

Drainage Reports

Abbreviated Water & Sewer Need Reports

Water Study

Wastewater Study

Stormwater Waiver Application



"LEEDing and Developing Smart Projects"

PRELIMINARY DRAINAGE REPORT SKYE on McDowell-Phase II

Single-Family Attached Homes
SEC 68th Street & McDowell Road
Scottsdale, AZ

Prepared For:



Stormwater Review By:
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Review Cycle #2 Date 1/19/17

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EXPIRES 12-31-17

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Project Number: 161001
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Resubmittal Date: December 28, 2016

Case No.: 16-ZN-2016

Plan Check No.: TBD



TABLE OF CONTENTS:

COVER SHEET 1

TABLE OF CONTENTS 2

1. INTRODUCTION 4

2. LOCATION AND PROJECT DESCRIPTION

 2.1. LOCATION: 4

 2.2. EXISTING AND PROPOSED DEVELOPMENTS SURROUNDING THE SITE: 4

 2.3. EXISTING SITE DESCRIPTION: 4

 2.4. PROPOSED SITE DEVELOPMENT: 5

 2.5. FLOOD HAZARD ZONE: 5

3. EXISTING DRAINAGE CONDITIONS

 3.1. OFF-SITE DRAINAGE: 5

 3.2. ON-SITE DRAINAGE: 5

4. PROPOSED STORM WATER MANAGEMENT

 4.1. DESIGN INTENT: 5

 4.2. DESIGN STORM REQUIREMENTS: 6

 4.3. CHARACTERISTICS OF BASINS: 6

 4.4. OFF-SITE FLOW (By-Pass): 7

 4.5. STORMWATER RETENTION: 7

 4.6. STREET CAPACITY CALCULATIONS: 9

 4.7. STORM DRAIN INLET CALCULATIONS: 9

5. FLOOD SAFETY FOR DWELLING UNITS

 5.1 FINISHED FLOOR ELEVATIONS: 9

6. ADEQ WATER QUALITY REQUIREMENTS

 6.1 NOTICE OF INTENT: 9

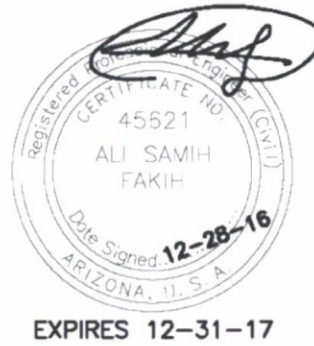
7. CONCLUSIONS

 7.1 OVERALL PROJECT: 9

 7.2 PROJECT PHASING: 9

8. WARNING AND DISCLAIMER OF LIABILITY

9. REFERENCES





LIST OF FIGURES:

- FIGURE 1 - Vicinity Map
- FIGURE 2 - Aerial
- FIGURE 3 - FIRM
- FIGURE 4 - COS Contour Map
- FIGURE 5 - Conceptual Site Plan

APPENDIX:

- APPENDIX I - Rainfall Data
- APPENDIX II - Calculations
- APPENDIX III - Preliminary Grading and Drainage Plan
- APPENDIX IV - ALTA
- APPENDIX V - Preliminary Plat
- APPENDIX VI - Digital Copy (CD)

1. INTRODUCTION

This Preliminary Drainage Report represents the storm water analysis for the Skye on McDowell Phase II single-family attached homes residential subdivision proposed in Scottsdale, Arizona. The purpose of this report is to provide the hydrologic and hydraulic analyses, required by the City of Scottsdale, to support the proposed site plan for said subdivision. This report includes discussions and calculations defining the storm water management concepts for collection, conveyance, and detention systems necessary to comply with the drainage requirements of the City of Scottsdale and Maricopa County. Preparation of this report has been done in accordance with the requirements of the City of Scottsdale Design Standards & Policies Manual (DS&PM) 2010¹, and the Drainage Design Manuals for Maricopa County, Arizona, Volumes I² and Volume II³.

2. LOCATION AND PROJECT DESCRIPTION

2.1 LOCATION:

The project is located at the SEC of N. 68th Street and E. McDowell Road in Scottsdale, AZ. and consists of three parcels of land located in a portion of the NE ¼ of Section 3, Township 1 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona; Parcel ID numbers are APN 129-11-001H; APN 129-11-001J; and APN-129-11-001R. Combined parcel area is 99,792 SF (2.3 net acres). Refer to **FIGURE 1 - Vicinity Map** for the project's location with respect to major cross streets.

The site is further bound by an 18-foot alley to the south with the Papago Parkway residential subdivision across and Skye on McDowell, Phase I adjacent to the east.

2.2 EXISTING AND PROPOSED DEVELOPMENTS SURROUNDING THE SITE:

The site is bounded by McDowell Road to the north, 68th Street to the west with C-3 commercial across, by an 18' wide alley to the south with the Papago Parkway residential subdivision across (zoned R1-7), and Skye on McDowell Phase I to the east, zoned R-5.

2.3 EXISTING SITE DESCRIPTION:

Land ownership, as defined by ALTA/ACSM Land Title Survey by Arizona Surveying & Mapping dated 07/14/15 includes 8.69+/- acres of commercially developed land. The referenced ALTA includes the adjacent dealerships to the east (now Skye on McDowell, Phase I). City of Scottsdale zoning map designates these parcels as R-5.

This site is fully developed as a car dealership. The topography generally slopes from the northwest corner to the southeast corner at approximately one-percent with a change in elevation of approximately three (3) feet. Grass and/or typical desert landscaping exists at the perimeter of the site.

Refer to **FIGURE 2** for an aerial of the overall project existing conditions.

2.4 PROPOSED SITE DEVELOPMENT:

The property is proposed to be re-developed from a commercial use to residential with new lot configurations into 24 single-family residential homes and is Phase II of Skye on McDowell. Phase I approved with case 18-ZN-2015 included 55 units. Development will include 24' wide roads with rolled curbs. Refer to **FIGURE 5** for the Site Plan.

2.5 FLOOD HAZARD ZONE:

As defined by the Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona, and incorporated areas, Community number 045012, Panel number 2235 of 4425, as shown on Map Number 04013C2235L dated October 16, 2013 this site is designated as **Zone "X"**. As such, it is defined as areas of 0.2-percent-annual-chance (or 500-year) flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and area protected by levees from the 100 year flood.

Refer to **FIGURE 3** for the FIRM.

3. EXISTING DRAINAGE CONDITIONS

3.1 OFF-SITE DRAINAGE:

This site is bound by a paved alley to the south. QS12-44 contour map indicates all runoff is conveyed along the south side of the property, from west to east. North and south sides of the site are bound by roadways with curb and gutter. Skye on McDowell Phase I to the east is designed to drain to the east, away from the subject parcel. No off-site roadway flows impact the subject parcel.

See Refer to **FIGURE 4** for the COS QS 12-44 Contour Map and **Appendix IV** for the ALTA / Topographic Survey.

3.2 ON-SITE DRAINAGE:

The site is developed commercial property with generally flat slopes from west-northwest to east-southeast at approximately one (1) percent. There are three areas onsite that provides for retention of storm water. Refer to **Exhibit "A"** in Appendix II for areas and Section 4.5 below for additional information. The historical outlet for the site is a paved ramp accessing the trash enclosure area near the east end of the site and outlets to the alley.

4. PROPOSED STORM WATER MANAGEMENT

Note: The engineer of record, Ali Fakh, recognizes that calculations here on are not required for the preliminary drainage report and that there may be drainage review comments regarding said calculations after submittal of the final drainage report.

4.1 DESIGN INTENT:

On-site drainage will be handled within street sections, underground storm pipes, or retention basins where necessary. This is a re-development of existing commercial land, therefore, the City of Scottsdale specifies that on-site retention shall be provided, at a minimum, to maintain existing



retention and to store the difference between the pre vs. post development runoff from the 100-year 2-hour storm event.

On-site retention will be provided as allowed by site configuration within open spaces or pavement surfaces and have total discharge of the storm water within thirty-six hours. The ultimate outfall elevation is 1251.50 (HWE) with emergency overflow outletting to 68th Street via a proposed scupper.

In general, the units will be graded to the front and into the street where it will be conveyed via curb and gutter or valley gutters and inlet structures and outlet to the retention area. As applicable, the project will be designed to keep the 10 year peak flow rates within the top of the curbs, and the 100 year peak flows within the Right-of-Way at gutter depth of less than or equal to 0.67 feet. Roll curb will be utilized throughout the project with the addition of storm drains, scuppers, or curb-cuts to be used when necessary to convey the 100 year runoff.

Refer to Section 5 below for a discussion on proposed finished floor elevations. Refer to Exhibit "C" in Appendix III for the Preliminary Grading & Drainage Plan.

4.2 DESIGN STORM REQUIREMENTS:

In accordance with City of Scottsdale requirements, at a minimum, stormwater storage for the 100-year 2-hour storm event based on pre-development versus post development C values is required.

4.3 CHARACTERISTICS OF BASINS:

The proposed basins are a combination of R-5 single-family attached residential areas and road rights-of-way 46 feet wide. Based on Figure 4.1-4 of the DS&PM, runoff coefficients for the 100 year storm event used are as follows:

- C=0.45 for undisturbed natural desert or desert landscaping without impervious weed barrier.
- C=0.94 for the lots in R-5 zones (will use 0.95)
- C=0.95 for R.O.W / pavement areas.

HYDROLOGIC ANALYSIS: The hydrologic analysis is determined using the procedures in the City of Scottsdale Design Standards & Policies Manual and the Drainage Design Manual for Maricopa County, Arizona, Volume I. The Rational Method was utilized to compute the on-site peak discharges. The following established the Rational Method equation and the basic input data required:

$$Q=C_{wt}IA$$

Where: Q = Rate of runoff (cfs)
C_{wt} = The runoff coefficient relating runoff to rainfall
I = Average rainfall intensity in inches/hour, lasting for Tc
A = The contributing drainage area in acres
Tc = The time of concentration (minutes)

C_{wt} CALCULATIONS (Phase II only):

- Pre-development (Refer to EXHIBIT "B1" in Appendix II)
 - Landscape area (Grass): 0.19 Ac. @ C=0.30
 - Landscape area (Desert): 0.21 Ac. @ C=0.45
 - Impervious Area (Roof / Pavement): 1.91 Ac. @ C=0.95
 - C_{wt}: 2.31 Ac. @ C_{wt} = 0.85

- Post-development (Refer to EXHIBIT "B2" in Appendix II)
 - Landscape area (Grass): n/a @ C=0.30
 - Landscape area (Desert): 0.53 Ac. @ C=0.45
 - Impervious Area (Roof / Pavement): 1.78 Ac. @ C=0.95
 - C_{wt}: 2.31 Ac. @ C_{wt} = 0.835

4.4 OFF-SITE FLOW :

There are no runoff contributions to the site from off-site sources.

4.5 STORMWATER RETENTION:

REQUIRED STORAGE:

Phase I, approved by zoning case 18-ZN-2015, provides for retention at the east end of the overall site. This project will provide retention for the subject site (Phase II) only. At a minimum retention will be provided as required to maintain existing conditions. As noted above, there are three existing retention areas on site. The total combined storage is **12,822 CF**. Refer to Exhibit "A" in Appendix II for existing volumes. Due to the irregular existing surface, Civil 3D program was used to determine the existing storage volumes. The program calculates the volume between an existing surface based on survey data and the water surface elevation established by overflow points.

The C_{wt} has decreased from pre-development to post-development therefore no additional retention is required as a result of the redevelopment.

This project is designed to self-contain drainage on-site, i.e. provide no contribution to Phase I. To ensure adjacent roadways and property are not adversely affected by the development, we propose that retention will be provided for the 100-year, 2-hour storm in lieu of only meeting existing conditions. Therefore, stormwater storage proposed is calculated in accordance with the COS – DS&PM. Required Retention (Acre-Feet) = $(P/12) * A * (C_{post} - C_{pre}) * 43,560$ ft/ac.

Where: P = 100 Yr. 2 Hr. Precipitation in Inches (Ref: Isopluvial from DS&PM, Appendix 4-1D, pg. 11) and confirmed with information from NOAA Atlas 14
A = Area (Acres)



$$C = C_{\text{post}} - C_{\text{pre}}$$

$$V_R = 2.14 \text{ in} / 12 * 2.31 \text{ ac} * 0.835 = 0.344 \text{ ac. ft or } 14,984 \text{ CF} > 12,822 \text{ CF required.}$$

PROVIDED STORAGE:

COS requires storm water retention to be provided in open basins for residential developments. The available open space is located at the west end of the project, adjacent to 68th Street. To maximize proposed storage volume, the basin is proposed to have 4:1 slopes from the R.O.W. property lines and use 2'+/- retaining walls along the adjacent residential units if required.

Table 1 below is a summary of proposed stormwater retention volume.

Table 1 – Proposed Retention Volume

BASIN B					
ELEV.	AREA	DEPTH	AVG VOLUME	SUM VOLUME	COMMENT
(FT)	(SF)	(FT)	(CF)	(CF)	
1248.50	2,191				Basin Bottom
		1.00	3,319.00	3,319.00	
1249.50	4,447				
		1.00	5,629.50	8,948.50	
1250.50	6,812				
		1.00	8,045.50	16,994.00	0.39
1251.50	9,279				Basin Design HWE

Proposed storage volume of **16,994 CF** > required retention (12,822 CF) and the 100-year, 2-hour event 14,984 CF. Since the 100-yr, 2-hr storm is being retained with no anticipated off-site runoff, the existing historical outlet near the southeast corner of the site will be abandoned to provide emergency overflow near the proposed retention area. The development emergency overflow above the HWE of 1251.50 will be directed to the 68th Street gutter.

STORAGE DISCHARGE:

Drywells are proposed in the on-site storage facilities to dispose of the stormwater within thirty-six (36) hours. The calculation is as follows:

- Minimum percolating rate of a drywell (for planning purposes) = 0.1 cfs
- Volume to be drained in 36 hours = 0.1 cfs * 36 hours * 3600 sec/hour = 12,960 cf = 0.298 acre-feet

Basin "B" Provided storage = 16,994 cf
 16,994 cf / 12,960 cf per drywell = 1.3 = 2 drywells required.
 Two drywells are proposed.



The number of drywells will be reduced if geotechnical testing for percolation rates determine adequate infiltration is available in the native soils at lower depths. If the percolation rate of the drywells is less than 0.1cfs the number of drywells may have to be increased.

4.6 STREET CAPACITY CALCULATIONS:

The City of Scottsdale DS&PM, Section 4-1 requires that runoff for a 10 year storm be contained within the curbs and that the 100 year storm has a maximum depth confined within the right-of-way.

Street capacity calculations will be provided in the Final Drainage Report.

4.7 STORM DRAIN INLET CALCULATIONS:

Onsite storm conveyance pipe is designed for a 10-year storm event with the 100-year event analyzed to ensure the Hydraulic Grade Line does not exceed 0.5 foot depth in paved areas. Refer to APPENDIX II for pipe calculations.

Onsite Inlet grates are sized considering a clogging factor of 1.5. Based on the largest drainage area (DA-2A), the following is the maximum required runoff rate for a 100-yr storm event to a catch basin:

$$DA-2A Q_{100} = CIA = 0.95 * 7.36 \text{ in/hr} * 0.835 \text{ ac} = 5.84 \text{ cfs.}$$

Limiting the water depth to 0.5' depth, a MAG-535 grate, with a 50% clogging factor has a capacity of 10.30 cfs, therefore OK for all areas. Refer to grate capacity calculation in Appendix II.

