JACOBS WALLACE, LLC
ENGINEERING PLANNING MANAGEMENT

PRELIMINARY
WATER DISTRIBUTION SYSTEM

BASIS OF DESIGN REPORT

PRELIMINARY Basis of Design Report
☐ ACCEPTED
☑ ACCEPTED AS NOTED
☐ REVISE AND RESUBMIT

CITY OF SCOTTSDALE
SCOTTSDALE WATER
9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY ldillon DATE 7/1/2021

1.) Provide utility plan showing water services and connections with final BOD. DSPM 6-1.201&202
2.) Consult with fire department plan reviewer on preferred approach for fire sprinklers. May be possible/better to have multiple individual unit domestic meters off of McKnight and fire sprinklers for each unit can come off of domestic service line.

FOR

Palo on 75th

3961 N. 75th Street

Scottsdale, Arizona

May 9, 2021

Prepared for

DE MIRANDA LUX LLC
8325 E WETHERSFIELD RD
SCOTTSDALE, AZ 85260
Robert Miranda

9-ZN-2021
6/10/2021

JACOBS WALLACE, LLC

ENGINEERING PLANNING MANAGEMENT

TABLE OF CONTENTS

Appendix:

- Vicinity Map
- Calculations
- City of Scottsdale Quarter Section Map

JACOBS WALLACE, LLC

ENGINEERING PLANNING MANAGEMENT

INTRODUCTION

The proposed project consists of a multi-story multi-family building and associated site improvements. There is an existing building located on the lot currently that will be demolished. There currently is no retention provided and the site drains to the north and south with a small portion of the roof draining to the west.

The 0.22-acre site is located at the southeast corner of 75th St and McKnight Ave at 3961 N 75th Street. The site is bordered to the north by McKnight Ave, to the west by 75th St., to the south by existing multifamily development and to the east by commercial development.

The site lies within the Northwest Quarter of Section 26, Township 2 North, Range 4 East of Gila and Salt River Base and Meridian. See the Appendix for a vicinity map.

EXISTING CONDITIONS

There is an existing 6" ACP water main in both 75th St & McKnight Ave. There are 2 services to the site form the water main in McKnight Ave. There is an existing fire hydrant on the north side of McKnight Ave. across from this project.

PROPOSED CONDITIONS

The proposed project will utilize the existing 6" fire line service that is already onsite to service the new building. The existing meter will be utilized for the landscape service and a new 1 ½" domestic service will be installed to service the building. The new services will connect to the existing 6" main in McKnight Ave.

All water line construction and design will conform to M.A.G. standards and specifications and the latest revision of the City of Scottsdale Design Standards and Policies Manual. All water demands are based on Figure 4.1-3, Average Day Water Demand per Dwelling Unit of the City of Scottsdale Design Standards and Policies Manual.

master meter. Then comprehensive building fire sprinkler system will need to be installed

WATER ANALYSIS

Residential: 6 units

Average Daily Flow:

Residential: 6 units * 185.3gpd/unit = 1111.86gpd -0.77 GPM

Maximum Daily Demand: Average Daily Demand x 2

0.77gpm*2=**1.54 gpm**

Peak Demand: Maximum Daily Demand x 3.5

1.54gpm*3.5 = **5.39gpm**

Fire Flow Demand: (Per City of Scottsdale DSPM Section 6-1.501)

1,500 gpm @ 30 psi (For commercial, industrial, and multi-family)

Max Daily Demand + Fire Flow = **1,502 gpm @ 30 psi (COS requirement)**

use gpm values from DS&PM, also 3.5 should be applied to average daily from not max daily (correct on final BOD)

9-ZN-2021

6/10/2021

WATER MODEL RESULTS

A water model will not be completed for this project. There are no new fire hydrants being installed. A fire flow test was completed on the existing hydrant located near the southeast corner of the site to ensure adequate supply and fire protection for the site. The results:

EXISTING PRESSURE & FLOW
test taken 11-07-18 by EJ (See Attached)

Raw Data:

