

Preliminary Drainage Report

For

Cadri

16-DR-2018

4151 N. Craftsman Ct.

Scottsdale, Arizona

July 11, 2018

Prepared for

4161 CRAFTSMAN LLC
1830 E ELLIOT RD
STE 104
TEMPE AZ 85284-1799

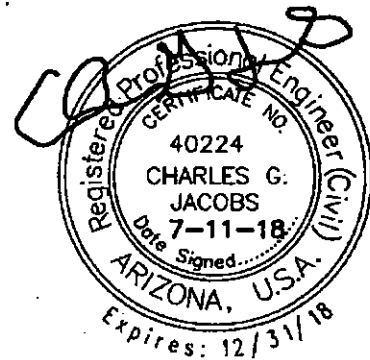


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1.0 INTRODUCTION/LOCATION

The proposed project consists of a multi-story mixed use building. The bottom floor will be commercial/retail use along with a parking garage. The upper floors will be residential condominiums. The existing conditions include 2 buildings with associated site improvements sitting on 2 lots. The lots would be combined into one with the proposed project.

The 0.24-acre site is located at the northeast corner of 3rd Street and Craftsman Ct. at 4151 N. Craftsman Ct. The site is bordered to the north by existing commercial development, to the west by Craftsman Ct., to the south by 3rd Street, and to the east by a public alleyway.

The site lies within the Southwest Quarter of Section 22, Township 2 North, Range 4 East of Gila and Salt River Base and Meridian. See the Appendix for a vicinity map.

2.0 FLOOD PLAIN CLASSIFICATION

This site is located within a shaded Zone "X" designation as identified on Flood Insurance Rate Map (FIRM MAP) #04013C2235 L, dated October 16, 2013, this property is located in flood zone "X" (hatched). This area is defined as, "Areas of the 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 areas protected by levees from 100-year flood." Refer to Appendix C for a copy of the FIRM map for this area.

3.0 PURPOSE

The purpose of this Drainage Report is to document onsite retention and drainage requirements, offsite drainage, and anticipated improvements required for the development of this project. The proposed development will be designed to meet City of Scottsdale drainage requirements set forth in the Design Standards & Policies Manual. Retention is not required for this site. Onsite drainage will be directed and released into the rights of way of the adjacent streets at the similar locations as it is released today. The post-construction runoff from this site will not be greater than the pre-construction run-off. The existing site is currently mostly impervious surface with minimal landscape as will be the proposed development.

4.0 EXISTING CONDITIONS/DRAINAGE

The existing building has a finished floor elevation of 1266.1, which is 1.33' above the low adjacent curb located at the southeast corner of the site. The site outfall occurs at the southeast corner of the property at an elevation of 1244.77. Currently the site is made up of two lots and will be re-platted as a single lot. There is currently 1 building with a common wall on the property line and associated paved parking. Approximately 1/3 of the site (half of the existing roof) drains onto Craftsman Ct. and the remaining 2/3 of the

site (remaining roof and parking lot) drains onto 3rd Ave. via a flowline in the center of the existing paved parking lot. There is no retention provided on this site.

5.0 OFFSITE DRAINAGE

This site falls within the Indian Bend Wash ADMP completed by the flood control district. This site does not fall within the drainage improvement area or localized drainage improvement areas. Per the study this site has flows within Craftsman Ct. with depths ranging from 0.11'-0.50'. There are flows in 3rd Ave. ranging from 0.51'-1.00'. These flows are for the 100-year, 6-hour storm event.

The finished floor elevation is set at 1.3' above the adjacent low top of curb which is 1.8' above the adjacent low flowline. The floors are safe from the street flow. The final drainage report will detail the street flow.

6.0 PROPOSED DRAINAGE IMPROVEMENTS

As previously discussed the majority of the site as it exists is impervious surfaces that directly releases into the rights of way of Craftsman Ct and 3rd Ave. There is no retention proposed or existing for the site. The runoff will be collected and directed via roof drains to outlet at similar locations to where it outlets currently. The runoff released will not increase with the proposed improvements. Pre and Post-Developed drainage flow calculations are shown below to show no increase in runoff. Two C-values are used in this scenario as the proposed improvements included are impervious and desert landscape areas. The C values used are: 0.95 for roofed structures and impervious land features such as hardscape and a c-value of 0.45 was use for landscaped desert areas. A weighted C-value was calculated to determine the total storm water runoff.

Calculations:

Pre vs Post Development:

Pre Developed:

$$VOL_r = P/12 * C * A$$

$$WEIGHTED "C" =$$

$$9266(0.95) + 1304(0.45) / 10570 = 0.89$$

$$A = 10570 \text{ SF}$$

$$P = 2.2 \text{ (IN/HR)}$$

$$VOL_r = 1725 \text{ CF}$$

Post Developed:

$$VOL = P/12 * C * A$$

$$WEIGHTED "C" =$$

$$9819(0.95) + 751(0.45) / 10570 = 0.91$$

$$A = 10570 \text{ SF}$$

$$P = 2.2 \text{ (IN/HR)}$$

$$VOL_r = 1764 \text{ CF}$$

Retention Required = 1725-1764 = 89 CF

Difference is Negligible.