5. FLOOD SAFETY FOR DWELLINGS

5.1 FINISHED FLOOR ELEVATIONS

All building finished floor elevations will be set a minimum of:

- 14 inches above emergency overflow points. Emergency overflow locations may include low point inlets / curb of the drainage system, lowest top of curb (overland flow) outletting to the public R.O.W., etc.
- A minimum of 12 inches above the 100-year high-water elevation of any adjacent streets, retention basins and drainage paths.

This will ensure that each building will be well above the 100-year water level.

6. ADEQ WATER QUALITY REQUIREMENTS

6.1 NOTICE OF INTENT

The total disturbed area of this site is approximately 2.3 acres. The Arizona Department of Environmental Quality requires that any site over an acre is required to submit an NOI. An NOI will be submitted to ADEQ for this site after the first submittal of the construction documents as this site disturbance is over 1 acre.

7. CONCLUSIONS

7.1 OVERALL PROJECT:

1. Off-site storm water does not impact this project
3. The finish floor elevations will be set above potential flood elevations.



4. Storm water storage will be provided to maintain existing conditions as a minimum and discharge within 36 hours in accordance with City of Scottsdale requirements.

7.2 PROJECT PHASING:

As a residential development the infrastructure will be constructed in a single phase to accommodate dwelling unit growth. The dwelling units may be phased based on consumer demand.

8. WARNING AND DISCLAIMER OF LIABILITY

RE: following page.

9. REFERENCES

1. *Design Standards & Policies Manual, City of Scottsdale – January 2010*
2. *Drainage Design Manual for Maricopa County, Arizona, Volume I, Hydrology, Flood Control District of Maricopa County, Fourth Edition, November 18, 2009 amended through February 10, 2011*
3. *Drainage Design Manual for Maricopa County, Arizona, Volume II, Hydraulics, Flood Control District of Maricopa County, January 28, 1996*



WARNING & DISCLAIMER OF LIABILITY

The Drainage and Floodplain Regulations and Ordinances of the City of Scottsdale are intended to "minimize the occurrence of losses, hazards and conditions adversely affecting the public health, safety and general welfare which might result from flooding caused by the surface runoff of rainfall" (Scottsdale Revised Code §37-16).

As defined in S.R.C. §37-17, a flood plain or "*Special flood hazard* area means an area having flood and/or flood related erosion hazards as shown on a FHBM or FIRM as zone A, AO, A1-30, AE, A99, AH, or E, and those areas identified as such by the floodplain administrator, delineated in accordance with subsection 37-18(b) and adopted by the floodplain board." It is possible that a property could be inundated by greater frequency flood events or by a flood greater in magnitude than a 100-year flood. Additionally, much of the Scottsdale area is a dynamic flood area; that is, the floodplains may shift from one location to another, over time, due to natural processes.

WARNING AND DISCLAIMER OF LIABILITY PURSUANT TO S.R.C §37-22

"The degree of flood protection provided by the requirements in this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Floods larger than the base flood can and will occur on rare occasions. Floodwater heights may be increased by man-made or natural causes. This article (Chapter 37, Article II) shall not create liability on the part of the city, any officer or employee thereof, or the federal government for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder."

Compliance with Drainage and Floodplain Regulations and Ordinances does not insure complete protection from flooding. The Floodplain Regulations and Ordinances meet established local and federal standards for floodplain management, but neither this review nor the Regulations and Ordinances take into account such flood related problems as natural erosion, streambed meander or man-made obstructions and diversions, all of which may have an adverse affect in the event of a flood. You are advised to consult your own engineer or other expert regarding these considerations.

I have read and understand the above. If I am an agent for an owner I have made the owner aware of and explained this disclaimer.

Plan Check No.

Owner or Agent

Date

K. HOVNANIAN – SKYE DEVELOPMENT

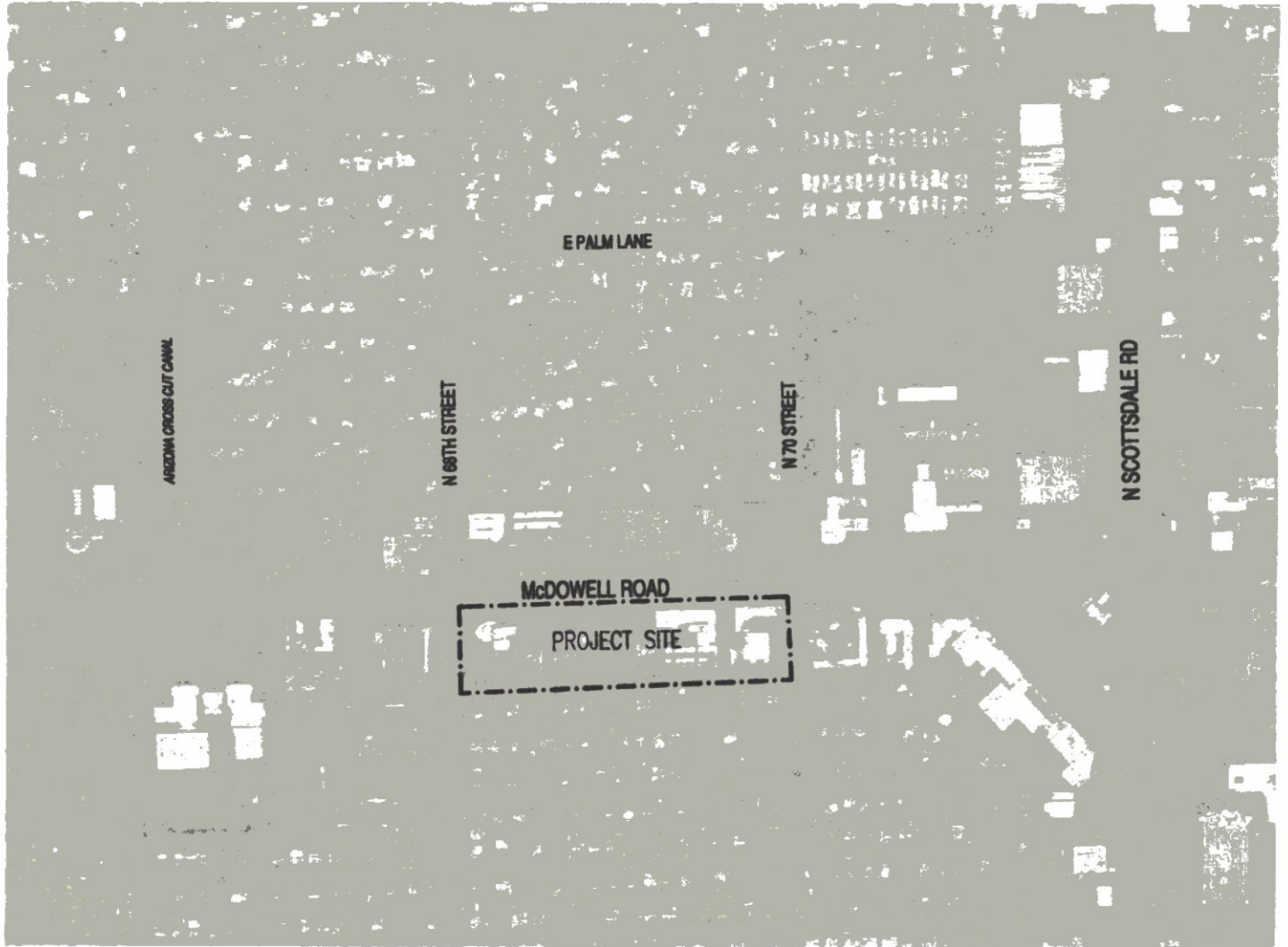
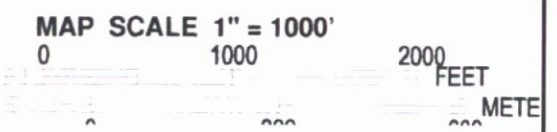


FIGURE 1. VICINITY MAP





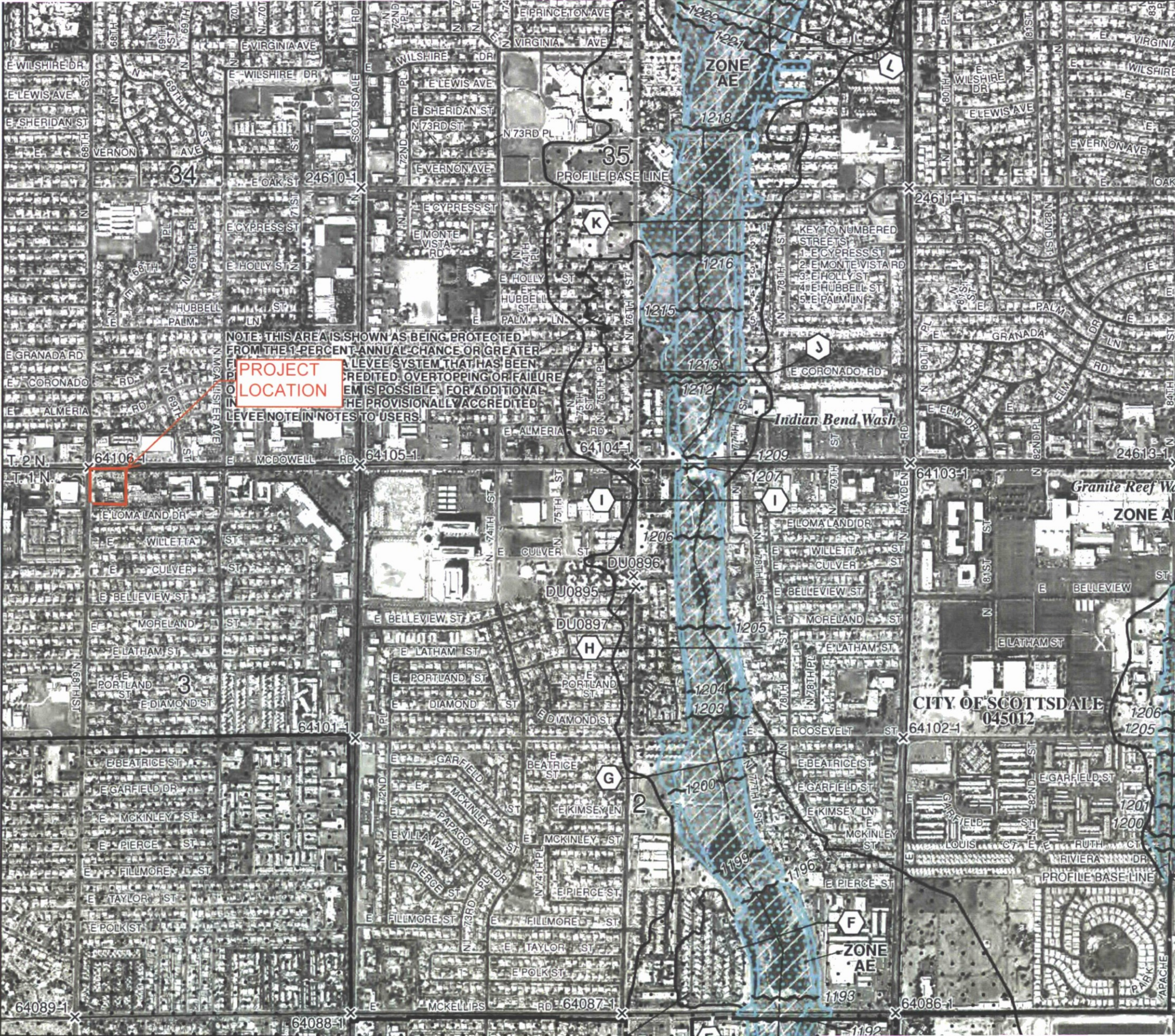
FIGURE 2
AERIAL



900000 FT

JOINS PANEL 2230

895000 FT



NFIP

PANEL 2235L

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 2235 OF 4425
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	2235	L
MESA CITY OF	040048	2235	L
SCOTTSDALE CITY OF	045012	2235	L
TEMPE CITY OF	040054	2235	L

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



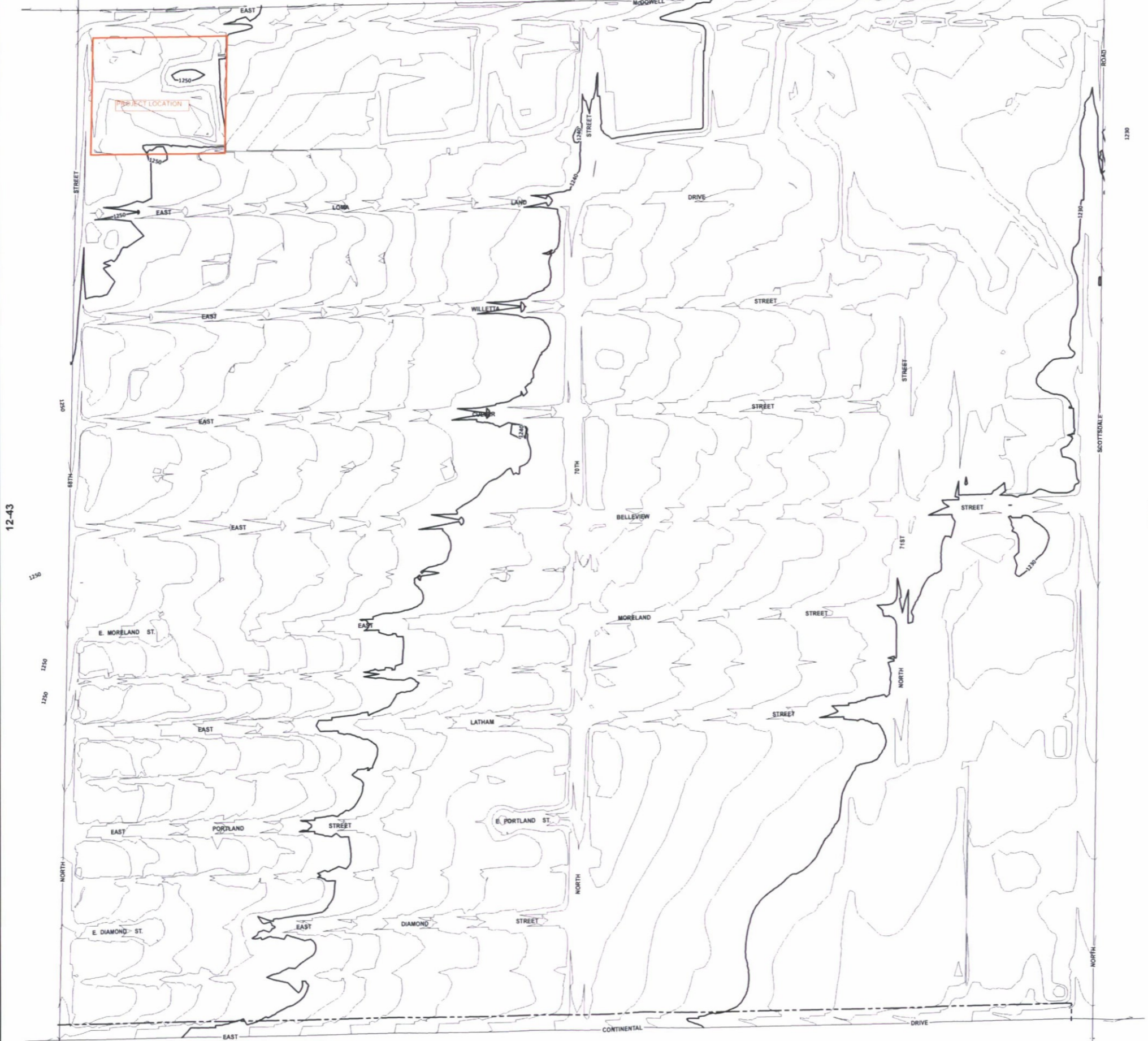
MAP NUMBER
04013C2235L
MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

FIGURE 3

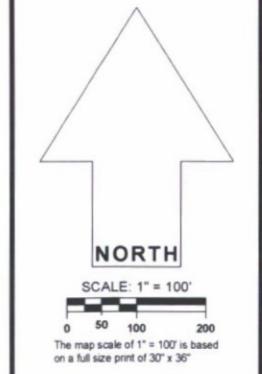
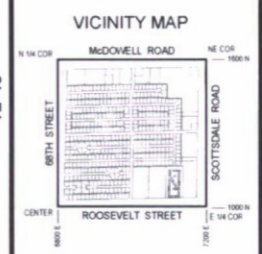
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.fema.gov.