Static Pressure: 90 psi

Residual Pressure: 76 psi

Flow: 2,169 gpm

20psi Flow: 5,173 gpm

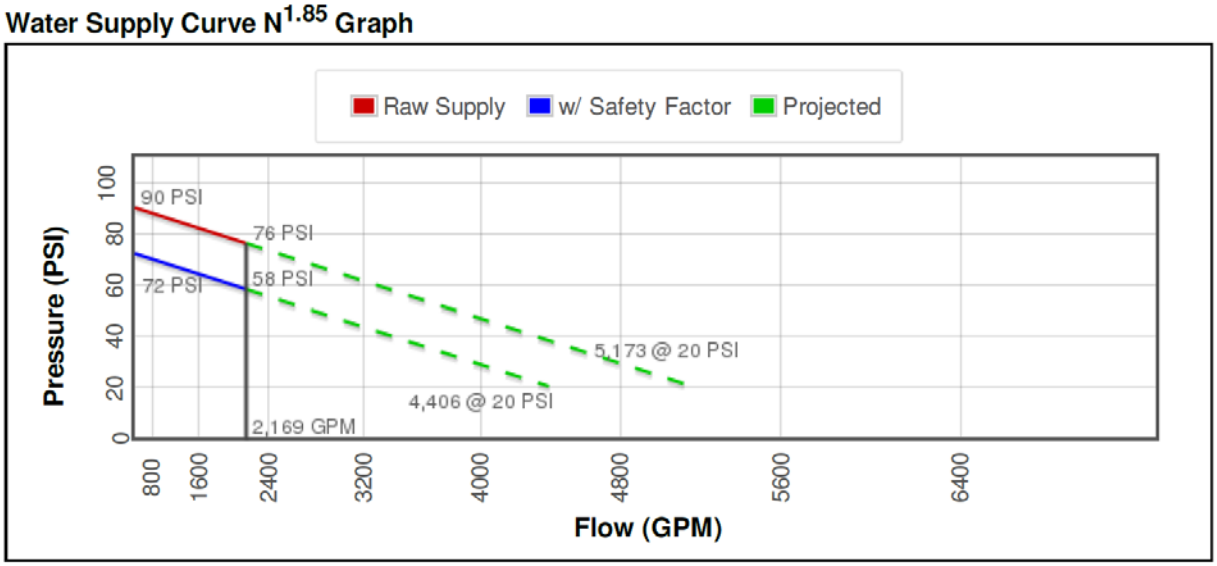
Data with required 18psi safety Factor:

Static Pressure: 72 psi

Residual Pressure: 58 psi

Flow: 2,169 gpm

20psi Flow: 4,406 gpm



CONCLUSION

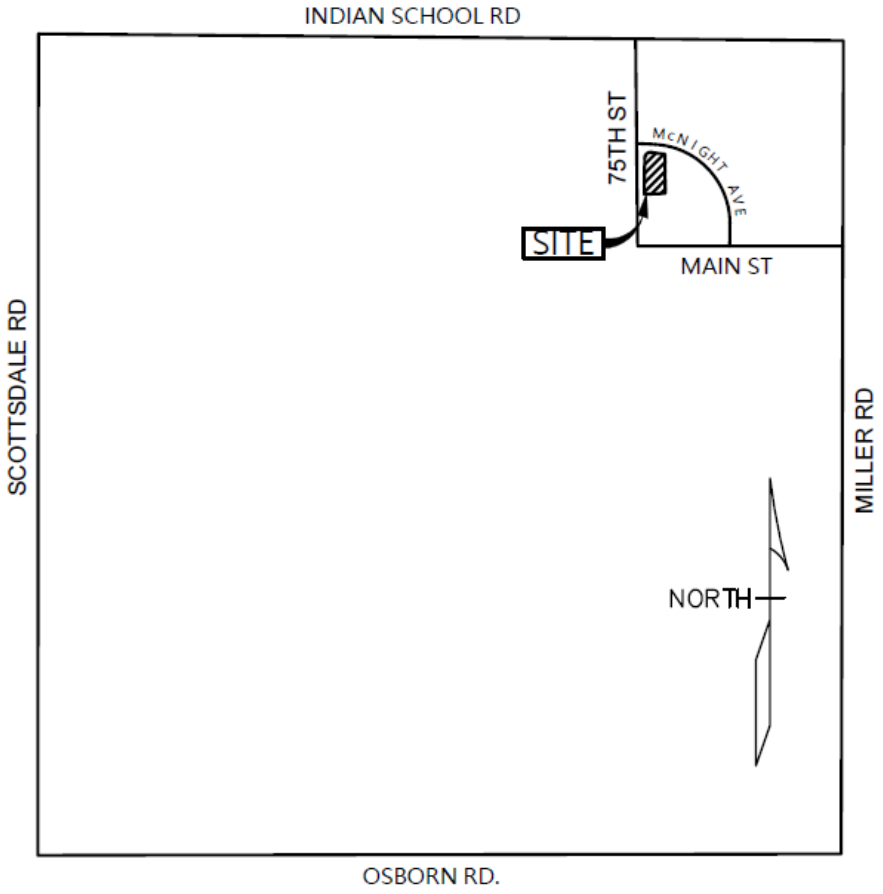
Based on the information provided and the flow test results, the city system will be able to handle the proposed project demands as estimated above. The flow test shows that there is adequate flow and pressure for proper fire protection.