Full hydrology calculations will be completed at the time of construction document submittals. A revised drainage report will be submitted to the City of Scottsdale at that time.

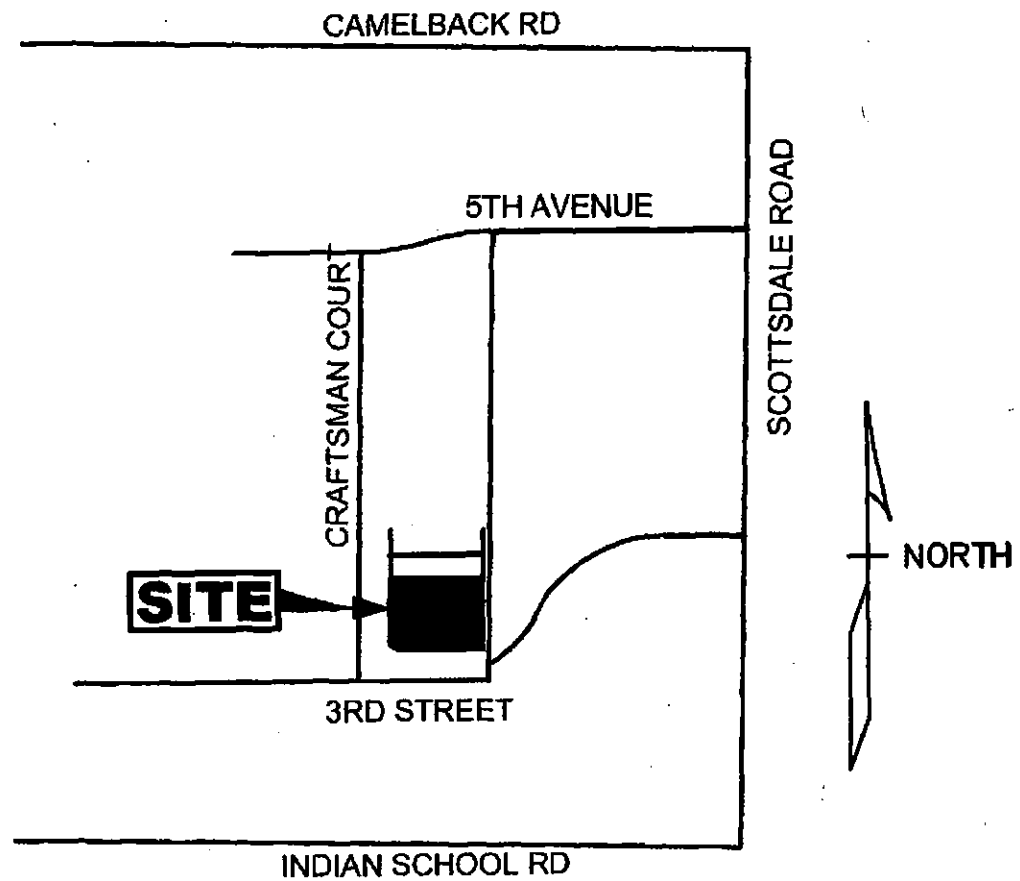
SWPPP

Given that the disturbed area will be less than 1 acre there will not be a Storm Water Pollution Prevention Plan with the accompanying NOI completed for the project.

7.0 CONCLUSION

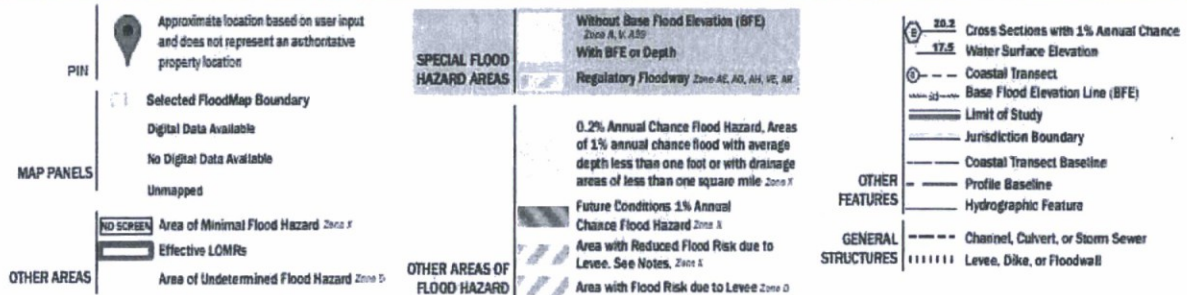
The proposed Cidre project will adhere to City of Scottsdale drainage criteria. Offsite flows do not affect this site and a pre vs. post storm water run-off methodology will be used to show the fully developed site will not increase the pre construction run-off amounts. Existing and proposed finished floors will be protected against the 100-year storm event with the site low outfall being a minimum of 1-foot below all finish floors. The onsite runoff will exit the site in similar locations as it does in the current development.