NOTICE
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 THE CITY OF SCOTTSDALE



THE SECTION LINE BEARING AND DISTANCES ARE BASED ON THE CITY OF SCOTTSDALE GPS SURVEY OF SEPTEMBER 1987. BEARINGS ARE MAGNETIC AND DISTANCES ARE FLATTENED TO GROUND. WHERE NO CORNER WAS FOUND THE DIMENSIONS ARE GIVEN TO CALCULATED SECTION CORNERS AND ARE NOTED AS CALCULATED ON THE MAP.

LEGEND:



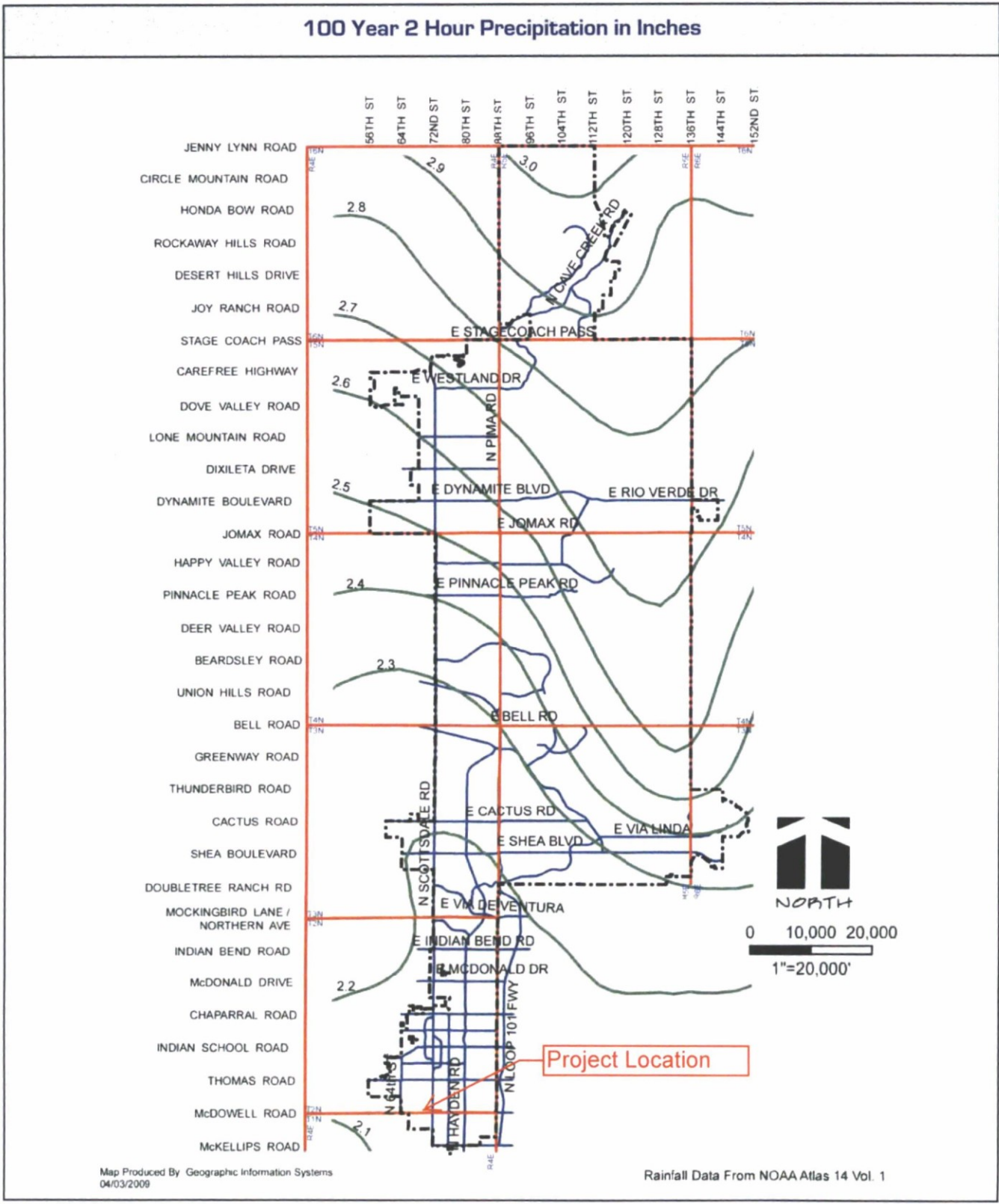
CONTOUR
 QUARTER SECTION MAP
12-44
 NE 1/4 SEC. 3 T1N R4E



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APPENDIX I
Rainfall Data

8280 E. Gelding Dr., Suite 101
Scottsdale, AZ 85260





NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, US*
Latitude: 33.4651°, Longitude: -111.9323°
Elevation: 1246 ft*
* source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

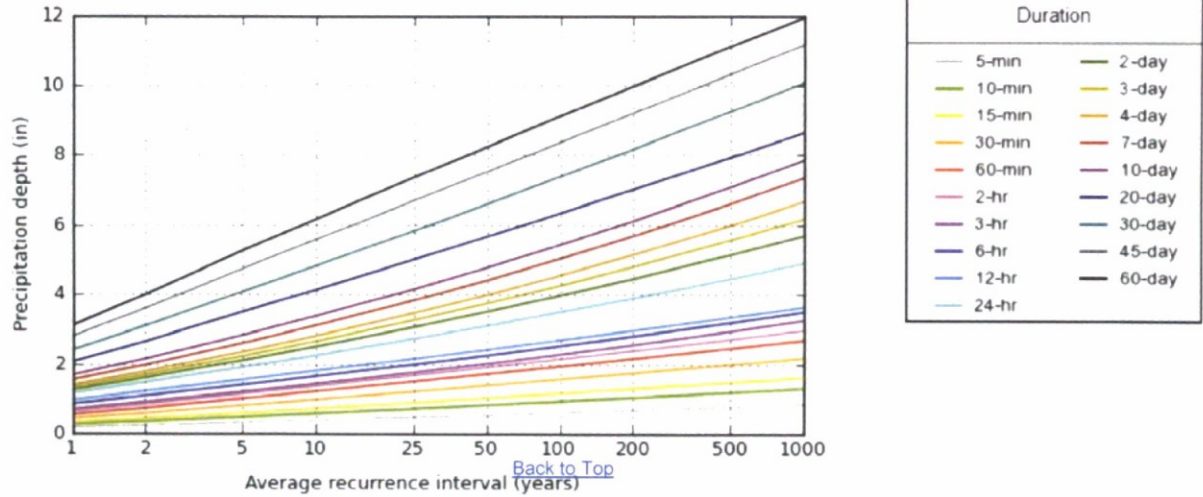
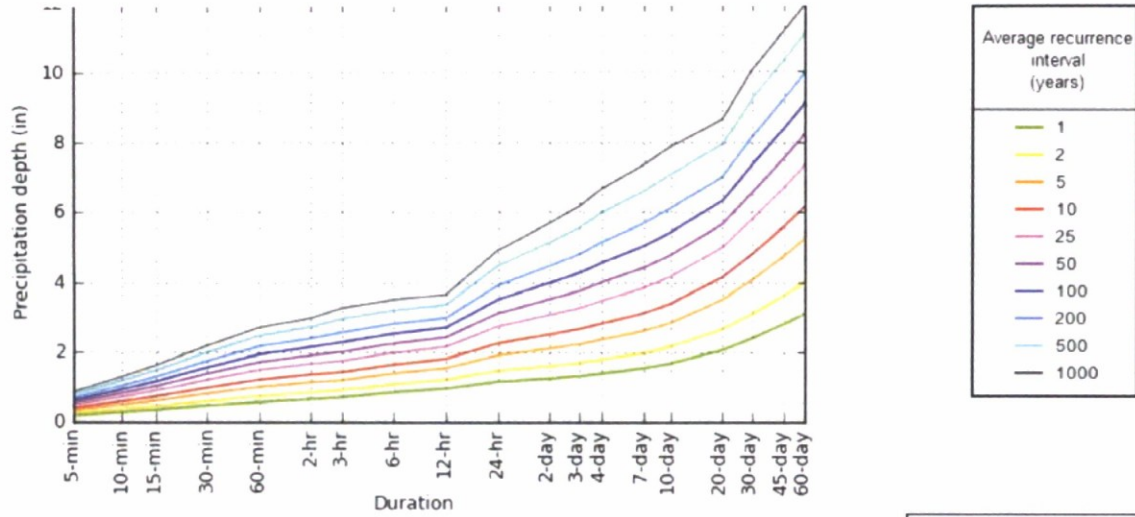
PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	25	50	100	200	500	1000	
5-min	0.180 (0.152-0.218)	0.236 (0.199-0.286)	0.321 (0.269-0.387)	0.386 (0.322-0.464)	0.475 (0.390-0.567)	0.544 (0.440-0.647)	0.613 (0.487-0.727)	0.684 (0.535-0.812)	0.780 (0.594-0.926)	0.853 (0.637-1.02)
10-min	0.274 (0.231-0.332)	0.359 (0.303-0.435)	0.488 (0.410-0.589)	0.588 (0.491-0.705)	0.722 (0.593-0.864)	0.827 (0.670-0.984)	0.933 (0.742-1.11)	1.04 (0.815-1.24)	1.19 (0.904-1.41)	1.30 (0.969-1.55)
15-min	0.340 (0.286-0.412)	0.444 (0.376-0.538)	0.606 (0.508-0.730)	0.729 (0.608-0.874)	0.895 (0.735-1.07)	1.03 (0.831-1.22)	1.16 (0.920-1.37)	1.29 (1.01-1.53)	1.47 (1.12-1.75)	1.61 (1.20-1.92)
30-min	0.457 (0.385-0.555)	0.598 (0.506-0.725)	0.815 (0.684-0.983)	0.982 (0.819-1.18)	1.21 (0.990-1.44)	1.38 (1.12-1.64)	1.56 (1.24-1.85)	1.74 (1.36-2.06)	1.98 (1.51-2.35)	2.17 (1.62-2.58)
60-min	0.566 (0.477-0.686)	0.740 (0.626-0.897)	1.01 (0.847-1.22)	1.22 (1.01-1.46)	1.49 (1.23-1.78)	1.71 (1.39-2.03)	1.93 (1.53-2.29)	2.15 (1.68-2.55)	2.45 (1.87-2.91)	2.68 (2.00-3.19)
2-hr	0.657 (0.563-0.781)	0.851 (0.728-1.01)	1.14 (0.974-1.35)	1.36 (1.15-1.61)	1.67 (1.39-1.95)	1.90 (1.56-2.22)	2.14 (1.73-2.50)	2.38 (1.89-2.78)	2.71 (2.10-3.17)	2.96 (2.25-3.49)
3-hr	0.712 (0.606-0.850)	0.912 (0.781-1.10)	1.20 (1.02-1.44)	1.43 (1.21-1.70)	1.75 (1.46-2.07)	2.00 (1.65-2.36)	2.27 (1.83-2.68)	2.55 (2.02-3.00)	2.94 (2.26-3.46)	3.25 (2.43-3.84)
6-hr	0.857 (0.745-1.00)	1.09 (0.949-1.27)	1.40 (1.21-1.63)	1.64 (1.42-1.91)	1.98 (1.68-2.29)	2.24 (1.88-2.58)	2.52 (2.07-2.90)	2.80 (2.26-3.23)	3.18 (2.51-3.68)	3.49 (2.68-4.05)
12-hr	0.961 (0.843-1.11)	1.22 (1.07-1.41)	1.64 (1.35-1.78)	1.80 (1.56-2.07)	2.15 (1.84-2.47)	2.41 (2.05-2.77)	2.69 (2.25-3.08)	2.96 (2.44-3.41)	3.34 (2.68-3.85)	3.63 (2.86-4.22)
24-hr	1.16 (1.04-1.30)	1.47 (1.32-1.65)	1.90 (1.70-2.13)	2.25 (2.00-2.51)	2.72 (2.41-3.04)	3.10 (2.73-3.45)	3.49 (3.05-3.89)	3.90 (3.38-4.34)	4.46 (3.82-4.97)	4.90 (4.16-5.47)
2-day	1.25 (1.12-1.40)	1.60 (1.44-1.79)	2.10 (1.88-2.35)	2.50 (2.23-2.79)	3.06 (2.71-3.41)	3.50 (3.08-3.91)	3.97 (3.48-4.44)	4.45 (3.87-4.98)	5.14 (4.41-5.76)	5.68 (4.83-6.40)
3-day	1.32 (1.19-1.48)	1.69 (1.52-1.90)	2.22 (1.99-2.49)	2.65 (2.37-2.96)	3.26 (2.89-3.63)	3.74 (3.30-4.17)	4.26 (3.73-4.75)	4.80 (4.17-5.36)	5.56 (4.77-6.21)	6.17 (5.24-6.92)
4-day	1.39 (1.25-1.56)	1.78 (1.60-2.00)	2.35 (2.10-2.62)	2.81 (2.50-3.13)	3.46 (3.07-3.85)	3.98 (3.51-4.43)	4.55 (3.98-5.06)	5.14 (4.46-5.73)	5.98 (5.12-6.67)	6.66 (5.65-7.45)
7-day	1.54 (1.38-1.73)	1.97 (1.77-2.20)	2.60 (2.32-2.90)	3.10 (2.77-3.47)	3.82 (3.39-4.27)	4.40 (3.88-4.91)	5.02 (4.39-5.60)	5.67 (4.92-6.33)	6.60 (5.65-7.36)	7.34 (6.22-8.21)
10-day	1.68 (1.50-1.87)	2.14 (1.92-2.40)	2.83 (2.53-3.15)	3.38 (3.01-3.76)	4.14 (3.68-4.61)	4.76 (4.20-5.30)	5.42 (4.75-6.03)	6.11 (5.31-6.80)	7.07 (6.07-7.88)	7.85 (6.67-8.76)
20-day	2.06 (1.85-2.29)	2.65 (2.38-2.94)	3.49 (3.13-3.88)	4.13 (3.70-4.58)	4.99 (4.45-5.54)	5.65 (5.02-6.27)	6.33 (5.59-7.03)	7.01 (6.16-7.79)	7.93 (6.91-8.84)	8.64 (7.47-9.64)
30-day	2.40 (2.15-2.67)	3.09 (2.78-3.44)	4.07 (3.65-4.51)	4.82 (4.31-5.33)	5.82 (5.18-6.44)	6.59 (5.84-7.28)	7.37 (6.51-8.15)	8.17 (7.18-9.04)	9.25 (8.07-10.2)	10.1 (8.71-11.2)
45-day	2.79 (2.51-3.10)	3.59 (3.24-3.99)	4.73 (4.26-5.25)	5.57 (5.00-6.18)	6.68 (5.98-7.41)	7.52 (6.70-8.33)	8.36 (7.42-9.27)	9.20 (8.13-10.2)	10.3 (9.04-11.5)	11.1 (9.72-12.4)
60-day	3.09 (2.79-3.42)	3.99 (3.60-4.42)	5.25 (4.73-5.81)	6.16 (5.54-6.81)	7.35 (6.59-8.13)	8.23 (7.35-9.11)	9.11 (8.11-10.1)	9.97 (8.84-11.0)	11.1 (9.78-12.3)	11.9 (10.5-13.3)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical



[Back to Top](#)

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[Back to Top](#)

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1325 East West Highway
Silver Spring, MD 20910

NOAA Atlas 14, Volume 1, Version 5
 Location name: Scottsdale, Arizona, US
 Latitude: 33.4661°, Longitude: -111.9323°
 Elevation: 1246 ft
 source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Helm, Lillian Hiner, Kazungu Maliana, Deborah Martin, Sandra Payovic, Ishant Roy, Carl Trupaluk, Dale Urnuth, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bornlin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan
 NOAA, National Weather Service, Silver Spring, Maryland

PF tabular | PF graphical | Maps & aerals

PF tabular

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

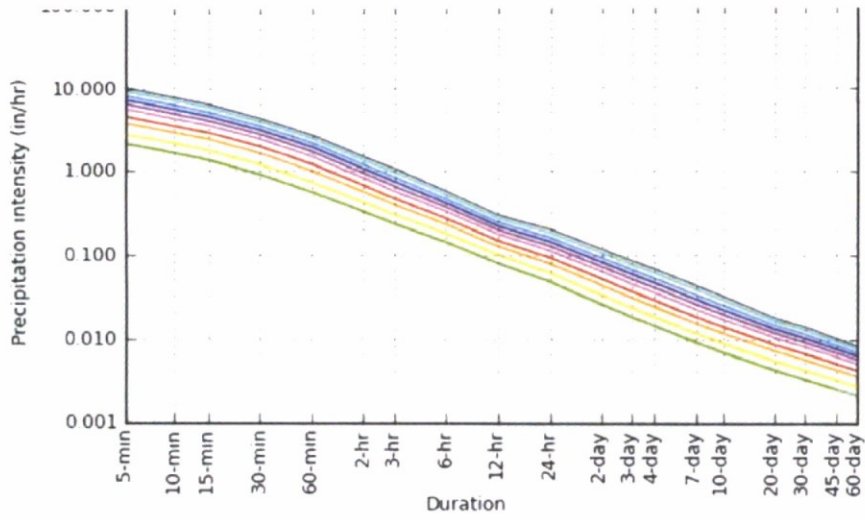
Duration	1	2	5	25	50	100	200	500	1000
5-min	2.16 (1.82-2.62)	2.82 (2.39-3.43)	3.85 (3.23-4.64)	4.63 (3.86-5.57)	6.70 (4.68-8.80)	7.36 (5.28-7.76)	8.21 (6.42-9.74)	9.36 (7.13-11.1)	10.2 (7.64-12.2)
10-min	1.64 (1.39-1.99)	2.15 (1.82-2.61)	2.93 (2.46-3.53)	3.63 (2.95-4.23)	4.33 (3.56-5.18)	4.96 (4.02-5.90)	5.60 (4.45-6.64)	7.12 (5.42-8.46)	7.79 (5.81-9.28)
15-min	1.36 (1.14-1.65)	1.78 (1.50-2.15)	2.42 (2.03-2.92)	2.92 (2.43-3.50)	3.68 (2.94-4.28)	4.10 (3.32-4.88)	4.63 (3.68-5.49)	5.16 (4.04-6.12)	6.44 (4.80-7.66)
30-min	0.914 (0.770-1.11)	1.20 (1.01-1.45)	1.63 (1.37-1.97)	1.96 (1.64-2.36)	2.41 (1.98-2.88)	2.76 (2.24-3.29)	3.11 (2.72-4.12)	3.96 (3.02-4.71)	4.34 (3.24-5.16)
60-min	0.666 (0.477-0.886)	0.740 (0.628-0.897)	1.01 (0.847-1.22)	1.22 (1.01-1.46)	1.49 (1.23-1.78)	1.71 (1.39-2.03)	1.93 (1.68-2.55)	2.46 (1.87-2.91)	2.68 (2.00-3.19)
2-hr	0.328 (0.282-0.390)	0.426 (0.364-0.506)	0.571 (0.487-0.676)	0.662 (0.575-0.804)	0.832 (0.694-0.977)	0.949 (0.780-1.11)	1.07 (0.947-1.25)	1.19 (1.05-1.59)	1.48 (1.12-1.75)
3-hr	0.237 (0.202-0.283)	0.304 (0.260-0.365)	0.400 (0.340-0.478)	0.476 (0.402-0.566)	0.562 (0.485-0.689)	0.667 (0.548-0.787)	0.849 (0.673-0.999)	0.978 (0.751-1.15)	1.06 (0.811-1.28)
6-hr	0.143 (0.124-0.168)	0.181 (0.158-0.213)	0.233 (0.203-0.272)	0.274 (0.236-0.319)	0.330 (0.281-0.382)	0.374 (0.313-0.431)	0.467 (0.377-0.539)	0.532 (0.419-0.615)	0.582 (0.448-0.676)
12-hr	0.080 (0.070-0.092)	0.101 (0.089-0.117)	0.128 (0.112-0.148)	0.160 (0.130-0.172)	0.178 (0.153-0.205)	0.200 (0.170-0.229)	0.223 (0.203-0.283)	0.277 (0.223-0.320)	0.301 (0.237-0.350)
24-hr	0.048 (0.043-0.054)	0.061 (0.055-0.069)	0.079 (0.071-0.089)	0.094 (0.083-0.105)	0.113 (0.100-0.127)	0.129 (0.114-0.144)	0.146 (0.127-0.162)	0.186 (0.159-0.207)	0.204 (0.173-0.228)
48-hr	0.026 (0.023-0.029)	0.033 (0.030-0.037)	0.044 (0.039-0.049)	0.052 (0.046-0.058)	0.064 (0.056-0.071)	0.073 (0.064-0.081)	0.083 (0.072-0.092)	0.107 (0.082-0.120)	0.118 (0.101-0.133)
3-day	0.018 (0.016-0.021)	0.023 (0.021-0.026)	0.031 (0.028-0.035)	0.037 (0.033-0.041)	0.046 (0.040-0.050)	0.052 (0.046-0.058)	0.059 (0.052-0.066)	0.077 (0.058-0.086)	0.086 (0.073-0.096)
4-day	0.016 (0.013-0.016)	0.019 (0.017-0.021)	0.024 (0.022-0.027)	0.029 (0.026-0.033)	0.036 (0.032-0.040)	0.041 (0.037-0.046)	0.047 (0.041-0.053)	0.054 (0.046-0.060)	0.062 (0.059-0.078)
7-day	0.009 (0.008-0.010)	0.012 (0.011-0.013)	0.016 (0.014-0.017)	0.018 (0.016-0.021)	0.026 (0.020-0.025)	0.028 (0.023-0.029)	0.034 (0.029-0.038)	0.039 (0.034-0.044)	0.044 (0.037-0.049)
10-day	0.007 (0.006-0.008)	0.009 (0.008-0.010)	0.012 (0.011-0.013)	0.014 (0.013-0.016)	0.017 (0.015-0.019)	0.020 (0.018-0.022)	0.023 (0.020-0.025)	0.029 (0.025-0.033)	0.033 (0.028-0.036)
20-day	0.004 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.007-0.008)	0.009 (0.008-0.010)	0.010 (0.009-0.012)	0.012 (0.010-0.013)	0.015 (0.013-0.016)	0.018 (0.014-0.018)	0.018 (0.016-0.020)
30-day	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.007-0.007)	0.008 (0.008-0.009)	0.009 (0.008-0.011)	0.010 (0.010-0.013)	0.013 (0.011-0.014)	0.014 (0.012-0.016)
45-day	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.006-0.007)	0.007 (0.007-0.008)	0.009 (0.008-0.009)	0.010 (0.009-0.011)	0.010 (0.009-0.012)
60-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.005-0.006)	0.006 (0.006-0.006)	0.007 (0.006-0.007)	0.008 (0.007-0.008)	0.008 (0.007-0.009)

¹Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parentheses are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

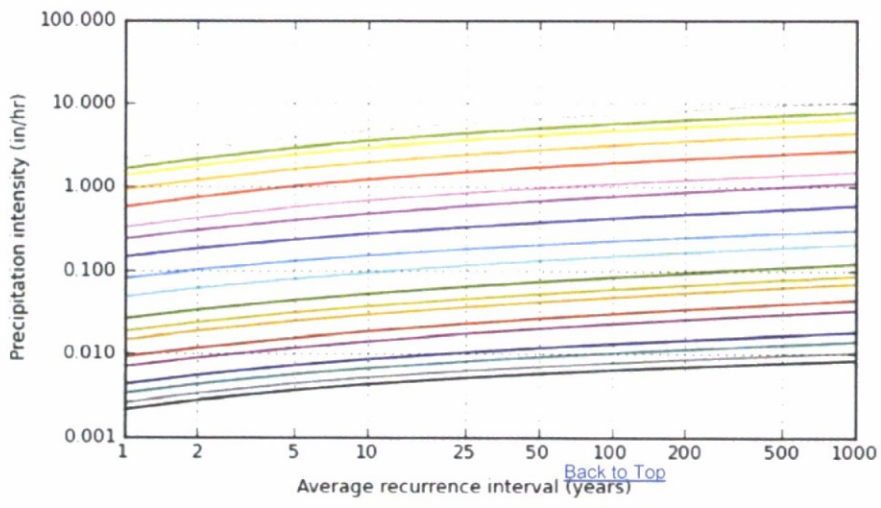
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[Back to Top](#)

PF graphical



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



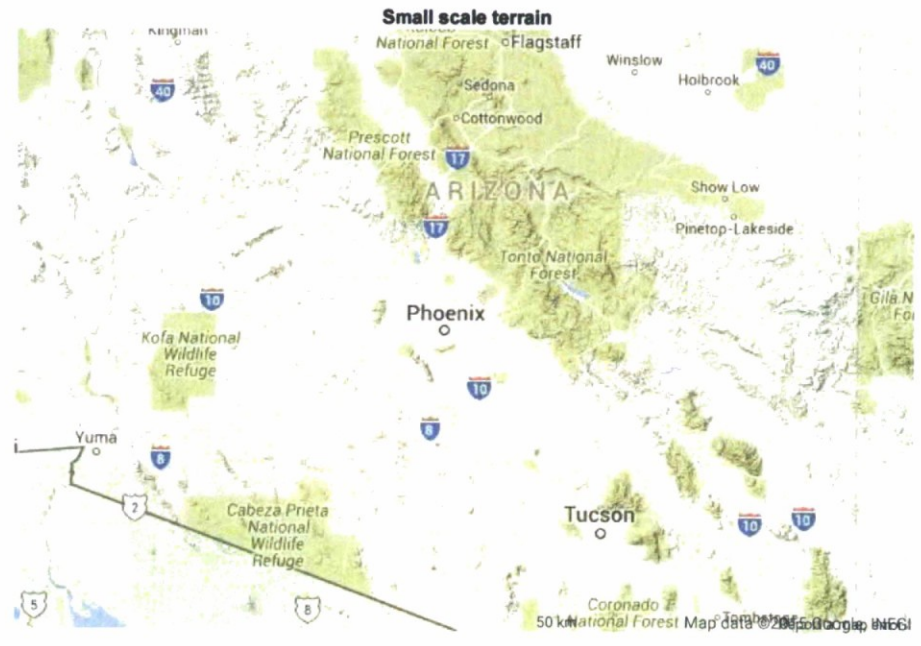
Duration
5-min
10-min
15-min
30-min
60-min
2-hr
3-hr
6-hr
12-hr
24-hr
2-day
3-day
4-day
7-day
10-day
20-day
30-day
45-day
60-day

[Back to Top](#)

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[Back to Top](#)

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APPENDIX II

Calculations

8280 E. Gelding Dr., Suite 101
Scottsdale, AZ 85260

2. Time of Concentration

Time of concentration "Tc" is the total time of travel from the most hydraulically remote part of the watershed to the concentration point of interest. The calculation of "Tc" must follow FCDMC Hydrology Manual procedures.

***Note:** Do not add a standard set amount of time to the estimated "Tc" for lot runoff delay (such as 5 or 10 minutes). Natural land slopes are too variable in Scottsdale to add a set amount of time for lot runoff.

3. Runoff Coefficients

Use Figure 4.1-4 or equivalent to obtain the runoff coefficients or "C" values. Composite "C" values for the appropriate zoning category or weighted average values calculated for the specific site are both acceptable approaches.

RUNOFF COEFFICIENTS - "C" VALUE			
Land Use	Storm Frequency		
	2-25 Year	50 Year	100 Year
Composite Area-wide Values			
Commercial & Industrial Areas	0.80	0.83	0.86
Residential Areas-Single Family (average lot size)			
R1-1-1901	0.33	0.50	0.53
R1-130	0.35	0.51	0.59
R1-70	0.37	0.52	0.60
R1-43	0.38	0.55	0.61
R1-35 (35,000 square feet/lot)	0.40	0.56	0.62
R1-18 (18,000 square feet/lot)	0.43	0.58	0.64
R1-10 (10,000 square feet/lot)	0.47	0.62	0.67
R1-7 (7,000 square feet/lot)	0.51	0.64	0.94
Townhouses (R-2, R-4)	0.63	0.74	0.94
Apartments & Condominiums (R-3, R-5)	0.76	0.83	0.94
Specific Surface Type Values			
Paved streets, parking lots (concrete or asphalt), roofs, drive-ways, etc.	0.90	0.93	0.95
Lawns, golf courses, & parks (grassed areas)	0.20	0.25	0.30
Undisturbed natural desert or desert landscaping (no impervious weed barrier)	0.37	0.42	0.45
Desert landscaping (with impervious weed barrier)	0.63	0.73	0.83
Mountain terrain – slopes greater than 10%	0.60	0.70	0.80
Agricultural areas (flood-irrigated fields)	0.16	0.18	0.20

FIGURE 4.1-4 RUNOFF COEFFICIENTS FOR USE WITH RATIONAL METHOD



Pre-Development Cwt

EXHIBIT B1

- DESERT LANDSCAPE: 9055 S.F.
- GRASS LANDSCAPE: 8406 S.F.
- IMPERVIOUS AREA: 83017 S.F.