It is important to note that the actual available flow can be affected by varying seasonal and diurnal water demands, growth within the City, and system operations. This report solely describes the flow available at a design maximum day condition based on current flow tests.

APPENDIX

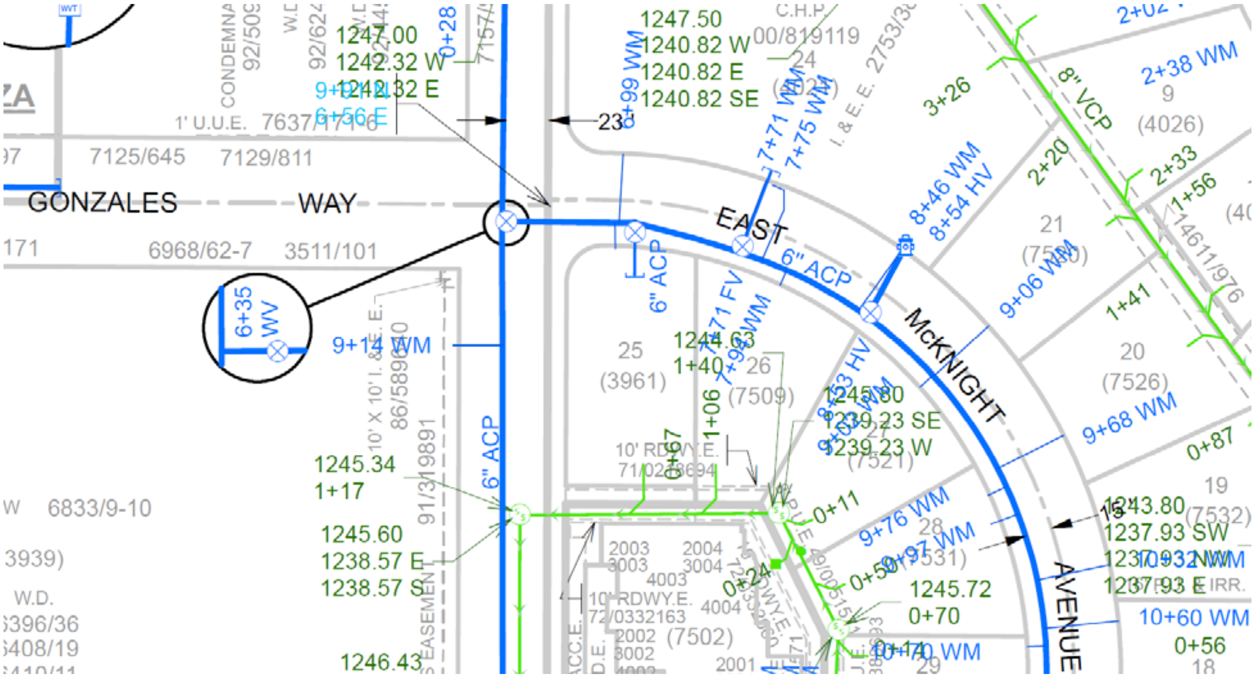
JACOBS WALLACE, LLC
ENGINEERING PLANNING MANAGEMENT