Appendix A VICINITY MAP

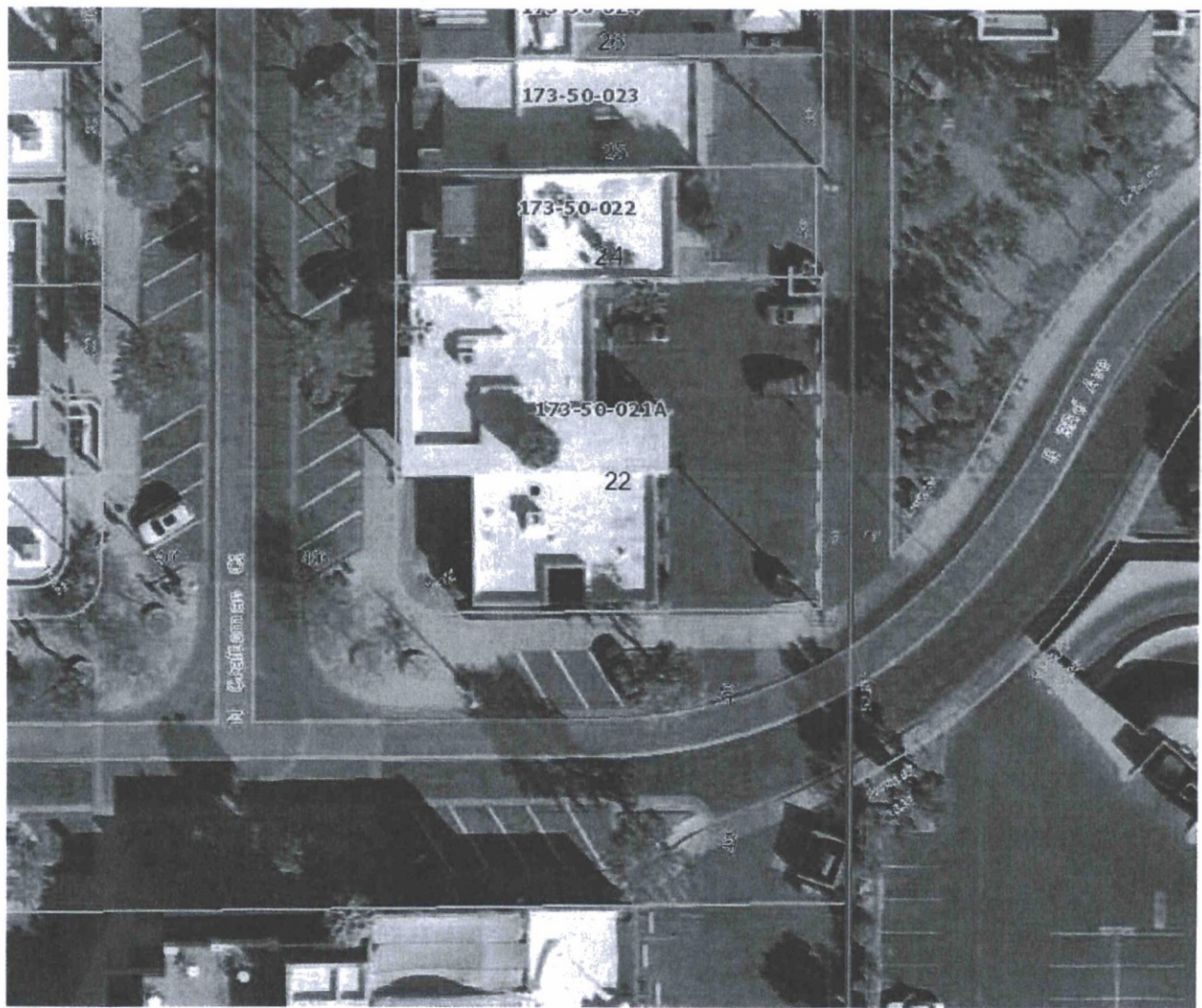


VICINITY MAP
NOT TO SCALE

Appendix B FEMA MAP

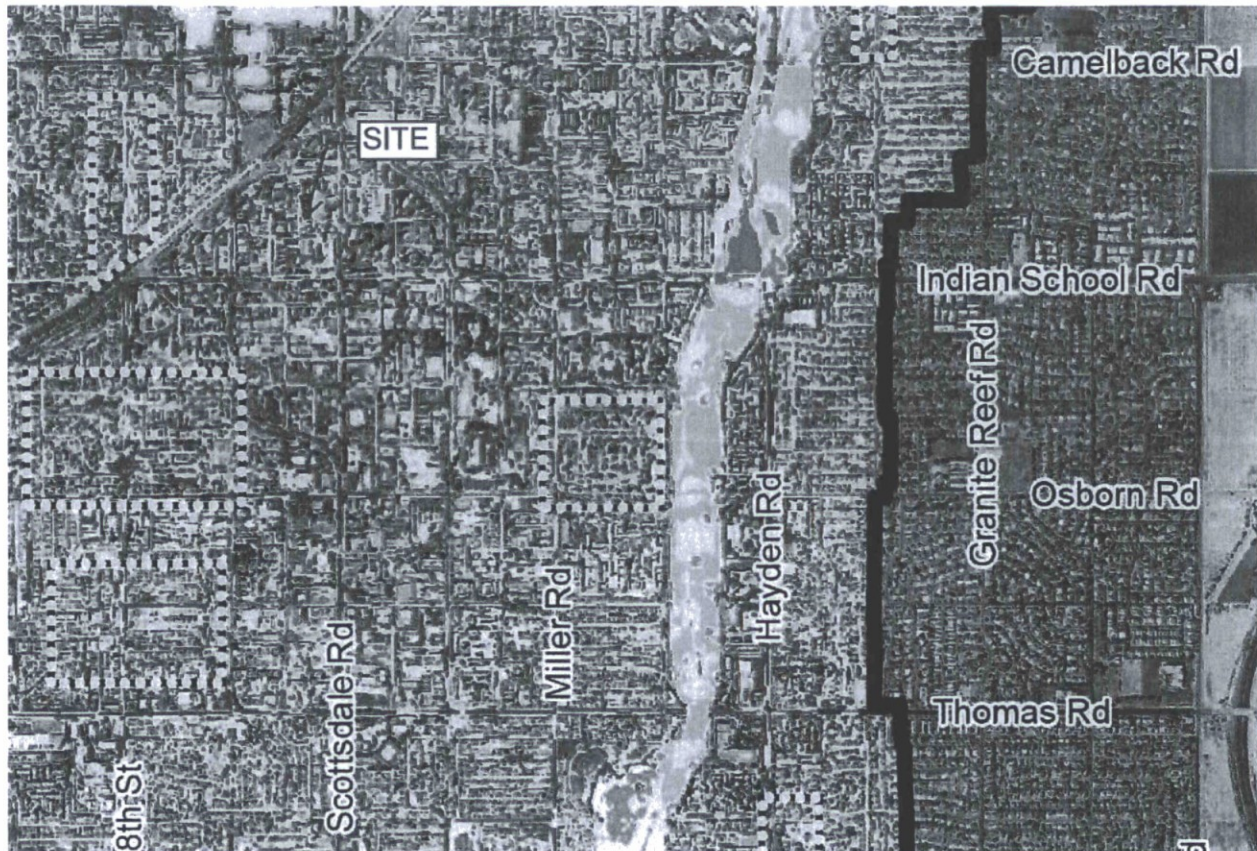


Appendix C AERIAL MAP



Appendix D

WATERSHED AREA DELINEATION EXHIBIT & OFFSITE CALCULATIONS



Legend

- Drainage Improvement Areas
- 1 - Invergordon Road
 - 2 - Cheney Drive
 - 3 - Paradise Valley Wash
 - 4 - Chaparral Road
 - 5 - Tempe/South Scottsdale

- Study Area Boundary
- Localized Drainage Improvement Areas

Maximum Flow Depth (100-year, 6-hour Storm Event)

< 0.10 ft	1.01 ft - 2.00 ft	6.01 ft - 8.00 ft
0.11 ft - 0.50 ft	2.01 ft - 4.00 ft	8.01 ft - 10.00 ft
0.51 ft - 1.00 ft	4.01 ft - 6.00 ft	> 10.00 ft



Location name: Scottsdale, Arizona, USA*
Latitude: 33.4965°, Longitude: -111.9274°
Elevation: 1263.89 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Helm, Ullian Miner, Kazungu Malata, Deborah Martin, Sandra Pavlovic, Ishant Roy, Carl Thypert, Dale Unruh, Fenglin Yan, Michael Yokoi, Tian Zhao, Geoffrey Borman, Daniel Brewer, U-Chuan Chen, Tye Parzybok, John Yarnochan