TOTAL AREA:
100478 S.F.

Area Calculations are based on field survey.

STORM DESIGN

Project: Skye-Phase II Storm Frequency 100 Year
 Job No: 151001 Manning 'n' 0.013
 Date: 07/13/16
 Location: Scottsdale, AZ

Drainage Area	Runoff Entering Structure	To Downstream Structure	A	C	(AxC)	L	t	I - 100	Q - 100	D	V	S	v	Time (min) of Flow to Next M.H.	A	P	R	Q	
			Area contributing to structure (ACRES)	Imperviousness	Equivalent Area	Accumulative Totals of Equivalent Areas	Length of travel in pipe (ft)	Time of Concentration (min)	Rainfall Intensity Year Storm (in/hr)	Quantity of Rainfall 100 Year Storm (cfs)	Standard pipe size needed	Volume in pipe (storage - cf)	Slope (%) of Individual Gradient	Velocity (ft/s) Flowing Full			hyd rad (ft)	Discharge Capacity (cfs)	
1A	CB-1A	CB-1B	0.17	0.95	0.16	0.16	95.0	5.00	7.36	1.18	12 in.	0.0	0.30%	2.49	0.64	0.79	3.14	0.25	1.96
1B	CB-1B	MH-1A	0.47	0.95	0.45	0.45	222.0	5.00	7.36	3.29	18 in.	349.9	0.23%	2.86	1.29	1.77	4.71	0.38	5.05
	MH-1A	OUTLET3		0.95	0.00	0.00	48.0	6.29	7.36	3.29	18 in.	146.7	0.23%	2.86	0.28	1.77	4.71	0.38	5.05
2A	CB-2A	MH-2A	0.85	0.95	0.81	0.81	153.0	5.00	7.36	5.93	18 in.	270.4	0.30%	3.26	0.78	1.77	4.71	0.38	5.77
3A	CB-3A	MH-3A	0.47	0.95	0.44	0.44	20.0	5.00	7.36	3.26	18 in.	35.3	0.30%	3.26	0.10	1.77	4.71	0.38	5.77
	MH-3A	MH-2A		0.95	0.00	0.00	86.0	5.10	7.36	9.19	24 in.	270.2	0.20%	3.23	0.44	3.14	6.28	0.50	10.14
	MH-2A	MH-4A		0.95	0.00	0.00	50.0	5.55	7.36	9.19	24 in.	157.1	0.20%	3.23	0.26	3.14	6.28	0.50	10.14
	MH-4A	OUTLET 4		0.95	0.00	0.00	44.0	5.80	7.36	9.19	24 in.	138.2	0.20%	3.23	0.23	3.14	6.28	0.50	10.14

STORM DESIGN

Runoff Entering Structure	To Downstream Structure	IE	IE		HGL	HGL	Rim		
		INVERT UPSTREAM (ft)	INVERT DOWNSTREAM (ft)	Hydraulic Slope (%)	Hydraulic Grade Line Elevation UPSTREAM	Hydraulic Grade Line Elevation DOWNSTREAM	Rim Elevation (UPSTREAM)	Cover over Pipe - upstream	HGL at upstream Structure
CB-1A	CB-1B	1249.41	1249.12	0.11%	1251.87	1251.76	1251.41	1.00	-0.46
CB-1B	MH-1A	1249.12	1248.61	0.10%	1251.76	1251.55	1251.81	1.19	0.05
MH-1A	OUTLET3	1248.61	1248.50	0.10%	1251.55	1251.50	1252.00	1.89	0.45
CB-2A	MH-2A	1249.15	1248.69	0.32%	1252.14	1251.66	1252.02	1.37	-0.12
CB-3A	MH-3A	1248.92	1248.86	0.10%	1251.82	1251.80	1252.09	1.67	0.27
MH-3A	MH-2A	1248.86	1248.69	0.17%	1251.80	1251.66	1252.73	1.87	0.93
MH-2A	MH-4A	1248.69	1248.59	0.17%	1251.66	1251.57	1252.82	2.13	1.16
MH-4A	OUTLET 4	1248.59	1248.50	0.17%	1251.57	1251.50	1253.29	2.70	1.72

Sustainability Engineering Group

Inlet Capacity - Sump Locations

Description: Calculation of Inlet Capacity for Single MAG 535 Catch Basin

Date: April 12, 2016

Location: SKYE

Reference: Drainage Design Manual for Maricopa County, Vol. II, Hydraulics, pg. 3-27

Weir EQ. $Q_i = C_w P d^{1.5} (C_f)$ **Orifice EQ.** $Q_i = C_o A (2gd)^{0.5} (C_f)$

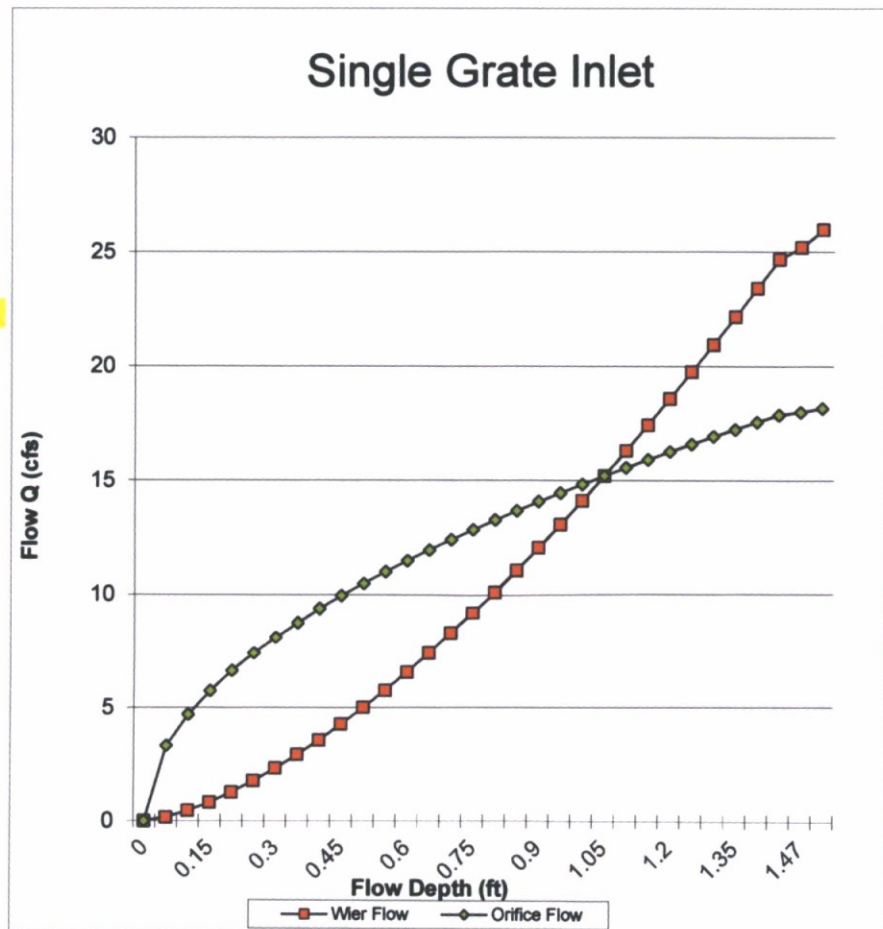
Where: $C_w = 3.0$, $C_o = 0.67$, and $C_f = \text{clogging factor} = 0.5$

Depth (ft)	Weir Q _i (cfs)	Orifice Q _i (cfs)
0.00	0.00	0.00
0.05	0.16	3.26
0.10	0.44	4.61
0.15	0.81	5.64
0.20	1.25	6.52
0.25	1.75	7.29
0.30	2.30	7.98
0.35	2.90	8.62
0.40	3.54	9.22
0.45	4.22	9.77
0.50	4.95	10.30
0.55	5.71	10.81
0.60	6.50	11.29
0.65	7.33	11.75
0.70	8.20	12.19
0.75	9.09	12.62
0.80	10.01	13.03
0.85	10.97	13.43
0.90	11.95	13.82
0.95	12.96	14.20
1.00	14.00	14.57
1.05	15.06	14.93
1.10	16.15	15.28
1.15	17.26	15.63
1.20	18.40	15.96
1.25	19.56	16.29
1.30	20.74	16.61
1.35	21.95	16.93
1.40	23.18	17.24
1.45	24.44	17.55
1.47	24.94	17.67
1.50	25.71	17.85

where,

P = Perimeter of Catchbasin minus
area of longitudinal & lateral bars

A = Total area of grate minus
area of longitudinal & lateral bars





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APPENDIX III

Grading Plans

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APPENDIX IV

ALTA / Topographic Survey

8280 E. Gelding Dr., Suite 101
Scottsdale, AZ 85260

ALTA/ACSM LAND TITLE SURVEY
A PORTION OF THE NORTHEAST QUARTER OF SECTION 3,
TOWNSHIP 1 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA.

LEGAL DESCRIPTION:

EXHIBIT A LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF MARICOPA, STATE OF ARIZONA, AND IS DESCRIBED AS FOLLOWS:

PARCEL NO. 1:

LOT 1 OF "A PROPERTY ASSEMBLAGE IN THE CITY OF SCOTTSDALE ARIZONA", ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF THE MARICOPA COUNTY RECORDER, IN BOOK 937 OF MAPS, PAGE 03.

PARCEL NO. 2:

THAT PART OF LOT 2, SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

FROM THE NORTHWEST CORNER OF LOT 2 SAID SECTION 3, (NORTH QUARTER CORNER OF SAID SECTION 3); RUN THENCE NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST, ALONG THE NORTH LINE OF LOT 2 SAID SECTION 3 (NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 3), A DISTANCE OF 381.81 FEET TO A POINT FROM WHICH THE NORTHEAST CORNER OF LOT 2 SAID SECTION 3, BEARS NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST, A DISTANCE OF 930.59 FEET; RUN THENCE SOUTH 0 DEGREES 08 MINUTES 00 SECONDS WEST, PARALLEL TO THE EAST LINE OF LOT 2 SAID SECTION 3, A DISTANCE OF 65.05 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 0 DEGREES 08 MINUTES 00 SECONDS WEST, PARALLEL TO THE EAST LINE OF LOT 2 SAID SECTION 3, A DISTANCE OF 309.85 FEET TO A POINT ON THE NORTH LINE OF PAPAGO PARKWAY, AS RECORDED IN BOOK 78 OF MAPS, PAGE 12, MARICOPA COUNTY RECORDS;

RUN THENCE NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST, ALONG THE NORTH LINE OF SAID PAPAGO PARKWAY, PARALLEL TO THE NORTH LINE OF LOT 2 SAID SECTION 3, A DISTANCE OF 387.55 FEET;

RUN THENCE NORTH 0 DEGREES 08 MINUTES 00 SECONDS EAST, PARALLEL TO THE EAST LINE OF LOT 2 SAID SECTION 3, A DISTANCE OF 309.85 FEET;

RUN THENCE SOUTH 88 DEGREES 01 MINUTES 50 SECONDS WEST, PARALLEL TO AND 65.00 FEET SOUTH OF THE NORTH LINE OF LOT 2 SAID SECTION 3, A DISTANCE OF 387.55 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL NO. 3:

THE WEST 150 FEET OF THE EAST 543 FEET OF THE NORTH 375 FEET OF FARM UNIT "B", FARM UNIT PLAT OF LOT 2, SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA;

EXCEPT THE NORTH 65 FEET THEREOF.

PARCEL NO. 4:

THAT PART OF LOT 2, SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS: FROM THE NORTHEAST CORNER OF LOT 2, SECTION 3 (NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3);

RUN THENCE WESTERLY ALONG THE NORTH LINE OF SAID LOT 2 A DISTANCE OF 393 FEET (RECORD) 393.02 FEET (MEASURED) TO THE POINT OF BEGINNING;

THENCE SOUTHERLY PARALLEL TO THE EAST LINE OF SAID LOT 2, TO A POINT ON THE NORTH LINE OF PAPAGO PARKWAY, AS RECORDED IN BOOK 78 OF MAPS, PAGE 12, MARICOPA COUNTY RECORDS;

RUN THENCE EASTERLY, ALONG THE NORTH LINE OF SAID PAPAGO PARKWAY TO A POINT FROM WHICH THE EAST LINE OF SAID LOT 2 LIES 252.50 FEET (RECORD) 253.50 FEET (MEASURED) EASTERLY AS MEASURED ALONG SAID NORTH LINE OF PAPAGO PARKWAY;

RUN THENCE NORTHERLY TO A POINT ON THE NORTH LINE OF SAID LOT 2 FROM WHICH THE NORTHEAST CORNER OF SAID LOT 2 LIES 265.81 FEET (RECORD) 266.81 FEET (MEASURED) EASTERLY AS MEASURED ALONG SAID NORTH LINE;

RUN THENCE WESTERLY ALONG SAID NORTH LINE TO THE TRUE POINT OF BEGINNING.

EXCEPT THE NORTH 65 FEET THEREOF.

PARCEL NO. 4A:

AN EASEMENT FOR ACCESS AS CREATED IN 86-028756 OF OFFICIAL RECORDS OVER A PORTION OF FARM UNIT "B", FARM UNIT PLAT, OF LOT 2, SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID FARM UNIT "B"; THENCE WESTERLY ALONG THE NORTH LINE OF SAID FARM UNIT "B", SOUTH 89 DEGREES 02 MINUTES 50 SECONDS WEST (RECORD) SOUTH 88 DEGREES 01 MINUTES 50 SECONDS WEST (MEASURED), A DISTANCE OF 265.81 FEET (RECORD) 266.81 FEET (MEASURED);

THENCE SOUTH 00 DEGREES 52 MINUTES 45 SECONDS EAST (RECORD) SOUTH 01 DEGREES 54 MINUTES 04 SECONDS EAST (MEASURED), A DISTANCE OF 65.00 FEET (RECORD) 65.01 FEET (MEASURED) TO THE TRUE POINT OF BEGINNING;

THENCE NORTH 89 DEGREES 02 MINUTES 50 SECONDS EAST (RECORD) NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST (MEASURED), A DISTANCE OF 18.50 FEET;

THENCE SOUTH 00 DEGREES 32 MINUTES 45 SECONDS EAST (RECORD) SOUTH 01 DEGREES 33 MINUTES 45 SECONDS EAST (MEASURED), A DISTANCE OF 53.00 FEET;

THENCE SOUTH 89 DEGREES 02 MINUTES 50 SECONDS WEST (RECORD) SOUTH 88 DEGREES 01 MINUTES 50 SECONDS WEST (MEASURED), A DISTANCE OF 32.00 FEET;

THENCE NORTH 00 DEGREES 32 MINUTES 45 SECONDS WEST (RECORD) NORTH 01 DEGREES 33 MINUTES 45 SECONDS WEST (MEASURED), A DISTANCE OF 53.00 FEET;

THENCE NORTH 89 DEGREES 02 MINUTES 50 SECONDS EAST (RECORD) NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST (MEASURED), A DISTANCE OF 13.50 FEET TO THE TRUE POINT OF BEGINNING.