Vicinity Map



VICINITY MAP

City Map


GONZALES
WAY
EAST
McKNIGHT
AVENUE
6" ACP
8" VCP
1247.50
1240.82 W
1240.82 E
1240.82 SE
1247.00
1242.32 W
9+14 WM
6+35 WV
1245.34
1+17
1245.60
1238.57 E
1238.57 S
1246.43
1245.72
0+70
9+76 WM
9+68 WM
9+06 WM
8+46 WM
8+54 HV
2+38 WM
10+60 WM
0+56
0+87
1+41
2+33
1+56
2+20
3+26
0+11
25
(3961)
26
(7509)
20
(7526)
21
9
(4026)
19
28
29
18
7125/645
7129/811
6968/62-7
3511/101
6833/9-10

JACOBS WALLACE, LLC
ENGINEERING PLANNING MANAGEMENT

Aerial Map

9-ZN-2021
6/10/2021

Flow Test Summary

Project Name:	EJFT 21194 - 75 & McNight
Project Address:	3961 N 75th St, Scottsdale, AZ 85251
Date of Flow Test:	2021-05-14
Time of Flow Test:	7:40 AM
Data Reliable Until:	2021-11-14
Conducted By:	Eder Cueva & Steven Saethre (EJ Flow Tests) 602.999.7637
Witnessed By:	Ray Padilla (City of Scottsdale) 602.541.0586
City Forces Contacted:	City of Scottsdale (602.541.0586)
Permit Number:	C65276

Note Scottsdale requires a max static pressure of 72 psi for safety factor.

Raw Flow Test Data

Static Pressure:	90.0 PSI
Residual Pressure:	76.0 PSI
Flowing GPM:	2,169
GPM @ 20 PSI:	5,173

Data with a 18 PSI Safety Factor

Static Pressure:	72.0 PSI
Residual Pressure:	58.0 PSI
Flowing GPM:	2,169
GPM @ 20 PSI:	4,406

Hydrant F_1

Pitot Pressure (1): 37 PSI
Coefficient of Discharge (1): 0.9
Hydrant Orifice Diameter (1): 4 inches
Additional Coefficient 0.83 on orifice #1

Project Site

Static-Residual Hydrant

Flow Hydrant

Distance Between F_1 and R
334 ft (measured linearly)

Static-Residual Elevation
1244 ft (above sea level)

Flow Hydrant (F_1) Elevation
1248 ft (above sea level)