NOAA, National Weather Service, Silver Spring, Maryland

PF tabular | PF graphical | Maps & arials

PF tabular

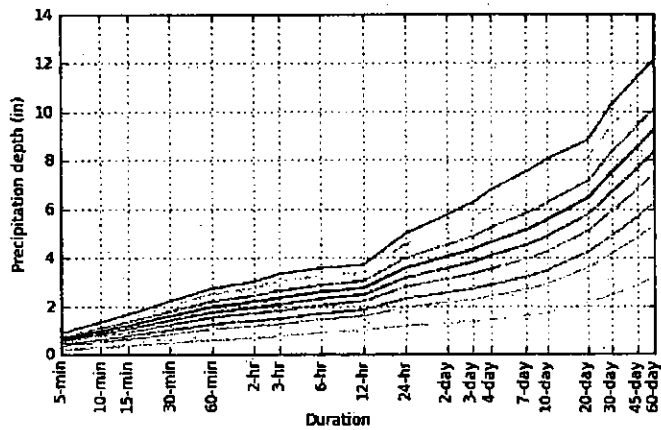
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.184 (0.154-0.224)	0.240 (0.202-0.283)	0.327 (0.273-0.387)	0.393 (0.326-0.475)	0.482 (0.394-0.580)	0.592 (0.445-0.660)	0.822 (0.492-0.742)	0.694 (0.540-0.827)	0.790 (0.598-0.943)	0.884 (0.641-1.03)
10-min	0.280 (0.234-0.341)	0.368 (0.308-0.448)	0.497 (0.415-0.604)	0.598 (0.496-0.722)	0.734 (0.599-0.883)	0.839 (0.677-1.00)	0.947 (0.749-1.13)	1.06 (0.821-1.26)	1.20 (0.911-1.44)	1.32 (0.978-1.57)
15-min	0.347 (0.290-0.423)	0.453 (0.382-0.553)	0.616 (0.515-0.748)	0.741 (0.615-0.895)	0.916 (0.743-1.09)	1.04 (0.839-1.25)	1.17 (0.928-1.40)	1.31 (1.02-1.56)	1.49 (1.13-1.78)	1.63 (1.21-1.95)
30-min	0.487 (0.391-0.569)	0.610 (0.514-0.744)	0.829 (0.693-1.01)	0.998 (0.828-1.21)	1.23 (1.00-1.47)	1.48 (1.13-1.68)	1.68 (1.25-1.89)	1.76 (1.37-2.10)	2.01 (1.52-2.40)	2.18 (1.63-2.63)
60-min	0.578 (0.484-0.704)	0.755 (0.636-0.921)	1.03 (0.858-1.25)	1.24 (1.02-1.49)	1.52 (1.24-1.82)	1.73 (1.40-2.08)	1.98 (1.55-2.33)	2.18 (1.70-2.60)	2.48 (1.88-2.97)	2.72 (2.02-3.25)
2-hr	0.670 (0.571-0.800)	0.867 (0.739-1.04)	1.18 (0.984-1.38)	1.38 (1.16-1.65)	1.69 (1.40-2.00)	1.82 (1.58-2.27)	2.17 (1.75-2.55)	2.41 (1.91-2.84)	2.74 (2.12-3.23)	3.00 (2.27-3.55)
3-hr	0.730 (0.618-0.880)	0.937 (0.797-1.13)	1.23 (1.04-1.48)	1.48 (1.23-1.75)	1.79 (1.48-2.13)	2.05 (1.67-2.43)	2.32 (1.88-2.76)	2.60 (2.06-3.08)	2.99 (2.29-3.55)	3.31 (2.48-3.93)
6-hr	0.879 (0.760-1.03)	1.11 (0.967-1.31)	1.43 (1.23-1.68)	1.68 (1.44-1.96)	2.02 (1.71-2.34)	2.29 (1.90-2.65)	2.57 (2.10-2.97)	2.85 (2.29-3.30)	3.24 (2.54-3.76)	3.55 (2.71-4.13)
12-hr	0.982 (0.859-1.14)	1.24 (1.08-1.44)	1.57 (1.37-1.82)	1.83 (1.58-2.12)	2.18 (1.87-2.52)	2.45 (2.07-2.82)	2.73 (2.27-3.14)	3.01 (2.47-3.47)	3.39 (2.71-3.92)	3.68 (2.90-4.29)
24-hr	1.17 (1.04-1.32)	1.49 (1.32-1.69)	1.93 (1.71-2.18)	2.28 (2.02-2.57)	2.76 (2.43-3.11)	3.14 (2.74-3.53)	3.54 (3.07-3.98)	3.95 (3.40-4.46)	4.52 (3.85-5.09)	4.97 (4.19-5.61)
2-day	1.28 (1.13-1.43)	1.82 (1.44-1.83)	2.12 (1.89-2.40)	2.53 (2.24-2.85)	3.09 (2.73-3.45)	3.54 (3.10-3.99)	4.02 (3.50-4.53)	4.51 (3.90-5.09)	5.20 (4.44-5.88)	5.76 (4.87-6.53)
3-day	1.34 (1.19-1.51)	1.71 (1.52-1.94)	2.25 (2.00-2.54)	2.69 (2.38-3.03)	3.30 (2.90-3.72)	3.80 (3.32-4.27)	4.32 (3.76-4.88)	4.87 (4.19-5.48)	5.64 (4.80-6.36)	6.27 (5.28-7.08)
4-day	1.41 (1.25-1.60)	1.81 (1.60-2.04)	2.38 (2.11-2.69)	2.85 (2.52-3.21)	3.51 (3.08-3.95)	4.05 (3.53-4.55)	4.62 (4.00-5.19)	5.22 (4.48-5.88)	6.03 (5.15-6.84)	6.78 (5.68-7.64)
7-day	1.57 (1.39-1.78)	2.01 (1.78-2.27)	2.65 (2.35-2.99)	3.17 (2.80-3.58)	3.81 (3.43-4.40)	4.50 (3.93-5.06)	5.13 (4.44-5.78)	5.80 (4.98-6.54)	6.75 (5.72-7.81)	7.51 (6.30-8.49)
10-day	1.70 (1.51-1.93)	2.18 (1.94-2.48)	2.88 (2.53-3.24)	3.44 (3.04-3.87)	4.23 (3.71-4.74)	4.86 (4.24-5.44)	5.63 (4.80-6.20)	6.24 (5.37-7.00)	7.22 (6.14-8.11)	8.02 (6.75-9.02)
20-day	2.10 (1.87-2.35)	2.70 (2.40-3.02)	3.58 (3.17-3.99)	4.21 (3.74-4.71)	5.09 (4.50-5.69)	5.77 (5.08-6.45)	6.46 (5.66-7.23)	7.16 (6.24-8.02)	8.10 (7.00-9.10)	8.83 (7.57-9.92)
30-day	2.45 (2.17-2.75)	3.15 (2.80-3.53)	4.15 (3.69-4.65)	4.91 (4.35-5.48)	5.93 (5.23-6.83)	6.72 (5.90-7.50)	7.53 (6.58-8.40)	8.35 (7.26-9.31)	9.45 (8.15-10.6)	10.3 (8.82-11.5)
45-day	2.83 (2.63-3.17)	3.65 (3.26-4.09)	4.81 (4.29-5.38)	5.87 (5.04-6.34)	6.80 (6.03-7.60)	7.85 (6.76-8.55)	8.51 (7.49-9.52)	9.37 (8.21-10.5)	10.5 (9.14-11.8)	11.4 (9.82-12.8)
60-day	3.13 (2.81-3.50)	4.05 (3.62-4.51)	5.32 (4.78-5.94)	6.25 (5.58-6.97)	7.46 (6.64-8.31)	8.35 (7.41-9.31)	9.28 (8.17-10.3)	10.1 (8.91-11.3)	11.3 (9.87-12.6)	12.1 (10.6-13.6)