LEGAL DESCRIPTION CONTINUED:

PARCEL NO. 5:

A PORTION OF FARM UNIT "B", FARM UNIT PLAT, OF LOT 2, SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID FARM UNIT "B";

THENCE WESTERLY ALONG THE NORTH LINE OF SAID FARM UNIT "B", SOUTH 89 DEGREES 02 MINUTES 50 SECONDS WEST (RECORD) SOUTH 88 DEGREES 01 MINUTES 50 SECONDS WEST (MEASURED), A DISTANCE OF 265.81 FEET (RECORD) 266.81 FEET (MEASURED);

THENCE SOUTH 00 DEGREES 52 MINUTES 45 SECONDS EAST (RECORD) SOUTH 01 DEGREES 54 MINUTES 04 SECONDS EAST (MEASURED), A DISTANCE OF 374.66 FEET (RECORD) 374.59 FEET (MEASURED) TO THE NORTH LINE OF PAPAGO PARKWAY SUBDIVISION AS RECORDED IN BOOK 78 OF MAPS, PAGE 12 OF MARICOPA COUNTY RECORDS;

THENCE EASTERLY ALONG THE NORTH LINE OF SAID PAPAGO PARKWAY SUBDIVISION NORTH 89 DEGREES 01 MINUTES 50 SECONDS EAST (RECORD) NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST (MEASURED), A DISTANCE OF 252.50 FEET (RECORD) 253.50 FEET (MEASURED) TO THE EAST LINE OF SAID FARM UNIT "B";

THENCE ALONG SAID EAST LINE NORTH 01 DEGREES 09 MINUTES 20 SECONDS EAST (RECORD) NORTH 00 DEGREES 08 MINUTES 00 SECONDS EAST (MEASURED), A DISTANCE OF 374.85 FEET (RECORD) 374.83 FEET (MEASURED) TO THE POINT OF BEGINNING;

EXCEPT ANY PART LYING WITHIN THE PROPERTY CONVEYED TO THE CITY OF SCOTTSDALE RECORDED IN DOCKET 11913, PAGE 854; AND

EXCEPT THE NORTH 40 FEET; AND

EXCEPT THE NORTH 65 FEET OF THE EAST 180 FEET; AND

EXCEPT THE EAST 30 FEET.

PARCEL NO. 5A:

AN EASEMENT FOR ACCESS AS CREATED IN 86-028756 OF OFFICIAL RECORDS OVER A PORTION OF FARM UNIT "B", FARM UNIT PLAT, OF LOT 2, SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID FARM UNIT "B"; THENCE WESTERLY ALONG THE NORTH LINE OF SAID FARM UNIT "B", SOUTH 89 DEGREES 02 MINUTES 50 SECONDS WEST (RECORD) SOUTH 88 DEGREES 01 MINUTES 50 SECONDS WEST (MEASURED), A DISTANCE OF 265.81 FEET (RECORD) 266.81 FEET (MEASURED);

THENCE SOUTH 00 DEGREES 52 MINUTES 45 SECONDS EAST (RECORD) SOUTH 01 DEGREES 54 MINUTES 04 SECONDS EAST (MEASURED), A DISTANCE OF 65.00 FEET (RECORD) 65.01 FEET (MEASURED) TO THE TRUE POINT OF BEGINNING;

THENCE NORTH 89 DEGREES 02 MINUTES 50 SECONDS EAST (RECORD) NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST (MEASURED), A DISTANCE OF 18.50 FEET;

THENCE SOUTH 00 DEGREES 32 MINUTES 45 SECONDS EAST (RECORD) SOUTH 01 DEGREES 33 MINUTES 45 SECONDS EAST (MEASURED), A DISTANCE OF 53.00 FEET;

THENCE SOUTH 89 DEGREES 02 MINUTES 50 SECONDS WEST (RECORD) SOUTH 88 DEGREES 01 MINUTES 50 SECONDS WEST (MEASURED), A DISTANCE OF 32.00 FEET;

THENCE NORTH 00 DEGREES 32 MINUTES 45 SECONDS WEST (RECORD) NORTH 01 DEGREES 33 MINUTES 45 SECONDS WEST (MEASURED), A DISTANCE OF 53.00 FEET;

THENCE NORTH 89 DEGREES 02 MINUTES 50 SECONDS EAST (RECORD) NORTH 88 DEGREES 01 MINUTES 50 SECONDS EAST (MEASURED), A DISTANCE OF 13.50 FEET TO THE TRUE POINT OF BEGINNING.

LEGEND FOR SHEET 3 OF 5:

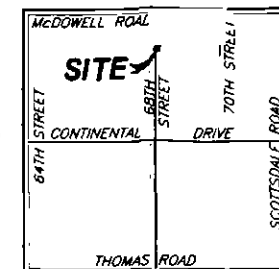
-----	BOUNDARY LINE
-----	MONUMENT LINE
-----	RIGHT-OF-WAY LINE
-----	EASEMENT LINE
-----	ADJOINING PROPERTY
(M)	MEASURED DATA
(R)	RECORDED DATA
MCR	MARICOPA COUNTY RECORDS
R/W	RIGHT-OF-WAY
APN	ASSESSOR'S PARCEL NUMBER
P.O.B.	POINT OF BEGINNING
⬠	SCHEDULE B ITEM
⬠	MONUMENT NOTE

SHEET INDEX:

SHEET 1 - LEGAL DESCRIPTIONS, VICINITY MAP, RECORD OWNER, SHEET INDEX, BASIS OF BEARING, LEGEND FOR SHEET 3 OF 5, SURVEYOR'S NOTES AND CERTIFICATION.
 SHEET 2 - SCHEDULE B - SECTION II EXCEPTIONS.
 SHEET 3 - BOUNDARY MAP, EASEMENTS, MONUMENT NOTES, REFERENCE DATA AND AREAS.
 SHEET 4 - WEST PART OF SURVEY MAP, TOPO, BENCH MARK, BOUNDARY NOTES AND LEGEND.
 SHEET 5 - EAST PART OF SURVEY MAP, TOPO, BENCH MARK, BOUNDARY NOTES AND LEGEND.

BASIS OF BEARING:

N88°43'01"E ALONG THE MONUMENT LINE OF MCDOWELL ROAD AS MEASURED BETWEEN MONUMENTS NUMBERED (1) AND (3) SHOWN HEREON AND DESCRIBED UNDER MONUMENT NOTES, ALSO SHOWN ON THE FINAL PLAT FOR STEWART PLAZA, RECORDED IN BOOK 71 OF MAPS, PAGE 24, MARICOPA COUNTY RECORDS.



VICINITY MAP
NOT TO SCALE

RECORD OWNER:

APN# 129-11-001H, 129-11-001J, 129-11-001R, 129-11-001S, 129-11-001P, 129-11-001M, 129-11-001T, 129-11-001U
 PROPERTY ADDRESS
 6801 E. MCDOWELL ROAD - 1519 N 68TH STREET - 6825 E. MCDOWELL ROAD
 6861 E. MCDOWELL ROAD - 8863 E. MCDOWELL ROAD - 6905 E. MCDOWELL ROAD
 6925 E. MCDOWELL ROAD - SCOTTSDALE, ARIZONA 85257
 MAILING ADDRESS
 777 PROPERTIES LLC
 7300 W. ORCHARD LANE
 CHANDLER, ARIZONA 85226

SURVEYOR'S NOTES:

- THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR. ALL INFORMATION REGARDING RECORD EASEMENTS, ADJOINERS, AND OTHER DOCUMENTS WHICH MIGHT AFFECT THE QUALITY OF TITLE TO TRACT SHOWN HEREON WAS GAINED FROM A COMMITMENT FOR TITLE INSURANCE ISSUED BY LAWYERS TITLE OF ARIZONA, INC. REPRESENTING COMMONWEALTH LAND TITLE INSURANCE COMPANY COMMITMENT NUMBER 01831822-003-170, DATED MAY 27, 2015 AT 7:30 A.M.
- THE WORD "CERTIFY" OR "CERTIFICATE" IS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THE SURVEY AND DOES NOT CONSTITUTE A GUARANTEE, EXPRESS OR IMPLIED.
- THIS ALTA/ACSM LAND TITLE SURVEY WAS PREPARED SPECIFICALLY FOR THE USE OF THE PARTIES NAMED IN THE CERTIFICATION AND THEIR REPRESENTATIVES. USE OF THIS SURVEY IS NOT PERMITTED UNLESS EXPRESSLY PERMITTED IN WRITING IN ADVANCE BY ARIZONA SURVEYING AND MAPPING. THIS SURVEY IS NOT TO BE USED FOR DESIGN PURPOSES. ARIZONA SURVEYING AND MAPPING SHALL HAVE NO LIABILITY FOR ANY UNAUTHORIZED USE OF THIS INFORMATION WITHOUT THEIR PRIOR WRITTEN CONSENT.
- IF A DISCREPANCY IS DISCOVERED IN THE TOPOGRAPHY OF THIS MAP THE SURVEYOR MUST BE CONTACTED TO RESOLVE ANY ISSUES PRIOR TO ANY DESIGN OR CONSTRUCTION.
- THE LOCATION OF UNDERGROUND UTILITIES AS DEPICTED HEREON IS BASED ON RECOVERABLE FIELD LOCATED SURFACE FEATURES OF THOSE UTILITIES AND SHOULD BE CONSIDERED APPROXIMATE AND POSSIBLY INCOMPLETE. NO EXCAVATIONS WERE MADE TO LOCATE BURIED UTILITIES DURING THE PROGRESS OF OR FOR THE PURPOSE OF THIS SURVEY.
- OWNERSHIP INFORMATION SHOWN HEREON WAS OBTAINED FROM THE MARICOPA COUNTY ASSESSOR'S WEBSITE AND MAY BE INACCURATE OR OUT-OF-DATE.
- RELATIVE TO OPTIONAL TABLE "A" ITEM NO. 16 THE SURVEYOR DID NOT NOTICE ANY EARTH MOVING DURING THIS SURVEY.
- THIS SURVEY SHOULD NOT BE CONSTRUED AS DEDICATING ANY EASEMENTS OR RIGHTS OF WAY.

CERTIFICATION:

TO: COMMONWEALTH LAND TITLE INSURANCE COMPANY
 LAWYERS TITLE OF ARIZONA, INC.
 K. HOVANIAN GREAT WESTERN HOMES, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
 777 PROPERTIES, LLC, AN ARIZONA LIMITED LIABILITY COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS IN 2011, AND INCLUDES ITEMS 1, 2, 4, 5, 8, 9, 10(a), 11(a), 13, AND 16 OF TABLE A THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE STATE OF ARIZONA, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

LANCE C. DICKSON RLS #45643 DATE



ALTA/ACSM LAND TITLE SURVEY

A PORTION OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

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 DRAWN BY: RCW
 CHECKED BY: LCD
 JOB # P15-117
 DATE: 07/14/15

SHEET NO. 1

SCHEDULE "B" ITEMS:

SCHEDULE B - SECTION II EXCEPTIONS

SCHEDULE B OF THE POLICY OR POLICIES TO BE ISSUED WILL CONTAIN EXCEPTIONS TO THE FOLLOWING MATTERS UNLESS THE SAME ARE DISPOSED OF TO THE SATISFACTION OF THE COMPANY:

A. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES FOR VALUE OF RECORD THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT.

B. EXCEPTIONS AND EXCLUSIONS FROM COVERAGE WHICH WILL APPEAR IN THE POLICY OR POLICIES TO BE ISSUED AS SET FORTH IN ATTACHMENT ONE ATTACHED.

1. PROPERTY TAXES, WHICH ARE A LIEN NOT YET DUE AND PAYABLE, INCLUDING ANY ASSESSMENTS COLLECTED WITH TAXES TO BE LEVIED FOR THE YEAR 2015. (NOT RESPONSIBILITY OF SURVEYOR)

2. THE LIABILITIES AND OBLIGATIONS IMPOSED UPON SAID LAND BY REASON OF: (A) INCLUSION THEREOF WITHIN THE BOUNDARIES OF THE SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT; (B) MEMBERSHIP OF THE OWNER THEREOF IN THE SALT RIVER VALLEY WATER USERS' ASSOCIATION, AN ARIZONA CORPORATION AND (C) THE TERMS OF ANY WATER RIGHT APPLICATION MADE UNDER THE RECLAMATION LAWS OF THE UNITED STATES FOR THE PURPOSES OF OBTAINING WATER RIGHTS FOR SAID LAND. (NOT RESPONSIBILITY OF SURVEYOR)

3. RESERVATIONS CONTAINED IN THE PATENT

FROM: THE UNITED STATES OF AMERICA
RECORDING NO: BOOK 150 OF DEEDS, PAGE 88

WHICH AMONG OTHER THINGS RECITES AS FOLLOWS:

SUBJECT TO ANY VESTED AND ACCRUED WATER RIGHTS FOR MINING, AGRICULTURAL MANUFACTURING, OR OTHER PURPOSES AND RIGHTS TO DITCHES AND RESERVOIRS USED IN CONNECTION WITH SUCH WATER RIGHTS, AS MAY BE RECOGNIZED AND ACKNOWLEDGED BY THE LOCAL CUSTOMS, LAWS AND DECISIONS OF THE COURTS, AND THE RESERVATION FROM THE LANDS HEREBY GRANTED, A RIGHT OF WAY THEREON FOR DITCHES OR CANALS CONSTRUCTED BY THE AUTHORITY OF THE UNITED STATES. (NOT RESPONSIBILITY OF SURVEYOR)

4. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT DISCLOSED BY THE PUBLIC RECORDS. (NOT RESPONSIBILITY OF SURVEYOR)

5. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: RESOLUTION NO. 8356
RECORDING NO: 2010-549775

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

6. EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS AS SET FORTH ON THE PLAT RECORDED IN BOOK 937 OF MAPS, PAGE 3. (AFFECTS PARCEL 1) (SHOWN)

7. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: COST SHARING AND MAINTENANCE AGREEMENT
RECORDING NO: 2005-1925455
(AFFECTS PARCEL 1)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

8. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: INDEMNITY AGREEMENT
RECORDING NO: 86-320150
(AFFECTS PARCEL 1) (ALSO AFFECTS PARCEL 2)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

9. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: LINE OF POLES AND APPURTENANCES
RECORDING NO: DOCKET 4379, PAGE 12
(AFFECTS PARCEL 1) (SHOWN)

10. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: 1 FOOT VEHICULAR NON-ACCESS
RECORDING NO: 86-74626
(AFFECTS PARCELS 1 & 2) (SHOWN)

11. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: 10 FOOT ALLEY RIGHT OF WAY
RECORDING NO: 86-74636
(AFFECTS PARCEL 1) (SHOWN) (ALSO AFFECTS PARCEL 2)

12. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: UNDERGROUND POWER
RECORDING NO: 87-338929
(AFFECTS PARCEL 1) (SHOWN)

13. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: CITY OF SCOTTSDALE DRAINAGE AND FLOOD CONTROL EASEMENT AND PROVISION FOR MAINTENANCE
RECORDING NO: 97-910018
(AFFECTS PARCEL 2)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (SHOWN)

14. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: COST SHARING AND MAINTENANCE AGREEMENT
RECORDING NO: 2005-1925460
(AFFECTS PARCEL 2)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

15. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: CONSENT AGREEMENT
RECORDING NO: 98-167024
(AFFECTS PARCEL 2)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

16. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ALLEY
RECORDING NO: 85-496111 AND 86-74636
RECORDING NO: 86-74636
(AFFECTS PARCEL 2) (SHOWN)

17. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: VEHICULAR NON-ACCESS
RECORDING NO: 85-526547
(AFFECTS PARCEL 2) (SHOWN)

18. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ELECTRIC FACILITIES
RECORDING NO: 99-326397
(AFFECTS PARCEL 2) (SHOWN)

19. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ELECTRICAL FACILITIES
RECORDING NO: 99-326398
(AFFECTS PARCEL 2) (SHOWN)

20. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: POWER DISTRIBUTION
RECORDING NO: 2004-1235559
(AFFECTS PARCEL 2) (SHOWN)

21. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: INDEMNITY AGREEMENT
RECORDING NO: 87-164385
(AFFECTS PARCELS 3 & 4 & 5)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

22. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: CITY OF SCOTTSDALE COVENANT AND AGREEMENT TO HOLD PROPERTY AS ONE PARCEL
RECORDING NO: 97-267244
(AFFECTS PARCELS 3 & 4) (ALSO AFFECTS PARCEL 5 AND DOES NOT AFFECT PARCEL 3)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

23. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: CITY OF SCOTTSDALE LOT SPLIT APPROVAL
RECORDING NO: 97-267245
(AFFECTS PARCELS 3 & 4 & 5) (DOES NOT AFFECT PARCEL 3)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

24. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: CONDITIONAL INGRESS, EGRESS AND USE EASEMENT
RECORDING NO: 97-319496
(AFFECTS PARCELS 3 & 4 & 5) (DOES NOT AFFECT PARCELS 4 & 5)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (SHOWN)

25. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: COST SHARING AND MAINTENANCE AGREEMENT
RECORDING NO: 2005-1925567
(AFFECTS PARCELS 3 & 4 & 5)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (BLANKET)

26. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ELECTRIC TRANSMISSION
RECORDING NO: DOCKET 3787, PAGE 398 (SHOWN) (AFFECTS PARCELS 3 & 4)

27. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ALLEY
RECORDING NO: DOCKET 13497, PAGE 306
(AFFECTS PARCEL 4) (SHOWN) (ALSO AFFECTS PARCEL 5)

28. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: VEHICULAR NON-ACCESS
RECORDING NO: 86-320132
(AFFECTS PARCELS 3 & 4) (SHOWN)

29. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ALLEY
RECORDING NO: 86-320133
(AFFECTS PARCELS 3 & 4) (SHOWN)

30. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: UNDERGROUND POWER
RECORDING NO: 88-138506
(AFFECTS PARCELS 3 & 4) (SHOWN)

31. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: UNDERGROUND POWER
RECORDING NO: 90-438385
(AFFECTS PARCEL 3) (SHOWN)

32. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: UNDERGROUND POWER LINES
RECORDING NO: 90-438386 (AFFECTS PARCEL 4) (SHOWN)

33. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT

ENTITLED: INDEMNITY AGREEMENT
RECORDING NO: DOCKET 14669, PAGE 484
(AFFECTS PARCEL 5)

REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS. (NOT RESPONSIBILITY OF SURVEYOR)

34. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ELECTRIC TRANSMISSION LINE
RECORDING NO: DOCKET 2790, PAGE 560
(AFFECTS PARCEL 5) (SHOWN)

35. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ELECTRIC TRANSMISSION LINE
RECORDING NO: DOCKET 2949, PAGE 226
(AFFECTS PARCEL 5) (SHOWN) (ALSO AFFECTS PARCEL 4)

36. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ALLEY
RECORDING NO: DOCKET 13497, PAGE 306
(AFFECTS PARCEL 5) (SHOWN) (ALSO AFFECTS PARCEL 4)

37. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: UNDERGROUND POWER
RECORDING NO: 88-138506
(AFFECTS PARCEL 5) (SHOWN)

38. AN UNRECORDED LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN AS DISCLOSED BY THE DOCUMENT

ENTITLED: MEMORANDUM OF LEASE
LESSOR: 777 PROPERTIES, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
LESSEE: SCOTTSDALE FERRARI, LLC, A DELAWARE LIMITED LIABILITY COMPANY
DATE: DECEMBER 21, 2012
RECORDING NO: 2012-1165308
(AFFECTS PARCEL 1) (BLANKET)

38. AN UNRECORDED LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN AS DISCLOSED BY THE DOCUMENT

ENTITLED: MEMORANDUM OF LEASE
LESSOR: 777 PROPERTIES, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
LESSEE: SCOTTSDALE FERRARI, LLC, A DELAWARE LIMITED LIABILITY COMPANY
DATE: DECEMBER 21, 2012
RECORDING NO: 2012-1165308
(AFFECTS PARCEL 1) (BLANKET)

39. AN UNRECORDED LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN AS DISCLOSED BY THE DOCUMENT

ENTITLED: MEMORANDUM OF LEASE
LESSOR: 777 PROPERTIES, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
LESSEE: SCOTTSDALE FERRARI, LLC, A DELAWARE LIMITED LIABILITY COMPANY
DATE: DECEMBER 21, 2012
RECORDING NO: 2012-1165309
(AFFECTS PARCEL 2) (BLANKET)

40. EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS AS SET FORTH ON THE SURVEY RECORDED IN BOOK 1133 OF MAPS, PAGE 9. (SHOWN)

41. ANY RIGHTS OF THE PARTIES IN POSSESSION OF A PORTION OF, OR ALL OF, SAID LAND, WHICH RIGHTS ARE NOT DISCLOSED BY THE PUBLIC RECORDS. (NOT RESPONSIBILITY OF SURVEYOR)

42. MATTERS WHICH MAY BE DISCLOSED BY AN INSPECTION AND/OR BY A CORRECT ALTA/ACSM LAND TITLE SURVEY OF SAID LAND THAT IS SATISFACTORY TO THE COMPANY, AND/OR BY INQUIRY OF THE PARTIES IN POSSESSION THEREOF.

ALTA/ACSM LAND TITLE SURVEY

A PORTION OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

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JOB #: P15-117
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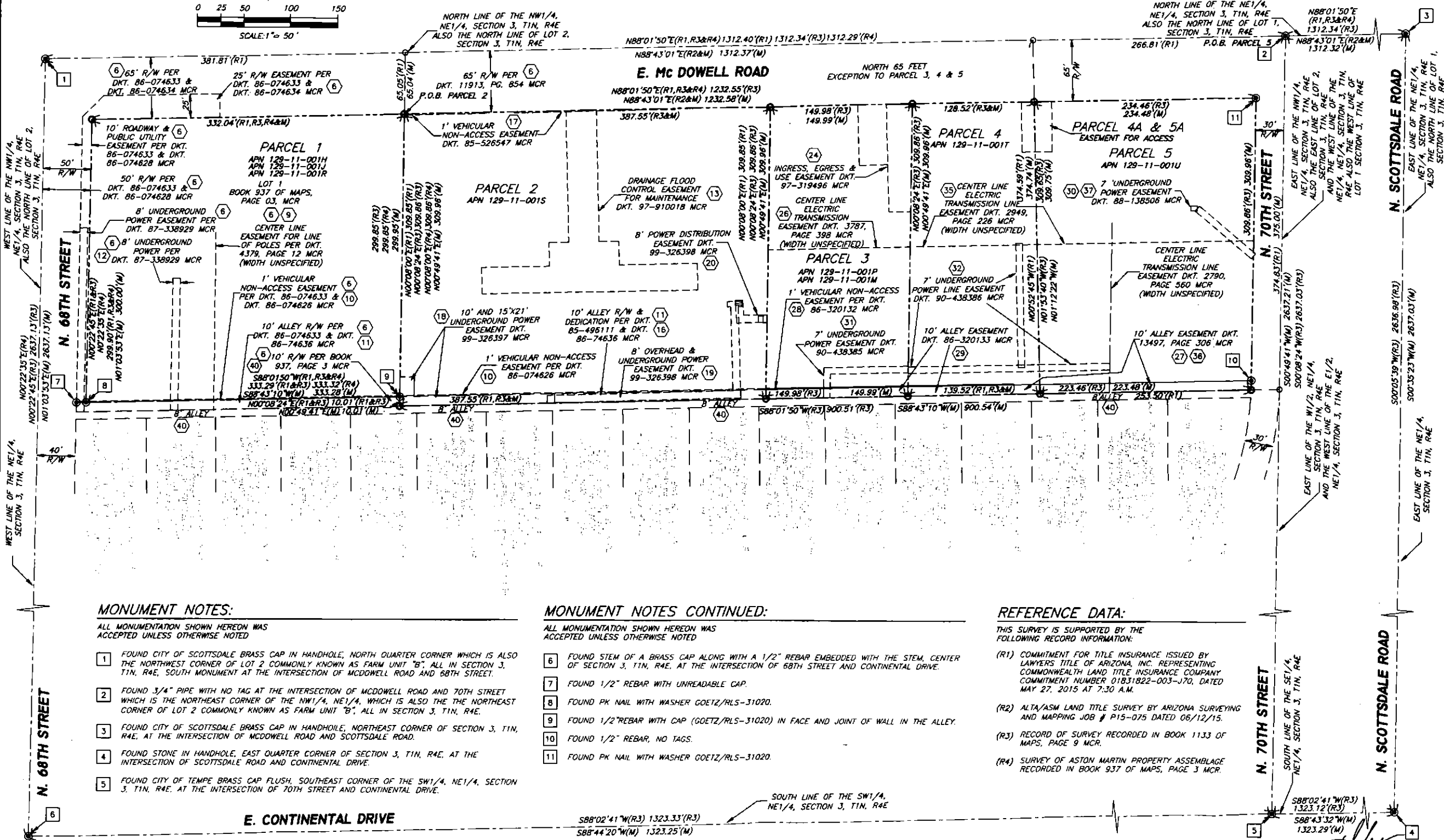
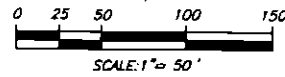


SHEET NO.

ALTA/ACSM LAND TITLE SURVEY

A PORTION OF THE NORTHEAST QUARTER OF SECTION 3,
TOWNSHIP 1 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA.

AREAS:
 PARCEL 1 - ± 99,712 SQUARE FEET OR ± 2.29 ACRES
 PARCEL 2 - ± 120,042 SQUARE FEET OR ± 2.75 ACRES
 PARCEL 3 - ± 46,459 SQUARE FEET OR ± 1.07 ACRES
 PARCEL 4 - ± 41,512 SQUARE FEET OR ± 0.95 ACRES
 PARCEL 5 - ± 70,925 SQUARE FEET OR ± 1.63 ACRES
 TOTALS - ± 378,650 SQUARE FEET OR ± 8.69 ACRES



MONUMENT NOTES:

ALL MONUMENTATION SHOWN HEREON WAS ACCEPTED UNLESS OTHERWISE NOTED

- 1 FOUND CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE, NORTH QUARTER CORNER WHICH IS ALSO THE NORTHWEST CORNER OF LOT 2 COMMONLY KNOWN AS FARM UNIT "B", ALL IN SECTION 3, T1N, R4E, SOUTH MONUMENT AT THE INTERSECTION OF MCDOWELL ROAD AND 68TH STREET.
- 2 FOUND 3/4" PIPE WITH NO TAG AT THE INTERSECTION OF MCDOWELL ROAD AND 70TH STREET WHICH IS THE NORTHEAST CORNER OF THE NW1/4, NE1/4, WHICH IS ALSO THE NORTHEAST CORNER OF LOT 2 COMMONLY KNOWN AS FARM UNIT "B", ALL IN SECTION 3, T1N, R4E.
- 3 FOUND CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE, NORTHEAST CORNER OF SECTION 3, T1N, R4E, AT THE INTERSECTION OF MCDOWELL ROAD AND SCOTTSDALE ROAD.
- 4 FOUND STONE IN HANDHOLE, EAST QUARTER CORNER OF SECTION 3, T1N, R4E, AT THE INTERSECTION OF SCOTTSDALE ROAD AND CONTINENTAL DRIVE.
- 5 FOUND CITY OF TEMPE BRASS CAP FLUSH, SOUTHEAST CORNER OF THE SW1/4, NE1/4, SECTION 3, T1N, R4E, AT THE INTERSECTION OF 70TH STREET AND CONTINENTAL DRIVE.

MONUMENT NOTES CONTINUED:

ALL MONUMENTATION SHOWN HEREON WAS ACCEPTED UNLESS OTHERWISE NOTED

- 6 FOUND STEM OF A BRASS CAP ALONG WITH A 1/2" REBAR EMBEDDED WITH THE STEM, CENTER OF SECTION 3, T1N, R4E, AT THE INTERSECTION OF 68TH STREET AND CONTINENTAL DRIVE.
- 7 FOUND 1/2" REBAR WITH UNREADABLE CAP.
- 8 FOUND PK NAIL WITH WASHER GOETZ/RLS-31020.
- 9 FOUND 1/2" REBAR WITH CAP (GOETZ/RLS-31020) IN FACE AND JOINT OF WALL IN THE ALLEY.
- 10 FOUND 1/2" REBAR, NO TAGS.
- 11 FOUND PK NAIL WITH WASHER GOETZ/RLS-31020.

REFERENCE DATA:

THIS SURVEY IS SUPPORTED BY THE FOLLOWING RECORD INFORMATION:

- (R1) COMMITMENT FOR TITLE INSURANCE ISSUED BY LAWYERS TITLE OF ARIZONA, INC. REPRESENTING COMMONWEALTH LAND TITLE INSURANCE COMPANY COMMITMENT NUMBER 01831822-003-J70, DATED MAY 27, 2015 AT 7:30 A.M.
- (R2) ALTA/ASM LAND TITLE SURVEY BY ARIZONA SURVEYING AND MAPPING JOB # P15-075 DATED 06/12/15.
- (R3) RECORD OF SURVEY RECORDED IN BOOK 1133 OF MAPS, PAGE 9 MCR.
- (R4) SURVEY OF ASTON MARTIN PROPERTY ASSEMBLAGE RECORDED IN BOOK 937 OF MAPS, PAGE 3 MCR.

ALTA/ACSM LAND TITLE SURVEY

A PORTION OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 1 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.

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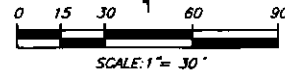
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ALTA/ACSM LAND TITLE SURVEY

A PORTION OF THE NORTHEAST QUARTER OF SECTION 3,
TOWNSHIP 1 NORTH, RANGE 4 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA.