Elevation & distance values are approximate

9-ZN-2021
6/10/2021

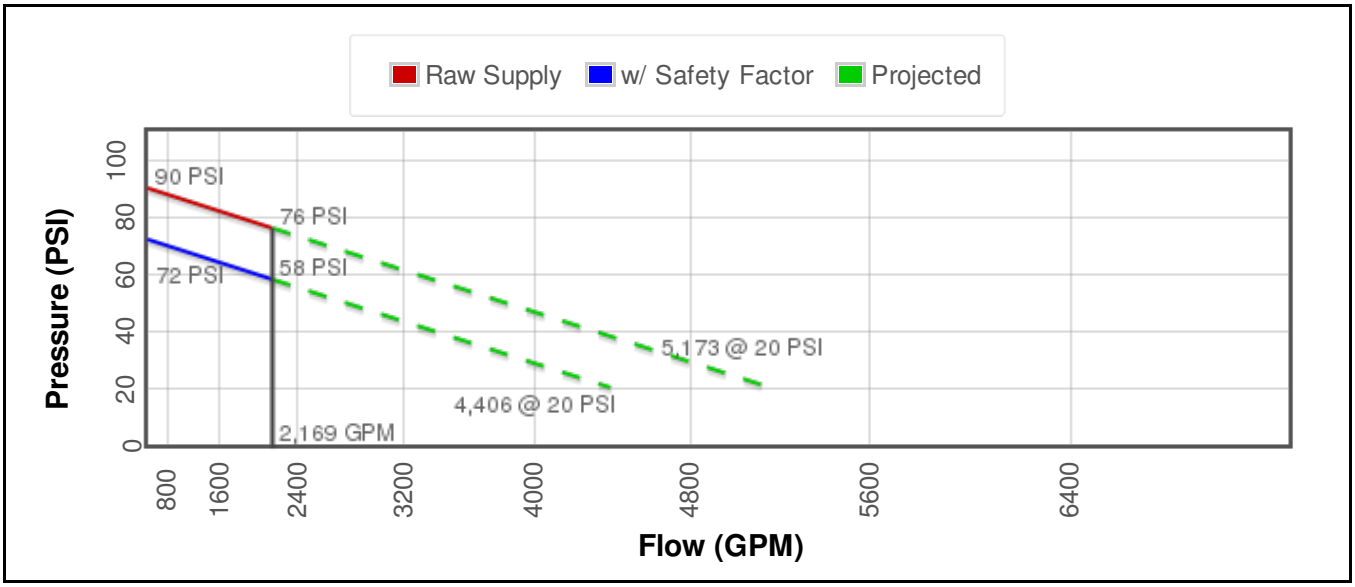
Flow Test Summary

Static-Residual Hydrant

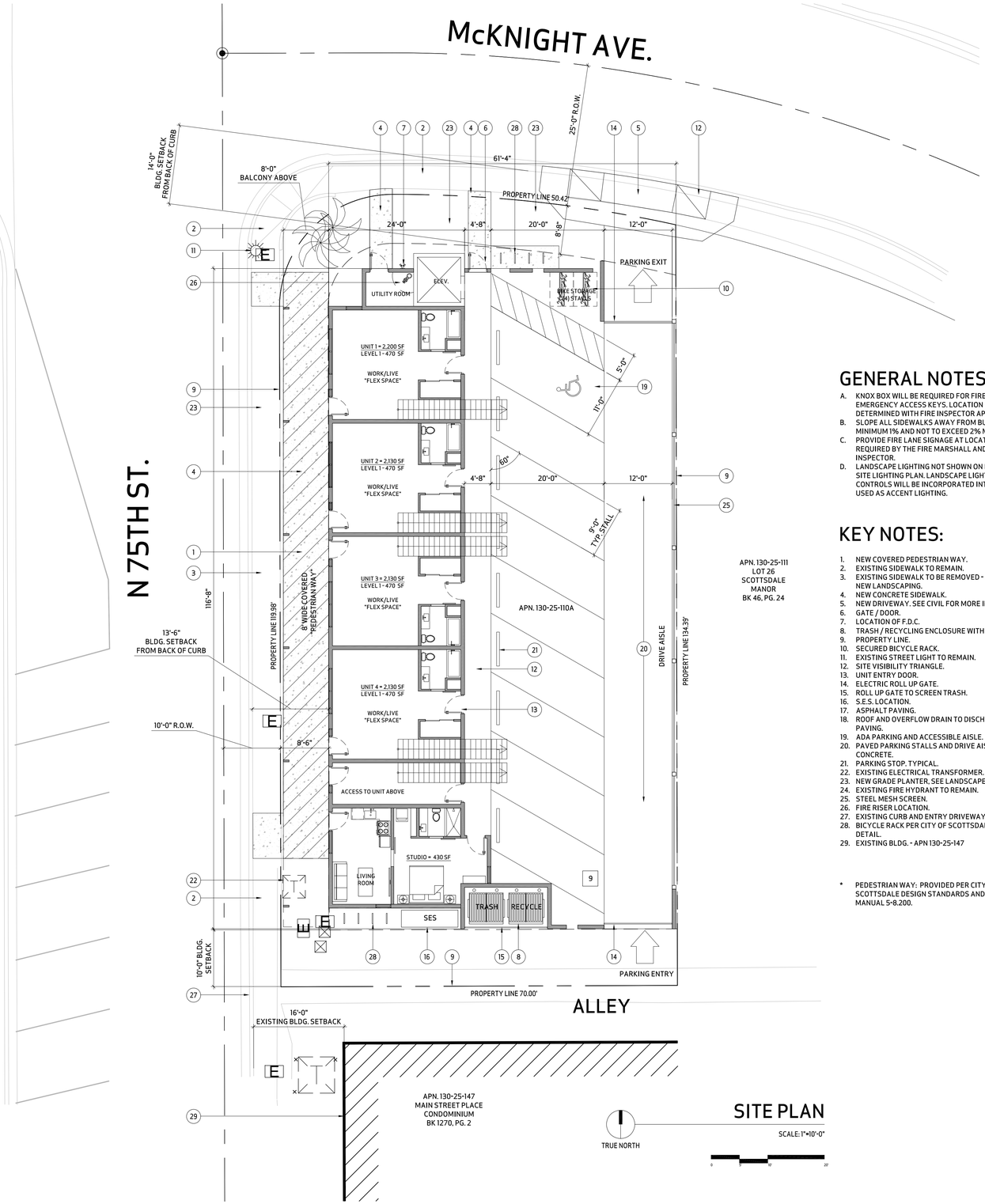
Flow Hydrant (only hydrant F1 shown for clarity)

