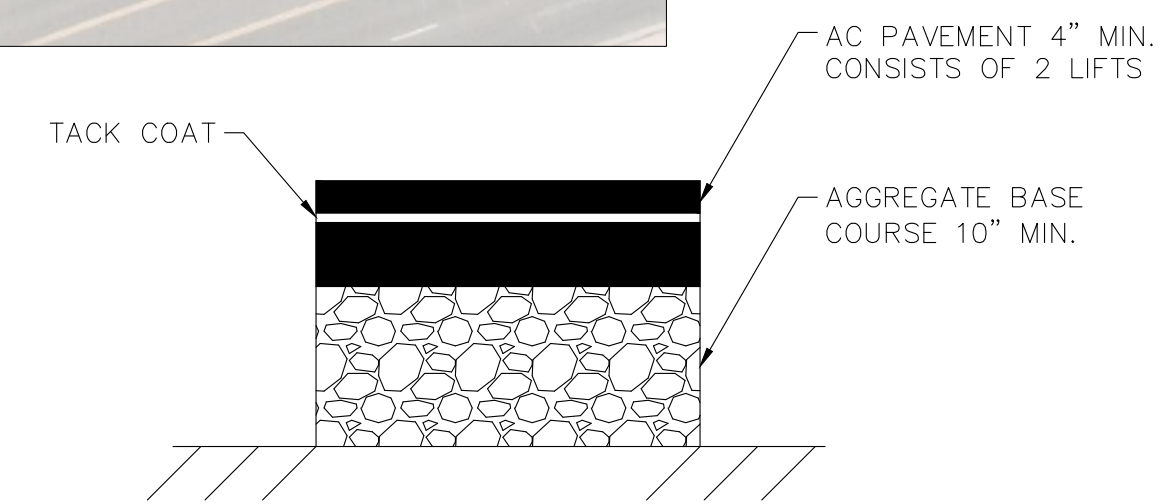
- 1 AC PAVEMENT PER PAVEMENT STRUCTURAL SECTION
- 2 VERTICAL CURB & GUTTER, MAG DET 220, TYPE A, H=6"
- 3 SINGLE CURB, MAG DET 222
- 4 CONCRETE SIDEWALK, MAG DET 230
- 5 CONCRETE SIDEWALK RAMP, COA DET A1235-1
- 6 CONCRETE SIDEWALK RAMP, COA DET A1235-2
- 7 CONCRETE SIDEWALK RAMP, COA DET A1235-5
- 8 DIRECTIONAL SIDEWALK RAMP
- 9 CONCRETE DRIVEWAY, COA DET A1250-2
- 10 CATCH BASIN
- 11 ADJUST FRAME AND COVER, MAG DET 391-1, TYPE A
- 12 ADJUST MANHOLE FRAME & COVER, MAG DET 422
- 13 R3-5R, OM1-2 SIGN AND POST PER COA DET A1600
- 14 R9-3 SIGN TO BE MOUNTED ON SIGNAL POLE
- 15 RELOCATE EXIST R2-1 SIGN TO NEW POST PER COA DET A1600
- 16 TRAFFIC SIGNAL CONTROLLER CABINET
- 17 METER PEDESTAL
- 18 NO. 7 PULLBOX WITH EXTENSION PER COA DET A1710
- 19 NO. 7 PULLBOX PER COA DET A1710
- 20 TYPE F POLE WITH 12' SIGNAL MAST ARM AND 10' LUMINAIRE MAST ARM PER MCDOT DET 4741
- 21 TYPE Q POLE WITH 25' SIGNAL MAST ARM AND 15' LUMINAIRE MAST ARM PER MCDOT DET 4743
- 22 TYPE Q POLE WITH 35' SIGNAL MAST ARM AND 15' LUMINAIRE MAST ARM PER MCDOT DET 4743
- 23 TYPE Q POLE WITH 40' SIGNAL MAST ARM AND 15' LUMINAIRE MAST ARM PER MCDOT DET 4738
- 24 16' TYPE A POLE PER MCDOT DET 4738
- 25 CCTV CAMERA TO BE MOUNTED ON SIGNAL POLE