¹ Precipitation 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. Please refer to NOAA Atlas 14 document for more information.

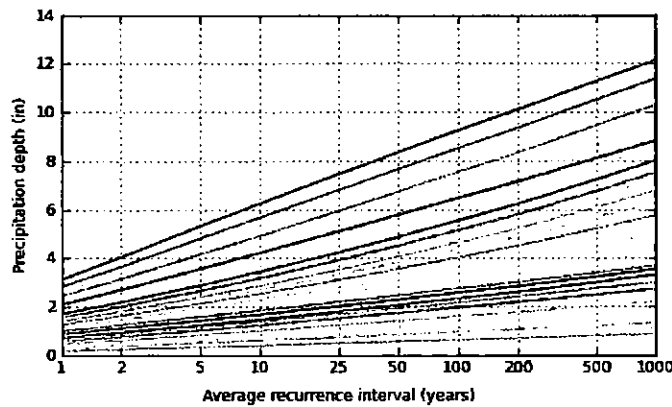
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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 33.4965°, Longitude: -111.9274°



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



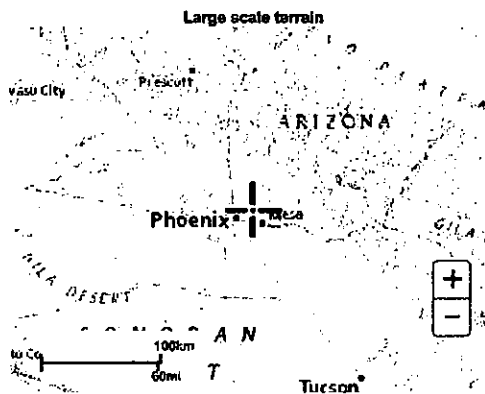
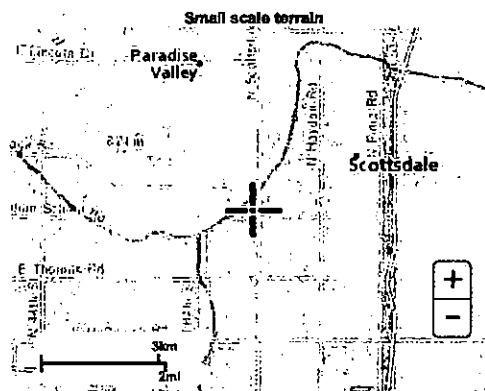
Duration
5-min
10-min
15-min
30-min
60-min
2-hr
3-hr
6-hr
12-hr
24-hr
2-day
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4-day
7-day
10-day
20-day
30-day
45-day
60-day