Approximate Project Site

Water Supply Curve $N^{1.85}$ Graph



9-ZN-2021
6/10/2021



SITE PLAN

SCALE: 1"=10'-0"

TRUE NORTH

GENERAL NOTES:

A. KNOX BOX WILL BE REQUIRED FOR FIRE DEPARTMENT EMERGENCY ACCESS KEYS. LOCATION OF BOX TO BE DETERMINED WITH FIRE INSPECTOR APPROVAL.
B. SLOPE ALL SIDEWALKS AWAY FROM BUILDING MINIMUM 1% AND NOT TO EXCEED 2% MAXIMUM.
C. PROVIDE FIRE LANE SIGNAGE AT LOCATIONS REQUIRED BY THE FIRE MARSHALL AND FILED INSPECTOR.
D. LANDSCAPE LIGHTING NOT SHOWN ON ELECTRICAL SITE LIGHTING PLAN. LANDSCAPE LIGHTING AND CONTROLS WILL BE INCORPORATED INTO THE DESIGN USED AS ACCENT LIGHTING.

KEY NOTES:

1. NEW COVERED PEDESTRIAN WAY.
2. EXISTING SIDEWALK TO REMAIN.
3. EXISTING SIDEWALK TO BE REMOVED - REPLACE WITH NEW LANDSCAPING.
4. NEW CONCRETE SIDEWALK.
5. NEW DRIVEWAY. SEE CIVIL FOR MORE INFORMATION.
6. GATE / DOOR.
7. LOCATION OF F.D.C.
8. TRASH / RECYCLING ENCLOSURE WITH CONCRETE PAD.
9. PROPERTY LINE.
10. SECURED BICYCLE RACK.
11. EXISTING STREET LIGHT TO REMAIN.
12. SITE VISIBILITY TRIANGLE.
13. UNIT ENTRY DOOR.
14. ELECTRIC ROLL UP GATE.
15. ROLL UP GATE TO SCREEN TRASH.
16. S.E.S. LOCATION.
17. ASPHALT PAVING.
18. ROOF AND OVERFLOW DRAIN TO DISCHARGE ONTO PAVING.
19. ADA PARKING AND ACCESSIBLE AISLE.
20. PAVED PARKING STALLS AND DRIVE AISLE WITH CONCRETE.
21. PARKING STOP. TYPICAL.
22. EXISTING ELECTRICAL TRANSFORMER.
23. NEW GRADE PLANTER. SEE LANDSCAPE PLAN.
24. EXISTING FIRE HYDRANT TO REMAIN.
25. STEEL MESH SCREEN.
26. FIRE RISER LOCATION.
27. EXISTING CURB AND ENTRY DRIVEWAY TO REMAIN.
28. BICYCLE RACK PER CITY OF SCOTTSDALE STANDARD DETAIL.
29. EXISTING BLDG. - APN 130-25-147

* PEDESTRIAN WAY: PROVIDED PER CITY OF SCOTTSDALE DESIGN STANDARDS AND POLICY MANUAL 5-8.200.

CODE REVIEW

AUTHORITY	CITY OF SCOTTSDALE, ARIZONA
CODE	2012 INTERNATIONAL BUILDING CODE W/AMENDMENTS
	2012 INTERNATIONAL FIRE CODE
	2012 INTERNATIONAL MECHANICAL CODE
	2012 INTERNATIONAL PLUMBING CODE
	2011 NATIONAL ELECTRICAL CODE
	2006 INTERNATIONAL CONSERVATION CODE
OCCUPANCY	R-2
CONSTRUCTION TYPE	V-B

PROJECT TEAM

OWNER:	DE MIRANDA LUX, LLC 3961 N. 75TH STREET SCOTTSDALE AZ, 85251 CONTACT: ROBERT MIRANDA PHONE: 602.326.4351
ARCHITECT:	TOMECAK DESIGN 4368 NORTH CIVIC CENTER PLAZA SUITE 201 SCOTTSDALE, ARIZONA 85251 CONTACT: MARK TOMECAK PHONE: 602.619.7751
CIVIL ENGINEER:	JACOBS WALLACE, LLC 2233 WEST BETHANY HOME ROAD PHOENIX, ARIZONA 85015 CONTACT: CHUCK JACOBS PHONE: 602.757.5964
LANDSCAPE ARCHITECT:	T.J. MCQUEEN 8433 EAST CHOLLA STREET SCOTTSDALE, ARIZONA 85260 CONTACT: TIM MCQUEEN PHONE: 602.266.6619
ELECTRICAL ENGINEER:	RLM DESIGN, LLC 820 SOUTH BRIDGER DRIVE CHANDLER, ARIZONA 85225 CONTACT: BOBBY MARIN PHONE: 602.741.1047

PROJECT INFORMATION

PROJECT NAME:	PALO ON 75TH
ADDRESS:	3961 N. 75TH STREET SCOTTSDALE AZ, 85251
APN	130-25-110A
ZONING	DOWNTOWN MIXED-USE
GROSS SITE AREA	13,117.69 SF (0.30 ACRES)
NET SITE AREA	9,622.82 SF (0.22 ACRES)
STORIES	(3) THREE STORIES
BUILDING AREA	
1ST FLOOR	2,635 SF
2ND FLOOR	5,790 SF
3RD FLOOR	2,880 SF
TOTAL AREA:	11,305 SF
NUMBER OF UNITS:	6 DWELLING UNITS
USE:	RESIDENTIAL
OCCUPANCY USE:	SEPARATED
FIRE SPRINKLERS	YES
FIRE ALARM	YES

BUILDING HEIGHT:	
ALLOWED:	66'-0" HIGH
PROPOSED:	38'-0" HIGH
ALLOWABLE AREA	9,500 SF PER FLOOR 300% INCREASE FOR SPRINKLERS (PER STORY)
TOTAL AREA ALLOWED	28,500 SF
PROPERTY DENSITY	
ALLOWABLE:	50 DWELLING UNITS PER ACRE
PROPOSED:	6 DWELLING UNITS
BUILDING SETBACKS:	
FRONT SETBACK:	14'-0" (FROM McKNIGHT AVE. BACK OF CURB)
FRONT SETBACK:	13'-6" (FROM 75TH ST. BACK OF CURB)
SIDE SETBACK:	0'-0"
REAR SETBACK:	10'-0" (FROM CENTERLINE OF ALLEY)
GFAR:	
ALLOWABLE	1.3 (2.0 WITH BONUS)
PROPOSED	11,305 SF / 13,118 SF = 0.86 < 1.3

PARKING:

- 2/3 BEDROOM UNITS X 2 SPACES = 10 SPACES
- STUDIO UNIT X 1 SPACES = 1 SPACE

- TOTAL PARKING REQUIRED	11 SPACES
- TOTAL PARKING PROVIDED	9 SPACES
- ADA PARKING REQUIRED (4%)	1 SPACE
- ADA PARKING PROVIDED	1 SPACE
BICYCLE PARKING PROVIDED	12 STALLS TOTAL

* (4) BICYCLE STALLS EQUALS 1 PARKING STALL

LEGAL DESCRIPTION

LOT 25, OF SCOTTSDALE MANOR, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF THE COUNTY RECORDER OF MARICOPA COUNTY, ARIZONA, RECORDED IN BOOK 46 OF MAPS, PAGE 24.

EXCEPT A PERPETUAL EASEMENT AND RIGHT OF WAY TO CONSTRUCT, OPERATE AND MAINTAIN AN ALLEY AND ANY PUBLIC UTILITY LINES, PIPES OR POLES OVER THE SOUTH 10 FEET OF LOT 25, OF SCOTTSDALE MANOR, RECORDED IN BOOK 46 OF MAPS, PAGE 24.

VICINITY MAP

NORTH

TOMECAK DESIGN
4368 North Civic Center Plaza
Suite 201
Scottsdale, Arizona 85251
T 602.619.7751
F 480.718.8387
E info@tomecakdesign.com

REGISTERED ARCHITECT
42458
MARK K. TOMECAK
ARIZONA U.S.A.

EXPIRES 3.31.2023

PROJECT:
PALO ON 75TH
3961 N. 75TH STREET
SCOTTSDALE, ARIZONA 85251

REVISED:

JOB #.: 2105

DATE: 06.03.2021

CONTENTS: SITE PLAN

SHEET No: CS0.1