REMOVAL NOTES

- 1 REMOVE AC PAVEMENT
- 2 REMOVE CONCRETE CURB & GUTTER
- 3 REMOVE CONCRETE PAVEMENT, SIDEWALK, & DRIVEWAYS
- 4 REMOVE STREET LIGHT
- 5 REMOVE TREE, DIA. > 12"
- 6 REMOVE & RELOCATE FIRE HYDRANT
- 7 REMOVE & RELOCATE MONUMENT SIGN
- 8 REMOVE CATCH BASIN
- 9 REMOVE STOP SIGN AND STREET NAME SIGN ASSEMBLY AND POST
- 10 REMOVE W11-2 SIGN ASSEMBLY AND POST

NOTES:

1. RAILROAD ADVANCED PRE-EMPTION TO BE DESIGNED AND CONSTRUCTED BY UPRR.

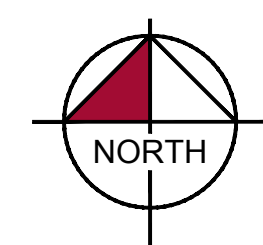


TOTAL THICKNESS = 14" MIN.

PAVEMENT STRUCTURAL SECTION

Kimley»Horn

WESTERN AVE AND DYSART RD ALTERNATIVE 5 - WESTERN AVENUE REALIGNMENT



GRAPHIC SCALE IN FEET
0 20 40 80

Appendix G

Alternatives Opinion of Probable Cost



Project No.

Project Location : Western Ave and Dysart Rd

Project Description : Intersection Improvements

Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 2

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	Construction Surveying and Layout	LS	1	\$ 1,000.00	\$ 1,000.00
	As-Builts	LS	1	\$ 300.00	\$ 300.00
	Contractor Quality Control	LS	1	\$ 1,500.00	\$ 1,500.00
	AZPDES / SWPPP	LS	1	\$ 500.00	\$ 500.00
	Mobilization/Demobilization	LS	1	\$ 5,000.00	\$ 5,000.00
	Traffic Control	LS	1	\$ 2,000.00	\$ 2,000.00
GENERAL ITEMS SUBTOTAL					\$ 10,300.00
	AC Pavement Section	SY	40	\$ 75.00	\$ 3,000.00
	Vertical Curb & Gutter	LF	170	\$ 30.00	\$ 5,100.00
	Directional Curb Ramp	EA	1	\$ 3,500.00	\$ 3,500.00
	Remove AC Pavement	SY	190	\$ 10.00	\$ 1,900.00
	Landscape	LS	1	\$ 5,000.00	\$ 5,000.00
	Signing & Marking	LS	1	\$ 3,000.00	\$ 3,000.00
	SUBTOTAL				\$ 31,800.00
	30% Contingency				\$ 9,540.00
	CONSTRUCTION SUBTOTAL				\$ 41,340.00
	OTHER PROJECT COSTS				
	Design Services				\$ 15,900.00
	TOTAL PROJECT COST				\$ 57,240.00



Project No.

Project Location : Western Ave and Dysart Rd

Project Description : Intersection Improvements

Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 3

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	Construction Surveying and Layout	LS	1	\$ 15,000.00	\$ 15,000.00
	As-Builts	LS	1	\$ 5,000.00	\$ 5,000.00
	Contractor Quality Control	LS	1	\$ 25,000.00	\$ 25,000.00
	AZPDES / SWPPP	LS	1	\$ 10,000.00	\$ 10,000.00
	Mobilization/Demobilization	LS	1	\$ 45,000.00	\$ 45,000.00
	Traffic Control	LS	1	\$ 40,000.00	\$ 40,000.00
GENERAL ITEMS SUBTOTAL					\$ 140,000.00
	AC Pavement Section	SY	20	\$ 75.00	\$ 1,500.00
	Vertical Curb & Gutter	LF	61	\$ 30.00	\$ 1,830.00
	Directional Curb Ramp	EA	1	\$ 3,500.00	\$ 3,500.00
	Parallel Curb Ramp	EA	1	\$ 3,500.00	\$ 3,500.00
	Remove AC Pavement	SY	20	\$ 10.00	\$ 200.00
	Remove Curb & Gutter	LF	61	\$ 8.00	\$ 488.00
	Remove Street Light	EA	2	\$ 1,000.00	\$ 2,000.00
	Landscape	LS	1	\$ 5,000.00	\$ 5,000.00
	Signing & Marking	LS	1	\$ 6,750.00	\$ 6,750.00
	Traffic Signal	LS	1	\$ 400,000.00	\$ 400,000.00
	Street Lighting	LS	1	\$ 20,000.00	\$ 20,000.00
	SUBTOTAL				\$ 584,768.00
	30% Contingency				\$ 175,430.40
	CONSTRUCTION SUBTOTAL				\$ 760,198.40

Project No.

Project Location : Western Ave and Dysart Rd

Project Description : Intersection Improvements

Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 3

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	OTHER PROJECT COSTS				
	Design Services	LS		15%	\$ 114,029.76
	UPRR Coordination	LS			\$ 150,000.00
	Advanced Preemption	LS			\$ 600,000.00
	UPRR Crossing Equipment	LS			\$ 700,000.00
	Right-of-Way Acquisition	SF	1,300	\$ 12.00	\$ 15,600.00
	TOTAL PROJECT COST				\$ 2,339,828.16



Project No.

Project Location : Western Ave and Dysart Rd

Project Description : Intersection Improvements

Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 4

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	Construction Surveying and Layout	LS	1	\$ 35,000.00	\$ 35,000.00
	As-Builts	LS	1	\$ 15,000.00	\$ 15,000.00
	Contractor Quality Control	LS	1	\$ 60,000.00	\$ 60,000.00
	AZPDES / SWPPP	LS	1	\$ 25,000.00	\$ 25,000.00
	Mobilization/Demobilization	LS	1	\$ 120,000.00	\$ 120,000.00
	Traffic Control	LS	1	\$ 95,000.00	\$ 95,000.00
GENERAL ITEMS SUBTOTAL					\$ 350,000.00
	AC Pavement Section	SY	5,444	\$ 75.00	\$ 408,300.00
	Vertical Curb & Gutter	LF	1,064	\$ 30.00	\$ 31,920.00
	Single Curb	LF	1,170	\$ 30.00	\$ 35,100.00
	Single Curb, Truck Apron	LF	280	\$ 30.00	\$ 8,400.00
	Concrete Sidewalk	SF	4,125	\$ 8.00	\$ 33,000.00
	Directional Curb Ramp	EA	11	\$ 3,500.00	\$ 38,500.00
	Radial Curb Ramp	EA	1	\$ 3,500.00	\$ 3,500.00
	Concrete Driveway	EA	1	\$ 4,000.00	\$ 4,000.00
	PCCP 9in Thick	SY	2,905	\$ 80.00	\$ 232,400.00
	Adjust Manhole	EA	10	\$ 700.00	\$ 7,000.00
	Adjust Valve Box & Cover	EA	5	\$ 600.00	\$ 3,000.00
	New Fence	LF	73	\$ 100.00	\$ 7,300.00
	New Fire Hydrant	EA	1	\$ 5,500.00	\$ 5,500.00
	Remove AC Pavement	SY	5,586	\$ 10.00	\$ 55,860.00
	Remove Curb & Gutter	LF	1,166	\$ 8.00	\$ 9,328.00
	Remove Concrete Sidewalk, Driveways, & Slabs	SF	4,762	\$ 8.00	\$ 38,096.00

Project No.

Project Location : Western Ave and Dysart Rd

Project Description : Intersection Improvements

Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 4

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	Remove Fence	LF	94	\$ 10.00	\$ 940.00
	Remove Tree	EA	4	\$ 1,200.00	\$ 4,800.00
	Remove Street Light	EA	8	\$ 1,000.00	\$ 8,000.00
	Relocate Billboard	EA	1	\$ 10,000.00	\$ 10,000.00
	Relocate Sign	EA	1	\$ 1,500.00	\$ 1,500.00
	Remove Catch Basin	EA	3	\$ 800.00	\$ 2,400.00
	New Catch Basin	EA	5	\$ 2,500.00	\$ 12,500.00
	Landscape	LS	1	\$ 85,000.00	\$ 85,000.00
	Signing & Marking	LS	1	\$ 30,000.00	\$ 30,000.00
	Street Lighting	LS	1	\$ 80,000.00	\$ 80,000.00
	SUBTOTAL				\$ 1,506,344.00
	30% Contingency				\$ 451,903.20
	CONSTRUCTION SUBTOTAL				\$ 1,958,247.20
	OTHER PROJECT COSTS				
	Design Services	LS		10%	\$ 195,824.72
	Right-of-Way Acquisition	SF	9,000	\$ 15.00	\$ 135,000.00
	Temporary Construction Easement	SF	261	\$ 5.00	\$ 1,305.00
	TOTAL PROJECT COST				\$ 2,290,376.92



Project No.

Project Location : Western Ave and Dysart Rd

Project Description : Intersection Improvements

Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 5

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	Construction Surveying and Layout	LS	1	\$ 25,000.00	\$ 25,000.00
	As-Builts	LS	1	\$ 10,000.00	\$ 10,000.00
	Contractor Quality Control	LS	1	\$ 35,000.00	\$ 35,000.00
	AZPDES / SWPPP	LS	1	\$ 15,000.00	\$ 15,000.00
	Mobilization/Demobilization	LS	1	\$ 70,000.00	\$ 70,000.00
	Traffic Control	LS	1	\$ 55,000.00	\$ 55,000.00
GENERAL ITEMS SUBTOTAL					\$ 210,000.00
	AC Pavement Section	SY	1,064	\$ 75.00	\$ 79,800.00
	Vertical Curb & Gutter	LF	447	\$ 30.00	\$ 13,410.00
	Single Curb	LF	163	\$ 30.00	\$ 4,890.00
	Concrete Sidewalk	SF	4,125	\$ 8.00	\$ 33,000.00
	Directional Curb Ramp	EA	2	\$ 3,500.00	\$ 7,000.00
	Radial Curb Ramp	EA	2	\$ 3,500.00	\$ 7,000.00
	Concrete Driveway	EA	1	\$ 4,000.00	\$ 4,000.00
	Adjust Manhole	EA	4	\$ 700.00	\$ 2,800.00
	Adjust Valve Box & Cover	EA	1	\$ 600.00	\$ 600.00
	New Fire Hydrant	EA	1	\$ 5,500.00	\$ 5,500.00
	Remove AC Pavement	SY	757	\$ 10.00	\$ 7,570.00
	Remove Curb & Gutter	LF	269	\$ 8.00	\$ 2,152.00
	Remove Concrete Sidewalk, Driveways, & Slabs	SF	2,626	\$ 8.00	\$ 21,008.00
	Remove Tree	EA	2	\$ 1,200.00	\$ 2,400.00
	Remove Street Light	EA	4	\$ 1,000.00	\$ 4,000.00
	Relocate Sign	EA	1	\$ 1,500.00	\$ 1,500.00
	Remove Catch Basin	EA	1	\$ 800.00	\$ 800.00

Project No.

Project Location : Western Ave and Dysart Rd
 Project Description : Intersection Improvements
 Project Manager :

ENGINEER'S OPINION OF PROBABLE COST - ALTERNATIVE 5

Item No.	Item Description	Unit	PRELIM	DATE: 7/26/2022	
			Quantity	Unit Price	Amount
	New Catch Basin	EA	2	\$ 2,500.00	\$ 5,000.00
	Landscape	LS	1	\$ 30,000.00	\$ 30,000.00
	Signing & Marking	LS	1	\$ 10,000.00	\$ 10,000.00
	Traffic Signal	LS	1	\$ 400,000.00	\$ 400,000.00
	Street Lighting	LS	1	\$ 40,000.00	\$ 40,000.00
	SUBTOTAL				\$ 892,430.00
	30% Contingency				\$ 267,729.00
	CONSTRUCTION SUBTOTAL				\$ 1,160,159.00
	OTHER PROJECT COSTS				
	Design Services	LS		10%	\$ 116,015.90
	UPRR Coordination	LS			\$ 150,000.00
	Advanced Preemption	LS			\$ 600,000.00
	UPRR Crossing Equipment	LS			\$ 700,000.00
	ROW Acquisition	SF	3,300	\$ 15.00	\$ 49,500.00
	TOTAL PROJECT COST				\$ 2,775,674.90