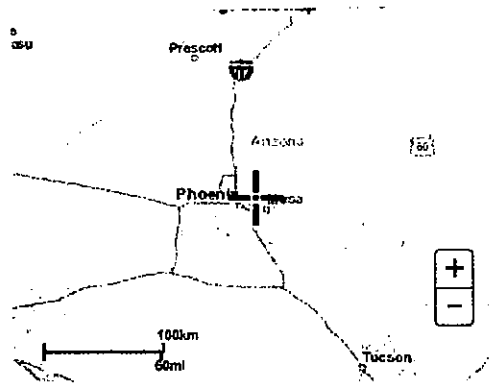
NOAA Atlas 14, Volume 1, Version 5

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Maps & aeriels





Large scale aerial



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[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
 1325 East West Highway
 Silver Spring, MD 20910
 Questions?: HOSC.Questions@noaa.gov

[Disclaimer](#)

Appendix E
CONCEPT GRADING AND DRAINAGE PLAN

DRAINAGE STATEMENT

THERE IS NO RETENTION REQUIRED FOR THIS SITE. THE FINISHED FLOOR ELEVATION IS SET 1" LOWER THAN THE EXISTING BUILDING DEMOLISHED. THIS SHOULD MINIMIZE THE IMPACT ON THE EXISTING DRAINAGE PATTERNS OF THE SITE. THE PROPOSED BUILDING WILL HAVE ROOF DRAINS OUTLET TO THE SOUTH TO ASSIST WITH MINIMIZING THE IMPACT OF THE NEW BUILDING. THE EXISTING BUILDINGS AND SITE IMPROVEMENTS WILL BE SCRAPED. THE PROPOSED FINISHED FLOOR ELEVATION IS SET AT THE EXISTING BACK OF SIDEWALK ELEVATION AT THE HIGH CORNER OF THE SITE. THIS PUTS THE FINISHED FLOOR ELEVATION 1.3' ABOVE LOW CURB.

FLOOD ZONE (FIRM)

THIS SITE FALLS WITHIN ZONE SHADED X PER 04013C2235L. EFFECTIVE ON 10/18/2013. DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD. AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE. AND AREAS PROTECTED BY LEVES FROM 1% ANNUAL CHANCE FLOOD.

SITE AREA

LOT 22
SITE AREA 7,036.52 SQUARE FEET OR 0.16 ACRES
MORE OR LESS.

LOT 23
SITE AREA 3,533.99 SQUARE FEET OR 0.08 ACRES
MORE OR LESS.

BASIS OF BEARING

THE MONUMENT LINE OF CRAFTSMAN COURT BETWEEN 3RD AVENUE AND 5TH AVENUE.
BEARING = N 00°57'00" E AS RECORDED IN BOOK 82, PAGE 23 M.C.A.

BENCH MARK

BRASS CAP IN HAND HOLE AT THE INTERSECTION OF SCOTTSDALE RD. AND INDIAN SCHOOL RD.

ELEVATION= 1280.366 (NAVD83)

PROJECT DESCRIPTION

DEMOL EXISTING BUILDINGS AND SITE IMPROVEMENTS AND CONSTRUCT PROPOSED MIXED-USE DEVELOPMENT WITH ASSOCIATED SITE IMPROVEMENTS.

APN

173-50-021A
173-50-022

ZONING

C-2

CONSTRUCTION TYPE

VB

LEGAL DESCRIPTION

PARCEL NO. 1:
LOTS 22 AND 23, CRAFTSMAN COURT, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF MARICOPA COUNTY, ARIZONA, RECORDED IN BOOK 82 OF MAPS, PAGE 23 AND THEREAFTER AFFIDAVIT OF CORRECTION RECORDED AS DOCUMENT NO. 2027-118386, OF OFFICIAL RECORDS.

PARCEL NO. 2:
THAT PORTION OF THE ALLEY LYING IMMEDIATELY EAST AND ADJACENT TO LOTS 22 AND 23, CRAFTSMAN COURT, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF MARICOPA COUNTY, ARIZONA, RECORDED IN BOOK 82 OF MAPS, PAGE 23, AS ABANDONED BY THE CITY OF SCOTTSDALE RESOLUTION NO. 896, RECORDED JUNE 17, 1971 AS DOCKET 8764, PAGE 884 OF OFFICIAL RECORDS.