BOUNDARY NOTES:

- 1 VERTICAL CURB 0.29' NORTH OF BOUNDARY LINE.
- 2 EIGHT CONCRETE AREAS FROM 2.82' TO 5.33' NORTH OF BOUNDARY LINE.
- 3 TWO CONCRETE AREAS 4.12' AND 7.53' NORTH OF BOUNDARY LINE.
- 4 FIVE CONCRETE AREAS FROM 8.97' TO 9.76' NORTH OF BOUNDARY LINE.
- 5 TWO CONCRETE AREAS 1.75' AND 2.82' NORTH OF BOUNDARY LINE.
- 6 TWO CONCRETE AREAS 1.86' AND 3.19' NORTH OF BOUNDARY LINE.
- 7 FIVE PAVEMENT AREAS FROM 5.66' TO 10.28' NORTH OF BOUNDARY LINE.
- 8 FIVE CONCRETE AREAS FROM 3.55' TO 15.53' NORTH OF BOUNDARY LINE.
- 9 ONE CONCRETE AREA 0.12' EAST OF BOUNDARY LINE.
- 10 6' HIGH BLOCK WALL, 10.02' NORTH OF BOUNDARY LINE.
- 11 5' HIGH BLOCK WALL EAST AND 6' HIGH BLOCK WALL WEST, 10.10' NORTH OF BOUNDARY LINE.
- 12 5' HIGH BLOCK WALL, 10.20' NORTH OF BOUNDARY LINE.
- 13 5' HIGH BLOCK WALL EAST AND 10' HIGH BLOCK WALL WEST, 10.19' NORTH OF BOUNDARY LINE.
- 14 10' HIGH BLOCK WALL, 9.93' NORTH OF BOUNDARY LINE.
- 15 10' HIGH BLOCK WALL, 10.24' NORTH OF BOUNDARY LINE.
- 16 10' HIGH BLOCK WALL, 10.18' NORTH OF BOUNDARY LINE.
- 17 8' HIGH BLOCK WALL EAST AND 10' HIGH BLOCK WALL WEST, 0.13' AND 10.14' NORTH OF BOUNDARY LINE.
- 18 10' HIGH BLOCK WALL, 0.19' SOUTH OF BOUNDARY LINE.
- 19 9' HIGH BLOCK WALL EAST AND 7' HIGH BLOCK WALL WEST, 0.10' NORTH OF BOUNDARY LINE.
- 20 7' HIGH BLOCK WALL, 0.21' NORTH OF BOUNDARY LINE.

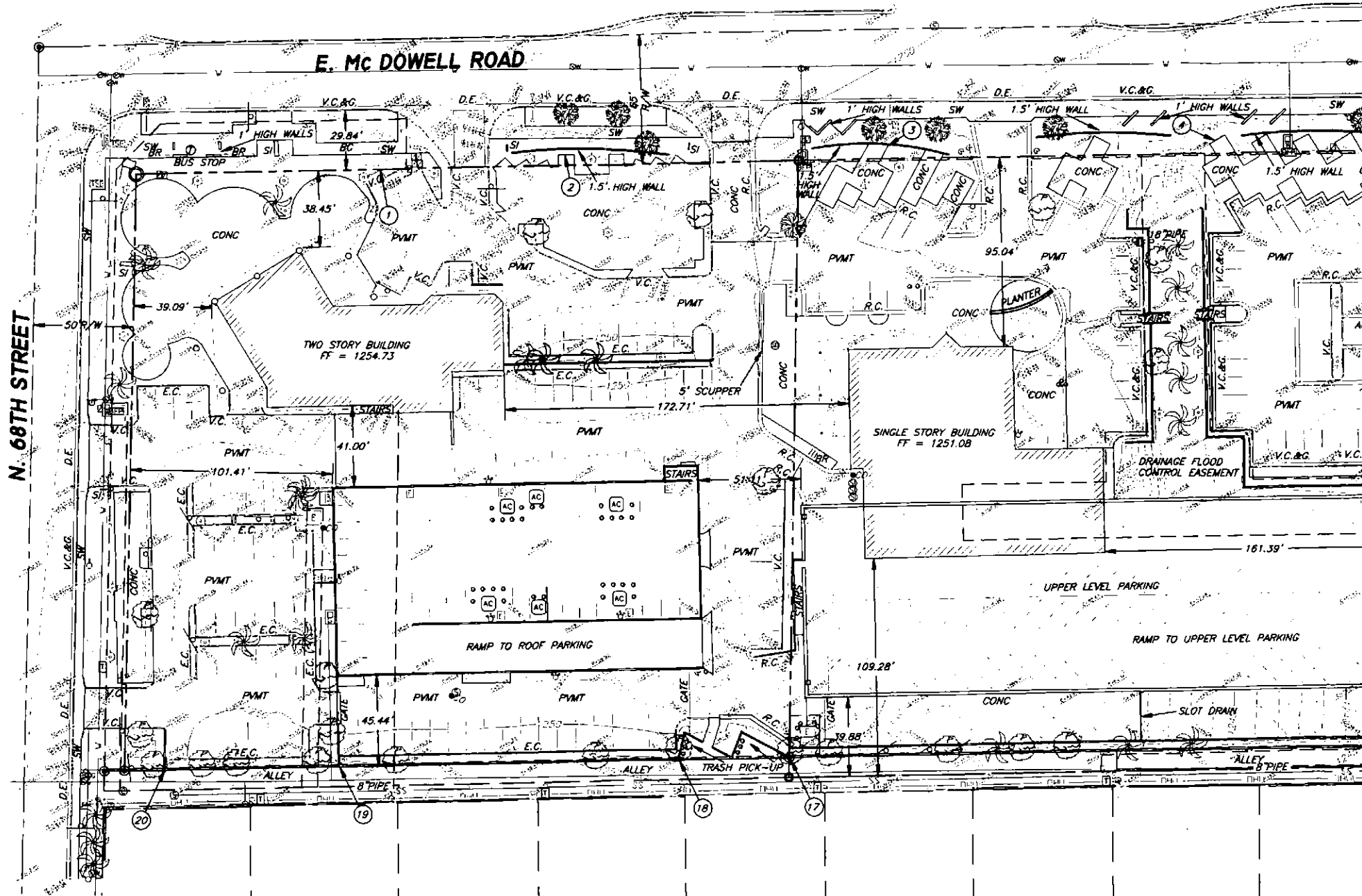
BENCHMARK:

CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE,
GPS POINT #5032, INTERSECTION OF MCDOWELL
ROAD AND SCOTTSDALE ROAD
SEE MONUMENT #3)

ELEVATION= 1230.69 (NAVD 88)

LEGEND:

--- BOUNDARY LINE	--- FENCE AS NOTED	⊙ SEWER MANHOLE	⊙ TRAFFIC SIGNAL	⊙ COMMUNICATIONS MANHOLE	SW SIDEWALK
--- MONUMENT LINE	--- BLOCK WALL	⊙ SEWER CLEANOUT	⊙ ELECTRIC JUNCTION BOX	⊙ COMMUNICATIONS RISER BOX	CONC CONCRETE
--- RIGHT-OF-WAY LINE	○ SET 1/2" REBAR RLS #46643 UNLESS OTHERWISE NOTED	⊙ ELECTRIC CABINET	⊙ GUY WIRE	○ BOLLARD	PVMT PAVEMENT
--- EASEMENT LINE	⊙ FOUND MONUMENT AS NOTED	⊙ ELECTRIC STUB-UP	⊙ TRAFFIC SIGNAL BOX	⊙ HANDICAP MARKER	BC BACK OF CURB
--- ADJOINING PROPERTY	⊙ WATER STUB-UP PIPES	⊙ ELECTRIC TRANSFORMER	⊙ GAS METER	⊙ FLAGPOLE	BR BICYCLE RACK
--- BUILDING OVERHANG	⊙ FIRE DEPARTMENT CONNECTION	⊙ ELECTRIC METER	⊙ GASLINE MARKER	⊙ SI WALL SIGN	
--- W UNDERGROUND WATER LINE	⊙ FIRE HYDRANT	⊙ ELECTRIC VAULT	⊙ GAS VALVE	⊙ D.E. DRIVEWAY ENTRANCE	
--- SS UNDERGROUND SEWER LINE	⊙ WATER METER	⊙ ELECTRIC PULL BOX	⊙ DRYWELL	⊙ V.C.&G. VERTICAL CURB & GUTTER	
--- G UNDERGROUND GAS LINE	⊙ WATER VALVE	⊙ STREET LIGHT	⊙ GRATE	⊙ V.C. VERTICAL CURB(NO GUTTER)	
--- COMM UNDERGROUND COMMUNICATIONS LINE	⊙ BACKFLOW PREVENTOR	⊙ POWER POLE	⊙ IRRIGATION CONTROL BOX	⊙ E.C. EXTRUDED CURB	
--- L UNDERGROUND ELECTRIC LINE	⊙ WATER SERVICE OUTLET	⊙ AREA LIGHT	⊙ STORM SEWER MANHOLE	⊙ R.C. ROLL CURB	
--- OHU OVERHEAD UTILITY LINE	⊙ SEWER INTERCEPTOR MANHOLE	⊙ TRAFFIC SIGNAL	⊙ STORM CATCH BASIN	⊙ TRASH CONTAINER	
			⊙ TREE - PALM		
			⊙ TREE - SHADE		
			⊙ BOUNDARY NOTE		
			⊙ TREE - MESQUITE		
			⊙ TREE - PALO VERDE		



SEE SHEET 5 OF 5

ALTA/ACSM LAND TITLE SURVEY
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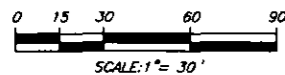
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ALTA/ACSM LAND TITLE SURVEY

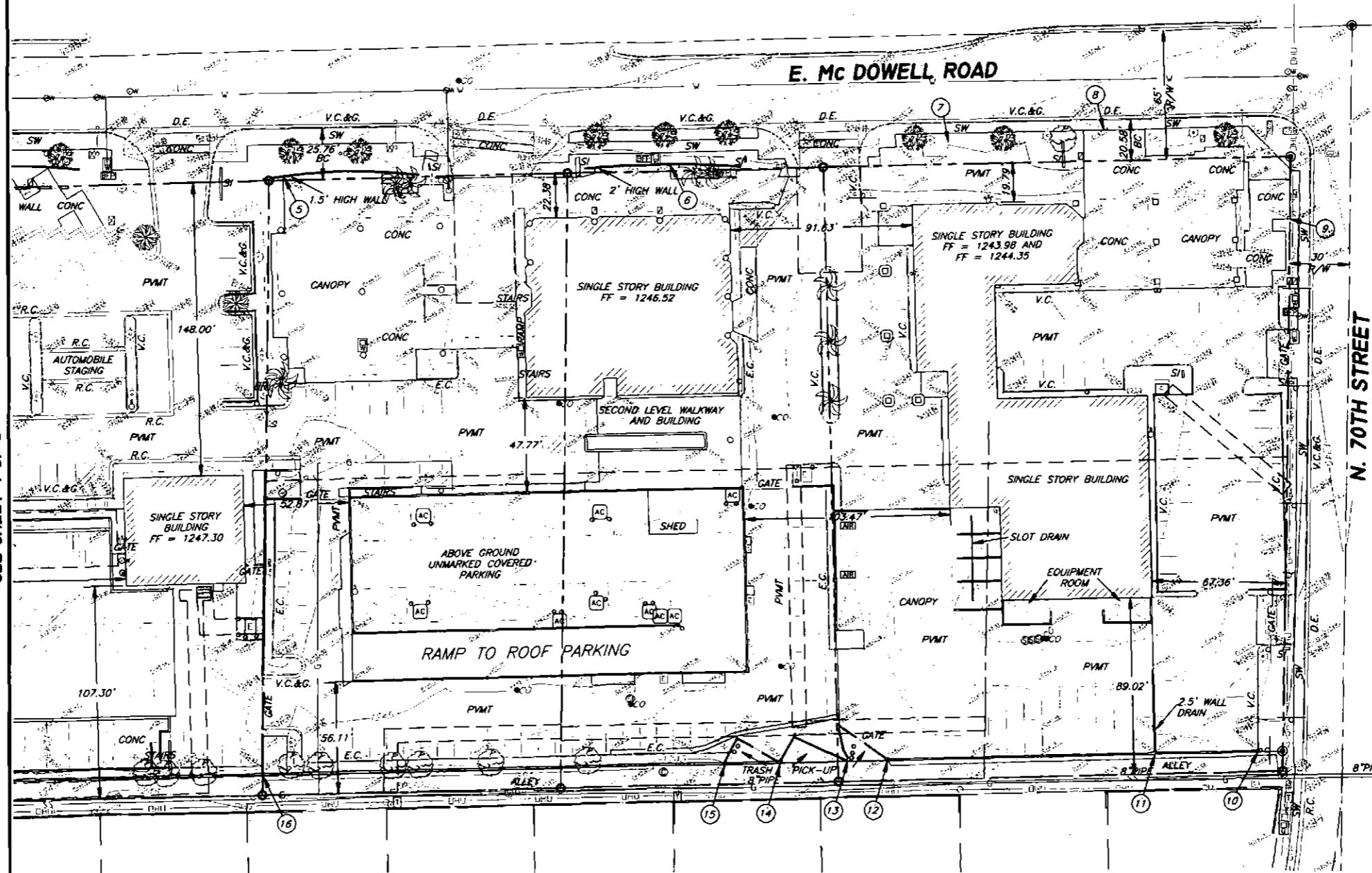
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MARICOPA COUNTY, ARIZONA.



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SEE SHEET 4 OF 5



LEGEND:

---	BOUNDARY LINE	---	FENCE AS NOTED	⊙	SEWER MANHOLE	⊠	TRAFFIC SIGNAL	⊙	COMMUNICATIONS MANHOLE	SW	SIDEWALK	
---	MONUMENT LINE	---	BLOCK WALL	⊙	SEWER CLEANOUT	⊠	ELECTRIC JUNCTION BOX	⊙	COMMUNICATIONS RISER BOX	CONC	CONCRETE	
---	RIGHT-OF-WAY LINE	○	SET 1/2" REBAR RLS #46643 UNLESS OTHERWISE NOTED	⊙	ELECTRIC CABINET	---	GUY WIRE	○	BOLLARD	PVMT	PAVEMENT	
---	EASEMENT LINE	⊙	FOUND MONUMENT AS NOTED	⊙	ELECTRIC STUB-UP	⊠	TRAFFIC SIGNAL BOX	○	HANDICAP MARKER	BC	BACK OF CURB	
---	ADJOINING PROPERTY	⊙	WATER STUB-UP PIPES	⊙	ELECTRIC TRANSFORMER	⊠	GAS METER	⊙	FLAGPOLE	BR	BICYCLE RACK	
---	BUILDING OVERHANG	⊙	FIRE DEPARTMENT CONNECTION	⊙	ELECTRIC METER	⊠	GASLINE MARKER	⊙	AIR STUB-UP			
---	W	UNDERGROUND WATER LINE	⊙	FIRE HYDRANT	⊙	ELECTRIC VAULT	⊠	GAS VALVE	⊙	MISCELLANEOUS SIGN		
---	SS	UNDERGROUND SEWER LINE	⊙	WATER METER	⊙	ELECTRIC PULL BOX	⊠	DRYWELL	⊙	TREE - MESQUITE		
---	G	UNDERGROUND GAS LINE	⊙	WATER VALVE	⊙	STREET LIGHT	⊠	GRATE	⊙	TREE - PALM VERDE		
---	COMM	UNDERGROUND COMMUNICATIONS LINE	⊙	BACKFLOW PREVENTOR	⊙	POWER POLE	⊠	IRRIGATION CONTROL BOX				
---	E	UNDERGROUND ELECTRIC LINE	⊙	WATER SERVICE OUTLET	⊙	AREA LIGHT	⊠	STORM SEWER MANHOLE				
---			⊙	SEWER INTERSECTION MANHOLE	⊙	TRAFFIC SIGNAL	⊠	TRASH CATCH BASIN				

ALTA/ACSM LAND TITLE SURVEY

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APPENDIX V

Preliminary Plat

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APPENDIX VI
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