ENGINEER

JACOBS WALLACE, LLC
2233 W. BETHANY HOME RD
PHOENIX, AZ 85015
CHUCK JACOBS
602.757.9864

ARCHITECT

TOMESKAY DESIGN, P.C.
4368 NORTH CIVIC CENTER PLAZA
SUITE 201
SCOTTSDALE, ARIZONA 85251
PHONE: 602.618.7751
CONTACT: MARK TOMESKAY

OWNER

4161 CRAFTSMAN LLC
1630 E ELLIOT RD.
STE 104
TEMPE AZ 85284-1799

CRAFTSMAN COURT MIXED USE DEVELOPMENT CONCEPTUAL G&D AND UTILITY PLAN

4151 N CRAFTSMAN CT.
SCOTTSDALE, AZ 85251

OF
A PORTION OF SOUTHEAST QUARTER OF SECTION 22,
TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND
SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA.

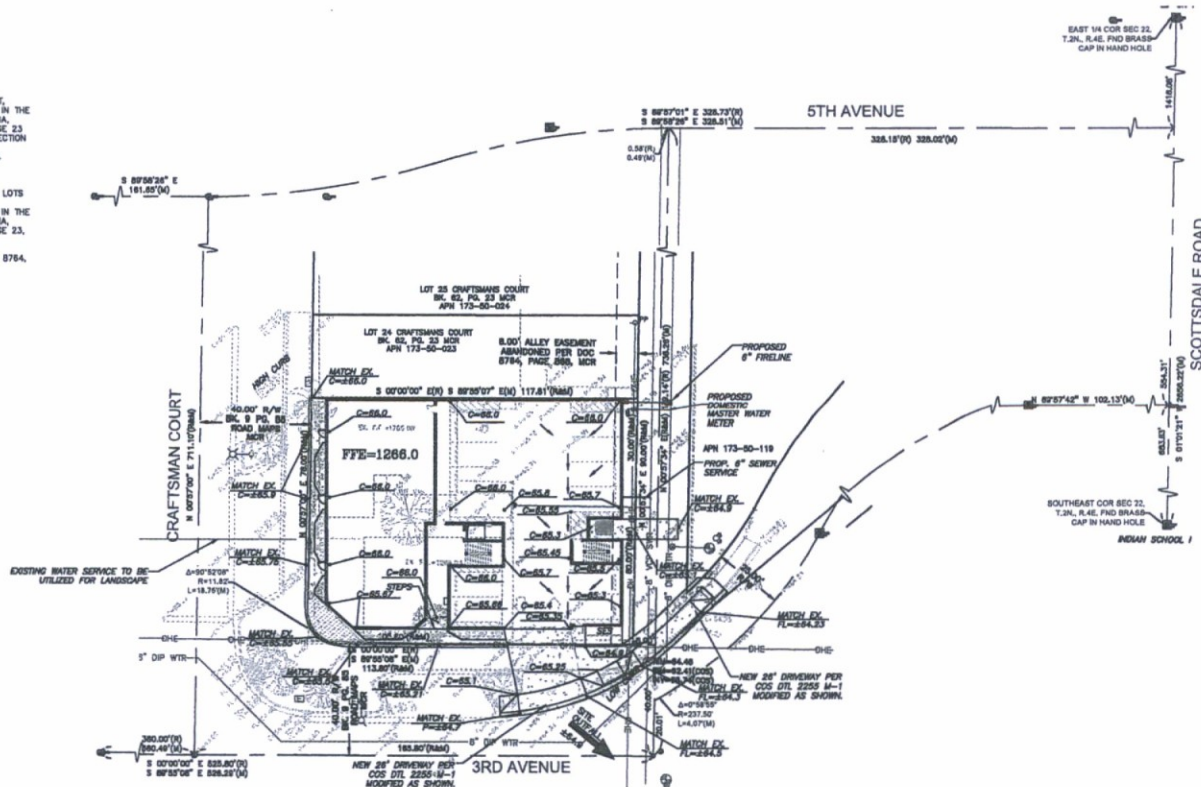


VICINITY MAP
NOT TO SCALE

LEGEND

	BRASS CAP IN HANDHOLE
	SEWER CLEAN OUT
	SEWER MANHOLE
	WATER VALVE
	FIRE HYDRANT
	FIRE DEPT. CONNECTION
	WATER METER
	BACKFLOW PREVENTER
	GAS METER
	STREET LIGHT
	LIGHT POLE
	GROUND LIGHT
	ELECTRIC BOX
	TELEPHONE RISER
	CABLE RISER
	SIGN
	PALM TREE
	OLIVE TREE
	NON-DESCRIPT TREE
	SAGUARO CACTUS

--- C.M.W. WALL (4 OR 8 INCH BLOCKS)
--- BOUNDARY



CRAFTSMAN COURT
MIXED USE DEVELOPMENT
SCOTTSDALE, AZ

JACOBS WALLACE, LLC



APRIL

DRAWING
C1

JOB: