CITY OF SCOTTSDALE

Drainage Reports

DRAINAGE REPORT
FOR KERRY'S CAR CARE SHEA

Plan # _____

Case # 10-UP-2019

Q-S # _____

_____ Accepted

__X__ Correction

GA 10/21/2019

Reviewed By Date

Scottsdale, Arizona

05 September 2019

PREPARED FOR
Larson Associates Architects, LLC
3807 North 24th Street, Suite 100
Phoenix, Arizona 85016
Attn: James Larson

DEVELOPER
SimonCRE
6900 East 2nd Street
Scottsdale, Arizona 85251
Attn: Peter Krahenbuhl

SITE ADDRESS
11653 East Sahuaro Drive
Scottsdale, Arizona 85259

PREPARED BY
CYPRESS CIVIL DEVELOPMENT
strength + sustainability
4450 north 12th street, #228
phoenix, arizona 85014
CYPRESS # 19.101

10-UP-2019
09/26/2019

TABLE OF CONTENTS

I. INTRODUCTION

1. PROJECT NAME AND LOCATION

The Project site is located at 11653 East Sahuaro Drive in Scottsdale, Arizona. The project is located in the southeast ¼ of Section 22, Township 3 North, Range 5 East, G&SRM. The Project site occupies approximately 2.52 acres. The Project is currently undeveloped desert and is a portion of the Mountainside Plaza. The Project has street frontage and access to Sahuaro Drive along its northern boundary. To the west and south are existing commercial retail developments within Mountainside Plaza. to the east are single-family homes. Refer to Appendix A for Location Map and Aerial Photo.

The proposed Project consists of the construction of a new single-story automotive service building with required grading and drainage, onsite utility, and parking improvements.

2. PURPOSE

The intent of this Drainage Report is to provide the conceptual drainage scheme for the Project in support of the Preliminary Improvement Plan Submittal.

3. EXISTING STUDIES

As-Built Improvement Plans and a Drainage Report for Mountainside Plaza (previously known as 116th Street & Shea Retail Center), prepared by Evans, Kuhn, and Associates, Inc. in 2002, were obtained and reviewed. The plans show that the Project is Lot 3 of the Mountainside Plaza development. The report shows that the plaza was designed to retain all onsite and offsite runoff in underground retention vaults. Refer to Appendix B for Mountainside Plaza As-Built Plans & Drainage Report.

Need to clarify what is offsite !. No offsite flow from outside the overall development was included in retention volume provided; only the onsite 100-yr, 2-hr retention volume was accounted as required.

4. FEMA FLOOD ZONE

According to the Federal Emergency Management Agency Flood Insurance Rate Map, panel number 04013C1780L dated October 16, 2013, the parcel is located in the shaded Zone X Area, which is an area defined as within the 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 levees from 1% annual chance flood. Refer to Appendix C for FEMA FIRM Map.

The plans included in Appendix B are of poor quality and not readable. Please include a better quality copy, and, if not available, extract the appropriate information to support the statement.

II. EXISTING DRAINAGE INFRASTRUCTURE

1. OFFSITE

Offsite flow is routed through the site via an existing storm system drain that captures offsite flow from a retention basin north of Sahuaro Drive and conveys it to outfall to existing 28" outfall pipes in 116th Street. Runoff from the adjacent Mountainside Fitness building and from the drive aisle running from west to east north of the

The referenced drainage report in Appendix B, as indicated in Section 3 above, talked about exsiting 24" pipes that drain offsite RETENTION basins on the north side of Sahuaro Dr, not Detention basins. If this is the case, and there would be probably some kind of orifice plates at the pipes inlets, not all offsite flow is routed in the pipes; only the corresponding retention requirements. The design storm is typically the 100-yr, 6-hr or 24-hr; offsite flow in excess of the 100-yr, 2-hour need to be addressed. On the other hand if the basins are actually detention basins, then some kind of storage routing would have been generated and need to presented. Please clarify.

shopping center flows through the drive aisle along the western boundary of the project. This is roughly 11.5 CFS of flow.

Why assumed, the offsite flow needs to be quantified. Please see comment on last page.

STREET CAPACITY CALCULATIONS

The street capacity within Sahuaro Street is 44.94 CFS. It is assumed this is sufficient capacity to convey all offsite flows away from the Project, as it does in the existing condition. Refer to Appendix D for Sahuaro Drive Capacity Calculations.

Please see the comment adjacent to Section 3 on last page.

2. ONSITE

The As-Built Plans and Drainage Report show that the Project site currently drains to a temporary surface retention basin onsite. However, the existing underground storm drain and retention vault system for the overall Mountainside Plaza were designed to convey and retain all onsite flow for the Project site in its future development.

III. PROPOSED DRAINAGE INFRASTRUCTURE

1. CONVEYANCE OF RUNOFF

Per earlier comments, it is not clear that this site was also included in the retention capacity of the underground retention system. This need to be confirmed. Additionally, the basin is for interim conditions where the surface is not paved. This allow sediment to enter the underground retention system and may create maintenance and capacity issues. It was mentioned that the retained water in the basin would only be 0.8 ft. Can't this volume naturally percolate within 24 hr and remove the interim need of the connection to theunderground system?

Offsite runoff from the Mountainside Fitness building and the drive aisle behind it shall be intercepted by a new catch basin at the northwest corner of the Project site. Onsite runoff from the Kerry's car care building and surrounding landscaping shall be conveyed to a new catch basin north of the building. Onsite runoff from the future retail development area shall be conveyed to a new temporary surface retention basin at the southeast, where it shall pond at a depth of 0.80 feet and drain via a single new catch basin. From these three new catch basins, runoff shall be conveyed south via new storm drain and connect directly to the existing underground retention vaults, where runoff shall be discharged via existing drywells.

Runoff from the majority of the new Kerry's parking lot and western drive aisle shall be conveyed via shallow sheet flow and a new valley gutter to an existing catch basin at the southwest corner of the site where it will enter the existing storm drain system and be conveyed to the existing underground retention vaults. Refer to Appendix E for the Proposed Watershed Map and Calculations.

2. STORM WATER RETENTION REQUIREMENTS

per previous comments, need to be confirmed.

Surface runoff from the project site, being an automotive service, would have additional environmental concerns for water quality entering the underground system then pumped into a stormdrain along 116th St. Mitigation to First Flush requirements need to be addressed.

In the original Mountainside Plaza development, the existing underground storm drain and retention vault system was designed to convey and retain all onsite flow for the Project site in its future developed condition. Therefore, no new retention is required. The existing underground retention system is designed to drain within 36 hours via a bleed-off pump to existing 28" outfall pipes in 116th Street.

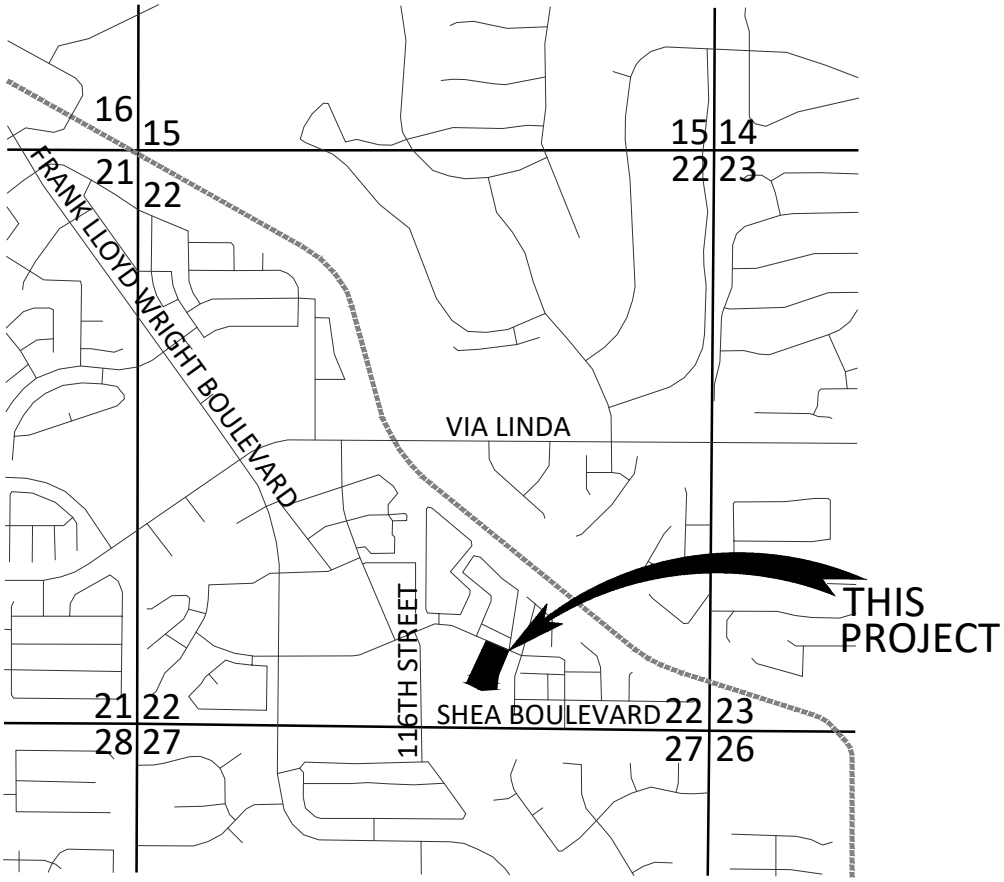
Please confirm that the proposed development is similar to what originally anticipated and no additional retention volume would be generated.

IV. SUMMARY AND CONCLUSION

This Drainage Report is to accompany the Improvement Plan for the Kerry's Car Care Shea development project. This narrative was written utilizing generally accepted engineering practices and all information herein has been researched through archived documents and all calculations were accomplished through applying the City of Scottsdale Engineering Standards.

The analysis presented in this narrative evaluates storm water runoff resulting from a statistical evaluation of storm events of particular duration and frequency up to and including a 100-year frequency event. A storm event exceeding the 100-year frequency may cause or create the risk of greater flood impact than is addressed and presented herein. The scope of this assessment does not include evaluation of storm water runoff resulting from storm events exceeding the 100-year frequency. CYPRESS assumes no responsibility for actual flood damage, increased risks of flood damage, or increased construction or development cost resulting from or related to any such events, nor shall CYPRESS be responsible for any changes in, or additions to, regulatory requirements which may result from, or be related to, any such events or changes in hydrologic or hydraulic conditions within the watershed. Refer to Appendix E for Warning and Disclaimer of Liability Form.

APPENDIX A
(Location Map + Aerial Photo)



IN THE SW 1/4 OF THE SE 1/4 OF SECTION 22,
T. 3 N., R. 5 E., G.&S.R.M.,
CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA

LOCATION MAP

NORTH

3" = 1 MILE

10-UP-2019
09/26/2019

AERIAL PHOTO

10-UP-2019
09/26/2019

APPENDIX B
(Mountainside Plaza As-Built Plans & Drainage Report)

IMPROVEMENT PLANS
FOR
MOUNTAINSIDE PLAZA

A SUBDIVISION OF A PORTION OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA

NATIVE PLANT PERMIT NUMBER

CASE # 4-NP-2003 PERMIT # 78707

EARTHWORK ESTIMATE

CUT .... 29,193 CY
FILL .... 15,455 CY
NET (CUT) 13,738 CY

QUANTITIES SHOWN ARE IN PLACE ESTIMATES WITH NO ADJUSTMENTS MADE FOR SCARIFICATION, SHRINKAGE OR COMPACTION LOSSES.

ENGINEER'S ESTIMATE OFF-SITE QUANTITIES

REMOVE VERTICAL CURB, GUTTER & SIDEWALK	398 494 LF (1)
CONCRETE SIDEWALK	3020 SF
REMOVE & REPLACE AC PAVEMENT	184 SY (1)
WATER LINE CONNECTIONS	2 EA AID
SANITARY SEWER MANHOLES & TAPS	3 EA AID
CONCRETE VALLEY GUTTER & APRON	2516 SF AID
CONCRETE SINGLE CURB	181 LF AID
CONCRETE CURB & GUTTER	110 LF AID
PEDESTRIAN RAMPS	9 EA AID
DRAINAGE STRUCTURE	1 EA AID
8' WIDE MULTI-USE TRAIL	1,589 LF
8' WIDE SOLID WHITE STRIPE	30 LF (1)
REMOVE EXISTING TREE	1 EA

FLOODPLAIN NOTE

THE SUBJECT PARCEL LIES WITHIN FLOOD ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE USE DEPTH)
04013	1705 4/15/88	E	09/30/95	X	N/A

ENGINEER'S CERTIFICATION

THE LOWEST FLOOR ELEVATION(S) AND/OR FLOODPROOFING ELEVATION(S) ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A ONE-HUNDRED YEAR STORM, AND ARE IN ACCORDANCE WITH CITY OF SCOTTSDALE REVISED CODE, CHAPTER 37 -- FLOODWAYS AND FLOODPLAINS ORDINANCE.

NO CONFLICT SIGNATURE BLOCK

Utility	Utility Company	Name of Company Representative	Telephone Number	Date Signed
Water	CITY OF SCOTTSDALE			
Electric	ARIZONA PUBLIC SERVICE	DARIN ROBERTS	602-493-4403	
Telephone	QWEST	CHRIS LEMOINE	602-630-0492	
Natural Gas	SOUTHWEST GAS	SCOTT HAMILTON	602-484-5649	
Cable T.V.	COX	SUZANNE HOLZER	623-322-7249	
Sewer	CITY OF SCOTTSDALE			
Other				

Engineer's Certification

I Wayne R. Ridley, being the person responsible for designing the facilities necessary to serve this development, hereby certify that all of the utility companies listed above, have reviewed this project proposal and all conflicts have been resolved at this point. "No Conflict" forms have been obtained from each utility company and are included in this submittal. I also certify, that all onsite transformers, cable boxes and other public/private utility appurtenances are placed such that they do not negatively impact the use or intended use of any dedicated screen walls or facilities, developed with this project including but not limited to stormwater storage basins, sight distance easements and NAOS or other open space easements.

Wayne R Ridley 3/28/03
Signature Date

CITY OF SCOTTSDALE			
REVIEW AND RECOMMENDED APPROVAL BY:			
PAVING	Gary E. Held 3-20-03	TRAFFIC	[signature]
GRADING & DRAINAGE	Gary E Held 3-20-03	PLANNING	[signature] 3/21/03
WATER & SEWER	Gary E Held 3-20-03	FIRE	D. [signature] 3-21-03
RET. WALLS	N/A		
APPROVED BY: [signature] ENGINEERING DEPARTMENT (OR DESIGNEE)			3-28-03 DATE

LOT AREA

LOT 1 55,402.71 S.F. OR 1.27 ACRES
LOT 2 150,287.62 S.F. OR 3.45 ACRES
LOT 3 102,735.01 S.F. OR 2.92 ACRES
LOT 4 20,420.05 S.F. OR 0.47 ACRES
LOT 5 34,206.38 S.F. OR 0.79 ACRES
LOT 6 32,378.91 S.F. OR 0.74 ACRES
LOT 7 53,136.72 S.F. OR 1.22 ACRES
LOT 8 35,007.50 S.F. OR 0.80 ACRES
LOT 9 30,031.09 S.F. OR 0.83 ACRES
LOT 10 52,204.80 S.F. OR 1.20 ACRES
572,891 S.F. 13.15 ACRES

10 LOTS TOTAL
MIN. LOT SIZE = 0.47 ACRES
AVERAGE LOT SIZE = 1.315 ACRES

CITY OF SCOTTSDALE GENERAL CONSTRUCTION NOTES FOR PUBLIC WORKS CONSTRUCTION

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE (COS) SUPPLEMENTAL STANDARD SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS. IF THERE IS A CONFLICT, THE LATTER SHALL GOVERN.
2. THE ENGINEERING DESIGNS ON THESE PLANS ARE ONLY APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. APPROVAL OF PLANS IS VALID FOR SIX (6) MONTHS. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN SIX MONTHS, THE PLANS SHALL BE RESUBMITTED TO THE CITY FOR RE-APPROVAL.
4. A PUBLIC WORKS INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF SCOTTSDALE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY INSPECTION SERVICES 24 HOURS PRIOR TO STARTING OF CONSTRUCTION (TELEPHONE (480) 312-5750).
5. WHENEVER EXCAVATION IS TO BE DONE, CALL THE "BLUE STAKE CENTER", (602) 263-1100, TWO WORKING DAYS BEFORE EXCAVATION IS TO BEGIN. THE CENTER WILL SEE THAT THE LOCATION OF THE UNDERGROUND UTILITY LINES IS IDENTIFIED FOR THE PROJECT. CALL "COLLECT" IF NECESSARY.
6. ENCROACHMENT PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. AN ENCROACHMENT PERMIT WILL BE ISSUED BY THE CITY UPON RECEIPT OF PAYMENT OF A BASE FEE PLUS A FEE FOR INSPECTION SERVICES TO BE PROVIDED BY THE CITY. COPIES OF ALL PERMITS SHALL BE RETAINED ON-SITE AND SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE WORK STOPPAGE UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.
7. ALL EXCAVATION AND GRADING WHICH IS NOT IN THE PUBLIC RIGHTS-OF-WAY OR NOT IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO CHAPTER 70, EXCAVATION AND GRADING, OF THE LATEST EDITION OF THE UNIFORM BUILDING CODE PREPARED BY THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS. A PERMIT FOR THIS GRADING MUST BE SECURED FROM THE CITY FOR A FEE ESTABLISHED BY THE UNIFORM BUILDING CODE.
8. SIGNS REQUIRE A SEPARATE PERMIT AND APPROVAL.
9. ALL UNDERGROUND STORAGE TANKS SHALL BE SPECIAL INSPECTED PRIOR TO THE FINAL ACCEPTANCE OF THE IMPROVEMENTS.

GENERAL CONSTRUCTION NOTES (PROJECT SPECIFIC)

1. EXISTING UNDERGROUND UTILITIES WERE COMPILED FROM THE LATEST AVAILABLE UTILITY RECORDS AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION AND POSSIBLY INCOMPLETE. EXACT LOCATION MUST BE DETERMINED IN THE FIELD. CALL "BLUE-STAKE" A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATION.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, CENTERLINE OF RIGHT-OF-WAY OR CENTERLINE OF STRUCTURE UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL OBTAIN A COPY OF THE SOILS REPORT FOR THE PROJECT PREPARED BY RICKER-ATKINSON-McBEE & ASSOCIATES, ON 11/26/2001, RAM PROJ. NO. 02085.
4. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VERIFY ALL QUANTITIES INCLUDING EXCAVATION, BORROW, EMBANKMENT, SHRINK OR SWELL, GROUND COMPACTION, HAUL AND ANY OTHER ITEMS AFFECTING HIS BID TO COMPLETE THE WORK TO THE ELEVATIONS SHOWN ON THE PLANS AND TO BASE HIS BID SOLELY UPON HIS OWN VERIFIED QUANTITIES IRRESPECTIVE OF THE INFORMATION FURNISHED. IT SHALL BE THE BIDDERS RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION OF ANY MAJOR DISCREPANCIES.
5. ALL SURVEY CONTROLS SHALL BE LEFT UNDISTURBED. THE CONTRACTOR SHALL CALL THE ENGINEER TO REFERENCE AND RESET ANY CONTROL POINTS THAT HAVE TO BE DISTURBED. THE CONTRACTOR WILL BE CHARGED FOR ANY RESTAKING IF ANY CONTROL POINTS ARE DESTROYED.
6. ANY QUESTIONS RAISED RELATIVE TO THE ACCURACY OF ANY IMPROVEMENT INSTALLATION SHALL NOT BE RAISED SUBSEQUENT TO COMPLETION OF THE WORK UNLESS ALL SURVEY STAKES ARE MAINTAINED INTACT. SHOULD SUCH STAKES NOT BE PRESENT AND VERIFIED AS TO THEIR ORIGIN, NO CLAIM FOR ADDITIONAL COMPENSATION FOR CORRECTION SHALL BE PRESENTED TO ANY PARTY AND SUCH WORK SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.
7. ALL BUILDING ROOFS SHALL BE DRAINED BY INTERNAL UNDERGROUND ROOF DRAIN LEADERS.
8. PROVIDE 2% SLOPE AWAY FROM WALK OR CURB FOR 5' FEET ALONG ALL STREETS.

LEGAL DESCRIPTION

PARCEL NO. 1:
A PORTION OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 22;
THENCE N00°03'27"E, ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 22, A DISTANCE OF 64.94 FEET;
THENCE S89°56'33"E, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING;

THENCE N00°03'27"E ALONG A LINE 30.00 FEET OF AND PARALLEL TO THE NORTH-SOUTH MID-SECTION LINE OF SECTION 22, A DISTANCE OF 523.50 FEET;
THENCE S83°09'53"E, A DISTANCE OF 719.30 FEET TO A POINT ON THE WEST LINE OF THAT CERTAIN PARCEL NO. 2, AS CONVEYED IN DEED RECORDED IN 86-479181, RECORDS OF MARICOPA COUNTY, ARIZONA;
THENCE S00°10'55"W ALONG THE WEST LINE, A DISTANCE OF 440.00 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL;
THENCE N89°49'11"W, A DISTANCE OF 713.00 FEET TO THE POINT OF BEGINNING.

PARCEL NO. 2:
A PORTION OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 22;
THENCE N00°03'27"E, ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 22, A DISTANCE OF 588.44 FEET;
THENCE S89°55'33"E, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING;
THENCE N00°03'27"E ON A LINE PARALLEL TO AND 30.00 FEET EAST OF THE NORTH-SOUTH MID-SECTION LINE, A DISTANCE OF 27.97 FEET TO A POINT OF CURVATURE CONCAVE WESTERLY WHOSE RADIUS BEARS N89°56'33"W A DISTANCE OF 630.00 FEET;
THENCE NORTHERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 17°45'10", A DISTANCE OF 195.22 FEET;
THENCE LEAVING SAID CURVE ON A BEARING OF N00°03'27"E ALONG THE NORTH-SOUTH MID-SECTION LINE OF SECTION 22, A DISTANCE OF 74.13 FEET TO A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF SAGUARO DRIVE, AS DEDICATED IN BOOK 295 OF MAPS, PAGE 38, MARICOPA COUNTY RECORDS;
THENCE ALONG SAID SOUTH RIGHT-OF-WAY, N83°07'50"E, A DISTANCE OF 36.78 FEET TO A POINT OF CURVATURE CONCAVE SOUTHERLY WHOSE RADIUS BEARS S3°52'10"E, A DISTANCE OF 370.00 FEET;
THENCE EASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 48°27'20", A DISTANCE OF 312.91 FEET;
THENCE S65°24'53"E, A DISTANCE OF 505.69 FEET TO THE NORTHWEST CORNER OF THAT CERTAIN PARCEL NO. 2 AS CONVEYED IN DEED RECORDED IN 85-479181, RECORDS OF MARICOPA COUNTY, ARIZONA;
THENCE S17°31'21"W ALONG THE WEST LINE OF SAID PARCEL, A DISTANCE OF 189.73 FEET;
THENCE N83°09'53"W, A DISTANCE OF 718.00 FEET TO THE POINT OF BEGINNING

LEGEND

UGE	Underground Electric
OHE	Overhead Electric
WM	Water Meter Box
WV	Water Valve
GV	Gas Valve
Elec. Box	Electric Box
P=1245.55	Existing Pavement Elevation
T	Telephone Conduit
G	Gas Line
SS	Sanitary Sewer Line
SD	Storm Drain Line
	Brass Cap in Hand Hole
	Brass Cap Flush
	Exist Street Light
	EXISTING SITE LIGHT
	EXISTING MONUMENT - AS NOTED
	EXISTING TRAFFIC SIGN
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING TREE
	EXISTING PALM TREE
	EXISTING SEWER MANHOLE
	EXISTING STORM DRAIN MANHOLE
	EXISTING METER BOX/ IRRIG. CONTROL BOX
RD	EXISTING ROOF DRAIN
	NEW SINGLE CURB - MAG 220 TYPE "A"
	NEW CURB & GUTTER - MAG 222 TYPE "A"
	EXISTING CURB & GUTTER
	PROPERTY LINE/ RIGHT OF WAY LINE
	RIDGE LINE
	Monument Line / Centerline

SHEET INDEX

C-1.01	COVER SHEET
C-1.02	GRADING AND DRAINAGE (2)
C-1.03	GRADING AND DRAINAGE
C-1.04	PAVING AND HORIZONTAL CONTROL PLAN (2)
C-1.05	PAVING AND HORIZONTAL CONTROL PLAN
C-1.06	UTILITY PLAN
C-1.07	UTILITY PLAN
C-1.08	SECTIONS AND DETAILS
C-1.09	STORMWATER VAULT SYSTEM DETAILS
C-1.10	WALL DETAILS (2)
C-2.01	LEFT TURN LANE MODIFICATION (1)

ZONING

HIGHWAY COMMERCIAL DISTRICT (C-3 PCD)
SERVICE-RESIDENTIAL DISTRICT (S-R)

NOTE

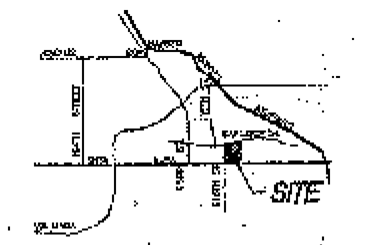
"IN ACCORDANCE WITH AAC R18-4-119, ALL MATERIALS ADDED AFTER JANUARY 1, 1993 WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61."

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE RECORD DRAWING MEASUREMENT AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

[seal] [signature]

MILLER AND SONS SURVEYING LLC
745 E. MARYLAND AVE # 205
PHOENIX, AZ. 85014
PHONE (602) 285-1582



VICINITY MAP
N.T.S.

OWNER/DEVELOPER

GLENWOOD DEVELOPMENT COMPANY
1755 W. BASELINE RD. SUITE 286
MESA, ARIZONA 85202
PHONE (480)775-4600

ARCHITECT

THE PETERS DESIGN GROUP, INC.
16815 NORTH 41ST PLACE
PHOENIX, ARIZONA 85050
PHONE: (602)765-8460

ENGINEER/SURVEYOR

EVANS, KUHN & ASSOCIATES, INC.
727 E. BETHANY HOME ROAD, SUITE D-225
PHOENIX, ARIZONA 85014
(602) 241-0782
FAX: (602) 244-9158

AREA

PARCEL AREA = 572,891 SQ. FT. OR 13.15 AC. (MORE OR LESS)

BASIS OF BEARINGS

ASSUMED BEARING OF N00°03'27"E ALONG THE NORTH-SOUTH SECTION LINE OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST, AS SHOWN ON THE "ADOBE RANCH" MAP OF DEDICATION, RECORDED IN BOOK 290 OF MAPS, PAGE 38, M.C.R. AND ALSO INCLUDED IN THE LEGAL DESCRIPTION OF PARCEL 1-B ON THE FINAL PLAT OF "SCOTTSDALE ADOBE RANCH TOWNHOMES", RECORDED IN BOOK 306 OF MAPS, PAGE 16, M.C.R.

BENCHMARK

CITY OF SCOTTSDALE BRASSCAP FLUSH AT THE INTERSECTION OF 116TH STREET AND SHEA BOULEVARD (BENCHMARK #4071)

ELEVATION = 1466.475 (CITY OF SCOTTSDALE VERTICAL DATUM, NAVD 1988)

ENGINEER'S STATEMENT

THE ENGINEER OF RECORD ON THESE PLANS HAS RECEIVED A COPY OF THE APPROVED STIPULATIONS FOR THIS PROJECT AND HAS DESIGNED THESE PLANS IN CONFORMANCE WITH THE APPROVED STIPULATIONS.

Wayne R Ridley [seal: 9982 WAYNE P. RIDLEY] 2/28/03
ENGINEER OF RECORD DATE

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL ELEVATIONS REPRESENTED ON THIS PLAN ARE BASED ON THE ELEVATION DATUM COMMON TO THE CITY OF SCOTTSDALE BENCHMARK AS PROVIDED ABOVE.

Wayne R Ridley [seal]

APPROVALS

T.S. Chiefl 030417 030814 2/28/03
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT DATE

(2) CITY OF SCOTTSDALE REAPPROVAL

Reappr.	Sheets Revised	Description of Revision(s)
PAVING		TRAFFIC
G&D		PLANNING
W&S		FIRE
RET. WALLS		
Engineering Coordination Manager (or Designee)		Date

(1) CITY OF SCOTTSDALE REAPPROVAL

Reappr.	Sheets Revised	Description of Revision(s)	
(1)	N/A	ADDED LEFT TURN MODIFICATION SHT C-2.01	
PAVING	Gary E. Held	TRAFFIC	Gary E Held
G&D	N/A	PLANNING	[signature]
W&S	N/A	FIRE	N/A
RET. WALLS	N/A		
Richard McAnderson	6/30/03		
Engineering Coordination Manager (or Designee)	Date		

AS-BUILTS 1-21-04

46181

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
BLUE STAKE CENTER

EKA
Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd
Phoenix, Az 85014
602.241.0782 phone
602.248.9158 fax

IMPROVEMENT PLANS FOR MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

REVISIONS
(1) 06/26/03 - ADD TURN LANE SHT. C2.01
(2) 07/03/03 RETAINING WALL ADDS [illegible]

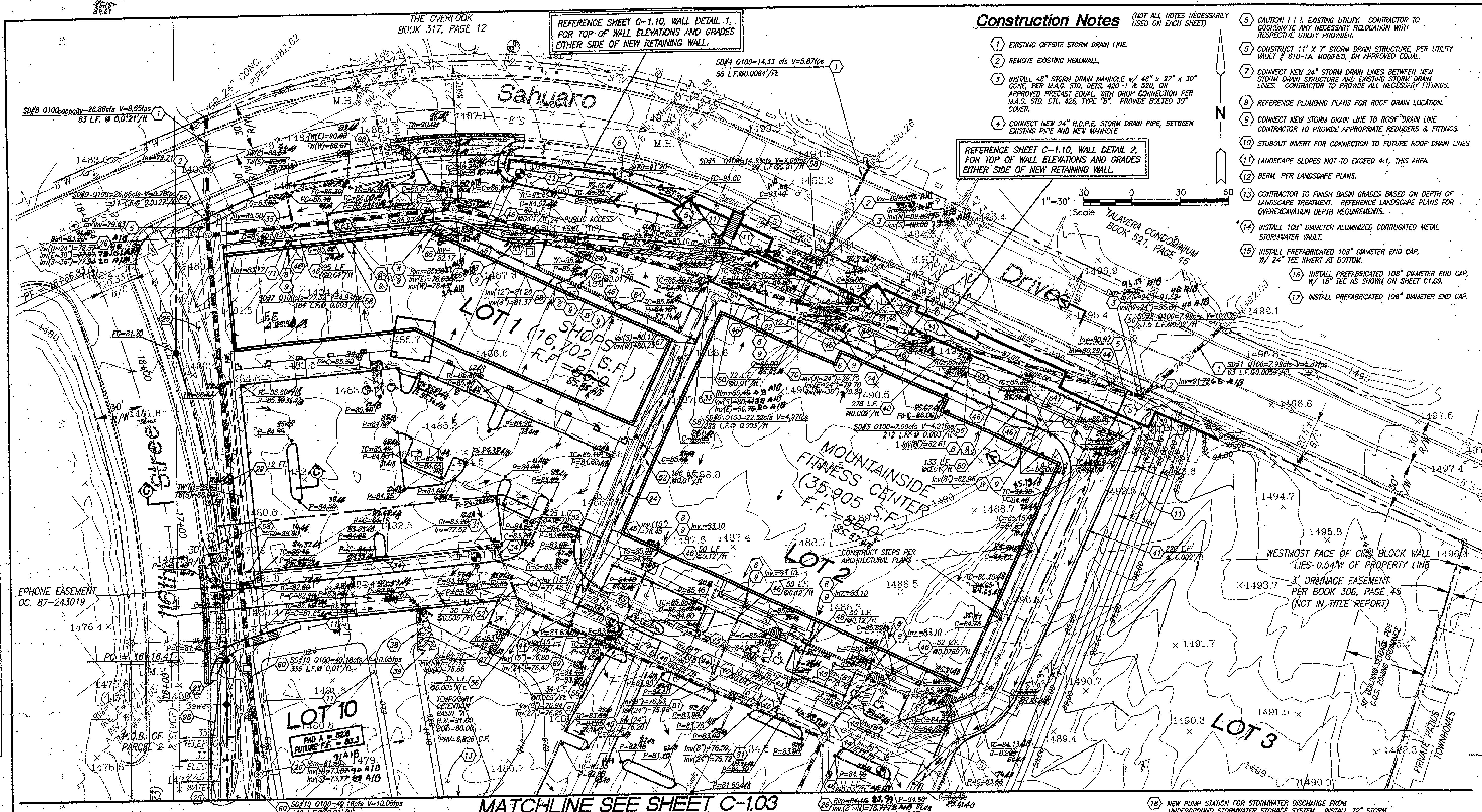
DRAWING STATUS
FINAL

9982 WAYNE P. RIDLEY

DATE ISSUED 2/28/03
DESIGNED BY W.R.R./E.C.S.
DRAWN BY T.A.C.
CHECKED BY W.R.R.
PROJECT NO. 4733
DRAWING NO.
C-1.01
COVER SHEET
SHEET 1 OF 10
SCALE: 1" = 50'

45-DR-2002 05 29 56 4159-02-13 4-NP-2003

10-UP-2019
09/26/2019



Construction Notes

(NOT ALL NOTES NECESSARILY USED ON EACH SHEET)

1. EXISTING OFFSITE STORM DRAIN LINE.
2. REMOVE EXISTING HEADWALL.
3. INSTALL 48" STORM DRAIN MANHOLE w/ 48" x 27" x 30" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH DROP CONNECTION PER M.A.G. STD. DTL. 426, TYPE "B". PROVIDE BOLTED 30" COVER.
4. CONNECT NEW 24" H.D.P.E. STORM DRAIN PIPE, BETWEEN EXISTING PIPE AND NEW MANHOLE.
5. CAUTION ! ! ! EXISTING UTILITY. CONTRACTOR TO COORDINATE ANY NECESSARY RELOCATION WITH RESPECTIVE UTILITY PROVIDER.
6. CONSTRUCT 11' X 7' STORM DRAIN STRUCTURE, PER UTILITY VAULT # 810-LA, MODIFIED, OR APPROVED EQUAL.
7. CONNECT NEW 24" STORM DRAIN LINES BETWEEN NEW STORM DRAIN STRUCTURE AND EXISTING STORM DRAIN LINES. CONTRACTOR TO PROVIDE ALL NECESSARY FITTINGS.
8. REFERENCE PLUMBING PLANS FOR ROOF DRAIN LOCATION.
9. CONNECT NEW STORM DRAIN LINE TO ROOF DRAIN LINE. CONTRACTOR TO PROVIDE APPROPRIATE REDUCERS & FITTINGS.
10. STUBOUT INVERT FOR CONNECTION TO FUTURE ROOF DRAIN LINES.
11. LANDSCAPE SLOPES NOT TO EXCEED 4:1, THIS AREA.
12. BERM, PER LANDSCAPE PLANS.
13. CONTRACTOR TO FINISH BASIN GRADES BASED ON DEPTH OF LANDSCAPE TREATMENT. REFERENCE LANDSCAPE PLANS FOR OVEREXCAVATION DEPTH REQUIREMENTS.
14. INSTALL 108" DIAMETER ALUMINIZED CORRUGATED METAL STORMWATER VAULT.
15. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 24" TEE INSERT AT BOTTOM.
16. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 18" TEE AS SHOWN ON SHEET C1.09.
17. INSTALL PREFABRICATED 108" DIAMETER END CAP.
18. NEW PUMP STATION FOR STORMWATER DISCHARGE FROM UNDERGROUND STORMWATER STORAGE SYSTEM. INSTALL 72" STORM DRAIN MANHOLE PER M.A.G. STD. DTL. 521, OR APPROVED PRECAST EQUAL, WITH 72" x 36" x 36" CONE, AND WITH BOLTED 36" COVER. INSTALL 425 G.P.M. PUMP, FLYGT MODEL NP-3102, OR APPROVED EQUAL. SEE DETAIL ON SHEET C-1.09.
19. CONTROL PANEL FOR PUMP STATION. REFERENCE ELECTRICAL PLANS FOR CONTROLS AND CONNECTIONS TO PUMP.
20. INSTALL 4" D.I.P. STORMWATER FORCE MAIN.
21. CONNECT STORMWATER FORCE MAIN TO NEW DRAINAGE STRUCTURE.
22. NEW DRAINAGE EASEMENT TO BE MAINTAINED BY PROPERTY OWNER'S ASSOCIATION.
23. MATCH EXISTING GRADES.
24. CROSS SLOPE NOT TO EXCEED 2%.
25. CROSS SLOPE NOT TO EXCEED 1.5%.
26. INSTALL 48" STORM DRAIN MANHOLE PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH BOLTED 48" COVER.
27. INSTALL 48" STORM DRAIN MANHOLE w/ 48" x 27" x 36" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
28. CONSTRUCT MANHOLE CONNECTION TO VAULT FOR TRANSITION DETAIL ON SHEET C-1.09.
29. INSTALL 36" STORM DRAIN MANHOLE PER M.A.G. STD. DTLS. 420-1 AND 420, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
30. INSTALL MODIFIED CATCH BASIN PER M.A.G. STD. DET. 535, WITH DOUBLE GRATE. INSTALL I-BEAM IN CATCH BASIN POCKET UNDER ABUTTING GRATES, FOR H20 LOADING CAPACITY. GRATES TO BE PER C.O.S. STD. DTL. 2535, TYPE "I", AND BOLTED DOWN. SEE DETAIL ON SHEET C-1.08.
31. INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, AND BOLTED DOWN GRATE PER C.O.S. STD. DTL. 2535, TYPE "I".
33. INSTALL 36" STORM DRAIN MANHOLE w/ 36" x 27" x 30" CONE, PER M.A.G. STD. DTLS. 420-1 AND 520, OR APPROVED PRECAST EQUAL w/ 30" COVER.
34. CONSTRUCT CONC. SPILLWAY, PER DETAIL ON SHEET C-1.08.
35. CONSTRUCT WALL PENETRATION, PER DETAIL ON SHEET C-1.08.
36. CONSTRUCT CURB OPENING, PER DETAIL ON SHEET C-1.08.
37. INSTALL SIGN FOR UNDERGROUND STORMWATER STORAGE, PER DETAIL ON SHEET C-1.09, AND C.O.S. STD. DET. 2131.
38. CONSTRUCT RIP-RAP SPILLWAY PER DETAIL SHEET C-1.08.
39. CONSTRUCT RIP-RAP DEPRESSION, PER DETAIL ON SHEET C-1.08.
40. CONSTRUCT VALLEY GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
41. CONSTRUCT VERTICAL CURB & GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
42. REFERENCE STRUCTURAL PLANS FOR RETAINING/SCREEN WALL DETAILS.
43. REFERENCE STRUCTURAL PLANS FOR DETAIL AT UTILITY CROSSING BENEATH RETAINING/SCREEN WALL.
44. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW WATER LINE. CONTRACTOR TO PROVIDE APPROPRIATE VERTICAL BEND. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
45. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW SANITARY SEWER LINE. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
46. INSTALL 8" PVC SDR 35, OR APPROVED EQUAL, STORM DRAIN LINE.
47. INSTALL PREFABRICATED 42" X 4" END CAP TEE, BOTTOM INVERT.
48. INSTALL 4" SDR 35 P.V.C. STORMWATER BLEEDOFF LINE.
49. RETENTION VAULT #2 SPILL POINT.
50. INSTALL 12" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
52. INSTALL 15" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
54. INSTALL 18" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
56. INSTALL 24" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
58. INSTALL 30" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
60. INSTALL 36" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
62. INSTALL 42" DIAMETER H.D.P.E. STORM DRAIN VAULT.
63. INSTALL 2" X 8"-90° WYE.
64. INSTALL 12" X 8"-90° WYE.
65. INSTALL 8" X 8"-90° WYE.
66. INSTALL 90° BEND.
67. INSTALL 15" X 12"-90° WYE.
68. INSTALL 12" X 8" REDUCER.
69. INSTALL 24" X 15" ~ 90° WYE.
70. INSTALL 30" X 24" ~ 90° WYE.
71. INSTALL CLEANOUT.
72. INSTALL 45° BEND.
74. INSTALL 30° BEND.
76. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT TOP OF END CAP.
77. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT BOTTOM OF END CAP.
78. INSTALL 15" TEE.
79. INSTALL 18" ~ 15", 90° WYE.
80. INSTALL 18"~15" REDUCER.
81. INSTALL 24" ~ 8", 90° WYE.
82. INSTALL 24" ~ 15", 90° WYE.
84. INSTALL 24" ~ 18", 45° WYE.
88. INSTALL 24" ~ 24", 45° WYE.
89. INSTALL 24" TEE.
90. INSTALL 11-1/4° BEND.
92. INSTALL 24" ~ 15" REDUCER.
93. CONSTRUCT 108" X 12" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.
94. CONSTRUCT 108" X 24" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.
95. CONNECT NEW STORM DRAIN LINE TO NEW STORM DRAIN STRUCTURE.
96. DIP NEW FORCE MAIN BENEATH FOOTER OF NEW SITE WALL. PROVIDE 2' MIN. CLEARANCE.
97. INSTALL ULTRA-URBAN FILTER, W/ SMART SPONGE OIL AND GREASE INTERCEPTOR, OR APPROVED EQUAL.
98. SITE VISIBILITY TRIANGLE.

46182

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100

AS-BUILT 1-21-04

EKA
Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd.
Phoenix, Az 85014
602.241.0782 phone
602.248.9158 fax

GRADING AND DRAINAGE PLAN
FOR
MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

REVISIONS
2 RETAINING WALL ALONG SAHUARO DR. 01/13/03

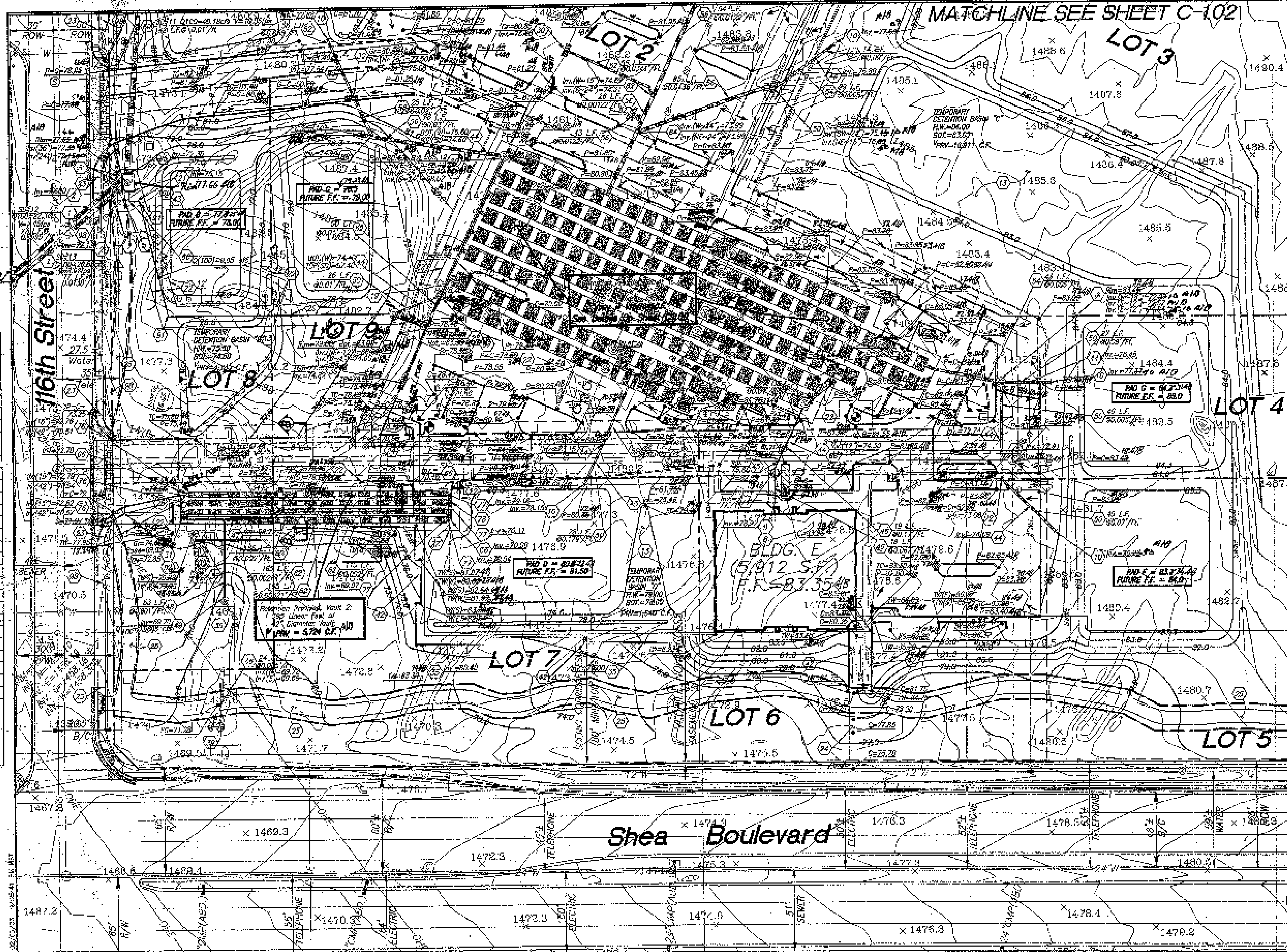
DRAWING STATUS: FINAL

DATE ISSUED: 05/13/02
DESIGNED BY: DCS
DRAWN BY: DCA
CHECKED BY: ADW
PROJECT NO.: 4730

DRAWING NO.: C-102
GRADING AND DRAINAGE PLAN
SHEET 2 OF 10
SCALE 1" = 30'

45-DR-2002 QS 29-56 4159-02 4-NP-2003

10-UP-2019
09/26/2019



Construction Notes

(NOT ALL NOTES NECESSARILY USED ON EACH SHEET)

1. EXISTING OFFSITE STORM DRAIN LINE.
2. REMOVE EXISTING HEADWALL.
3. INSTALL 48" STORM DRAIN MANHOLE W/ 48" x 27" x 30" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH DROP CONNECTION PER M.A.G. STD. DTL. 426, TYPE "B". PROVIDE BOLTED 30" COVER.
4. CONNECT NEW 24" H.D.P.E. STORM DRAIN PIPE BETWEEN EXISTING PIPE AND NEW MANHOLE.
5. CAUTION !!! EXISTING UTILITY. CONTRACTOR TO COORDINATE ANY NECESSARY RELOCATION WITH RESPECTIVE UTILITY PROVIDER.
6. CONSTRUCT 11' x 7' STORM DRAIN STRUCTURE, PER UTILITY VAULT # 5TS-1A, MODIFIED, OR APPROVED EQUAL. COVER TO BE WATERTIGHT AND BOLTED SHUT.
7. CONNECT NEW 24" STORM DRAIN LINES BETWEEN NEW STORM DRAIN STRUCTURE AND EXISTING STORM DRAIN LINES. CONTRACTOR TO PROVIDE ALL NECESSARY FITTINGS.
8. REFERENCE PLUMBING PLANS FOR ROOF DRAIN LOCATION.
9. CONNECT NEW STORM DRAIN LINE TO ROOF DRAIN LINE. CONTRACTOR TO PROVIDE APPROPRIATE REDUCERS & FITTINGS.
10. STUBOUT WHERE FOR CONNECTION TO FUTURE ROOF DRAIN LINES.
11. LANDSCAPE SLOPES NOT TO EXCEED 4:1, THIS AREA.
12. BERM PER LANDSCAPE PLANS.
13. CONTRACTOR TO FINISH BASIN GRADES BASED ON DEPTH OF LANDSCAPE TREATMENT. REFERENCE LANDSCAPE PLANS FOR OVEREXCAVATION DEPTH REQUIREMENTS.
14. INSTALL 108" DIAMETER ALUMINIZED CORRUGATED METAL STORM DRAIN VAULT. SEE DETAILS ON SHEET C-1.09.
15. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 24" R.C. INVERT AT BOTTOM.
16. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 18" TEE AS SHOWN ON SHEET C-1.09.
17. INSTALL PREFABRICATED 108" DIAMETER END CAP.
18. NEW PUMP STATION FOR STORMWATER DISCHARGE FROM UNDERGROUND STORMWATER STORAGE SYSTEM. INSTALL 72" STORM DRAIN MANHOLE PER M.A.G. STD. DTL. 521, OR APPROVED PRECAST EQUAL, WITH 72" x 30" x 38" CONE, AND WITH BOLTED 38" COVER. INSTALL 425 G.P.M. PUMP, FLYGT MODEL NP-3102 OR APPROVED EQUAL. SEE DETAIL ON SHEET C-1.09.
19. CONTROL PANEL FOR PUMP STATION. REFERENCE ELECTRICAL PLANS FOR CONTROLS AND CONNECTIONS TO PUMP.
20. INSTALL 4" D.I.P. STORMWATER FORCE MAIN.
21. CONNECT STORMWATER FORCE MAIN TO NEW DRAINAGE STRUCTURE.
22. NEW DRAINAGE EASEMENT.
23. MATCH EXISTING GRADES.
24. CROSS SLOPE NOT TO EXCEED 2%.
25. CROSS SLOPE NOT TO EXCEED 1.5%.
26. INSTALL 48" STORM DRAIN MANHOLE PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH BOLTED 48" COVER, PER NEENAH R-5035, OR APPROVED EQUAL.
27. INSTALL 48" STORM DRAIN MANHOLE W/ 48" x 27" x 30" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL. WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
28. CONSTRUCT MANHOLE CONNECTION TO VAULT PER TRANSITION DETAIL ON SHEET C-1.09.
29. INSTALL 38" STORM DRAIN MANHOLE PER M.A.G. STD. DTLS. 420-1 AND 520, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
30. INSTALL MODIFIED CATCH BASIN PER M.A.G. STD. DET. 535, WITH DOUBLE GRATE. INSTALL I-BEAM IN CATCH BASIN POCKET, ABUTTING GRATES, FOR H20 LOADING CAPACITY. GRATES TO BE PER C.O.S. STD. DTL. 2535, TYPE "F", AND BOLTED DOWN. SEE DETAIL ON SHEET C-1.08.
31. INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, AND BOLTED DOWN GRATE C.O.S. STD. DTL. 2535, TYPE "F".
32. CONNECT NEW CATCH BASIN TO VAULT, PER DETAIL ON SHEET C-1.09.
33. NOT USED.
34. CONSTRUCT CONC. SPILLWAY, PER DETAIL ON SHEET C-1.08.
35. CONSTRUCT WALL PENETRATION, PER DETAIL ON SHEET C-1.08.
36. CONSTRUCT CURB OPENING, PER DETAIL ON SHEET C-1.08.
37. NOT USED.
38. CONSTRUCT RIP-RAP SPILLWAY PER DETAIL ON SHEET C-1.08.
39. CONSTRUCT RIP-RAP DEPRESSION, PER DETAIL ON SHEET C-1.08.
40. CONSTRUCT VALLEY GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
41. CONSTRUCT VERTICAL CURB & GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
42. REFERENCE STRUCTURAL PLANS FOR RETAINING/SCREEN WALL DETAILS.
43. REFERENCE STRUCTURAL PLANS FOR DETAIL AT UTILITY CROSSING BENEATH RETAINING/SCREEN WALL.
44. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW WATER LINE. CONTRACTOR TO PROVIDE APPROPRIATE VERTICAL BEND. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
45. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW SANITARY SEWER LINE. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
46. INSTALL 8" PVC SDR 35, OR APPROVED EQUAL, STORM DRAIN LINE.
47. INSTALL PREFABRICATED 42" X 4" END CAP TEE, BOTTOM INVERT.
48. INSTALL 4" SDR 35 P.V.C. STORMWATER BLEEDOFF LINE.
49. RETENTION VAULT #2 SPOT POINT.
50. INSTALL 12" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
52. INSTALL 15" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
54. INSTALL 18" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
56. INSTALL 24" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
58. INSTALL 30" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
60. INSTALL 36" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
62. INSTALL 42" DIAMETER H.D.P.E. STORM DRAIN VAULT.
64. INSTALL 12" X 6"~90" WYE.
66. INSTALL 90° BEND.
68. INSTALL 12" X 8" REDUCER.
70. INSTALL 36" X 24" ~ 90° WYE.
71. INSTALL CLEANOUT.
72. INSTALL 45° BEND.
74. INSTALL 30° BEND.
76. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT TOP OF END CAP. INSTALL UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL SHEET C-1.09.
77. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT BOTTOM OF END CAP. INSTALL UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL SHEET C-1.09.
78. INSTALL 15" TEE.
79. INSTALL 18" ~ 15", 90° WYE.
80. INSTALL 18" ~ 15" REDUCER.
81. INSTALL 24" ~ 18", 90° WYE.
82. INSTALL 24" ~ 15", 90° WYE.
84. INSTALL 24" ~ 18", 45° WYE.
86. INSTALL 24" ~ 24", 45° WYE.
88. INSTALL 24" TEE.
90. INSTALL 11-1/4° BEND.
91. INSTALL 60° BEND.
92. INSTALL 24" ~ 15" REDUCER.
93. CONSTRUCT 108" X 12" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C-1.09.
94. CONSTRUCT 108" X 24" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C-1.09.
95. CONNECT NEW STORM DRAIN LINE TO NEW STORM DRAIN STRUCTURE.
96. DIP NEW FORCE MAIN BENEATH FOOTER OF NEW SITE WALL. PROVIDE 2' MIN. CLEARANCE.
97. INSTALL ULTRA-URBAN FILTER, W/ SMART SPONGE OIL AND GREASE INTERCEPTOR, MODIFIED FOR INLET TYPE, OR APPROVED EQUAL.
98. SITE VISIBILITY TRIANGLE.

1"=30'
0 30 60
Scale

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
(MARICOPA COUNTY)

AS-BUILT 1-21-04

Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd.
Phoenix, Az 85014
602.241.0782 phone
602.2?.9185 fax

GRADING AND DRAINAGE PLAN
FOR
MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

4683

REVISIONS

DRAWING STATUS: FINAL SUBMITTAL

DATE ISSUED	2/12/03
DESIGNED BY	K.P.R./E.C.S.
DRAWN BY	R.A.C.
CHECKED BY	W.P.R.
PROJECT NO.	1/75
DRAWING NO.	C-103

GRADING AND DRAINAGE PLAN
SHEET 3 OF 10
SCALE: 1"=30'

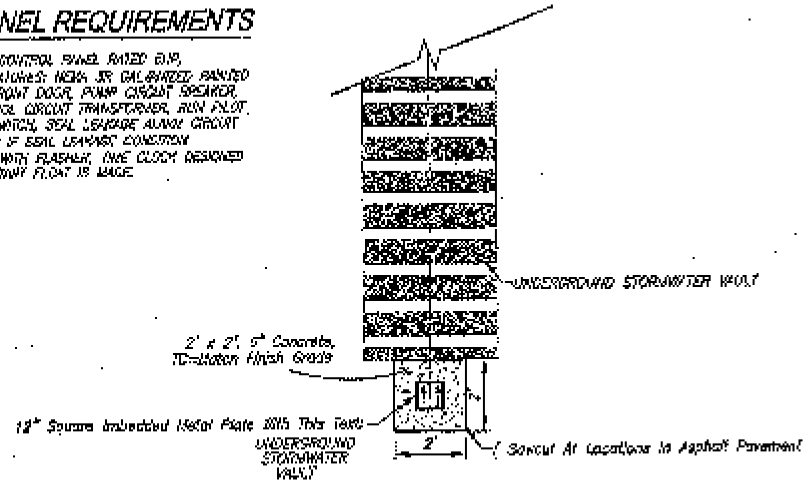
45-DR-2002 OS 29-56 4159-02

EXTERNAL DRAWINGS

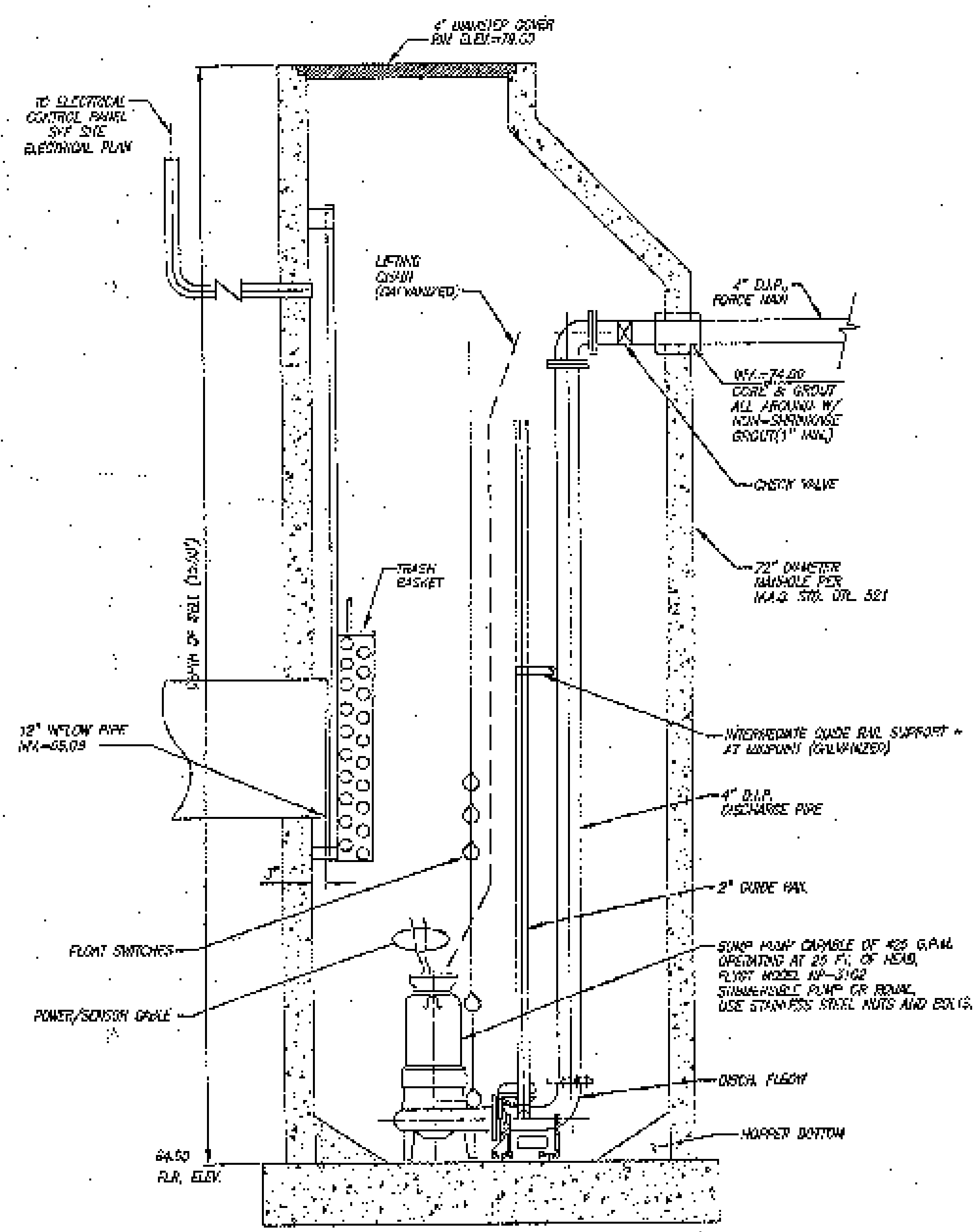
10-UP-2019
09/26/2019

PUMP CONTROL PANEL REQUIREMENTS

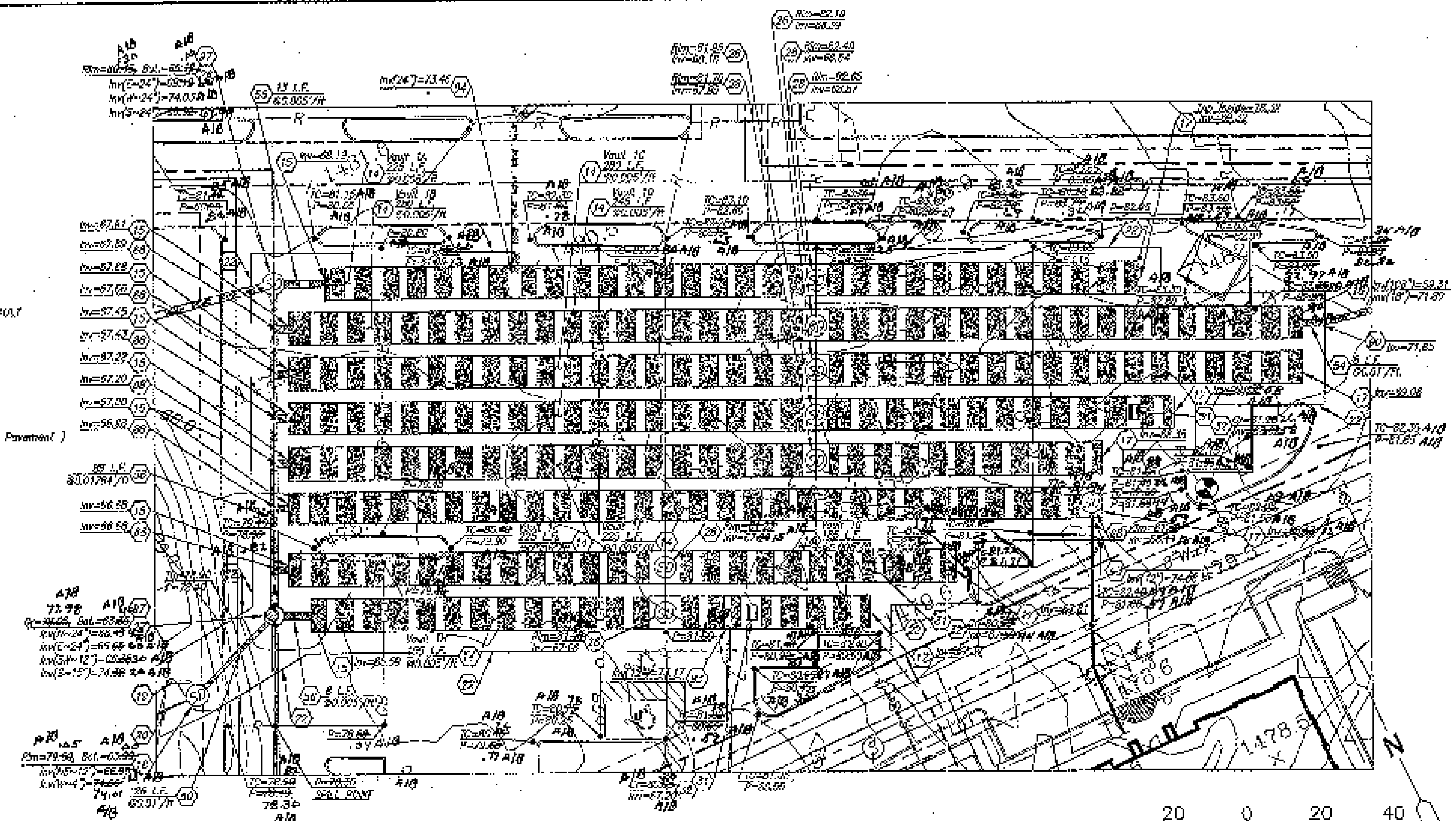
1 EA. EG CONTROLS SIMPLEX PUMP CONTROL PANEL RATED 0.1P, 3/60/460/ WITH THE FOLLOWING FEATURES: NEMA 3R GALVANIZED PAINTED ENCLOSURE, BRUSHED ALUMINUM UFRONT DOOR, PUMP CIRCUIT BREAKER, NEMA RATED MOTOR STARTER, CONTROL CIRCUIT TRANSFORMER, RUN PILOT LIGHT, HAND-OFF-AUTO SELECTOR SWITCH, SEAL LEAKAGE ALARM CIRCUIT WITH PILOT LIGHT (TO DISABLE PUMP IF SEAL LEAKAGE CONDITION OCCURS), HIGH WATER ALARM LIGHT WITH FLASHER, TIME CLOCK DESIGNED FOR TWO HOUR TIME DELAY ONCE START FLOAT IS MADE.



STORMWATER VAULT PAVEMENT MARKER DETAIL
NTS



STORMWATER VAULT SYSTEM #1 DISCHARGE PUMP STATION DETAIL
NTS



RETENTION VAULT SYSTEM #1 DETAIL
1"=20'

Scale

* CONTRACTOR NOTE

108" DIAMETER CORRUGATED METAL PIPE (CMP) SHALL MEET THE FOLLOWING REQUIREMENTS:

a) PIPE SHALL BE 108" DIAMETER ALUMINIZED CMP, MIN. 14 GA. W/ MIN. 3" CORRUGATIONS.

b) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WHICH DEMONSTRATE THAT THE PROPOSED PIPE WALL THICKNESS, CORRUGATION DEPTH, BEDDING AND BACKFILL WILL BE ADEQUATE TO SUPPORT H-20 LOADING WITH A TWO-FOOT TO FOUR-FOOT HEIGHT OF COVER.

c) MAKE FIELD JOINTS IN CORRUGATED METAL PIPE WITH WATER TIGHT CONNECTING BANDS OF THE SAME BASE AND TREATED METAL AS PIPE.

*(14) INSTALL 108" DIAMETER ALUMINIZED CORRUGATED METAL STORMWATER VAULT.

(15) INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 24" TEE INSERT AT BOTTOM, WITH UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL THIS SHEET.

(16) INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 18" TEE INSERT AS SHOWN, WITH UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL THIS SHEET.

(17) INSTALL PREFABRICATED 108" DIAMETER END CAP, WITH UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL THIS SHEET.

(18) NEW PUMP STATION FOR STORMWATER DISCHARGE FROM UNDERGROUND STORMWATER STORAGE SYSTEM. INSTALL 72" STORM DRAIN MANHOLE PER M.A.G. STD. DTL. 521, OR APPROVED PRECAST EQUAL, WITH 72" x 36" x 36" CONE, AND WITH BOLTED 36" COVER. INSTALL 425 G.P.M. SUBMERSIBLE PUMP, FLYGT MODEL NP-3102, OR APPROVED EQUAL. SEE DETAIL ON THIS SHEET.

(19) CONTROL PANEL FOR PUMP STATION. REFERENCE ELECTRICAL PLANS FOR CONTROLS AND CONNECTIONS TO PUMP.

(20) INSTALL 4" D.I.P. STORMWATER FORCE MAIN.

(22) NEW DRAINAGE EASEMENT.

(26) INSTALL 48" STORM DRAIN MANHOLE PER M.A.G. STD. DETS. 420-1 & 522, OR APPROVED PRECAST EQUAL, WITH BOLTED 48" COVER, PER NEENAH R-1703, OR APPROVED EQUAL.

(27) INSTALL 48" STORM DRAIN MANHOLE w/ 48" x 37" x 36" CONE, PER M.A.G. STD. DETS. 420-1 & 522, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.

(28) CONSTRUCT VAULT ACCESS MANHOLE PER VAULT ACCESS DETAIL ON THIS SHEET.

(31) INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, AND BOLTED DOWN GRATE C.O.S. STD. DTL. 2535, TYPE "F".

(32) CONSTRUCT CATCH BASIN CONNECTION TO VAULT PER TRANSITION DETAIL ON THIS SHEET.

(50) INSTALL 12" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.

(54) INSTALL 18" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.

(56) INSTALL 24" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.

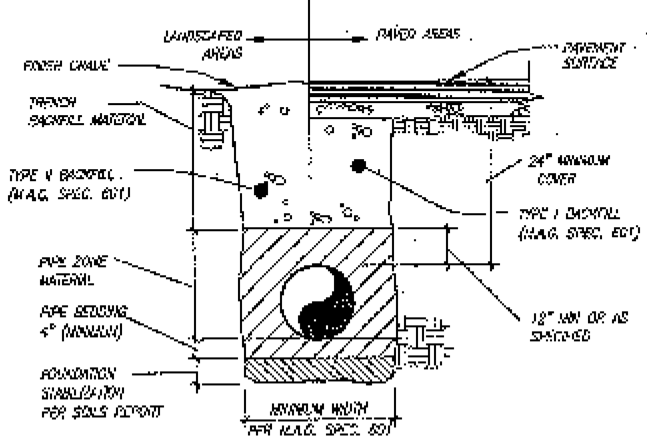
(78) INSTALL 15" TEE.

(88) INSTALL 24" TEE.

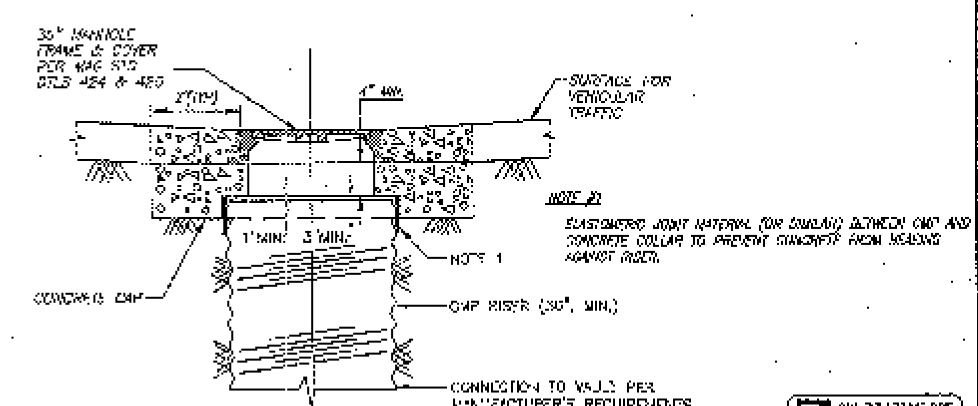
(93) CONSTRUCT 108" X 12" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.

(94) CONSTRUCT 108" X 24" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.

(97) INSTALL ULTRA-URBAN FILTER, W/ SMART SPONGE OIL AND GREASE INTERCEPTOR, OR APPROVED EQUAL.



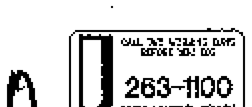
TYPICAL PVC/HDPE STORM DRAIN TRENCH DETAIL
NTS



VAULT ACCESS DETAIL
NTS

46190

263-1100



Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd.
Phoenix, Az 85014
602.241.0782 phone
602.248.0139 fax

STORMWATER VAULT SYSTEM DETAILS
FOR
MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

REVISIONS

DRAWING STATUS: FINAL SUBMITTAL

DATE ISSUED 2/12/03

DESIGNED BY W.P.R./R.C.S.

DRAWN BY RAC

CHECKED BY W.P.R.

PROJECT NO. 4723

DRAWING NO. C-1.09

STORMWATER VAULT SYSTEM DETAILS

SHEET 9 OF 10

SCALE: 1"-20'

4-NP-2003

4159-02

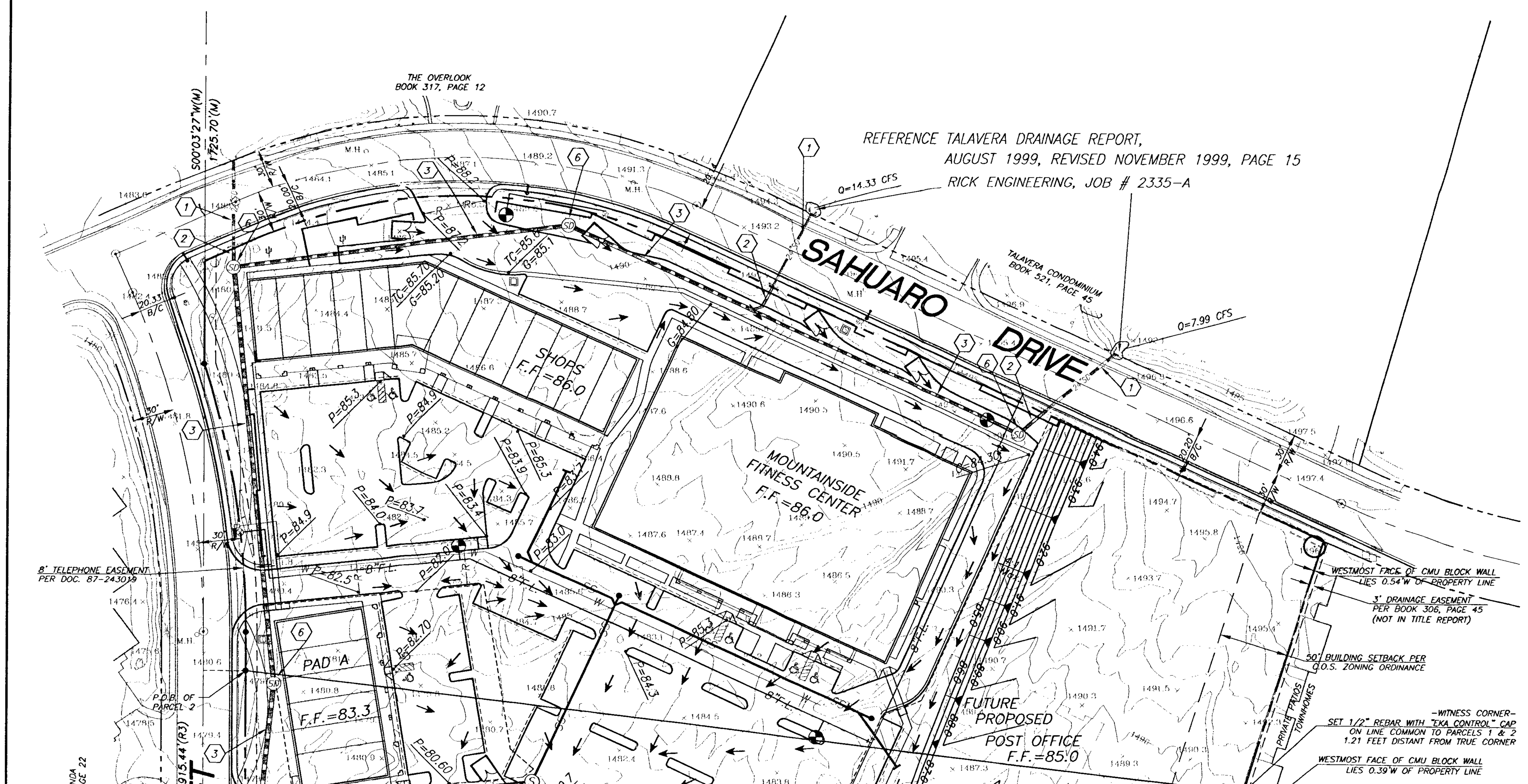
OS 29-50

45-DR-2002

AS-BUILT 1-21-04

EXTERNAL DRAWINGS

10-UP-2019
09/26/2019



DRAINAGE CALCULATIONS

Retention Required, Total Developed Site:

V REQ.= d/12 x A x C
d = 2.82
A = 572,992 S.F.
V REQ.= (2.82/12) x 572,992 x 0.90

V REQ. = 121,188 C.F.

Retention Provided:
Total, 9' Diameter Retention Vaults =1905 L.F.

(5) 9' Diameter Retention Vaults @ 285 L.F.
$(4.5)^2$ x 3.1416 x 285 x 5 = 90,654 C.F.

(2) 9' Diameter Retention Vaults @ 240 L.F.
$(4.5)^2$ x 3.1416 x 240 x 2 = 30,536 C.F.
121,190 C.F.

V PRV = 121,190 C.F.

Retention Required, Undeveloped Northeast Landscape Area Site:

V REQ = (2.82/12) x 90,000 x 0.50

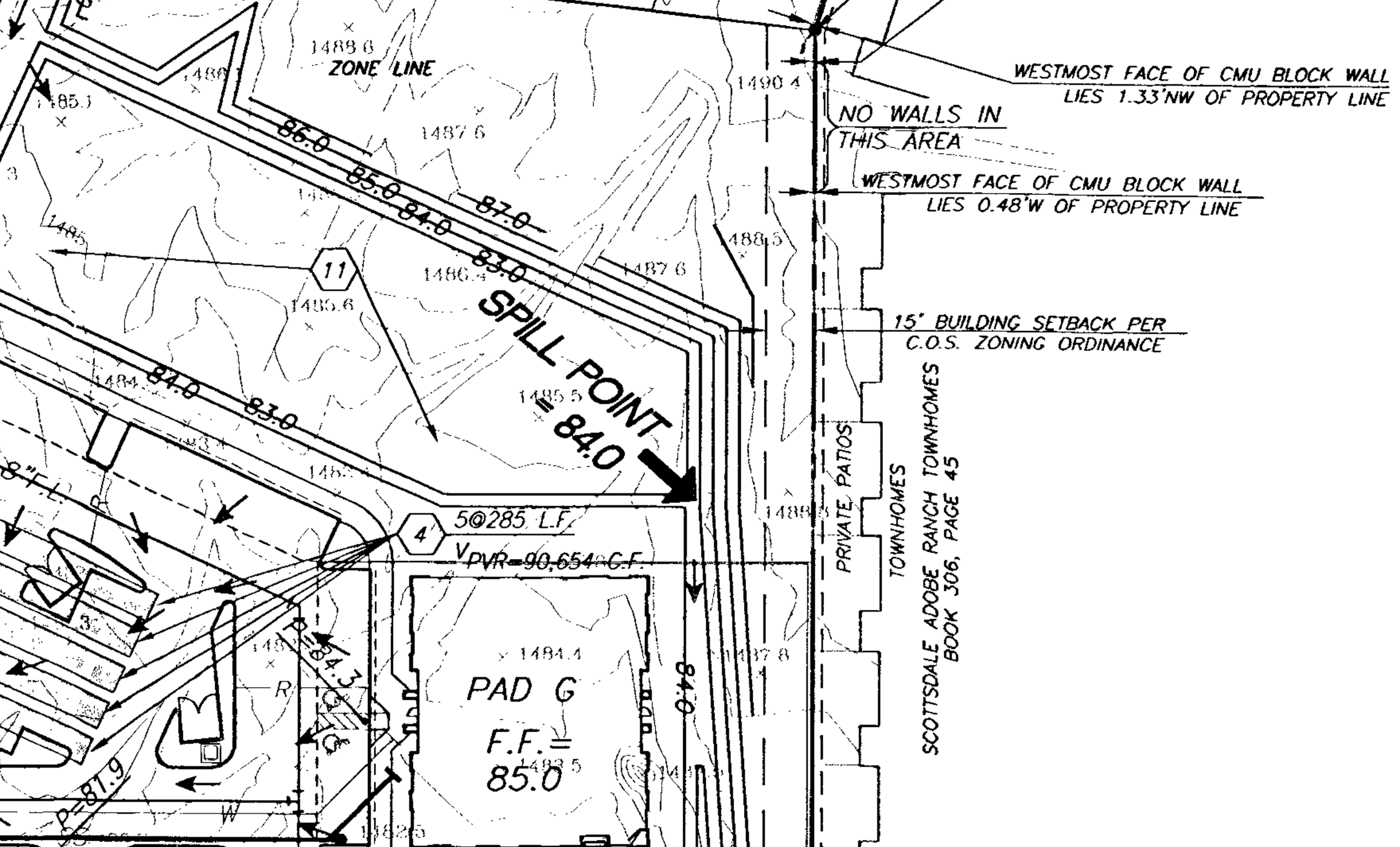
V REQ. = 12,690 C.F.

Retention Provided, Landscape Basin:

V PRV. = 16,840 C.F.

NOTES:

1. EXISTING OFFSITE STORM DRAIN LINE.
2. CONNECT OFFSITE STORM DRAIN LINE TO NEW STORM DRAIN LINE.
3. NEW STORM DRAIN LINE FOR OFFSITE FLOWS.
4. NEW 9' DIAMETER STORMWATER RETENTION VAULT.
5. NEW STORM DRAIN LINE FOR ONSITE.
6. NEW STORM DRAIN MANHOLE WITH GRATE.
7. NEW CATCH BASIN.
8. NEW STORM DRAIN LINE TO STORMWATER PUMP DISCHARGE.
9. NEW STORM DRAIN MANHOLE, WITH STORMWATER DISCHARGE PUMP.
10. NEW FORCE MAIN.
11. 1' DEEP LANDSCAPE RUNOFF DETENTION BASIN.



VICINITY MAP
NO SCALE

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
INSIDE MARICOPA COUNTY

PRELIMINARY

EXTERNAL DRAWINGS

CONCEPTUAL GRADING & DRAINAGE PLAN
FOR
RETAIL CENTER - 116TH ST. & SHEA

Evans, Kuhn & Associates,
727 E. Bethany Hon
Phoenix, Az 85014
602.241.0782 phone
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EKA@Worldnet.att.net

REVISIONS

DRAWING STATUS: EXHIBIT

Registered Professional Engineer, Certificate No. 8992, WAYNE P. REILEY, Arizona, U.S.A.

DATE ISSUED	05/1
DESIGNED BY	E.C.S
DRAWN BY	R.A.C./C
CHECKED BY	W.P.R
PROJECT NO.	477
DRAWING NO.	Conceptual Grading and Drainage Plan

Scale: 1" = 50'

45-DR-2002

253-PA-01
6/4/02

10-UP-2019
09/26/2019

DRAINAGE REPORT
For
116TH STREET & SHEA RETAIL CENTER
SCOTTSDALE, ARIZONA

EKA

Evans, Kuhn &
Associates, Inc.

727 E. Bethany Home Road
Suite D225
Phoenix, AZ 85014
602.241.0782 phone
602.248.9158 fax

Prepared for:

CITY OF SCOTTSDALE
7447 East Indian School Road
Scottsdale, Arizona 85251

Prepared by:

EVANS, KUHN AND ASSOCIATES, INC.
727 East Bethany Home Road, Suite D-225
Phoenix, Arizona 85014

EKA #4773
December 11, 2001
Revised May 9, 2002

253-PA-2001
6/4/2002

engineers

45-DR-2002

10-UP-2019
09/26/2019

TABLE OF CONTENTS

Project Description

The existing 13.15-acre site is currently vacant and occupies the northeast corner of 116th Street and Shea Boulevard. Residential properties currently existing on both the north and east, and a commercial warehouse storage facility occupies the property to the west. The proposed development consists of seven individual commercial pads, a pad with retail shops, a Mountainside Fitness Center, and a future proposed Post Office Facility.

Existing Conditions

The existing site slopes to the southwest at an average slope of 3%; losing almost 30' of elevation between the site high and low points. Three existing 24" pipe culverts along the northern boundary empty retention basins from upstream developments onto the site. These off-site flows following existing drainageways through the site, with flows exiting the site via two existing 28" pipe culverts under 116th Street near the southwest corner of the site. The remaining site flows sheet flow or follow shallow drainage swales to ponding locations along the north side of Shea Boulevard. Storm drain crossings under Shea were terminated with the last widening project, so currently there is no outfall for the ponded water in shallow basins.

Off-site Drainage Flows

The two easternmost 24" storm drains under Sahuaro Drive drain retention basins for the Talavera Condominiums which abut the site to the north. From the grading and drainage plans for the development, these 100-year pipe flows are shown to be: 7.99 cfs, and 14.33 cfs. The westernmost 24" storm drain under Sahuaro Drive drain a retention basin for the Overlook Condominiums. Record drawings for this older development were not available, but site observation indicates it drains a retention basin, similar to the other pipes on Sahuaro Drive. With a similar sloping pipe, it has been assumed that the 100-year pipe flow would not be in excess of 15 cfs. The three off-site pipe flows are proposed to be collected in a new underground pipe and directed to the 28" outfall pipes under 116th Street as currently occurs.

On-site Grading and Drainage

The proposed grading concept essentially maintains existing flow patterns. Roof drainage will be primarily by above ground splash blocks to surface drain to new catch basins located throughout

the paved parking areas within the development. ADA grades are maintained within the accessible areas and grades not exceeding 4% used elsewhere on the site. These slopes were not conducive to developing retention basin, therefore an underground storage system was utilized for site runoff for the 100-year, 2-hour storm. A stormwater discharge pump will be used to empty the storage vaults within 36 hours through the 116th Street underground pipe culverts. The future Post Office Facility in the northeast portion of the site will remain undisturbed, except for the grading/berming necessary to create a temporary retention basin for its runoff. Upon development, flows will be directed into the underground vault system, which has been sized for future flows. Reference Appendix A for the Concept Grading and Drainage Exhibit and retention calculations.

Summary

Existing storm water flows will be maintained after site development. Off-site flows intercepted by the property will be rerouted through the site. Underground stormwater storage vaults provide 121,190 cf of storage , and exceed the 100-year, 2-hour retention requirement of 121,188 cf. The building finished floor elevations are all elevated sufficiently above the high top of curb along the abutting streets and well above the low outfall elevation of 1268.5, just northeast of the intersection of 116th Street and Shea Boulevard.

APPENDIX C
(FEMA FIRM Map)

National Flood Hazard Layer FIRMette

FEMA

Feet
0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/21/2019 at 11:43:46 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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09/26/2019

APPENDIX D
(Sahuaro Drive Capacity Calculations)

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Aug 20 2019

East Sahuaro Drive Capacity

User-defined

Invert Elev (ft)	= 1496.59
Slope (%)	= 0.78
N-Value	= 0.013

Calculations

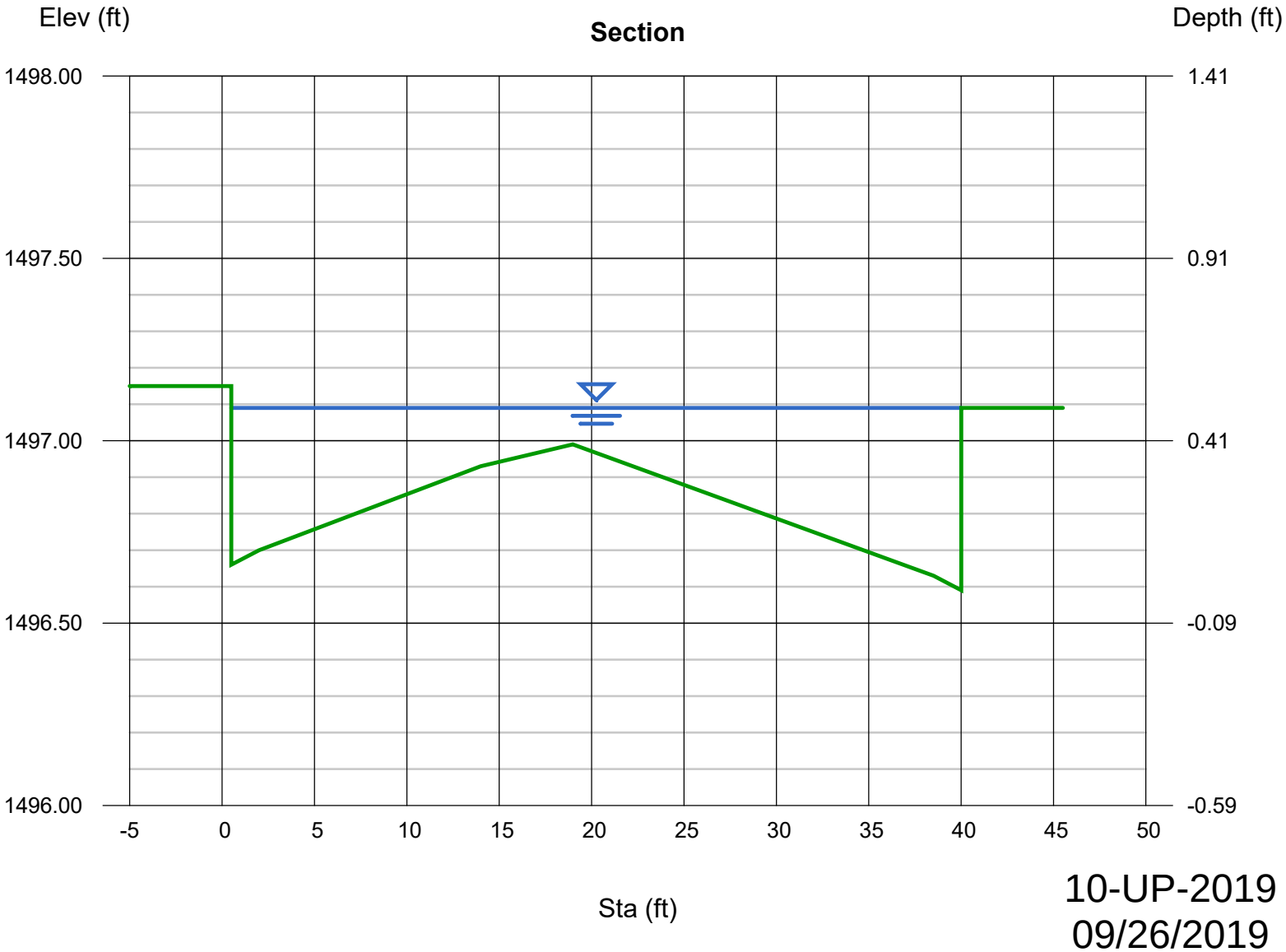
Compute by:	Known Depth
Known Depth (ft)	= 0.50

Highlighted

Depth (ft)	= 0.50
Q (cfs)	= 44.94
Area (sqft)	= 10.75
Velocity (ft/s)	= 4.18
Wetted Perim (ft)	= 40.45
Crit Depth, Yc (ft)	= 0.56
Top Width (ft)	= 39.51
EGL (ft)	= 0.77

(Sta, El, n)-(Sta, El, n)...

(0.00, 1497.15)-(0.50, 1497.15, 0.013)-(0.50, 1496.66, 0.013)-(2.00, 1496.70, 0.013)-(14.00, 1496.93, 0.013)-(18.98, 1496.99, 0.013)-(38.51, 1496.63, 0.013)-(40.01, 1496.59, 0.013)-(40.01, 1497.09, 0.013)-(40.51, 1497.09, 0.013)



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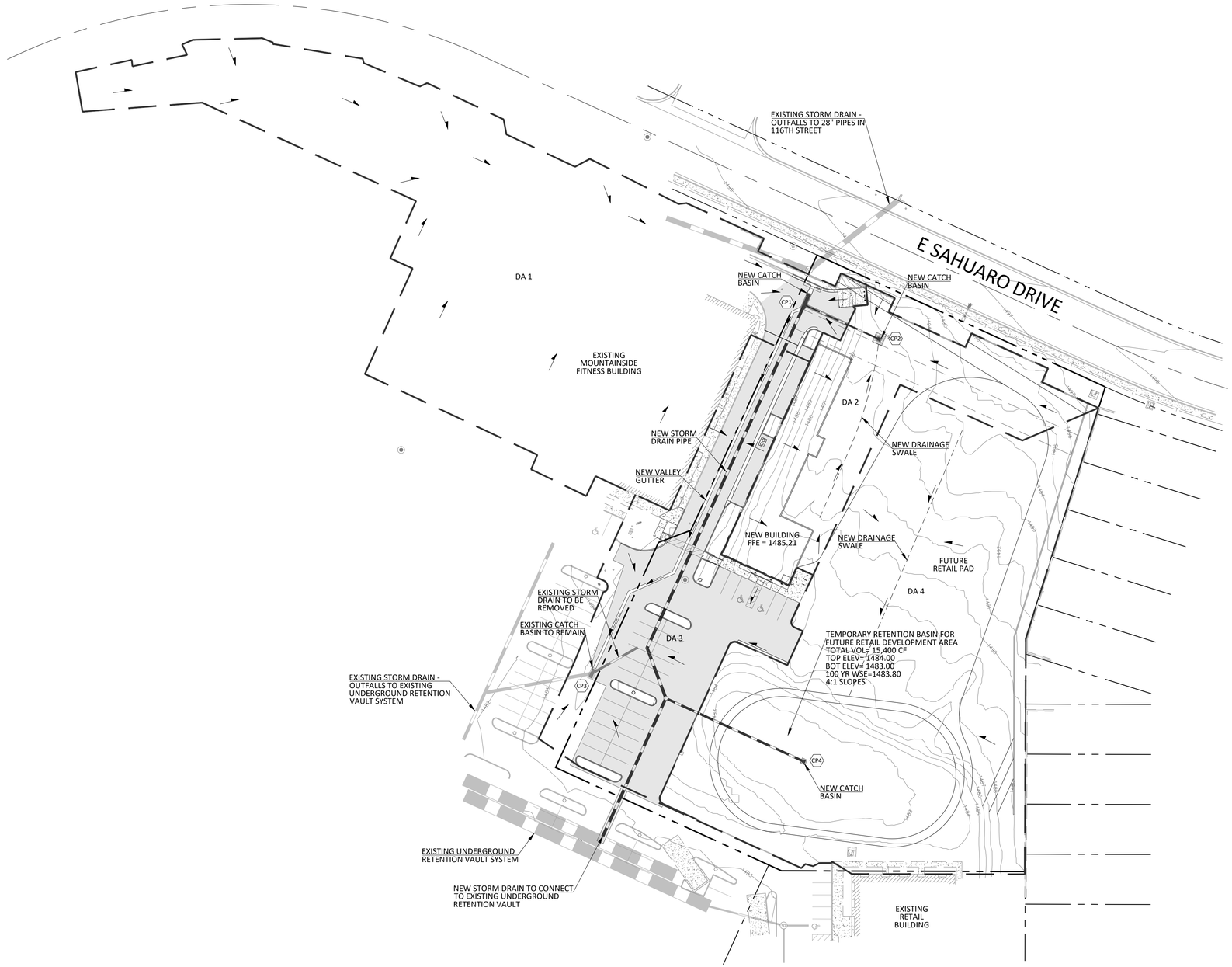
09/26/2019

APPENDIX E
(Proposed Conditions Watershed Maps + Calculations)

10-UP-2019
09/26/2019



SCALE 1"=40'

LEGEND

- RIGHT-OF-WAY
- PROJECT BOUNDARY LINE
- ROADWAY CENTERLINE
- FLOW ARROW
- WATERSHED BOUNDARY
- CONCENTRATION POINT (CP1)

WATERSHED CONCENTATION POINTS	AREA	Q 100
CP1	1.63 AC	11.5 CFS
CP2	0.44 AC	2.8 CFS
CP3	0.64 AC	4.6 CFS
CP4	1.47 AC	10.4 CFS

CYPRESS CIVIL DEVELOPMENT
strength + sustainability
4450 north 12th street, #228
phoenix, arizona 85014
p: 623.282.2498
e: jphunt@cypresscivil.com
CYPRESS PROJECT NO: 19.101

KERRY'S CAR CARE SHEA

proposed conditions hydrology map

10-UP-2019
09/26/2019

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PROPOSED WATERSHED SUMMARY

PROJECT KERRY'S CAR CARE SHEA

PROPOSED DEVELOPMENT AREA

WATERSHED ID	CONCENTRATION POINT	AREA ROOF + PAVEMENT C=0.95 (SF)	AREA DESERT LANDSCAPING C=0.50 (SF)	FUTURE PAD AREA C=0.90	TOTAL AREA (AC)	WEIGHTED 'C'
DA 1	CP1	62,920	8,000	0	1.63	0.90
DA 2	CP2	7,252	6,128	5,814	0.44	0.79
DA 3	CP3	25,322	2,349	0	0.64	0.91
DA 4	CP4	0	0	64,066	1.47	0.90

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RATIONAL METHOD

$$T_C = 11.4L^{0.5}K_b^{.52}S^{-0.31}i^{-0.38} \times 60 \qquad Q = CiA$$

Tc= Time of Concentration (min)
L= Length of longest flow path (miles)
Kb= Watershed resistance coefficient
S= Watercourse slope (ft/mi)
i= rainfall intensity (in/hr)

Q = Peak discharge (cfs)
C = Runoff coefficient
i = Rainfall intensity (inch/hr)
A = Drainage area (Acres)

100-YR, 5-MIN	7.82	in/hr
100-YR, 10-MIN	5.96	in/hr
100-YR, 15-MIN	4.92	in/hr
100-YR, 30-MIN	3.33	in/hr

KERRY'S CAR CARE SHEA

WATERSHED ID	CONCENTRATION POINT	L	Kb	S		i	Tc	C	i	A	Q
DA-1	1	0.03	0.04	55	1.0%	7.82	3.1	0.90	7.82	1.63	11.5
DA-2	2	0.03	0.04	55	1.0%	7.82	3.1	0.79	7.82	0.44	2.8
DA-3	3	0.03	0.04	55	1.0%	7.82	3.1	0.91	7.82	0.64	4.6
DA-4	4	0.03	0.04	55	1.0%	7.82	3.1	0.90	7.82	1.47	10.4

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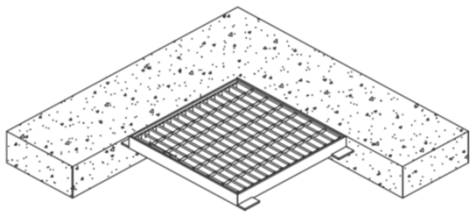
INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP1



INLET TYPE	MAG - 10'x2'	
LENGTH	10	FT
WIDTH	2	FT
OPEN AREA	15.09	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	CONTROLLING (CFS)
0.00	0.0	0.0	0.0
0.05	0.4	9.1	0.4
0.10	1.1	12.8	1.1
0.15	2.1	15.7	2.1
0.20	3.2	18.1	3.2
0.25	4.5	20.3	4.5
0.30	5.9	22.2	5.9
0.35	7.5	24.0	7.5
0.40	9.1	25.7	9.1
0.45	10.9	27.2	10.9
0.50	12.7	28.7	12.7
0.55	14.7	30.1	14.7
0.60	16.7	31.4	16.7
0.65	18.9	32.7	18.9
0.70	21.1	34.0	21.1
0.75	23.4	35.1	23.4
0.80	25.8	36.3	25.8
0.85	28.2	37.4	28.2

100-YR FLOW	11.5	CFS
CALCULATED DEPTH	0.50	FT

10-UP-2019
09/26/2019

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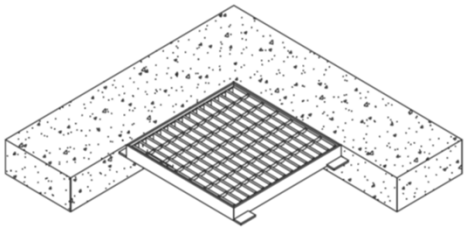
INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP2



INLET TYPE	MAG - 2'x2'	
LENGTH	2	FT
WIDTH	2	FT
OPEN AREA	3.02	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	CONTROLLING (CFS)	
0.00	0.0	0.0	0.0	0.00
0.05	0.1	1.8	0.1	0.05
0.10	0.4	2.6	0.4	0.10
0.15	0.7	3.1	0.7	0.15
0.20	1.1	3.6	1.1	0.20
0.25	1.5	4.1	1.5	0.25
0.30	2.0	4.4	2.0	0.30
0.35	2.5	4.8	2.5	0.35
0.40	3.0	5.1	3.0	0.40
0.45	3.6	5.4	3.6	0.45
0.50	4.2	5.7	4.2	0.50
0.55	4.9	6.0	4.9	0.55
0.60	5.6	6.3	5.6	0.60
0.65	6.3	6.5	6.3	0.65
0.70	7.0	6.8	6.8	0.70
0.75	7.8	7.0	7.0	0.75
0.80	8.6	7.3	7.3	0.80
0.85	9.4	7.5	7.5	0.85

100-YR FLOW	2.8	CFS
CALCULATED DEPTH	0.40	FT

10-UP-2019
09/26/2019

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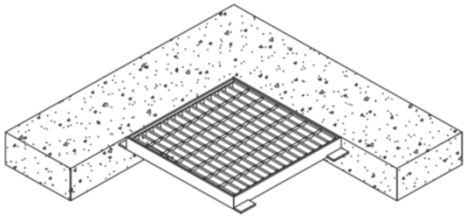
INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP3 - EXISTING



INLET TYPE	MAG - 2'x6'	
LENGTH	6	FT
WIDTH	2	FT
OPEN AREA	9.06	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	ONTROLLING (CFS)	
0.00	0.0	0.0	0.0	0.00
0.05	0.3	5.4	0.3	0.05
0.10	0.8	7.7	0.8	0.10
0.15	1.4	9.4	1.4	0.15
0.20	2.1	10.9	2.1	0.20
0.25	3.0	12.2	3.0	0.25
0.30	3.9	13.3	3.9	0.30
0.35	5.0	14.4	5.0	0.35
0.40	6.1	15.4	6.1	0.40
0.45	7.2	16.3	7.2	0.45
0.50	8.5	17.2	8.5	0.50
0.55	9.8	18.1	9.8	0.55
0.60	11.2	18.9	11.2	0.60
0.65	12.6	19.6	12.6	0.65
0.70	14.1	20.4	14.1	0.70
0.75	15.6	21.1	15.6	0.75
0.80	17.2	21.8	17.2	0.80
0.85	18.8	22.4	18.8	0.85

100-YR FLOW	4.6	CFS
CALCULATED DEPTH	0.35	FT

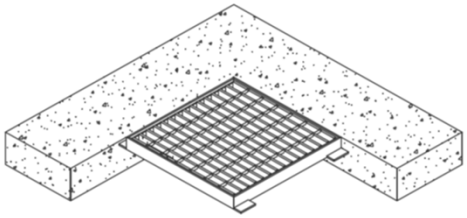
10-UP-2019
09/26/2019

CYPRESS CIVIL DEVELOPMENT

strength + sustainability

INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP4



INLET TYPE	MAG - 2'x3'	
LENGTH	2	FT
WIDTH	3	FT
OPEN AREA	4.53	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	ONTROLLING (CFS)	
0.00	0.0	0.0	0.0	0.00
0.05	0.2	2.7	0.2	0.05
0.10	0.5	3.8	0.5	0.10
0.15	0.9	4.7	0.9	0.15
0.20	1.3	5.4	1.3	0.20
0.25	1.9	6.1	1.9	0.25
0.30	2.5	6.7	2.5	0.30
0.35	3.1	7.2	3.1	0.35
0.40	3.8	7.7	3.8	0.40
0.45	4.5	8.2	4.5	0.45
0.50	5.3	8.6	5.3	0.50
0.55	6.1	9.0	6.1	0.55
0.60	7.0	9.4	7.0	0.60
0.65	7.9	9.8	7.9	0.65
0.70	8.8	10.2	8.8	0.70
0.75	9.7	10.5	9.7	0.75
0.80	10.7	10.9	10.7	0.80
0.85	11.8	11.2	11.2	0.85

100-YR FLOW	10.4	CFS
CALCULATED DEPTH	0.80	FT

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, USA*
Latitude: 33.5849°, Longitude: -111.8294°
Elevation: 1492.09 ft**
* source: ESRI Maps
** source: USGS

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_&_aerials

PF tabular

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

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**2.35** (1.96-2.92)	**3.08** (2.57-3.80)	**4.15** (3.43-5.12)	**4.99** (4.09-6.12)	**6.10** (4.92-7.45)	**6.95** (5.54-8.44)	**7.82** (6.13-9.48)	**8.70** (6.71-10.5)	**9.88** (7.43-12.0)	**10.8** (7.93-13.1)
10-min	**1.79** (1.48-2.21)	**2.34** (1.95-2.89)	**3.16** (2.61-3.89)	**3.79** (3.11-4.66)	**4.64** (3.75-5.67)	**5.29** (4.22-6.42)	**5.96** (4.67-7.21)	**6.62** (5.11-8.00)	**7.52** (5.65-9.10)	**8.20** (6.04-9.94)
15-min	**1.48** (1.23-1.83)	**1.93** (1.61-2.39)	**2.62** (2.16-3.22)	**3.14** (2.57-3.84)	**3.84** (3.10-4.68)	**4.37** (3.49-5.31)	**4.92** (3.86-5.96)	**5.47** (4.22-6.62)	**6.21** (4.67-7.52)	**6.78** (4.99-8.22)
30-min	**0.996** (0.826-1.23)	**1.30** (1.09-1.61)	**1.76** (1.45-2.17)	**2.11** (1.73-2.59)	**2.58** (2.08-3.15)	**2.94** (2.35-3.57)	**3.31** (2.60-4.01)	**3.69** (2.84-4.45)	**4.18** (3.14-5.06)	**4.56** (3.36-5.53)
60-min	**0.617** (0.511-0.762)	**0.806** (0.672-0.996)	**1.09** (0.899-1.34)	**1.31** (1.07-1.60)	**1.60** (1.29-1.95)	**1.82** (1.45-2.21)	**2.05** (1.61-2.48)	**2.28** (1.76-2.76)	**2.59** (1.95-3.13)	**2.82** (2.08-3.42)
2-hr	**0.360** (0.302-0.434)	**0.466** (0.392-0.564)	**0.621** (0.520-0.748)	**0.740** (0.612-0.889)	**0.900** (0.738-1.08)	**1.02** (0.827-1.22)	**1.15** (0.914-1.37)	**1.28** (0.997-1.52)	**1.45** (1.10-1.72)	**1.58** (1.18-1.89)
3-hr	**0.262** (0.220-0.322)	**0.336** (0.283-0.414)	**0.440** (0.368-0.540)	**0.522** (0.433-0.637)	**0.637** (0.519-0.771)	**0.728** (0.585-0.878)	**0.822** (0.650-0.991)	**0.921** (0.716-1.11)	**1.06** (0.797-1.27)	**1.17** (0.859-1.40)
6-hr	**0.158** (0.136-0.188)	**0.200** (0.172-0.238)	**0.255** (0.218-0.302)	**0.299** (0.253-0.353)	**0.359** (0.300-0.422)	**0.406** (0.334-0.475)	**0.454** (0.368-0.532)	**0.504** (0.402-0.591)	**0.572** (0.444-0.669)	**0.625** (0.474-0.733)
12-hr	**0.089** (0.077-0.104)	**0.112** (0.097-0.131)	**0.141** (0.122-0.165)	**0.164** (0.141-0.191)	**0.195** (0.165-0.227)	**0.219** (0.184-0.254)	**0.244** (0.201-0.282)	**0.269** (0.219-0.311)	**0.302** (0.240-0.351)	**0.328** (0.256-0.383)
24-hr	**0.053** (0.047-0.060)	**0.067** (0.059-0.077)	**0.086** (0.077-0.099)	**0.102** (0.090-0.116)	**0.124** (0.108-0.141)	**0.141** (0.122-0.160)	**0.159** (0.137-0.180)	**0.177** (0.151-0.201)	**0.203** (0.171-0.230)	**0.223** (0.186-0.254)
2-day	**0.029** (0.025-0.033)	**0.037** (0.033-0.042)	**0.048** (0.043-0.055)	**0.058** (0.051-0.066)	**0.070** (0.061-0.080)	**0.081** (0.070-0.092)	**0.091** (0.079-0.104)	**0.103** (0.088-0.117)	**0.119** (0.100-0.135)	**0.131** (0.109-0.150)
3-day	**0.021** (0.018-0.024)	**0.026** (0.023-0.030)	**0.035** (0.031-0.040)	**0.042** (0.037-0.047)	**0.051** (0.045-0.058)	**0.059** (0.051-0.067)	**0.067** (0.058-0.076)	**0.076** (0.065-0.086)	**0.088** (0.074-0.101)	**0.098** (0.082-0.112)
4-day	**0.017** (0.015-0.019)	**0.021** (0.019-0.024)	**0.028** (0.025-0.032)	**0.034** (0.030-0.038)	**0.042** (0.037-0.047)	**0.048** (0.042-0.055)	**0.055** (0.048-0.062)	**0.063** (0.054-0.071)	**0.073** (0.062-0.083)	**0.082** (0.068-0.093)
7-day	**0.011** (0.009-0.012)	**0.014** (0.012-0.016)	**0.018** (0.016-0.021)	**0.022** (0.019-0.025)	**0.027** (0.023-0.031)	**0.031** (0.027-0.035)	**0.036** (0.031-0.040)	**0.040** (0.034-0.046)	**0.047** (0.040-0.054)	**0.053** (0.044-0.060)
10-day	**0.008** (0.007-0.009)	**0.010** (0.009-0.012)	**0.014** (0.012-0.016)	**0.017** (0.015-0.019)	**0.021** (0.018-0.023)	**0.024** (0.021-0.027)	**0.027** (0.023-0.030)	**0.031** (0.026-0.035)	**0.036** (0.030-0.040)	**0.040** (0.033-0.045)
20-day	**0.005** (0.004-0.006)	**0.006** (0.006-0.007)	**0.009** (0.008-0.010)	**0.010** (0.009-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.016)	**0.016** (0.014-0.018)	**0.018** (0.015-0.020)	**0.020** (0.017-0.023)	**0.022** (0.018-0.025)
30-day	**0.004** (0.003-0.004)	**0.005** (0.005-0.006)	**0.007** (0.006-0.008)	**0.008** (0.007-0.009)	**0.010** (0.008-0.011)	**0.011** (0.010-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.015)	**0.016** (0.013-0.018)	**0.017** (0.014-0.019)
45-day	**0.003** (0.003-0.003)	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.006** (0.006-0.007)	**0.008** (0.007-0.009)	**0.009** (0.007-0.010)	**0.010** (0.008-0.011)	**0.011** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.011-0.015)
60-day	**0.003** (0.002-0.003)	**0.003** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.006** (0.006-0.007)	**0.007** (0.006-0.008)	**0.008** (0.007-0.009)	**0.009** (0.007-0.010)	**0.010** (0.008-0.011)	**0.010** (0.009-0.012)

[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

APPENDIX F
(Section 404 Certification Form)

Section 404 Certification Form

CITY OF SCOTTSDALE

Before the City issues development permits for a project, the developer's Engineer or the property owner must certify that it complies with or is exempt from Section 404 of the Clean Water Act of the United States. Section 404 regulates the discharge of dredged or fill material into a wetland, lake (including dry lakes), river, stream (including intermittent streams, ephemeral washes and arroyos) or other waters of the United States.

Prior to submittal of improvement plans to Project Review, this form must be completed (and submitted with the improvement plans) as evidence of compliance.

Certification of Section 404 Permit Status:

Owner's Name: SimonCRE Phone No.: 480-745-1956

Project Name/Description: Kerry's Car Care - Shea Case No.:

Project Location/Address: 11653 East Sahuaro Drive
Scottsdale, Arizona 85259

A registered Engineer or the property owner must check the applicable condition and certify by signing below that:

1. **Section 404 does apply to the project because there will be a discharge of dredged or fill material to waters of the U.S., and:**

   ☐ A Section 404 Permit has already been obtained for this project.

   or

   ☐ This project qualifies for a "Nationwide Permit," and this project will meet all terms and conditions of the applicable nationwide permit.

2. **Section 404 <u>does not</u> apply to the project because:**

   ☑ No watercourse waters of the U.S. exist on the property.

   ☐ No jurisdictional waters of the U.S. exist on property. Attached is a copy of the COE's Jurisdictional Determination.

   ☐ Watercourses or other waters of the U.S. do exist on the property, but the project will not involve the discharge of dredged or fill material into any of these waters.

Registered Professional Engineer (Civil) CERTIFICATE NO. 53640 JEFFREY P. HUNT DATE SIGNED 8/20/19 ARIZONA U.S.A. Expires 06/30/2021

I certify that the above statement is true.

Engineer's Signature and Seal, or Owner's Signature — Date: 08/20/2019

P.E. Cypress Civil Development
Title/ Company

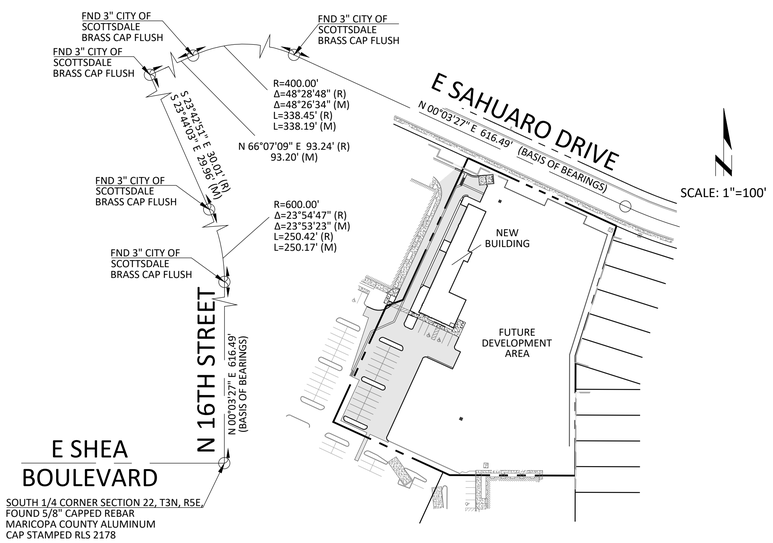
Planning and Development Services
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • www.ScottsdaleAZ.gov

10-UP-2019
09/26/2019

PRELIMINARY IMPROVEMENT PLAN for KERRY'S CAR CARE SHEA

11653 EAST SAHUARO DRIVE SCOTTSDALE, ARIZONA

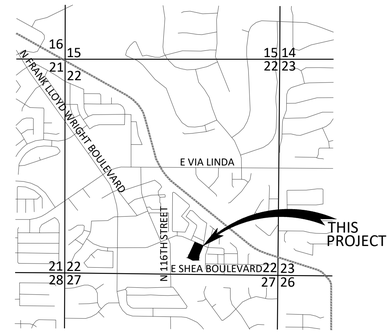
A PORTION SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA



PROJECT OVERVIEW

SCALE: 1"=100'

Stormwater Review by:
Ghassan Aouad
Phone: 480-312-7055
e-mail: gaouad@scottsdaleaz.gov
Review Cycle 1 Date 10/21/2019



IN THE SW 1/4 OF THE SE 1/4 OF SECTION 22,
T. 3 N., R. 5 E., G.&S.R.M.,
CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA

LOCATION MAP NORTH

3" = 1 MILE

LEGEND

EXISTING SEWER MANHOLE	PROJECT RIGHT-OF-WAY
EXISTING SEWER CLEANOUT	EXISTING RIGHT-OF-WAY
EXISTING WATER STUB	PROJECT/NEW PROPERTY LINE
EXISTING WATER MANHOLE	EXISTING PROPERTY LINE
EXISTING WATER VALVE	ROADWAY CENTERLINE
EXISTING WATER METER	FLOW-LINE
EXISTING BACKFLOW PREVENTER	EXISTING EASEMENT
EXISTING FIRE HYDRANT	NEW EASEMENT
EXISTING FIRE BACKFLOW PREVENTER	EXISTING CONTOUR
EXISTING GAS METER	NEW CONTOUR
EXISTING TRANSFORMER	EXISTING CONCRETE
EXISTING SIGN	EXISTING WALL
EXISTING SITE LIGHT	NEW ASPHALT
EXISTING STREET LIGHT	NEW CONCRETE
EXISTING LIGHT PULLBOX	NEW WALL
EXISTING TELEPHONE PEDESTAL	EXISTING PAVEMENT EDGE
EXISTING STORM DRAIN PIPE	EXISTING CURB
EXISTING STORM DRAIN MANHOLE	EXISTING PAINT STRIPE
EXISTING UNDERGROUND ELECTRIC	EXISTING RAILING
EXISTING TELEPHONE LINE	NEW CURB
EXISTING SEWER LINE	NEW PAINT STRIPE
EXISTING WATER LINE	NEW RAILING
EXISTING FIRE SERVICE	NEW STORM DRAIN PIPE
EXISTING GAS LINE	NEW SEWER LINE
SPOT ELEV. (EXIST. GRADE)	NEW WATER LINE
SPOT ELEV. (NEW GRADE)	NEW FIRE SERVICE
R.O.W. RIGHT-OF-WAY	NEW SEWER CLEANOUT
B/C BACK OF CURB	NEW WATER VALVE
S/W SIDEWALK	NEW WATER METER
(R) RECORDED VALUE	NEW BACKFLOW PREVENTER
(M) MEASURED VALUE	NEW FIRE HYDRANT
P PAVEMENT (ASPHALT)	NEW FIRE CONNECTION
C CONCRETE	NEW WATER STUB
G GUTTER	NEW REDUCER
TC TOP OF CURB	NEW STORM DRAIN MANHOLE
FG FINISHED GRADE	NEW SIGN
TF TOP OF FOOTING	NEW SITE LIGHT
TW TOP OF WALL	SURVEY MONUMENT AS NOTED
HP HIGH POINT	
GB GRADE BREAK	
FF/FFE FINISHED FLOOR ELEVATION	
FGH FINISH GRADE HIGH	
FGL FINISH GRADE LOW	
PUE PUBLIC UTILITY EASEMENT	
ME MATCH EXISTING	
R: RIM	
I: INVERT	
L: LENGTH	
LF LENGTH - FEET	
S: SLOPE	

PROJECT INFORMATION

PROJECT DESCRIPTION:
THE PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW SINGLE-STORY AUTOMOTIVE SERVICE BUILDING WITH ALL REQUIRED GRADING & DRAINAGE, PARKING, UTILITY AND PAVING REQUIREMENTS

ADDRESS:
11653 EAST SAHUARO DRIVE
SCOTTSDALE, ARIZONA 85259

APN: 217-28-986

ZONING: C-3

SITE AREA: 109,750 SF (2.52 AC)

SURVEY NOTES

1. THE SURVEY FOR THIS PROJECT WAS PERFORMED BY:
   SUPERIOR SURVEYING SERVICES, INC.
   2122 WEST LONE CACTUS DRIVE, SUITE 11
   PHOENIX, ARIZONA 85027
   PH: 623-869-0223
   CONTACT: DAVID S. KLEIN, R.L.S.
2. THE BASIS OF BEARINGS FOR THIS PROJECT IS THE MONUMENT LINE OF 116TH STREET, ALSO BEING THE WEST LINE OF THE SOUTHEAST QUARTER OF SECTION 22, USING A BEARING OF NORTH 00°03'27" EAST PER THE FINAL PLAT FOR MOUNTAINSIDE PLAZA, BOOK 632 OF MAPS, PAGE 30, RECORDS OF MARICOPA COUNTY, ARIZONA.
3. THE BASIS OF ELEVATION FOR THIS PROJECT IS THE CITY OF SCOTTSDALE BENCHMARK NO. 8272 BEING A CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE (0.40' DOWN) MARKING THE INTERSECTION OF SHEA BOULEVARD AND 112TH STREET HAVING AN ELEVATION OF 1426.28' (NAVD88).

BENCHMARK

THE BENCHMARK USED FOR THIS PLAN IS THE CITY OF SCOTTSDALE BENCHMARK NO. 8272 BEING A CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE (0.40' DOWN) MARKING THE INTERSECTION OF SHEA BOULEVARD AND 112TH STREET HAVING AN ELEVATION OF 1426.28' (NAVD88).

DRAINAGE STATEMENT

-SITE IS IN A SPECIAL FLOOD HAZARD AREA - NO
-OFFSITE FLOWS AFFECT THIS SITE - NO
-RETENTION PROVIDED IS 100-YR, 2-HR IN AN EXISTING REGIONAL UNDERGROUND RETENTION VAULT SYSTEM FOR THE MOUNTAINSIDE PLAZA AND IN A NEW TEMPORARY SURFACE RETENTION BASIN FOR THE FUTURE RETAIL PAD.
-EXTREME STORM OUTFALLS THE SITE AT THE SOUTHWEST CORNER AT THE ELEVATION OF 1482.38

LEGAL DESCRIPTION

PARCEL NO. 1:

LOT 3, MOUNTAINSIDE PLAZA, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF COUNTY RECORDER OF MARICOPA COUNTY, ARIZONA, RECORDED IN BOOK 632 OF MAPS, PAGE 30.

PARCEL NO. 2:

RECIPROCAL EASEMENTS FOR DRIVEWAY PURPOSES AND REASONABLE PASSAGE OF MOTOR VEHICLES, ACCESS, INGRESS AND EGRESS, REASONABLE PARKING OF MOTOR VEHICLES, AS CREATED AND DESCRIBED IN THAT CERTAIN DECLARATION OF ESTABLISHMENT OF COVENANTS, CONDITIONS AND RESTRICTIONS AND GRANT OF RECIPROCAL EASEMENTS RECORDED AS 2003-0518720, AND THEREAFTER SECOND DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED MARCH 11, 2004 AS 2004-0251028 OF OFFICIAL RECORDS, AND THEREAFTER THIRD DECLARATION OF ESTABLISHMENT OF COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED JANUARY 19, 2006 AS 2006-0081182 OF OFFICIAL RECORDS, AND THEREAFTER AMENDMENT TO DECLARATION OF ESTABLISHMENT OF COVENANTS, CONDITIONS AND RESTRICTIONS AND GRANT OF RECIPROCAL EASEMENTS RECORDED JUNE 28, 2006 AS 2006-0872205 OF OFFICIAL RECORDS.

PROJECT RETENTION

THIS PROJECT LIES WITHIN THE MOUNTAINSIDE PLAZA DEVELOPMENT.

REQUIRED 100-YR 2-HR RETENTION VOLUME
[AC-FT] = C x (P [IN] / 12) x AREA [AC]

V = 0.90 x (2.30/12) x 109,750 = 18,932 CF

PROVIDED RETENTION:
TOTAL REQUIRED RETENTION VOLUME IS PROVIDED VIA AN EXISTING REGIONAL UNDERGROUND RETENTION VAULT SYSTEM SOUTH OF THE PROJECT. THE ORIGINAL MOUNTAINSIDE PLAZA DEVELOPMENT DESIGNED THIS SYSTEM TO PROVIDE RETENTION FOR THE ENTIRE PLAZA, INCLUDING THE PROJECT SITE IN THE FUTURE DEVELOPED CONDITION.

15,400 CF TEMPORARY DETENTION PROVIDED IN A NEW SURFACE RETENTION BASIN FOR THE FUTURE RETAIL DEVELOPMENT TO THE EAST. TEMPORARY BASIN BLEEDS OFF TO REGIONAL RETENTION VAULTS VIA A NEW CATCH BASIN AND STORM DRAIN.

FLOODPLAIN INFORMATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP PANEL NUMBER 04013C1780L, DATED OCTOBER 16, 2013 THE PARCEL IS LOCATED IN THE ZONE X (SHADED) AREA, WHICH IS 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 LEVEES FROM 1% ANNUAL CHANCE FLOOD.

Please review all notes per comments on these plans and the corresponding drainage report and update as necessary

FEMA Block and Engineer FEMA Certification Block should be provided, per page 56 and 57 of Scottsdale DS&PM

DEVELOPER

SIMONCRE
6900 EAST 2ND STREET
SCOTTSDALE, ARIZONA 85251
PH: 480-745-1956
ATTN: PETER KRAHENBUHL

CIVIL ENGINEER

CYPRESS CIVIL DEVELOPMENT
4450 NORTH 12TH STREET, #228
PHOENIX, ARIZONA 85014
PH: 623-282-2498
ATTN: JEFF HUNT

ARCHITECT

LARSON ASSOCIATES ARCHITECTS, INC.
3807 NORTH 24TH STREET, SUITE 100
PHOENIX, ARIZONA 85016
PH: 602-956-9929
ATTN: JAMES LARSON

UTILITIES

WATER:	CITY OF SCOTTSDALE
SEWER:	CITY OF SCOTTSDALE
ELECTRIC:	ARIZONA PUBLIC SERVICE
GAS:	SOUTHWEST GAS
TELEPHONE:	CENTURYLINK
CABLE:	COX COMMUNICATIONS

SHEET INDEX

Call at least two full working days before you begin excavation.
ARIZONA811 Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

THESE PLANS ARE PRELIMINARY AND ARE NOT FOR CONSTRUCTION OR RECORDING.

CYPRESS CIVIL DEVELOPMENT
strength + sustainability
4450 north 12th street, #228
phoenix, arizona 85014
p: 623.282.2498
e: jphunt@cypresscivil.com

CYPRESS PROJECT NO: 19.101

Registered Professional Engineer (Civil) CERTIFICATE NO. 53640 JEFFREY P. HUNT ARIZONA, U.S.A. 09-30-2019

NO.	DATE	REVISION

PRELIMINARY IMPROVEMENT PLAN for
KERRY'S CAR CARE SHEA
11653 EAST SAHUARO DRIVE SCOTTSDALE, ARIZONA
cover

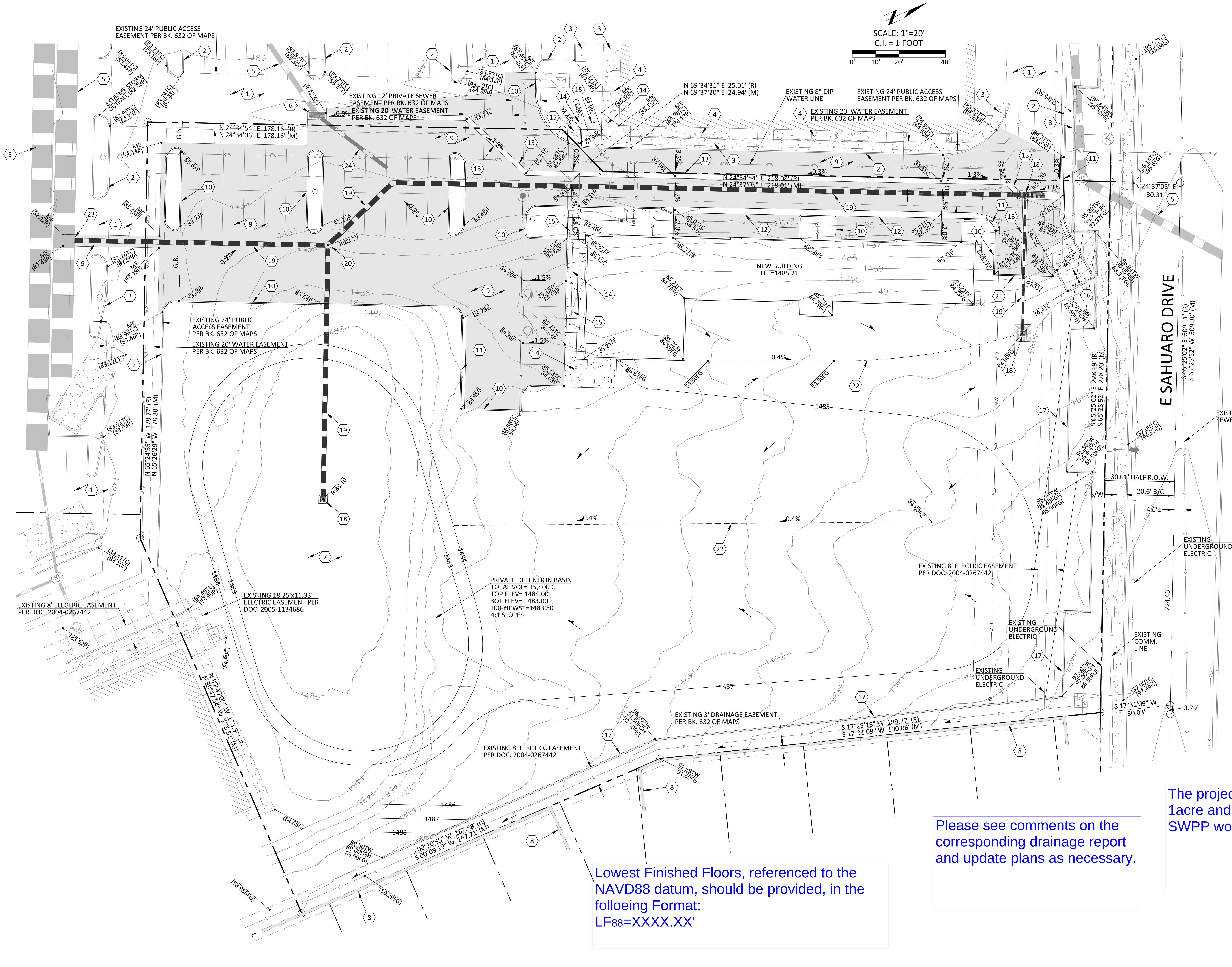
DEVELOPER
SIMONCRE
6900 EAST 2ND STREET
SCOTTSDALE, ARIZONA 85251_
PH: 480-745-1956
ATTN: PETER KRAHENBUHL

SITE ADDRESS
11653 EAST SAHUARO DRIVE
SCOTTSDALE, ARIZONA 85259

APN: 217-28-986

SHEET NUMBER
1 OF 3

10-UP-2019
09/26/2019



Lowest Finished Floors, referenced to the NAVD88 datum, should be provided, in the folloeing Format:
LF_{88}=XXXX.XX'

Please see comments on the corresponding drainage report and update plans as necessary.

The project site is more than 1acre and, accordingly, a SWPP would be required.

KEYNOTES

1. EXISTING ASPHALT TO REMAIN.
2. EXISTING CURB TO REMAIN.
3. EXISTING CONCRETE SIDEWALK TO REMAIN.
4. EXISTING ACCESSIBLE RAMP TO REMAIN.
5. EXISTING STORM DRAIN PIPE/VAULT TO REMAIN.
6. EXISTING STORM DRAIN CATCH BASIN TO REMAIN.
7. EXISTING SURFACE RETENTION BASIN TO BE MODIFIED.
8. EXISTING MASONRY RETAINING WALL TO REMAIN.
9. NEW ASPHALT PAVEMENT.
10. NEW CONCRETE VERTICAL CURB.
11. NEW CONCRETE VERTICAL CURB AND GUTTER.
12. NEW CONCRETE ROLL CURB.
13. NEW VALLEY GUTTER.
14. NEW CONCRETE SIDEWALK.
15. NEW ACCESSIBLE ACCESS RAMP.
16. NEW TRASH ENCLOSURE.
17. NEW MASONRY RETAINING WALL.
18. NEW STORM DRAIN INLET.
19. NEW STORM DRAIN PIPE.
20. NEW STORM DRAIN MANHOLE.
21. NEW TEMPORARY EXTRUDED CURB.
22. NEW GRADED SWALE.
23. CONNECT TO EXISTING RETENTION VAULT.
24. EXISTING STORM DRAIN PIPE TO BE REMOVED.

CYPRESS CIVIL DEVELOPMENT
strength + sustainability
4450 north 12th street, #228
phoenix, arizona 85014
p: 623.282.2498
e: jphunt@cypresscivil.com

CYPRESS PROJECT NO: 19.101

Registered Professional Engineer (Civil) — CERTIFICATE NO. 53640 — JEFFREY P. HUNT — ARIZONA, U.S.A.

NO.	DATE	REVISION

PRELIMINARY IMPROVEMENT PLAN for KERRY'S CAR CARE SHEA

11653 EAST SAHUARO DRIVE SCOTTSDALE, ARIZONA

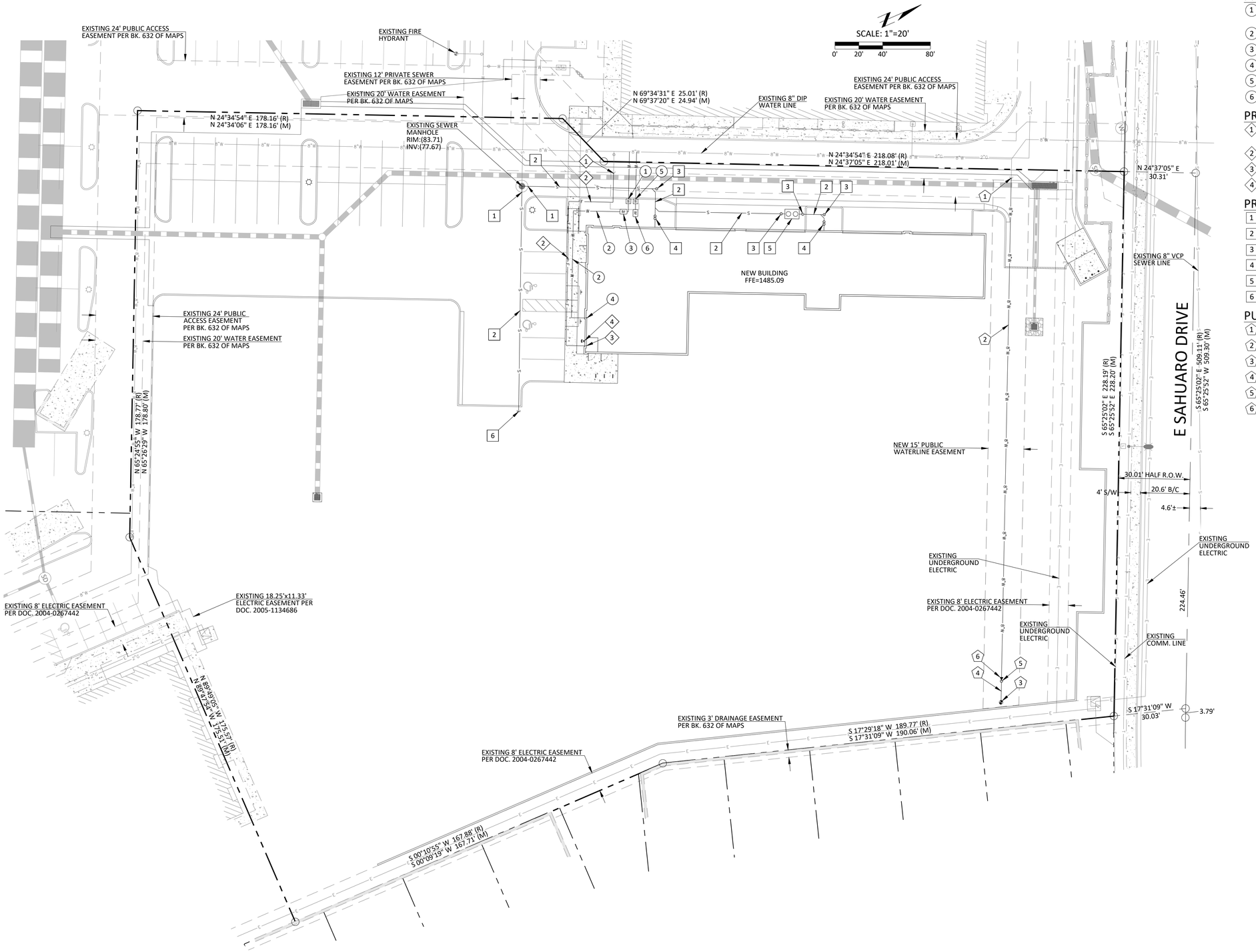
grading and drainage plan

DEVELOPER
SIMONCRE
6900 EAST 2ND STREET
SCOTTSDALE, ARIZONA 85251
PH: 480-745-1956
ATTN: PETER KRAHENBUHL

SITE ADDRESS
11653 EAST SAHUARO DRIVE
SCOTTSDALE, ARIZONA 85259
APN: 217-28-986

SHEET NUMBER
2 OF 3

THESE PLANS ARE PRELIMINARY AND ARE NOT FOR CONSTRUCTION OR RECORDING.



PRIVATE WATER KEYNOTES

1. NEW 2" SERVICE AND METER FOR DOMESTIC WATER SERVICE.
2. NEW 2" PVC DOMESTIC WATER LINE.
3. NEW 2" DOMESTIC BACKFLOW PREVENTER.
4. CONNECT TO BUILDING PER PLUMBING PLANS.
5. NEW 1" SERVICE AND METER FOR IRRIGATION SERVICE.
6. NEW 1" IRRIGATION BACKFLOW PREVENTER.

PRIVATE FIRE LINE KEYNOTES

1. CONNECT TO EXISTING 6" WATER STUB FOR FIRE SERVICE.
2. NEW 6" DIP FIRE LINE.
3. CONNECT TO BUILDING PER PLUMBING PLANS.
4. NEW FDC LOCATION.

PRIVATE SEWER KEYNOTES

1. CONNECT TO EXISTING SEWER MANHOLE.
2. NEW 6" PVC SDR-35 SEWER LINE.
3. NEW ONE-WAY SEWER CLEAN OUT.
4. NEW TWO-WAY SEWER CLEAN OUT.
5. NEW GREASE INTERCEPTOR.
6. STUB AND CAP NEW 6" SERVICE.

PUBLIC WATER KEYNOTES

1. CONNECT TO EXISTING 8" STUB.
2. NEW 8" DIP PUBLIC WATER LINE.
3. NEW FIRE HYDRANT.
4. NEW 6" DIP PUBLIC WATER LINE.
5. NEW 6" VALVE.
6. NEW 8"x6" REDUCER FITTING.

CYPRESS CIVIL DEVELOPMENT
strength + sustainability
4450 north 12th street, #228
phoenix, arizona 85014
p: 623.282.2498
e: jphunt@cypresscivil.com

CYPRESS PROJECT NO: 19.101

Registered Professional Engineer (Civil) CERTIFICATE NO. 53640 JEFFREY P. HUNT 09.30.2019 REGISTERED ARIZONA U.S.A.

NO.	DATE	REVISION

PRELIMINARY IMPROVEMENT PLAN for KERRY'S CAR CARE SHEA

11653 EAST SAHUARO DRIVE SCOTTSDALE, ARIZONA

onsite utility plan

DEVELOPER
SIMONCRE
6900 EAST 2ND STREET
SCOTTSDALE, ARIZONA 85251_
PH: 480-745-1956
ATTN: PETER KRAHENBUHL

SITE ADDRESS
11653 EAST SAHUARO DRIVE
SCOTTSDALE, ARIZONA 85259

APN: 217-28-986

SHEET NUMBER
3 OF 3

Call at least two full working days before you begin excavation. ARIZONA811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

THESE PLANS ARE PRELIMINARY AND ARE NOT FOR CONSTRUCTION OR RECORDING.

10-UP-2019
09/26/2019

DRAINAGE REPORT
FOR KERRY'S CAR CARE SHEA

Scottsdale, Arizona

05 September 2019

PREPARED FOR
Larson Associates Architects, LLC
3807 North 24th Street, Suite 100
Phoenix, Arizona 85016
Attn: James Larson

DEVELOPER
SimonCRE
6900 East 2nd Street
Scottsdale, Arizona 85251
Attn: Peter Krahenbuhl

SITE ADDRESS
11653 East Sahuaro Drive
Scottsdale, Arizona 85259

PREPARED BY

CYPRESS
CIVIL DEVELOPMENT
strength + sustainability

4450 north 12th street, #228
phoenix, arizona 85014
CYPRESS # 19.101

10-UP-2019
09/26/2019

TABLE OF CONTENTS

I. INTRODUCTION

1. PROJECT NAME AND LOCATION

The Project site is located at 11653 East Sahuaro Drive in Scottsdale, Arizona. The project is located in the southeast ¼ of Section 22, Township 3 North, Range 5 East, G&SRM. The Project site occupies approximately 2.52 acres. The Project is currently undeveloped desert and is a portion of the Mountainside Plaza. The Project has street frontage and access to Sahuaro Drive along its northern boundary. To the west and south are existing commercial retail developments within Mountainside Plaza. to the east are single-family homes. Refer to Appendix A for Location Map and Aerial Photo.

The proposed Project consists of the construction of a new single-story automotive service building with required grading and drainage, onsite utility, and parking improvements.

2. PURPOSE

The intent of this Drainage Report is to provide the conceptual drainage scheme for the Project in support of the Preliminary Improvement Plan Submittal.

3. EXISTING STUDIES

As-Built Improvement Plans and a Drainage Report for Mountainside Plaza (previously known as 116th Street & Shea Retail Center), prepared by Evans, Kuhn, and Associates, Inc. in 2002, were obtained and reviewed. The plans show that the Project is Lot 3 of the Mountainside Plaza development. The report shows that the plaza was designed to retain all onsite and offsite runoff in underground retention vaults. Refer to Appendix B for Mountainside Plaza As-Built Plans & Drainage Report.

4. FEMA FLOOD ZONE

According to the Federal Emergency Management Agency Flood Insurance Rate Map, panel number 04013C1780L dated October 16, 2013, the parcel is located in the shaded Zone X Area, which is an area defined as within the 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 levees from 1% annual chance flood. Refer to Appendix C for FEMA FIRM Map.

II. EXISTING DRAINAGE INFRASTRUCTURE

1. OFFSITE

Offsite flow is routed through the site via an existing storm system drain that captures offsite flow from a retention basin north of Sahuaro Drive and conveys it to outfall to existing 28" outfall pipes in 116th Street. Runoff from the adjacent Mountainside Fitness building and from the drive aisle running from west to east north of the

shopping center flows through the drive aisle along the western boundary of the project. This is roughly 11.5 CFS of flow.

STREET CAPACITY CALCULATIONS

The street capacity within Sahuaro Street is 44.94 CFS. It is assumed this is sufficient capacity to convey all offsite flows away from the Project, as it does in the existing condition. Refer to Appendix D for Sahuaro Drive Capacity Calculations.

2. ONSITE

The As-Built Plans and Drainage Report show that the Project site currently drains to a temporary surface retention basin onsite. However, the existing underground storm drain and retention vault system for the overall Mountainside Plaza were designed to convey and retain all onsite flow for the Project site in its future development.

III. PROPOSED DRAINAGE INFRASTRUCTURE

1. CONVEYANCE OF RUNOFF

Offsite runoff from the Mountainside Fitness building and the drive aisle behind it shall be intercepted by a new catch basin at the northwest corner of the Project site. Onsite runoff from the Kerry's car care building and surrounding landscaping shall be conveyed to a new catch basin north of the building. Onsite runoff from the future retail development area shall be conveyed to a new temporary surface retention basin at the southeast, where it shall pond at a depth of 0.80 feet and drain via a single new catch basin. From these three new catch basins, runoff shall be conveyed south via new storm drain and connect directly to the existing underground retention vaults, where runoff shall be discharged via existing drywells.

Runoff from the majority of the new Kerry's parking lot and western drive aisle shall be conveyed via shallow sheet flow and a new valley gutter to an existing catch basin at the southwest corner of the site where it will enter the existing storm drain system and be conveyed to the existing underground retention vaults. Refer to Appendix E for the Proposed Watershed Map and Calculations.

2. STORM WATER RETENTION REQUIREMENTS

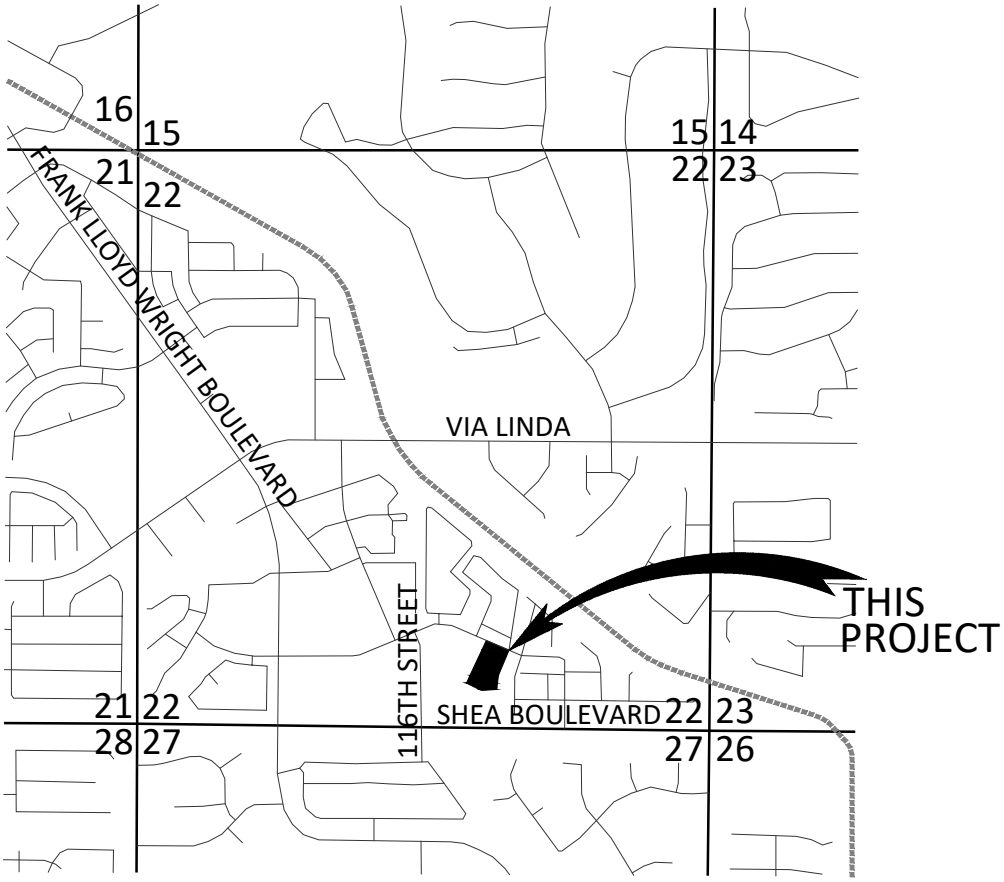
In the original Mountainside Plaza development, the existing underground storm drain and retention vault system was designed to convey and retain all onsite flow for the Project site in its future developed condition. Therefore, no new retention is required. The existing underground retention system is designed to drain within 36 hours via a bleed-off pump to existing 28" outfall pipes in 116th Street.

IV. SUMMARY AND CONCLUSION

This Drainage Report is to accompany the Improvement Plan for the Kerry's Car Care Shea development project. This narrative was written utilizing generally accepted engineering practices and all information herein has been researched through archived documents and all calculations were accomplished through applying the City of Scottsdale Engineering Standards.

The analysis presented in this narrative evaluates storm water runoff resulting from a statistical evaluation of storm events of particular duration and frequency up to and including a 100-year frequency event. A storm event exceeding the 100-year frequency may cause or create the risk of greater flood impact than is addressed and presented herein. The scope of this assessment does not include evaluation of storm water runoff resulting from storm events exceeding the 100-year frequency. CYPRESS assumes no responsibility for actual flood damage, increased risks of flood damage, or increased construction or development cost resulting from or related to any such events, nor shall CYPRESS be responsible for any changes in, or additions to, regulatory requirements which may result from, or be related to, any such events or changes in hydrologic or hydraulic conditions within the watershed. Refer to Appendix E for Warning and Disclaimer of Liability Form.

APPENDIX A
(Location Map + Aerial Photo)



IN THE SW 1/4 OF THE SE 1/4 OF SECTION 22,
T. 3 N., R. 5 E., G.&S.R.M.,
CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA

LOCATION MAP

NORTH

3" = 1 MILE

10-UP-2019
09/26/2019

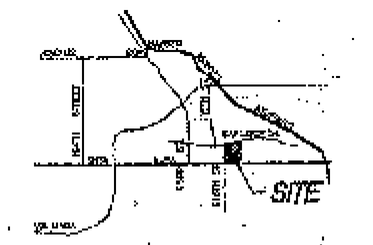
AERIAL PHOTO

10-UP-2019
09/26/2019

APPENDIX B
(Mountainside Plaza As-Built Plans & Drainage Report)

IMPROVEMENT PLANS
FOR
MOUNTAINSIDE PLAZA

A SUBDIVISION OF A PORTION OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA



VICINITY MAP
N.T.S.

NATIVE PLANT PERMIT NUMBER

CASE # 4-NP-2003 PERMIT # 78707

EARTHWORK ESTIMATE

CUT .... 29,193 CY
FILL .... 15,455 CY
NET (CUT) 13,738 CY

QUANTITIES SHOWN ARE IN PLACE ESTIMATES WITH NO ADJUSTMENTS MADE FOR SCARIFICATION, SHRINKAGE OR COMPACTION LOSSES.

ENGINEER'S ESTIMATE OFF-SITE QUANTITIES

REMOVE VERTICAL CURB, GUTTER & SIDEWALK	392 464 LF
CONCRETE SIDEWALK	2009 SF
REMOVE & REPLACE AC PAVEMENT	184 SY
WATER LINE CONNECTIONS	2 EA A10
SANITARY SEWER MANHOLES & TAPS	3 EA A10
CONCRETE VALLEY GUTTER & APRON	2616 SF A10
CONCRETE SINGLE CURB	181 LF A10
CONCRETE CURB & GUTTER	116 LF A10
PEDESTRIAN RAMPS	9 EA A10
DRAINAGE STRUCTURE	1 EA A10
8' WIDE MULTI-USE TRAIL	1,589 LF
8' WIDE SOLID WASTE STRIP	30 LF
REMOVE EXISTING TREE	1 EA

FLOODPLAIN NOTE

THE SUBJECT PARCEL LIES WITHIN FLOOD ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE USE DEPTH)
04613	1705 4/15/88	E	09/30/95	X	N/A

ENGINEER'S CERTIFICATION

THE LOWEST FLOOR ELEVATION(S) AND/OR FLOODPROOFING ELEVATION(S) ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A ONE-HUNDRED YEAR STORM, AND ARE IN ACCORDANCE WITH CITY OF SCOTTSDALE REVISED CODE, CHAPTER 37-- FLOODPLAIN ORDINANCE.

NO CONFLICT SIGNATURE BLOCK

Utility	Utility Company	Name of Company Representative	Telephone Number	Date Signed
Water	CITY OF SCOTTSDALE			
Electric	PHOENIX PUBLIC SERVICE	DAN ROBERTS	602-493-4403	
Telephone	QWEST	CHRIS LEMOINE	602-630-0492	
Natural Gas	SOUTHWEST GAS	SCOTT HAMILTON	602-484-5308	
Cable T.V.	COX	SUZANNE HOLZER	623-322-7298	
Sewer	CITY OF SCOTTSDALE			
Other				

Engineer's Certification

I Wayne F. Ridley, being the person responsible for designing the facilities necessary to serve this development, hereby certify that all of the utility companies listed above, have reviewed this project proposal and all conflicts have been resolved at this point. "No Conflict" forms have been obtained from each utility company and are included in this submittal. I also certify that all onsite transformers, cable boxes and other public/private utility appurtenances are placed such that they do not negatively impact the use or intended use of any dedicated open space or facilities, designated with this project including but not limited to stormwater storage basins, sight distance easements and NAOS or other open space easements.

Signature: [signature] Date: 3/21/03

CITY OF SCOTTSDALE			
REVIEW AND RECOMMENDED APPROVAL BY:			
PAVING	[signature] 3-20-03	TRAFFIC	[signature]
GRADING & DRAINAGE	[signature] 3-20-03	PLANNING	[signature] 3/21/03
WATER & SEWER	[signature] 3-20-03	FIRE	[signature] 3-21-03
NAT. AREAS	N/A		
APPROVED BY: [signature] ENGINEERING COORDINATION MANAGER (OR DESIGNEE)		3-28-03 DATE	

LOT AREA

LOT 1	55,402.71 S.F. OR 1.27 ACRES	
LOT 2	150,297.62 S.F. OR 3.45 ACRES	
LOT 3	102,734.01 S.F. OR 2.82 ACRES	
LOT 4	20,420.03 S.F. OR 0.47 ACRES	
LOT 5	34,206.38 S.F. OR 0.76 ACRES	
LOT 6	32,378.81 S.F. OR 0.74 ACRES	
LOT 7	53,136.72 S.F. OR 1.22 ACRES	
LOT 8	35,007.50 S.F. OR 0.80 ACRES	
LOT 9	30,051.09 S.F. OR 0.63 ACRES	
LOT 10	52,204.80 S.F. OR 1.20 ACRES	
	572,891 S.F.	13.15 ACRES

10 LOTS TOTAL
MIN. LOT SIZE = 0.47 ACRES
AVERAGE LOT SIZE = 1.315 ACRES

CITY OF SCOTTSDALE GENERAL CONSTRUCTION NOTES FOR PUBLIC WORKS CONSTRUCTION

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE (COS) SUPPLEMENTAL STANDARD SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS. IF THERE IS A CONFLICT, THE LATTER SHALL GOVERN.
2. THE ENGINEERING DESIGNS ON THESE PLANS ARE ONLY APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. APPROVAL OF PLANS IS VALID FOR SIX (6) MONTHS. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN SIX MONTHS, THE PLANS SHALL BE RESUBMITTED TO THE CITY FOR RE-APPROVAL.
4. A PUBLIC WORKS INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF SCOTTSDALE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY INSPECTION SERVICES 24 HOURS PRIOR TO STARTING OF CONSTRUCTION (TELEPHONE (480) 312-5750).
5. WHENEVER EXCAVATION IS TO BE DONE, CALL THE "BLUE STAKE CENTER", (602) 263-1100, TWO WORKING DAYS BEFORE EXCAVATION IS TO BEGIN. THE CENTER WILL SEE THAT THE LOCATION OF THE UNDERGROUND UTILITY LINES IS IDENTIFIED FOR THE PROJECT. CALL "COLLECT" IF NECESSARY.
6. ENCROACHMENT PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. AN ENCROACHMENT PERMIT WILL BE ISSUED BY THE CITY UPON RECEIPT OF PAYMENT OF A BASE FEE PLUS A FEE FOR INSPECTION SERVICES TO BE PROVIDED BY THE CITY. COPIES OF ALL PERMITS SHALL BE RETAINED ON-SITE AND SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE WORK STOPPAGE UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.
7. ALL EXCAVATION AND GRADING WHICH IS NOT IN THE PUBLIC RIGHTS-OF-WAY OR NOT IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO CHAPTER 70, EXCAVATION AND GRADING, OF THE LATEST EDITION OF THE UNIFORM BUILDING CODE PREPARED BY THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS. A PERMIT FOR THIS GRADING MUST BE SECURED FROM THE CITY FOR A FEE ESTABLISHED BY THE UNIFORM BUILDING CODE.
8. SIGNS REQUIRE A SEPARATE PERMIT AND APPROVAL.
9. ALL UNDERGROUND STORAGE TANKS SHALL BE SPECIAL INSPECTED PRIOR TO THE FINAL ACCEPTANCE OF THE IMPROVEMENTS.

GENERAL CONSTRUCTION NOTES (PROJECT SPECIFIC)

1. EXISTING UNDERGROUND UTILITIES WERE COMPILED FROM THE LATEST AVAILABLE UTILITY RECORDS AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION AND POSSIBLY INCOMPLETE. EXACT LOCATION MUST BE DETERMINED IN THE FIELD. CALL "BLUE-STAKE" A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATION.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, CENTERLINE OF RIGHT-OF-WAY OR CENTERLINE OF STRUCTURE UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL OBTAIN A COPY OF THE SOILS REPORT FOR THE PROJECT PREPARED BY RICKER-ATKINSON-MCBEE & ASSOCIATES, ON 11/26/2001, RAM PROJ. NO. D6065.
4. IT SHALL BE THE RESPONSIBILITY OF THE BIDDER TO VERIFY ALL QUANTITIES INCLUDING EXCAVATION, BORROW, EMBANKMENT, SHRINK OR SWELL, GRADING COMPACTION, HAUL AND ANY OTHER ITEMS AFFECTING HIS BID TO CONSTRUCT THE WORK TO THE ELEVATIONS SHOWN ON THE PLANS AND TO BASE HIS BID SOLELY UPON HIS OWN VERIFIED QUANTITIES IRRESPECTIVE OF THE INFORMATION FURNISHED. IT SHALL BE THE BIDDERS RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION, OF ANY MAJOR DISCREPANCIES.
5. ALL SURVEY CONTROLS SHALL BE LEFT UNDISTURBED, THE CONTRACTOR SHALL CALL THE ENGINEER TO REFERENCE AND RESET ANY CONTROL POINTS THAT HAVE TO BE DISTURBED. THE CONTRACTOR WILL BE CHARGED FOR ANY RESTAKING IF ANY CONTROL POINTS ARE DESTROYED.
6. ANY QUESTIONS RAISED RELATIVE TO THE ACCURACY OF ANY IMPROVEMENT INSTALLATION SHALL NOT BE RAISED SUBSEQUENT TO COMPLETION OF THE WORK UNLESS ALL SURVEY STAKES ARE MAINTAINED INTACT. SHOULD SUCH STAKES NOT BE PRESENT AND AVAILABLE AS TO THEIR ORIGIN, NO CLAIM FOR ADDITIONAL COMPENSATION FOR CORRECTION SHALL BE PRESENTED TO ANY PARTY AND SUCH WORK SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.
7. ALL BUILDING ROOFS SHALL BE DRAINED BY INTERNAL UNDERGROUND ROOF DRAIN LEADERS.
8. PROVIDE 5% SLOPE AWAY FROM WALK OR CURB FOR 5' FEET ALONG ALL STREETS.

LEGAL DESCRIPTION

PARCEL NO. 1:
A PORTION OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 22;
THENCE N00°03'27"E, ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 22, A DISTANCE OF 64.94 FEET;
THENCE S89°56'33"E, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING;

THENCE N00°03'27"E ALONG A LINE 30.00 FEET OF AND PARALLEL TO THE NORTH-SOUTH MID-SECTION LINE OF SECTION 22, A DISTANCE OF 523.50 FEET;
THENCE S83°05'33"E, A DISTANCE OF 719.30 FEET TO A POINT ON THE WEST LINE OF THAT CERTAIN PARCEL NO. 2, AS CONVEYED IN DEED RECORDED IN 86-478181, RECORDS OF MARICOPA COUNTY, ARIZONA;
THENCE S00°19'55"W ALONG THE WEST LINE, A DISTANCE OF 440.00 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL;
THENCE N89°48'11"W, A DISTANCE OF 713.00 FEET TO THE POINT OF BEGINNING.

PARCEL NO. 2:
A PORTION OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 22;
THENCE N00°03'27"E, ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 22, A DISTANCE OF 588.44 FEET;
THENCE S89°55'33"E, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING;
THENCE N00°03'27"E ON A LINE PARALLEL TO AND 30.00 FEET EAST OF THE NORTH-SOUTH MID-SECTION LINE, A DISTANCE OF 27.97 FEET TO A POINT OF CURVATURE CONCAVE WESTERLY WHOSE RADIUS BEARS N89°56'33"W A DISTANCE OF 630.00 FEET;
THENCE NORTHERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 17°45'10", A DISTANCE OF 195.22 FEET;
THENCE LEAVING SAID CURVE ON A BEARING OF N00°03'27"E ALONG THE NORTH-SOUTH MID-SECTION LINE OF SECTION 22, A DISTANCE OF 74.13 FEET TO A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF SAGUARO DRIVE, AS DEDICATED IN BOOK 290 OF MAPS, PAGE 38, MARICOPA COUNTY RECORDS;
THENCE ALONG SAID SOUTH RIGHT-OF-WAY, N89°37'50"E, A DISTANCE OF 36.78 FEET TO A POINT OF CURVATURE CONCAVE SOUTHERLY WHOSE RADIUS BEARS S2°02'10"E, A DISTANCE OF 370.00 FEET;
THENCE EASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 48°27'20", A DISTANCE OF 312.91 FEET;
THENCE S60°24'53"E, A DISTANCE OF 520.09 FEET TO THE NORTHWEST CORNER OF THAT CERTAIN PARCEL NO. 2 AS CONVEYED IN DEED RECORDED IN 85-478181, RECORDS OF MARICOPA COUNTY, ARIZONA;
THENCE S17°31'21"W ALONG THE WEST LINE OF SAID PARCEL, A DISTANCE OF 189.73 FEET;
THENCE N83°05'03"W, A DISTANCE OF 718.00 FEET TO THE POINT OF BEGINNING

LEGEND

UGE	Underground Electric
OHE	Overhead Electric
WM	Water Meter Box
WV	Water Valve
GV	Gas Valve
Elec. Box	Electric Box
P=1245.55	Existing Pavement Elevation
T	Telephone Conduit
G	Gas Line
SS	Sanitary Sewer Line
SD	Storm Drain Line
	Brass Cap in Hand Hole
	Brass Cap Flush
	Exist Street Light
	EXISTING SITE LIGHT
	EXISTING MONUMENT- AS NOTED
	EXISTING TRAFFIC SIGN
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING TREE
	EXISTING PALM TREE
	EXISTING SEWER MANHOLE
	EXISTING STORM DRAIN MANHOLE
	EXISTING METER BOX/ IRRIG. CONTROL BOX
RD	EXISTING ROOF DRAIN
	NEW SINGLE CURB - MAG 220 TYPE "A"
	NEW CURB & GUTTER - MAG 222 TYPE "A"
	EXISTING CURB & GUTTER
	PROPERTY LINE/ RIGHT OF WAY LINE
	RIDGE LINE
	Monument Line / Centerline

SHEET INDEX

C-1.01	COVER SHEET
C-1.02	GRADING AND DRAINAGE
C-1.03	GRADING AND DRAINAGE
C-1.04	PAVING AND HORIZONTAL CONTROL PLAN
C-1.05	PAVING AND HORIZONTAL CONTROL PLAN
C-1.06	UTILITY PLAN
C-1.07	UTILITY PLAN
C-1.08	SECTIONS AND DETAILS
C-1.09	STORMWATER INLET SYSTEM DETAILS
C-1.10	WALL DETAILS
C-2.01	LEFT TURN LANE MODIFICATION

ZONING

HIGHWAY COMMERCIAL DISTRICT (C-3 PCD)
SERVICE-RESIDENTIAL DISTRICT (S-R)

NOTE

"IN ACCORDANCE WITH AAC R18-4-119, ALL MATERIALS ADDED AFTER JANUARY 1, 1993 WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61."

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE RECORD DRAWING MEASUREMENT AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

[seal] [signature]

MILLER AND SONS SURVEYING LLC
7113 E. MARYLAND AVE # 205
PHOENIX, AZ. 85014
PHONE (602) 285-1582

OWNER/DEVELOPER

GLENWOOD DEVELOPMENT COMPANY
1755 W. BASELINE RD. SUITE 286
MESA, ARIZONA 85202
PHONE (480)775-4820

ARCHITECT

THE PETERS DESIGN GROUP, INC.
15815 NORTH 41ST PLACE
PHOENIX, ARIZONA 85050
PHONE (602)765-9460

ENGINEER/SURVEYOR

EVANS, KUHN & ASSOCIATES, INC.
727 E. BETHANY HOME ROAD, SUITE D-225
PHOENIX, ARIZONA 85014
(602) 241-0782
FAX (602) 248-9158

AREA

PARCEL AREA = 572,891 SQ. FT. OR 13.15 AC. (MORE OR LESS)

BASIS OF BEARINGS

ASSUMED BEARING OF N00°03'27"E ALONG THE NORTH-SOUTH SECTION LINE OF SECTION 22, TOWNSHIP 3 NORTH, RANGE 5 EAST, AS SHOWN ON THE "ADOBE RANCH" MAP OF DEDICATION, RECORDED IN BOOK 290 OF MAPS, PAGE 38, M.C.R. AND ALSO INCLUDED IN THE LEGAL DESCRIPTION OF PARCEL 1 AND ON THE FINAL PLAT OF "SCOTTSDALE ADOBE RANCH TOWNHOMES", RECORDED IN BOOK 305 OF MAPS, PAGE 16, M.C.R.

BENCHMARK

CITY OF SCOTTSDALE BRASSCAP FLUSH AT THE INTERSECTION OF 116TH STREET AND SHEA BOULEVARD (BENCHMARK #9271)

ELEVATION = 1466.475 (CITY OF SCOTTSDALE VERTICAL DATUM, NAVD 1988)

ENGINEER'S STATEMENT

THE ENGINEER OF RECORD ON THESE PLANS HAS RECEIVED A COPY OF THE APPROVED STIPULATIONS FOR THIS PROJECT AND HAS DESIGNED THESE PLANS IN CONFORMANCE WITH THE APPROVED STIPULATIONS.

[signature] [seal] 2/28/03
ENGINEER OF RECORD DATE

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL ELEVATIONS REPRESENTED ON THIS PLAN ARE BASED ON THE ELEVATION DATUM COMMON TO THE CITY OF SCOTTSDALE BENCHMARK AS PROVIDED ABOVE.

[signature] [seal]

APPROVALS

[signature] 030417 030813 2/28/03
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT DATE

CITY OF SCOTTSDALE REAPPROVAL		
Reapproval	Approval	
[illegible]		

CITY OF SCOTTSDALE REAPPROVAL			
Reappr.	Sheets Revised	Description of Revision(s)	
1	N/A	ADDED LEFT TURN MODIFICATION SHT C-2.01	
PAVING	[signature] 6-20-03	TRAFFIC	[signature] 6-20-03
G&D	N/A	PLANNING	[signature]
W&S	N/A	FIRE	N/A
NAT. AREAS	N/A		
[signature] Engineering Coordination Manager (or Designee)		6/30/03 Date	

46181

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
BLUE STAKE

AS-BUILTS 1-21-04

EKA
Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd
Phoenix, Az 85014
602.241.0782 phone
602.248.9158 fax

IMPROVEMENT PLANS FOR MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

REVISIONS
1 06/20/03 - ADD TURN LANE SHT. C2.01
2 07/03/03 RETAINING WALL MODIFICATION

DRAWING STATUS
FINAL

DATE ISSUED 2/18/03
DESIGNED BY W.F.R./E.C.S.
DRAWN BY G.A.C.
CHECKED BY W.F.R.
PROJECT NO. 4723
DRAWING NO.

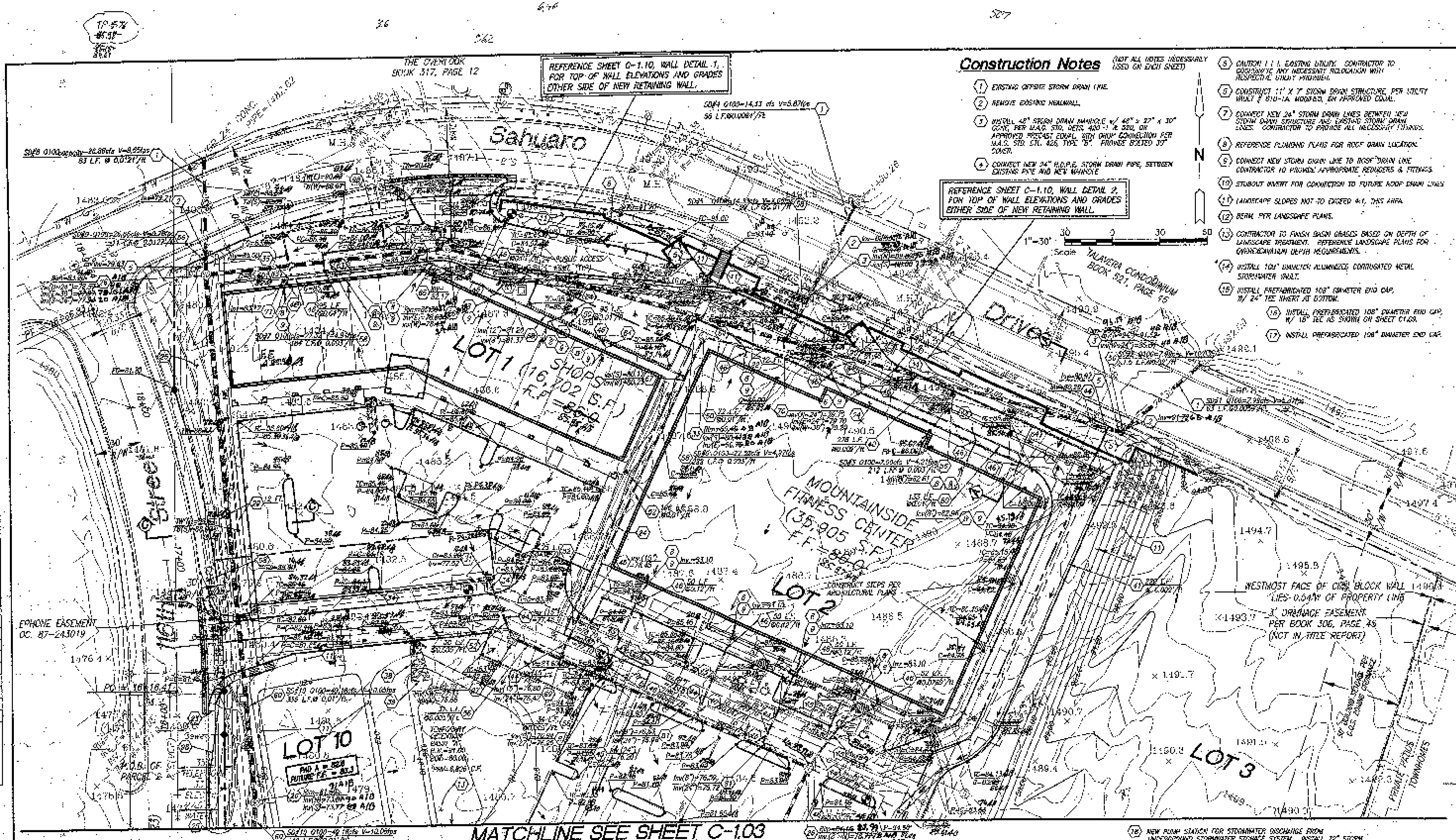
C-101
COVER SHEET

SHEET 1 OF 10
SCALE: 1"=50'

45-DR 2002 05 29 56 4159-02-13 4-NP-2003

EXTERNAL DRAWINGS

10-UP-2019
09/26/2019



MATCHLINE SEE SHEET C-1.03

Construction Notes

(NOT ALL NOTES NECESSARILY USED ON EACH SHEET)

1. EXISTING OFFSITE STORM DRAIN LINE.
2. REMOVE EXISTING HEADWALL.
3. INSTALL 48" STORM DRAIN MANHOLE w/ 48" x 27" x 30" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH DROP CONNECTION PER M.A.G. STD. DTL. 426, TYPE "B". PROVIDE BOLTED 30" COVER.
4. CONNECT NEW 24" H.D.P.E. STORM DRAIN PIPE, BETWEEN EXISTING PIPE AND NEW MANHOLE
5. CAUTION! EXISTING UTILITY. CONTRACTOR TO COORDINATE ANY NECESSARY RELOCATION WITH RESPECTIVE UTILITY PROVIDER.
6. CONSTRUCT 11' X 7' STORM DRAIN STRUCTURE, PER UTILITY VAULT 810-1A, MODIFIED, OR APPROVED EQUAL.
7. CONNECT NEW 24" STORM DRAIN LINES BETWEEN NEW STORM DRAIN STRUCTURE AND EXISTING STORM DRAIN LINES. CONTRACTOR TO PROVIDE ALL NECESSARY FITTINGS.
8. REFERENCE PLUMBING PLANS FOR ROOF DRAIN LOCATION.
9. CONNECT NEW STORM DRAIN LINE TO ROOF DRAIN LINE. CONTRACTOR TO PROVIDE APPROPRIATE REDUCERS & FITTINGS.
10. STUBOUT INVERT FOR CONNECTION TO FUTURE ROOF DRAIN LINES
11. LANDSCAPE SLOPES NOT TO EXCEED 4:1, THIS AREA.
12. BERM, PER LANDSCAPE PLANS.
13. CONTRACTOR TO FINISH BASIN GRADES BASED ON DEPTH OF LANDSCAPE TREATMENT. REFERENCE LANDSCAPE PLANS FOR OVEREXCAVATION DEPTH REQUIREMENTS.
14. INSTALL 108" DIAMETER ALUMINIZED CORRUGATED METAL STORMWATER VAULT.
15. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 24" TEE INVERT AT BOTTOM.
16. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 18" TEE AS SHOWN ON SHEET C1.09.
17. INSTALL PREFABRICATED 108" DIAMETER END CAP.
18. NEW PUMP STATION FOR STORMWATER DISCHARGE FROM UNDERGROUND STORMWATER STORAGE SYSTEM. INSTALL 72" STORM DRAIN MANHOLE PER M.A.G. STD. DTL. 521, OR APPROVED PRECAST EQUAL, WITH 72" x 38" x 36" CONE, AND WITH BOLTED 36" COVER. INSTALL 425 G.P.M. PUMP, FLYGT MODEL NP-3102, OR APPROVED EQUAL. SEE DETAIL ON SHEET C-1.09.
19. CONTROL PANEL FOR PUMP STATION. REFERENCE ELECTRICAL PLANS FOR CONTROLS AND CONNECTIONS TO PUMP.
20. INSTALL 4" D.I.P. STORMWATER FORCE MAIN.
21. CONNECT STORMWATER FORCE MAIN TO NEW DRAINAGE STRUCTURE.
22. NEW DRAINAGE EASEMENT TO BE MAINTAINED BY PROPERTY OWNER'S ASSOCIATION.
23. MATCH EXISTING GRADES.
24. CROSS SLOPE NOT TO EXCEED 2%.
25. CROSS SLOPE NOT TO EXCEED 1.5%.
26. INSTALL 48" STORM DRAIN MANHOLE PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH BOLTED 48" COVER.
27. INSTALL 48" STORM DRAIN MANHOLE w/ 48" x 27" x 36" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
28. CONSTRUCT MANHOLE CONNECTION TO VAULT PER TRANSITION DETAIL ON SHEET C-1.09.
29. INSTALL 36" STORM DRAIN MANHOLE PER M.A.G. STD. DTLS. 420-1 AND 420, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
30. INSTALL MODIFIED CATCH BASIN PER M.A.G. STD. DET. 535, WITH DOUBLE GRATE. INSTALL I-BEAM IN CATCH BASIN POCKET UNDER ABUTTING GRATES, FOR H20 LOADING CAPACITY. GRATES TO BE PER C.O.S. STD. DTL. 2535, TYPE "F", AND BOLTED DOWN. SEE DETAIL ON SHEET C-1.08.
31. INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, AND BOLTED DOWN GRATE PER C.O.S. STD. DTL. 2535, TYPE "F".
33. INSTALL 36" STORM DRAIN MANHOLE w/ 36" x 27" x 30" CONE, PER M.A.G. STD. DTLS. 420-1 AND 520, OR APPROVED PRECAST EQUAL w/ 30" COVER.
34. CONSTRUCT CONC. SPILLWAY, PER DETAIL ON SHEET C-1.08.
35. CONSTRUCT WALL PENETRATION, PER DETAIL ON SHEET C-1.08.
36. CONSTRUCT CURB OPENING, PER DETAIL ON SHEET C-1.08.
37. INSTALL SIGN FOR UNDERGROUND STORMWATER STORAGE, PER DETAIL ON SHEET C-1.09, AND C.O.S. STD. DET. 2131
38. CONSTRUCT RIP-RAP SPILLWAY PER DETAIL SHEET C-1.08.
39. CONSTRUCT RIP-RAP DEPRESSION, PER DETAIL ON SHEET C-1.08.
40. CONSTRUCT VALLEY GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
41. CONSTRUCT VERTICAL CURB & GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
42. REFERENCE STRUCTURAL PLANS FOR RETAINING/SCREEN WALL DETAILS.
43. REFERENCE STRUCTURAL PLANS FOR DETAIL AT UTILITY CROSSING BENEATH RETAINING/SCREEN WALL.
44. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW WATER LINE. CONTRACTOR TO PROVIDE APPROPRIATE VERTICAL BEND. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
45. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW SANITARY SEWER LINE. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
46. INSTALL 8" PVC SDR 35, OR APPROVED EQUAL, STORM DRAIN LINE.
47. INSTALL PREFABRICATED 42" X 4" END CAP TEE, BOTTOM INVERT.
48. INSTALL 4" SDR 35 P.V.C. STORMWATER BLEEDOFF LINE.
49. RETENTION VAULT #2 SPILL POINT.
50. INSTALL 12" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
52. INSTALL 15" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
54. INSTALL 18" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
56. INSTALL 24" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
58. INSTALL 30" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
60. INSTALL 35" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
62. INSTALL 42" DIAMETER H.D.P.E. STORM DRAIN VAULT.
63. INSTALL 2" X 8"-90° WYE.
64. INSTALL 12" X 8"-90° WYE.
65. INSTALL 8" X 8"-30° WYE.
66. INSTALL 90° BEND.
67. INSTALL 15" X 12"-90° WYE.
68. INSTALL 12" X 8" REDUCER.
69. INSTALL 24" X 15" ~ 90° WYE.
70. INSTALL 30" X 24" ~ 90° WYE.
71. INSTALL CLEANOUT.
72. INSTALL 45° BEND.
74. INSTALL 30° BEND.
76. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT TOP OF END CAP.
77. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT BOTTOM OF END CAP.
78. INSTALL 15" TEE.
79. INSTALL 18" ~ 15", 90° WYE.
80. INSTALL 18"~15" REDUCER.
81. INSTALL 24" ~ 8", 90° WYE.
82. INSTALL 24" ~ 15", 90° WYE.
84. INSTALL 34" ~ 18", 45° WYE.
88. INSTALL 24" ~ 24", 45° WYE.
89. INSTALL 24" TEE.
90. INSTALL 11-1/4° BEND.
92. INSTALL 24" ~ 15" REDUCER.
93. CONSTRUCT 108" X 12" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.
94. CONSTRUCT 108" X 24" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.
95. CONNECT NEW STORM DRAIN LINE TO NEW STORM DRAIN STRUCTURE.
96. DIP NEW FORCE MAIN BENEATH FOOTER OF NEW SITE WALL. PROVIDE 2' MIN. CLEARANCE.
97. INSTALL ULTRA-URBAN FILTER, W/ SMART SPONGE OIL AND GREASE INTERCEPTOR, OR APPROVED EQUAL.
98. SITE VISIBILITY TRIANGLE.

46182

263-1100

AS-BUILT 1-21-04

Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd.
Phoenix, Az 85014
602.241.0782 phone
602.248.9158 fax

GRADING AND DRAINAGE PLAN
FOR
MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

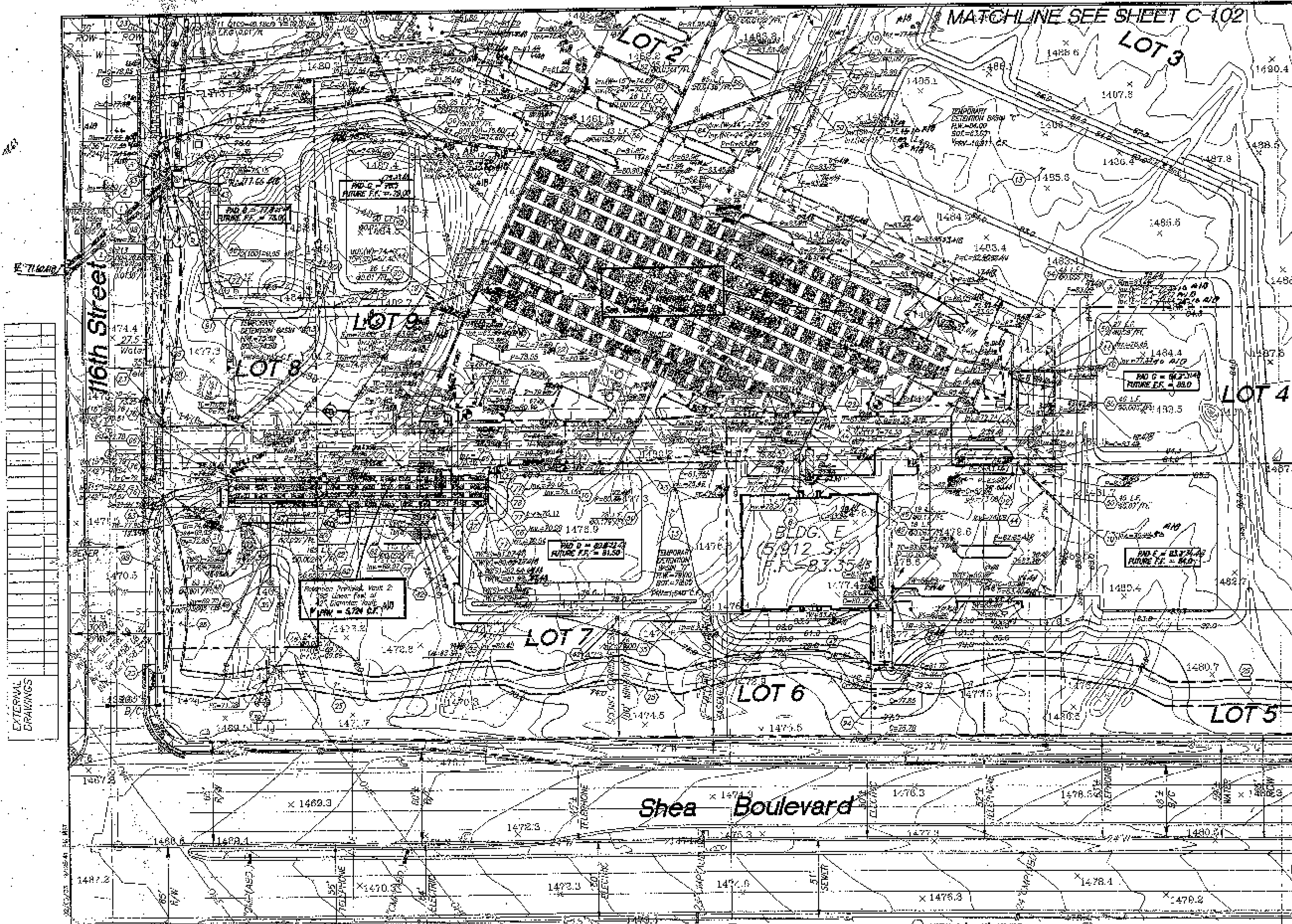
REVISIONS
1 RETAINING WALL ALONG SAHUARO DR. 01/15/03

DRAWING STATUS: FINAL

DATE ISSUED: 05/13/02
DESIGNED BY: ECS
DRAWN BY: SCM
CHECKED BY: ADK
PROJECT NO.: 4202
DRAWING NO.: C-1.02
GRADING AND DRAINAGE PLAN
SHEET 2 OF 10
SCALE 1"=30'

45-DR-2002 OS 29-56 4159-02 4-NP-2003

10-UP-2019
09/26/2019



Construction Notes

(NOT ALL NOTES NECESSARILY USED ON EACH SHEET)

1. EXISTING OFFSITE STORM DRAIN LINE.
2. REMOVE EXISTING HEADWALL.
3. INSTALL 48" STORM DRAIN MANHOLE W/ 48" x 27" x 30" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH DROP CONNECTION PER M.A.G. STD. DTL. 426, TYPE "B". PROVIDE BOLTED 30" COVER.
4. CONNECT NEW 24" H.D.P.E. STORM DRAIN PIPE BETWEEN EXISTING PIPE AND NEW MANHOLE.
5. CAUTION !!! EXISTING UTILITY. CONTRACTOR TO COORDINATE ANY NECESSARY RELOCATION WITH RESPECTIVE UTILITY PROVIDER.
6. CONSTRUCT 11' x 7' STORM DRAIN STRUCTURE, PER UTILITY VAULT # 5117-LA, MODIFIED, OR APPROVED EQUAL. COVER TO BE WATERTIGHT AND BOLTED SHUT.
7. CONNECT NEW 24" STORM DRAIN LINES BETWEEN NEW STORM DRAIN STRUCTURE AND EXISTING STORM DRAIN LINES. CONTRACTOR TO PROVIDE ALL NECESSARY FITTINGS.
8. REFERENCE PLUMBING PLANS FOR ROOF DRAIN LOCATION.
9. CONNECT NEW STORM DRAIN LINE TO ROOF DRAIN LINE. CONTRACTOR TO PROVIDE APPROPRIATE REDUCERS & FITTINGS.
10. STUBOUT INVERT FOR CONNECTION TO FUTURE ROOF DRAIN LINES.
11. LANDSCAPE SLOPES NOT TO EXCEED 4:1, THIS AREA.
12. BERM PER LANDSCAPE PLANS.
13. CONTRACTOR TO FINISH BASIN GRADES BASED ON DEPTH OF LANDSCAPE TREATMENT. REFERENCE LANDSCAPE PLANS FOR OVEREXCAVATION DEPTH REQUIREMENTS.
14. INSTALL 108" DIAMETER ALUMINIZED CORRUGATED METAL STORM DRAIN VAULT. SEE DETAILS ON SHEET C-1.09.
15. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 24" O.D. INVERT AT BOTTOM.
16. INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 18" TEE AS SHOWN ON SHEET C-1.09.
17. INSTALL PREFABRICATED 108" DIAMETER END CAP.
18. NEW PUMP STATION FOR STORMWATER DISCHARGE FROM UNDERGROUND STORMWATER STORAGE SYSTEM. INSTALL 72" STORM DRAIN MANHOLE PER M.A.G. STD. DTL. 521, OR APPROVED PRECAST EQUAL, WITH 72" x 30" x 38" CONE, AND WITH BOLTED 36" COVER. INSTALL 425 G.P.M. PUMP, FLYGT MODEL NP-3102 OR APPROVED EQUAL. SEE DETAIL ON SHEET C-1.09.
19. CONTROL PANEL FOR PUMP STATION. REFERENCE ELECTRICAL PLANS FOR CONTROLS AND CONNECTIONS TO PUMP.
20. INSTALL 4" D.I.P. STORMWATER FORCE MAIN.
21. CONNECT STORMWATER FORCE MAIN TO NEW DRAINAGE STRUCTURE.
22. NEW DRAINAGE EASEMENT.
23. MATCH EXISTING GRADES.
24. CROSS SLOPE NOT TO EXCEED 2%.
25. CROSS SLOPE NOT TO EXCEED 1.5%.
26. INSTALL 48" STORM DRAIN MANHOLE PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL, WITH BOLTED 48" COVER, PER NEENAH R-5035, OR APPROVED EQUAL.
27. INSTALL 48" STORM DRAIN MANHOLE W/ 48" x 27" x 30" CONE, PER M.A.G. STD. DETS. 420-1 & 520, OR APPROVED PRECAST EQUAL. WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
28. CONSTRUCT MANHOLE CONNECTION TO VAULT PER TRANSITION DETAIL ON SHEET C-1.09.
29. INSTALL 36" STORM DRAIN MANHOLE PER M.A.G. STD. DTLS. 420-1 AND 520, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.
30. INSTALL MODIFIED CATCH BASIN PER M.A.G. STD. DET. 535, WITH DOUBLE GRATE. INSTALL I-BEAM IN CATCH BASIN POCKET ABUTTING GRATES, FOR H20 LOADING CAPACITY. GRATES TO BE PER C.O.S. STD. DTL. 2535, TYPE "F", AND BOLTED DOWN. SEE DETAIL ON SHEET C-1.08.
31. INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, AND BOLTED DOWN GRATE C.O.S. STD. DTL. 2535, TYPE "F".
32. CONNECT NEW CATCH BASIN TO VAULT, PER DETAIL ON SHEET C-1.09.
33. NOT USED.
34. CONSTRUCT CONC. SPILLWAY, PER DETAIL ON SHEET C-1.08.
35. CONSTRUCT WALL PENETRATION, PER DETAIL ON SHEET C-1.08.
36. CONSTRUCT CURB OPENING, PER DETAIL ON SHEET C-1.08.
37. NOT USED.
38. CONSTRUCT RIP-RAP SPILLWAY PER DETAIL ON SHEET C-1.08.
39. CONSTRUCT RIP-RAP DEPRESSION, PER DETAIL ON SHEET C-1.08.
40. CONSTRUCT VALLEY GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
41. CONSTRUCT VERTICAL CURB & GUTTER, PER PAVING PLANS, AT SLOPE SHOWN.
42. REFERENCE STRUCTURAL PLANS FOR RETAINING/SCREEN WALL DETAILS.
43. REFERENCE STRUCTURAL PLANS FOR DETAIL AT UTILITY CROSSING BENEATH RETAINING/SCREEN WALL.
44. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW WATER LINE. CONTRACTOR TO PROVIDE APPROPRIATE VERTICAL BEND. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
45. PROVIDE 1' MIN. CLEARANCE BETWEEN NEW STORM DRAIN LINE AND NEW SANITARY SEWER LINE. REFERENCE UTILITY SHEETS C-1.06 & C-1.07.
46. INSTALL 8" PVC SDR 35, OR APPROVED EQUAL, STORM DRAIN LINE.
47. INSTALL PREFABRICATED 42" X 4" END CAP TEE, BOTTOM INVERT.
48. INSTALL 4" SDR 35 P.V.C. STORMWATER BLEEDOFF LINE.
49. RETENTION VAULT #2 SPOT HOME.
50. INSTALL 12" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
52. INSTALL 15" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
54. INSTALL 18" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
56. INSTALL 24" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
58. INSTALL 30" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
60. INSTALL 36" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.
62. INSTALL 42" DIAMETER H.D.P.E. STORM DRAIN VAULT.
64. INSTALL 12" X 8"-90° WYE.
66. INSTALL 90° BEND.
68. INSTALL 12" X 8" REDUCER.
70. INSTALL 36" X 24" ~ 90° WYE.
71. INSTALL CLEANOUT.
72. INSTALL 45° BEND.
74. INSTALL 30° BEND.
76. INSTALL PREFABRICATED 42" X 15" END CAP TEE. W/15" STUBOUT AT TOP OF END CAP. INSTALL UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL SHEET C-1.09.
77. INSTALL PREFABRICATED 42" X 15" END CAP TEE, W/15" STUBOUT AT BOTTOM OF END CAP. INSTALL UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL SHEET C-1.09.
78. INSTALL 15" TEE.
79. INSTALL 18" ~ 15", 90° WYE.
80. INSTALL 18" ~ 15" REDUCER.
81. INSTALL 24" ~ 18", 90° WYE.
82. INSTALL 24" ~ 15", 90° WYE.
84. INSTALL 24" ~ 18", 45° WYE.
86. INSTALL 24" ~ 24", 45° WYE.
88. INSTALL 24" TEE.
90. INSTALL 11-1/4° BEND.
91. INSTALL 60° BEND.
92. INSTALL 24" ~ 15" REDUCER.
93. CONSTRUCT 108" X 12" TEE, TOP ELLIPTICAL PER DETAIL ON SHEET C-1.09.
94. CONSTRUCT 108" X 24" TEE, TOP ELLIPTICAL PER DETAIL ON SHEET C-1.09.
95. CONNECT NEW STORM DRAIN LINE TO NEW STORM DRAIN STRUCTURE.
96. DIP NEW FORCE MAIN BENEATH FOOTER OF NEW SITE WALL. PROVIDE 2' MIN. CLEARANCE.
97. INSTALL ULTRA-URBAN FILTER, W/ SMART SPONGE OIL AND GREASE INTERCEPTOR, MODIFIED FOR INLET TYPE, OR APPROVED EQUAL.
98. SITE VISIBILITY TRIANGLE.

1"=30'

Scale 30 0 30 60

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
(MARICOPA COUNTY)

AS-BUILT 1-21-04

Evans, Kuhn & Associates, Inc.
727 E. Bethany Home Rd.
Phoenix, Az 85014
602.241.0782 phone
602.216.9186 fax

GRADING AND DRAINAGE PLAN

FOR

MOUNTAINSIDE PLAZA

N.E.C. 116th STREET and SHEA BLVD.

SCOTTSDALE, ARIZONA

4683

REVISIONS

DRAWING STATUS: FINAL SUBMITTAL

DATE ISSUED	2/12/03
DESIGNED BY	W.P.R./E.C.S.
DRAWN BY	R.A.C.
CHECKED BY	W.P.R.
PROJECT NO.	4173

DRAWING NO. C-103

GRADING AND DRAINAGE PLAN

SHEET 3 OF 10

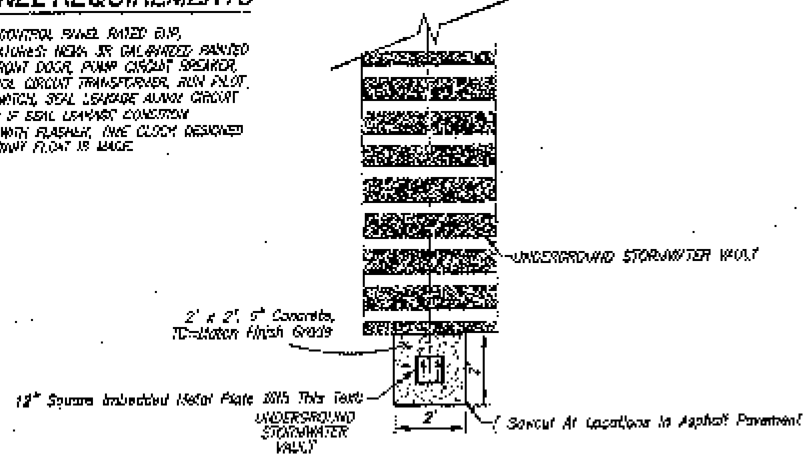
SCALE: 1" = 30'

45-DR-2002 OS 29-56 4159-02

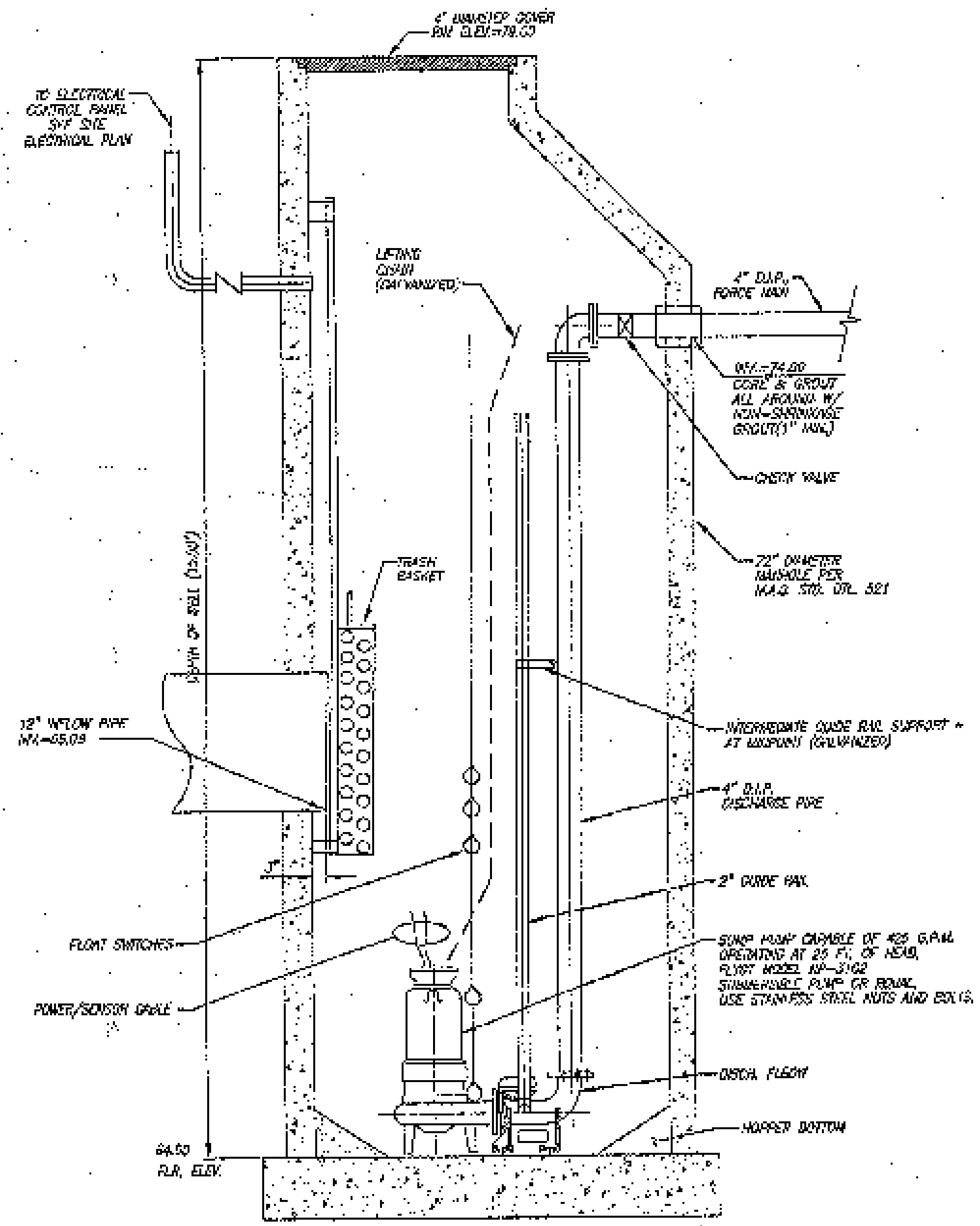
10-UP-2019
09/26/2019

PUMP CONTROL PANEL REQUIREMENTS

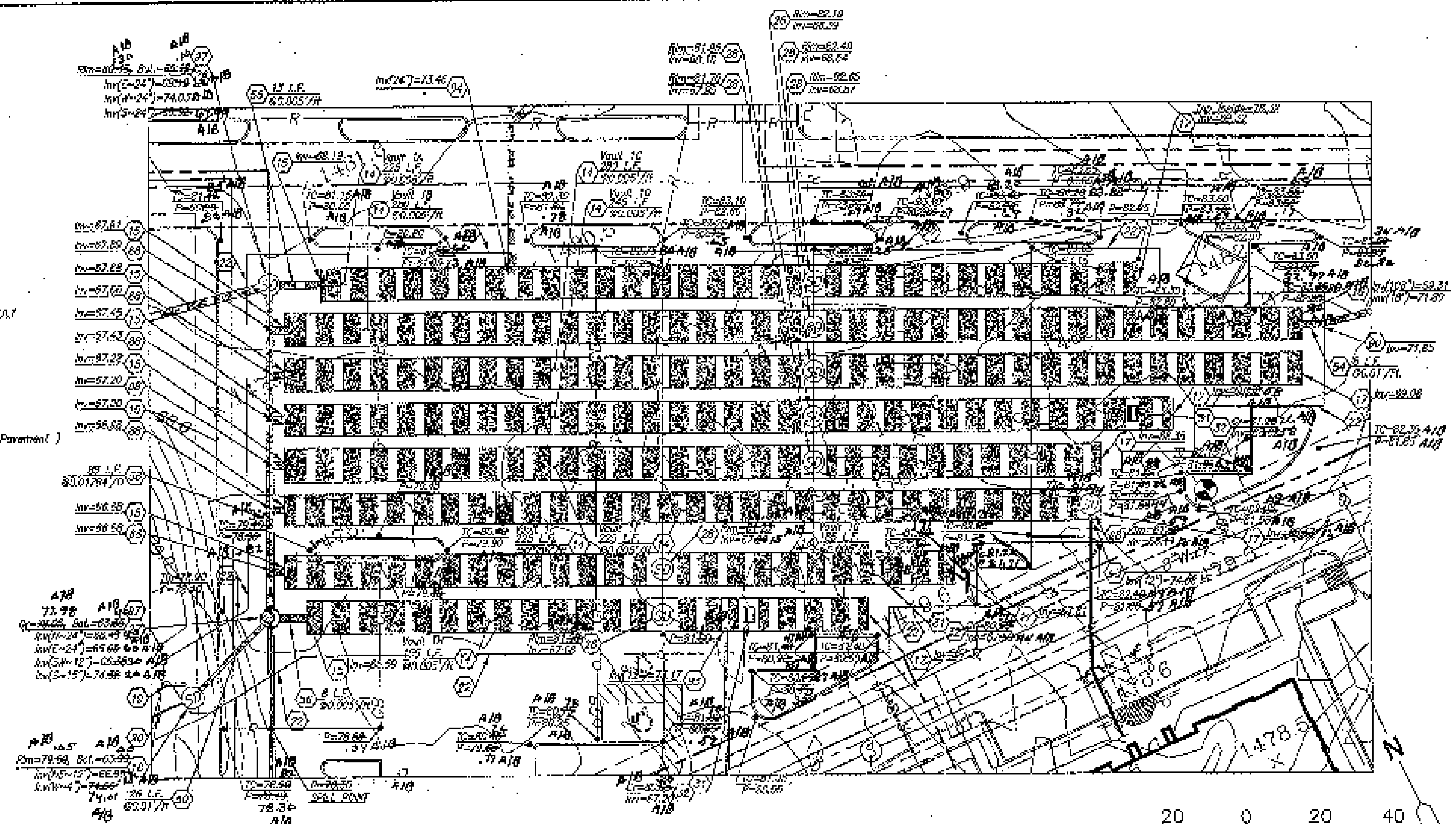
1 EA. EE CONTROLS SIMPLEX PUMP CONTROL PANEL RATED 0/3, 3/60/460V WITH THE FOLLOWING FEATURES: NEMA 3R GALVANIZED PAINTED ENCLOSURE, BRUSHED ALUMINUM INFRONT DOOR, PUMP CIRCUIT BREAKER, NEMA RATED MOTOR STARTER, CONTROL CIRCUIT TRANSFORMER, RUN PILOT LIGHT, HAND-OFF-AUTO SELECTOR SWITCH, SEAL LEAKAGE ALARM CIRCUIT WITH PILOT LIGHT (TO DISABLE PUMP IF SEAL LEAKAGE CONDITION OCCURS), HIGH WATER ALARM LIGHT WITH FLASHER, TIME CLOCK DESIGNED FOR TWO HOUR TIME DELAY ONCE START FLOAT IS MADE.



STORMWATER VAULT PAVEMENT MARKER DETAIL
NTS



STORMWATER VAULT SYSTEM #1 DISCHARGE PUMP STATION DETAIL
NTS



RETENTION VAULT SYSTEM #1 DETAIL
1"=20'

20 0 20 40

Scale

* CONTRACTOR NOTE:

108" DIAMETER CORRUGATED METAL PIPE (CMP) SHALL MEET THE FOLLOWING REQUIREMENTS:

a) PIPE SHALL BE 108" DIAMETER ALUMINIZED CMP, MIN. 14 GA. W/ MIN. 3" CORRUGATIONS.

b) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WHICH DEMONSTRATE THAT THE PROPOSED PIPE WALL THICKNESS, CORRUGATION DEPTH, BEDDING AND BACKFILL WILL BE ADEQUATE TO SUPPORT H-20 LOADING WITH A TWO-FOOT TO FOUR-FOOT HEIGHT OF COVER.

c) MAKE FIELD JOINTS IN CORRUGATED METAL PIPE WITH WATER TIGHT CONNECTING BANDS OF THE SAME BASE AND TREATED METAL AS PIPE.

*(14) INSTALL 108" DIAMETER ALUMINIZED CORRUGATED METAL STORMWATER VAULT.

(15) INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 24" TEE INVERT AT BOTTOM, WITH UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL THIS SHEET.

(15) INSTALL PREFABRICATED 108" DIAMETER END CAP, W/ 18" TEE INVERT AS SHOWN, WITH UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL THIS SHEET.

(17) INSTALL PREFABRICATED 108" DIAMETER END CAP, WITH UNDERGROUND STORMWATER TANK PAVEMENT MARKER, PER DETAIL THIS SHEET.

(18) NEW PUMP STATION FOR STORMWATER DISCHARGE FROM UNDERGROUND STORMWATER STORAGE SYSTEM. INSTALL 72" STORM DRAIN MANHOLE PER M.A.G. STD. DTL. 521, OR APPROVED PRECAST EQUAL, WITH 72" x 36" x 36" CONE, AND WITH BOLTED 36" COVER. INSTALL 425 G.P.M. SUBMERSIBLE PUMP, FLYGT MODEL NP-3102, OR APPROVED EQUAL. SEE DETAIL ON THIS SHEET.

(19) CONTROL PANEL FOR PUMP STATION. REFERENCE ELECTRICAL PLANS FOR CONTROLS AND CONNECTIONS TO PUMP.

(20) INSTALL 4" D.I.P. STORMWATER FORCE MAIN.

(22) NEW DRAINAGE EASEMENT.

(26) INSTALL 48" STORM DRAIN MANHOLE PER M.A.G. STD. DETS. 420-1 & 522, OR APPROVED PRECAST EQUAL, WITH BOLTED 48" COVER, PER NEENAH R-1503, OR APPROVED EQUAL.

(27) INSTALL 48" STORM DRAIN MANHOLE W/ 48" x 37" x 36" CONE, PER M.A.G. STD. DETS. 420-1 & 522, OR APPROVED PRECAST EQUAL, WITH BOLTED NEENAH GRATE R-2501, OR APPROVED EQUAL.

(28) CONSTRUCT VAULT ACCESS MANHOLE PER VAULT ACCESS DETAIL ON THIS SHEET.

(31) INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, AND BOLTED DOWN GRATE C.O.S. STD. DTL. 2035, TYPE "F".

(32) CONSTRUCT CATCH BASIN CONNECTION TO VAULT PER TRANSITION DETAIL ON THIS SHEET.

(50) INSTALL 12" H.D.P.E. STORM DRAIN LINE OR APPROVED EQUAL.

(54) INSTALL 18" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.

(56) INSTALL 24" H.D.P.E. STORM DRAIN LINE, OR APPROVED EQUAL.

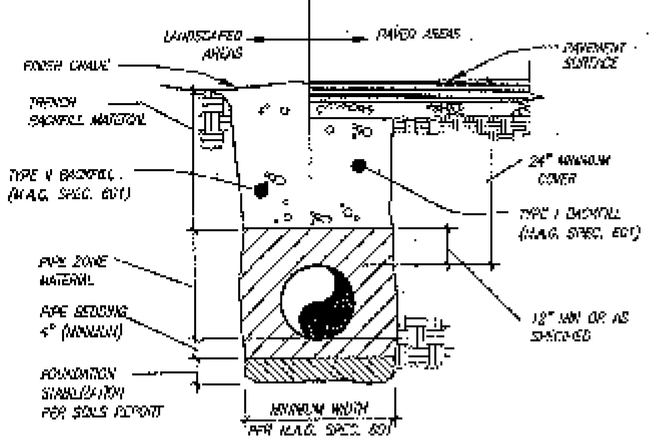
(79) INSTALL 18" TEE.

(88) INSTALL 24" TEE.

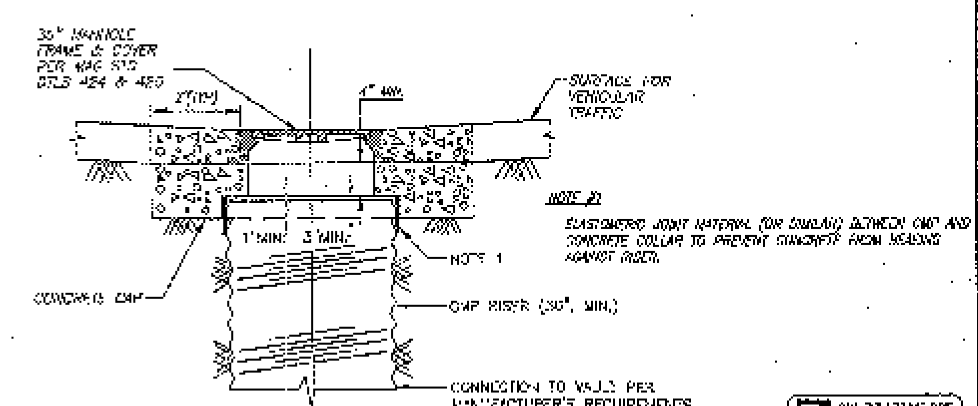
(93) CONSTRUCT 108" X 12" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.

(94) CONSTRUCT 108" X 24" TEE, TOP ELLIPTICAL, PER DETAIL ON SHEET C1.10.

(97) INSTALL ULTRA-URBAN FILTER, W/ SMART SPONGE OIL AND GREASE INTERCEPTOR, OR APPROVED EQUAL.



TYPICAL PVC/HDPE STORM DRAIN TRENCH DETAIL
NTS



NOTE #1

ELASTOMERIC JOINT MATERIAL (OR SIMILAR) BETWEEN CMP AND CONCRETE COLLAR TO PREVENT SUBSIDENCE FROM HEAVING AGAINST RISER.

VAULT ACCESS DETAIL
NTS

46190

263-1100

Evans, Kuhn & Associates, Inc.
227 E. Bethany Home Rd.
Phoenix, Az 85014
602.241.0782 phone
602.248.0135 fax

STORMWATER VAULT SYSTEM DETAILS
FOR
MOUNTAINSIDE PLAZA
N.E.C. 116th STREET and SHEA BLVD.
SCOTTSDALE, ARIZONA

REVISIONS

DRAWING STATUS: FINAL SUBMITTAL

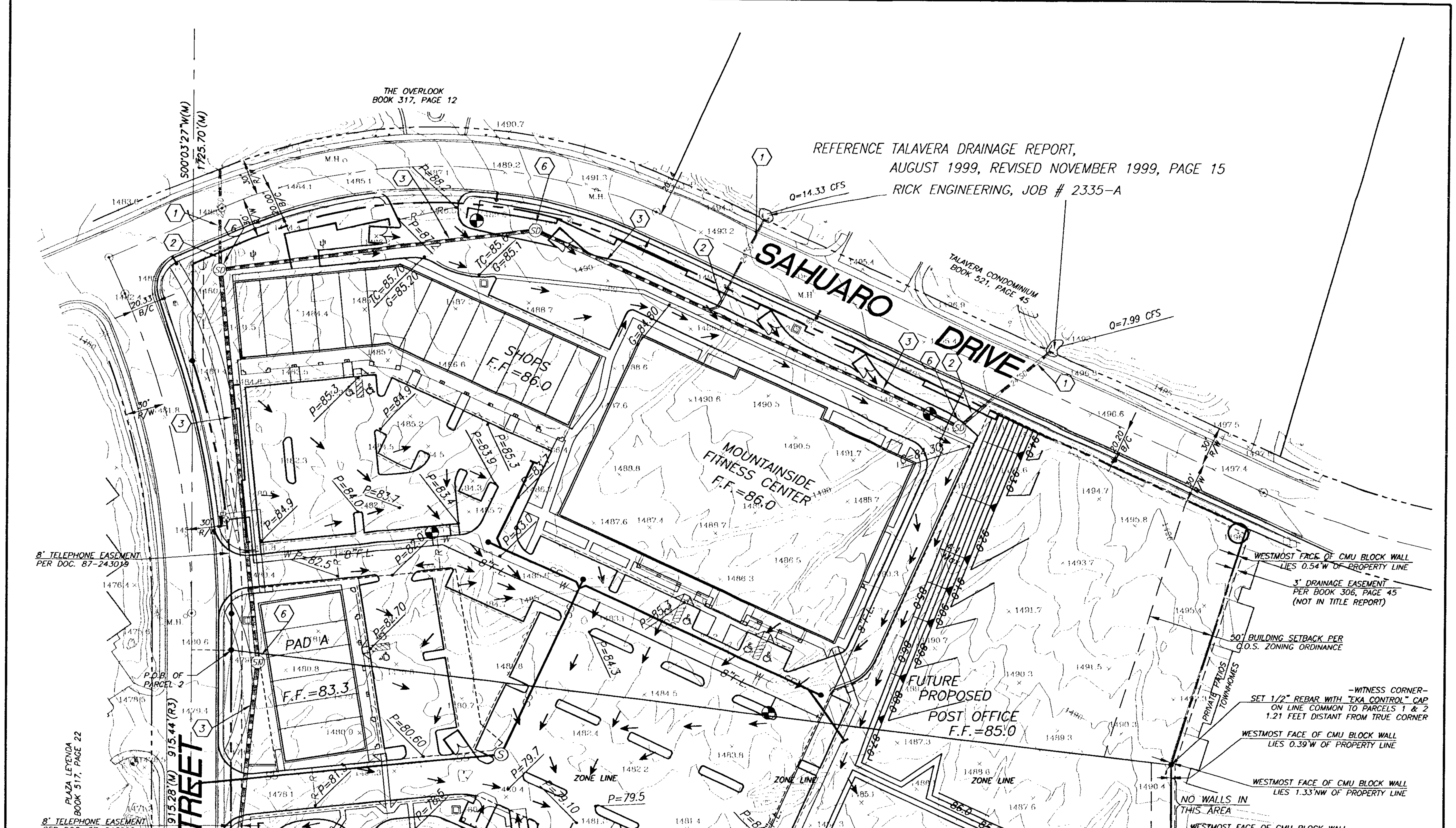
DATE ISSUED 2/12/03
DESIGNED BY W.P.R./F.C.S.
DRAWN BY RAC
CHECKED BY W.P.R.
PROJECT NO. 4723
DRAWING NO. C-1.09
STORMWATER VAULT SYSTEM DETAILS
SHEET 9 OF 10
SCALE: 1" = 20'

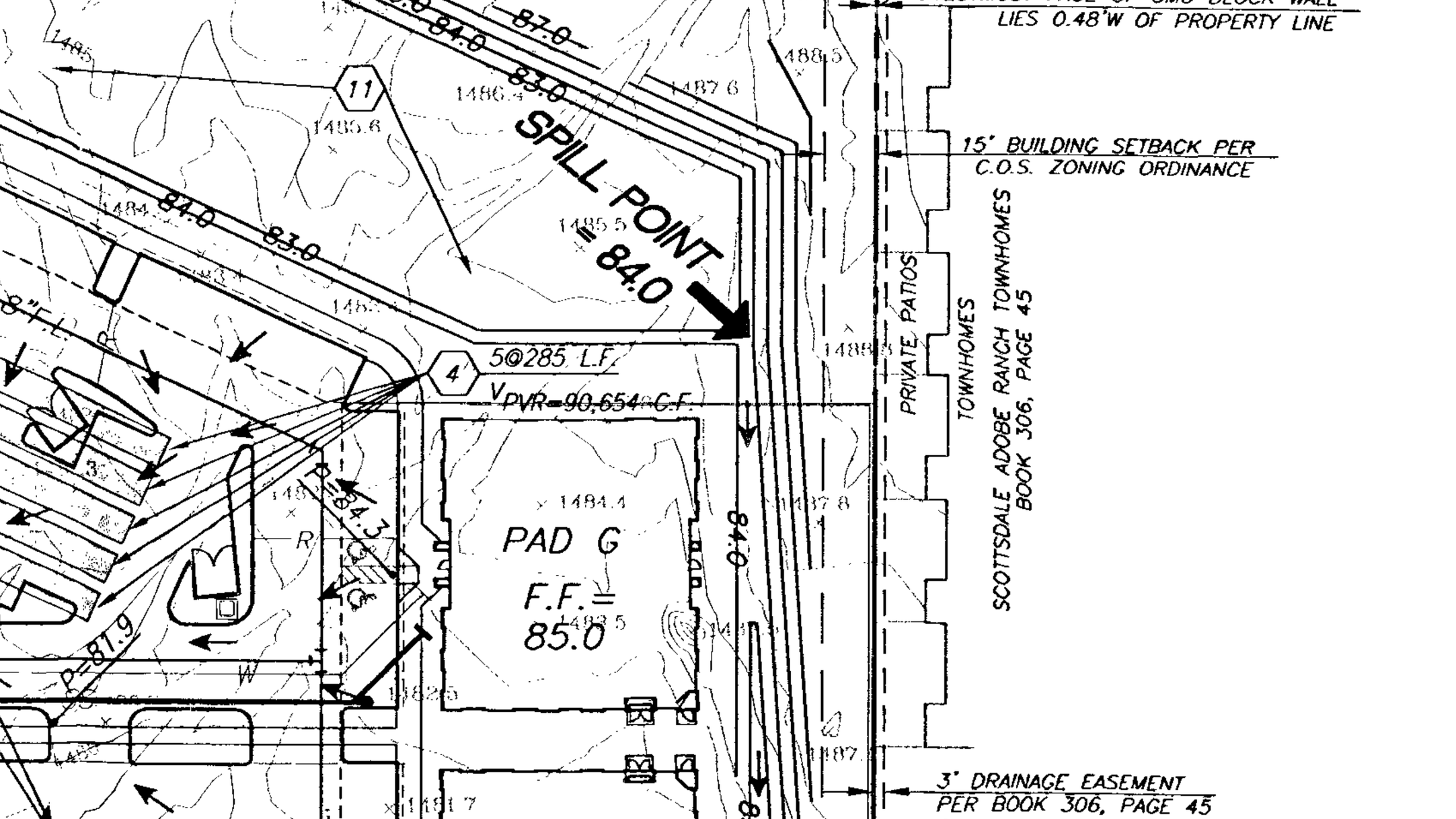
4-NP-2003 4159-02 OS 29-58 45-DR-2002

EXTERNAL DRAWINGS

AS-BUILT 1-21-04

10-UP-2019
09/26/2019





VICINITY MAP

NO SCALE

DRAINAGE CALCULATIONS

Retention Required, Total Developed Site:

$V_{REQ} = d/12 \times A \times C$

$d = 2.82$

$A = 572,992$ S.F.

$V_{REQ} = (2.82/12) \times 572,992 \times 0.90$

$V_{REQ} = 121,188$ C.F.

Retention Provided:
Total, 9' Diameter Retention Vaults =1905 L.F.

(5) 9' Diameter Retention Vaults @ 285 L.F.
$(4.5)^2 \times 3.1416 \times 285 \times 5 = 90,654$ C.F.

(2) 9' Diameter Retention Vaults @ 240 L.F.
$(4.5)^2 \times 3.1416 \times 240 \times 2 = 30,536$ C.F.

121,190 C.F.

$V_{PRV} = 121,190$ C.F.

Retention Required, Undeveloped Northeast Landscape Area Site:

$V_{REQ} = (2.82/12) \times 90,000 \times 0.50$

$V_{REQ} = 12,690$ C.F.

Retention Provided, Landscape Basin:

$V_{PRV} = 16,840$ C.F.

NOTES:

1. EXISTING OFFSITE STORM DRAIN LINE.
2. CONNECT OFFSITE STORM DRAIN LINE TO NEW STORM DRAIN LINE.
3. NEW STORM DRAIN LINE FOR OFFSITE FLOWS.
4. NEW 9' DIAMETER STORMWATER RETENTION VAULT.
5. NEW STORM DRAIN LINE FOR ONSITE.
6. NEW STORM DRAIN MANHOLE WITH GRATE.
7. NEW CATCH BASIN.
8. NEW STORM DRAIN LINE TO STORMWATER PUMP DISCHARGE.
9. NEW STORM DRAIN MANHOLE, WITH STORMWATER DISCHARGE PUMP.
10. NEW FORCE MAIN.
11. 1' DEEP LANDSCAPE RUNOFF DETENTION BASIN.

PRELIMINARY

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
INSIDE MARICOPA COUNTY

CONCEPTUAL GRADING & DRAINAGE PLAN FOR RETAIL CENTER - 116TH ST. & SHEA

Evans, Kuhn & Associates,
727 E. Bethany Hom
Phoenix, Az 85014
602.241.0782 phone
602.248.9158 fax
EKA@Worldnet.att.net

REVISIONS

DRAWING STATUS: EXHIBIT

Registered Professional Engineer, Certificate No. 8992, WAYNE P. REILEY, Arizona, U.S.A.

DATE ISSUED 05/1
DESIGNED BY E.C.S
DRAWN BY R.A.C./C
CHECKED BY W.P.R
PROJECT NO. 4773
DRAWING NO. Conceptual Grading and Drainage Plan
Scale: 1" = 50'

45-DR-2002

253-PA-01
6/4/02

10-UP-2019
09/26/2019

DRAINAGE REPORT
For
116TH STREET & SHEA RETAIL CENTER
SCOTTSDALE, ARIZONA

EKA

Evans, Kuhn &
Associates, Inc.

727 E. Bethany Home Road
Suite D225
Phoenix, AZ 85014
602.241.0782 phone
602.248.9158 fax

Prepared for:

CITY OF SCOTTSDALE
7447 East Indian School Road
Scottsdale, Arizona 85251

Prepared by:

EVANS, KUHN AND ASSOCIATES, INC.
727 East Bethany Home Road, Suite D-225
Phoenix, Arizona 85014

EKA #4773
December 11, 2001
Revised May 9, 2002

253-PA-2001
6/4/2002

engineers

45-DR-2002

10-UP-2019
09/26/2019

TABLE OF CONTENTS

Project Description

The existing 13.15-acre site is currently vacant and occupies the northeast corner of 116th Street and Shea Boulevard. Residential properties currently existing on both the north and east, and a commercial warehouse storage facility occupies the property to the west. The proposed development consists of seven individual commercial pads, a pad with retail shops, a Mountainside Fitness Center, and a future proposed Post Office Facility.

Existing Conditions

The existing site slopes to the southwest at an average slope of 3%; losing almost 30' of elevation between the site high and low points. Three existing 24" pipe culverts along the northern boundary empty retention basins from upstream developments onto the site. These off-site flows following existing drainageways through the site, with flows exiting the site via two existing 28" pipe culverts under 116th Street near the southwest corner of the site. The remaining site flows sheet flow or follow shallow drainage swales to ponding locations along the north side of Shea Boulevard. Storm drain crossings under Shea were terminated with the last widening project, so currently there is no outfall for the ponded water in shallow basins.

Off-site Drainage Flows

The two easternmost 24" storm drains under Sahuaro Drive drain retention basins for the Talavera Condominiums which abut the site to the north. From the grading and drainage plans for the development, these 100-year pipe flows are shown to be: 7.99 cfs, and 14.33 cfs. The westernmost 24" storm drain under Sahuaro Drive drain a retention basin for the Overlook Condominiums. Record drawings for this older development were not available, but site observation indicates it drains a retention basin, similar to the other pipes on Sahuaro Drive. With a similar sloping pipe, it has been assumed that the 100-year pipe flow would not be in excess of 15 cfs. The three off-site pipe flows are proposed to be collected in a new underground pipe and directed to the 28" outfall pipes under 116th Street as currently occurs.

On-site Grading and Drainage

The proposed grading concept essentially maintains existing flow patterns. Roof drainage will be primarily by above ground splash blocks to surface drain to new catch basins located throughout

the paved parking areas within the development. ADA grades are maintained within the accessible areas and grades not exceeding 4% used elsewhere on the site. These slopes were not conducive to developing retention basin, therefore an underground storage system was utilized for site runoff for the 100-year, 2-hour storm. A stormwater discharge pump will be used to empty the storage vaults within 36 hours through the 116th Street underground pipe culverts. The future Post Office Facility in the northeast portion of the site will remain undisturbed, except for the grading/berming necessary to create a temporary retention basin for its runoff. Upon development, flows will be directed into the underground vault system, which has been sized for future flows. Reference Appendix A for the Concept Grading and Drainage Exhibit and retention calculations.

Summary

Existing storm water flows will be maintained after site development. Off-site flows intercepted by the property will be rerouted through the site. Underground stormwater storage vaults provide 121,190 cf of storage , and exceed the 100-year, 2-hour retention requirement of 121,188 cf. The building finished floor elevations are all elevated sufficiently above the high top of curb along the abutting streets and well above the low outfall elevation of 1268.5, just northeast of the intersection of 116th Street and Shea Boulevard.

APPENDIX C
(FEMA FIRM Map)

National Flood Hazard Layer FIRMette

FEMA

Feet
0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/21/2019 at 11:43:46 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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09/26/2019

APPENDIX D
(Sahuaro Drive Capacity Calculations)

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Aug 20 2019

East Sahuaro Drive Capacity

User-defined

Invert Elev (ft)	= 1496.59
Slope (%)	= 0.78
N-Value	= 0.013

Calculations

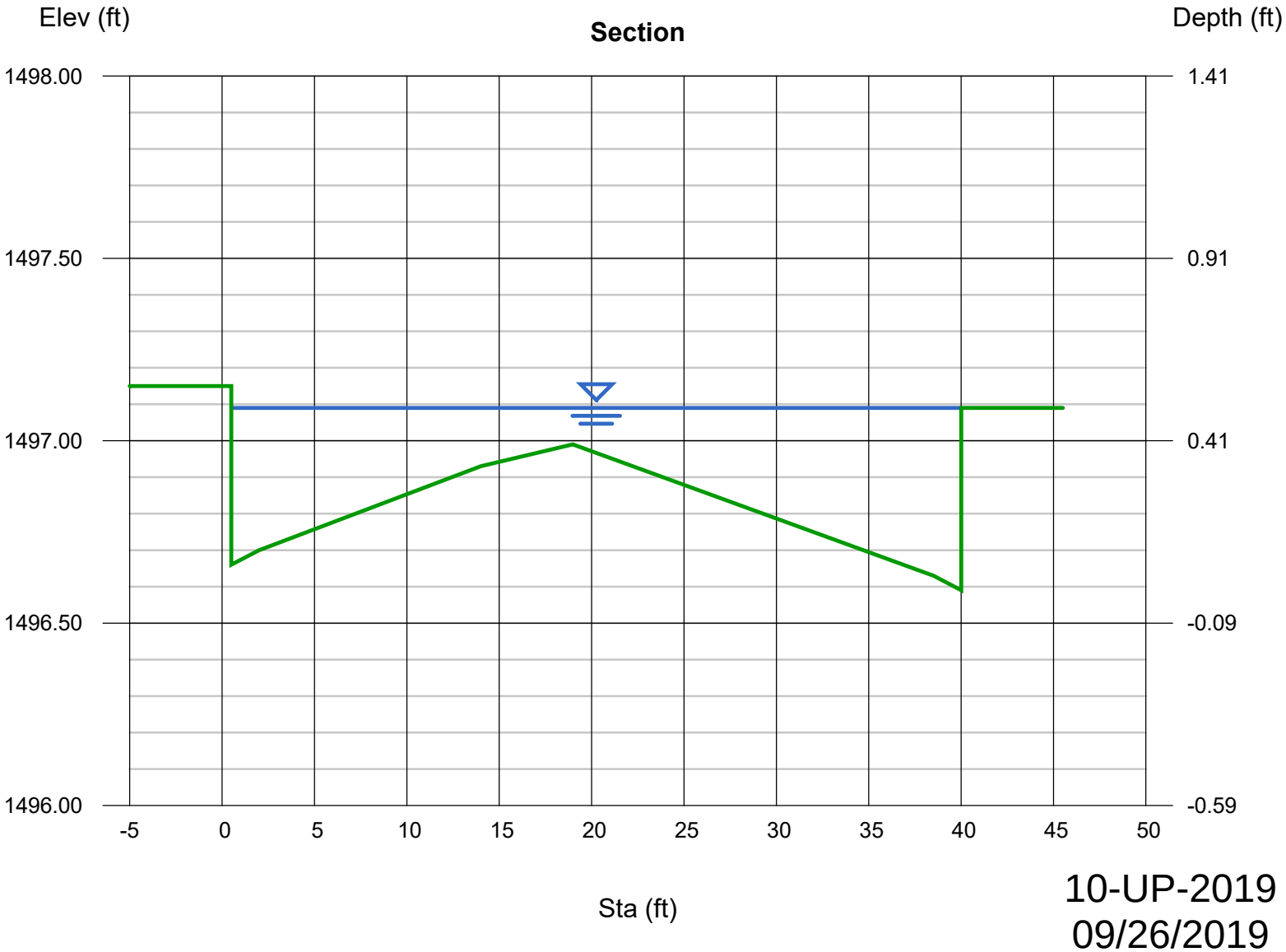
Compute by:	Known Depth
Known Depth (ft)	= 0.50

Highlighted

Depth (ft)	= 0.50
Q (cfs)	= 44.94
Area (sqft)	= 10.75
Velocity (ft/s)	= 4.18
Wetted Perim (ft)	= 40.45
Crit Depth, Yc (ft)	= 0.56
Top Width (ft)	= 39.51
EGL (ft)	= 0.77

(Sta, El, n)-(Sta, El, n)...

(0.00, 1497.15)-(0.50, 1497.15, 0.013)-(0.50, 1496.66, 0.013)-(2.00, 1496.70, 0.013)-(14.00, 1496.93, 0.013)-(18.98, 1496.99, 0.013)-(38.51, 1496.63, 0.013)-(40.01, 1496.59, 0.013)-(40.01, 1497.09, 0.013)-(40.51, 1497.09, 0.013)



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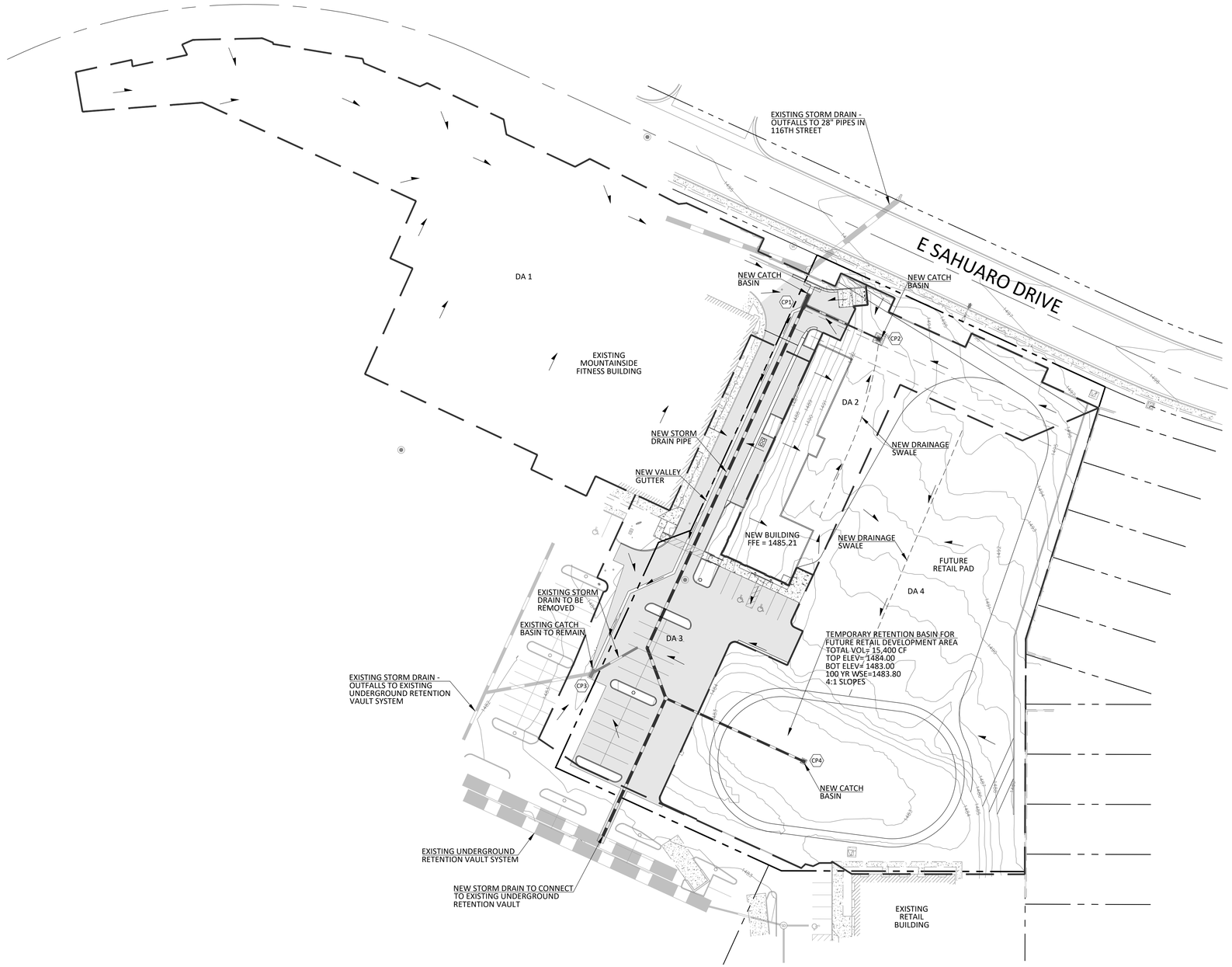
09/26/2019

APPENDIX E
(Proposed Conditions Watershed Maps + Calculations)

10-UP-2019
09/26/2019



SCALE 1"=40'

LEGEND

- RIGHT-OF-WAY
- PROJECT BOUNDARY LINE
- ROADWAY CENTERLINE
- FLOW ARROW
- WATERSHED BOUNDARY
- CONCENTRATION POINT (CP1)

WATERSHED CONCENTATION POINTS	AREA	Q 100
CP1	1.63 AC	11.5 CFS
CP2	0.44 AC	2.8 CFS
CP3	0.64 AC	4.6 CFS
CP4	1.47 AC	10.4 CFS

CYPRESS CIVIL DEVELOPMENT
strength + sustainability
4450 north 12th street, #228
phoenix, arizona 85014
p: 623.282.2498
e: jphunt@cypresscivil.com
CYPRESS PROJECT NO: 19.101

KERRY'S CAR CARE SHEA

proposed conditions hydrology map

10-UP-2019
09/26/2019

CYPRESS CIVIL DEVELOPMENT strength + sustainability

PROPOSED WATERSHED SUMMARY

PROJECT KERRY'S CAR CARE SHEA

PROPOSED DEVELOPMENT AREA

WATERSHED ID	CONCENTRATION POINT	AREA ROOF + PAVEMENT C=0.95 (SF)	AREA DESERT LANDSCAPING C=0.50 (SF)	FUTURE PAD AREA C=0.90	TOTAL AREA (AC)	WEIGHTED 'C'
DA 1	CP1	62,920	8,000	0	1.63	0.90
DA 2	CP2	7,252	6,128	5,814	0.44	0.79
DA 3	CP3	25,322	2,349	0	0.64	0.91
DA 4	CP4	0	0	64,066	1.47	0.90

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strength + sustainabilty

RATIONAL METHOD

$$T_C = 11.4L^{0.5}K_b^{.52}S^{-0.31}i^{-0.38} \times 60 \qquad Q = CiA$$

Tc= Time of Concentration (min)
L= Length of longest flow path (miles)
Kb= Watershed resistance coefficient
S= Watercourse slope (ft/mi)
i= rainfall intensity (in/hr)

Q = Peak discharge (cfs)
C = Runoff coefficient
i = Rainfall intensity (inch/hr)
A = Drainage area (Acres)

100-YR, 5-MIN	7.82	in/hr
100-YR, 10-MIN	5.96	in/hr
100-YR, 15-MIN	4.92	in/hr
100-YR, 30-MIN	3.33	in/hr

KERRY'S CAR CARE SHEA

WATERSHED ID	CONCENTRATION POINT	L	Kb	S		i	Tc	C	i	A	Q
DA-1	1	0.03	0.04	55	1.0%	7.82	3.1	0.90	7.82	1.63	11.5
DA-2	2	0.03	0.04	55	1.0%	7.82	3.1	0.79	7.82	0.44	2.8
DA-3	3	0.03	0.04	55	1.0%	7.82	3.1	0.91	7.82	0.64	4.6
DA-4	4	0.03	0.04	55	1.0%	7.82	3.1	0.90	7.82	1.47	10.4

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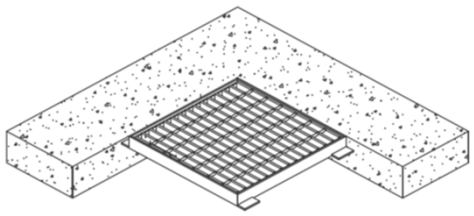
INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP1



INLET TYPE	MAG - 10'x2'	
LENGTH	10	FT
WIDTH	2	FT
OPEN AREA	15.09	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	CONTROLLING (CFS)
0.00	0.0	0.0	0.0
0.05	0.4	9.1	0.4
0.10	1.1	12.8	1.1
0.15	2.1	15.7	2.1
0.20	3.2	18.1	3.2
0.25	4.5	20.3	4.5
0.30	5.9	22.2	5.9
0.35	7.5	24.0	7.5
0.40	9.1	25.7	9.1
0.45	10.9	27.2	10.9
0.50	12.7	28.7	12.7
0.55	14.7	30.1	14.7
0.60	16.7	31.4	16.7
0.65	18.9	32.7	18.9
0.70	21.1	34.0	21.1
0.75	23.4	35.1	23.4
0.80	25.8	36.3	25.8
0.85	28.2	37.4	28.2

100-YR FLOW	11.5	CFS
CALCULATED DEPTH	0.50	FT

10-UP-2019
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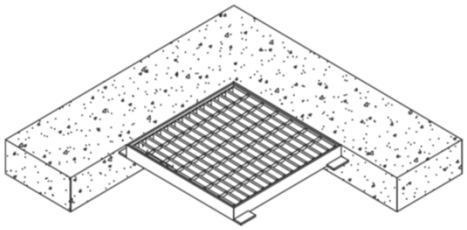
INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP2



INLET TYPE	MAG - 2'x2'	
LENGTH	2	FT
WIDTH	2	FT
OPEN AREA	3.02	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	CONTROLLING (CFS)	
0.00	0.0	0.0	0.0	0.00
0.05	0.1	1.8	0.1	0.05
0.10	0.4	2.6	0.4	0.10
0.15	0.7	3.1	0.7	0.15
0.20	1.1	3.6	1.1	0.20
0.25	1.5	4.1	1.5	0.25
0.30	2.0	4.4	2.0	0.30
0.35	2.5	4.8	2.5	0.35
0.40	3.0	5.1	3.0	0.40
0.45	3.6	5.4	3.6	0.45
0.50	4.2	5.7	4.2	0.50
0.55	4.9	6.0	4.9	0.55
0.60	5.6	6.3	5.6	0.60
0.65	6.3	6.5	6.3	0.65
0.70	7.0	6.8	6.8	0.70
0.75	7.8	7.0	7.0	0.75
0.80	8.6	7.3	7.3	0.80
0.85	9.4	7.5	7.5	0.85

100-YR FLOW	2.8	CFS
CALCULATED DEPTH	0.40	FT

10-UP-2019
09/26/2019

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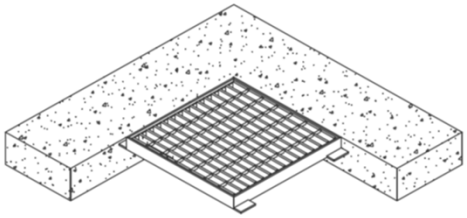
INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP3 - EXISTING



INLET TYPE	MAG - 2'x6'	
LENGTH	6	FT
WIDTH	2	FT
OPEN AREA	9.06	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	ONTROLLING (CFS)	
0.00	0.0	0.0	0.0	0.00
0.05	0.3	5.4	0.3	0.05
0.10	0.8	7.7	0.8	0.10
0.15	1.4	9.4	1.4	0.15
0.20	2.1	10.9	2.1	0.20
0.25	3.0	12.2	3.0	0.25
0.30	3.9	13.3	3.9	0.30
0.35	5.0	14.4	5.0	0.35
0.40	6.1	15.4	6.1	0.40
0.45	7.2	16.3	7.2	0.45
0.50	8.5	17.2	8.5	0.50
0.55	9.8	18.1	9.8	0.55
0.60	11.2	18.9	11.2	0.60
0.65	12.6	19.6	12.6	0.65
0.70	14.1	20.4	14.1	0.70
0.75	15.6	21.1	15.6	0.75
0.80	17.2	21.8	17.2	0.80
0.85	18.8	22.4	18.8	0.85

100-YR FLOW	4.6	CFS
CALCULATED DEPTH	0.35	FT

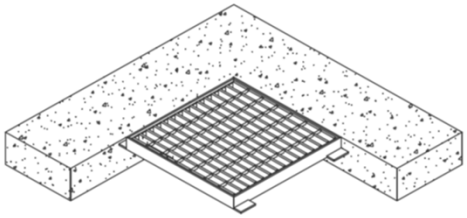
10-UP-2019
09/26/2019

CYPRESS CIVIL DEVELOPMENT

strength + sustainability

INLET CALCULATION

PROJECT KERRY'S CAR CARE SHEA
LOCATION CP4



INLET TYPE	MAG - 2'x3'	
LENGTH	2	FT
WIDTH	3	FT
OPEN AREA	4.53	SF
Cw	3.00	
Co	0.67	
CLOGGING FACTOR	50%	

DEPTH (FT)	WEIR (CFS)	ORIFICE (CFS)	ONTROLLING (CFS)	
0.00	0.0	0.0	0.0	0.00
0.05	0.2	2.7	0.2	0.05
0.10	0.5	3.8	0.5	0.10
0.15	0.9	4.7	0.9	0.15
0.20	1.3	5.4	1.3	0.20
0.25	1.9	6.1	1.9	0.25
0.30	2.5	6.7	2.5	0.30
0.35	3.1	7.2	3.1	0.35
0.40	3.8	7.7	3.8	0.40
0.45	4.5	8.2	4.5	0.45
0.50	5.3	8.6	5.3	0.50
0.55	6.1	9.0	6.1	0.55
0.60	7.0	9.4	7.0	0.60
0.65	7.9	9.8	7.9	0.65
0.70	8.8	10.2	8.8	0.70
0.75	9.7	10.5	9.7	0.75
0.80	10.7	10.9	10.7	0.80
0.85	11.8	11.2	11.2	0.85

100-YR FLOW	10.4	CFS
CALCULATED DEPTH	0.80	FT

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, USA*
Latitude: 33.5849°, Longitude: -111.8294°
Elevation: 1492.09 ft**
* source: ESRI Maps
** source: USGS

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_&_aerials

PF tabular

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

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**2.35** (1.96-2.92)	**3.08** (2.57-3.80)	**4.15** (3.43-5.12)	**4.99** (4.09-6.12)	**6.10** (4.92-7.45)	**6.95** (5.54-8.44)	**7.82** (6.13-9.48)	**8.70** (6.71-10.5)	**9.88** (7.43-12.0)	**10.8** (7.93-13.1)
10-min	**1.79** (1.48-2.21)	**2.34** (1.95-2.89)	**3.16** (2.61-3.89)	**3.79** (3.11-4.66)	**4.64** (3.75-5.67)	**5.29** (4.22-6.42)	**5.96** (4.67-7.21)	**6.62** (5.11-8.00)	**7.52** (5.65-9.10)	**8.20** (6.04-9.94)
15-min	**1.48** (1.23-1.83)	**1.93** (1.61-2.39)	**2.62** (2.16-3.22)	**3.14** (2.57-3.84)	**3.84** (3.10-4.68)	**4.37** (3.49-5.31)	**4.92** (3.86-5.96)	**5.47** (4.22-6.62)	**6.21** (4.67-7.52)	**6.78** (4.99-8.22)
30-min	**0.996** (0.826-1.23)	**1.30** (1.09-1.61)	**1.76** (1.45-2.17)	**2.11** (1.73-2.59)	**2.58** (2.08-3.15)	**2.94** (2.35-3.57)	**3.31** (2.60-4.01)	**3.69** (2.84-4.45)	**4.18** (3.14-5.06)	**4.56** (3.36-5.53)
60-min	**0.617** (0.511-0.762)	**0.806** (0.672-0.996)	**1.09** (0.899-1.34)	**1.31** (1.07-1.60)	**1.60** (1.29-1.95)	**1.82** (1.45-2.21)	**2.05** (1.61-2.48)	**2.28** (1.76-2.76)	**2.59** (1.95-3.13)	**2.82** (2.08-3.42)
2-hr	**0.360** (0.302-0.434)	**0.466** (0.392-0.564)	**0.621** (0.520-0.748)	**0.740** (0.612-0.889)	**0.900** (0.738-1.08)	**1.02** (0.827-1.22)	**1.15** (0.914-1.37)	**1.28** (0.997-1.52)	**1.45** (1.10-1.72)	**1.58** (1.18-1.89)
3-hr	**0.262** (0.220-0.322)	**0.336** (0.283-0.414)	**0.440** (0.368-0.540)	**0.522** (0.433-0.637)	**0.637** (0.519-0.771)	**0.728** (0.585-0.878)	**0.822** (0.650-0.991)	**0.921** (0.716-1.11)	**1.06** (0.797-1.27)	**1.17** (0.859-1.40)
6-hr	**0.158** (0.136-0.188)	**0.200** (0.172-0.238)	**0.255** (0.218-0.302)	**0.299** (0.253-0.353)	**0.359** (0.300-0.422)	**0.406** (0.334-0.475)	**0.454** (0.368-0.532)	**0.504** (0.402-0.591)	**0.572** (0.444-0.669)	**0.625** (0.474-0.733)
12-hr	**0.089** (0.077-0.104)	**0.112** (0.097-0.131)	**0.141** (0.122-0.165)	**0.164** (0.141-0.191)	**0.195** (0.165-0.227)	**0.219** (0.184-0.254)	**0.244** (0.201-0.282)	**0.269** (0.219-0.311)	**0.302** (0.240-0.351)	**0.328** (0.256-0.383)
24-hr	**0.053** (0.047-0.060)	**0.067** (0.059-0.077)	**0.086** (0.077-0.099)	**0.102** (0.090-0.116)	**0.124** (0.108-0.141)	**0.141** (0.122-0.160)	**0.159** (0.137-0.180)	**0.177** (0.151-0.201)	**0.203** (0.171-0.230)	**0.223** (0.186-0.254)
2-day	**0.029** (0.025-0.033)	**0.037** (0.033-0.042)	**0.048** (0.043-0.055)	**0.058** (0.051-0.066)	**0.070** (0.061-0.080)	**0.081** (0.070-0.092)	**0.091** (0.079-0.104)	**0.103** (0.088-0.117)	**0.119** (0.100-0.135)	**0.131** (0.109-0.150)
3-day	**0.021** (0.018-0.024)	**0.026** (0.023-0.030)	**0.035** (0.031-0.040)	**0.042** (0.037-0.047)	**0.051** (0.045-0.058)	**0.059** (0.051-0.067)	**0.067** (0.058-0.076)	**0.076** (0.065-0.086)	**0.088** (0.074-0.101)	**0.098** (0.082-0.112)
4-day	**0.017** (0.015-0.019)	**0.021** (0.019-0.024)	**0.028** (0.025-0.032)	**0.034** (0.030-0.038)	**0.042** (0.037-0.047)	**0.048** (0.042-0.055)	**0.055** (0.048-0.062)	**0.063** (0.054-0.071)	**0.073** (0.062-0.083)	**0.082** (0.068-0.093)
7-day	**0.011** (0.009-0.012)	**0.014** (0.012-0.016)	**0.018** (0.016-0.021)	**0.022** (0.019-0.025)	**0.027** (0.023-0.031)	**0.031** (0.027-0.035)	**0.036** (0.031-0.040)	**0.040** (0.034-0.046)	**0.047** (0.040-0.054)	**0.053** (0.044-0.060)
10-day	**0.008** (0.007-0.009)	**0.010** (0.009-0.012)	**0.014** (0.012-0.016)	**0.017** (0.015-0.019)	**0.021** (0.018-0.023)	**0.024** (0.021-0.027)	**0.027** (0.023-0.030)	**0.031** (0.026-0.035)	**0.036** (0.030-0.040)	**0.040** (0.033-0.045)
20-day	**0.005** (0.004-0.006)	**0.006** (0.006-0.007)	**0.009** (0.008-0.010)	**0.010** (0.009-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.016)	**0.016** (0.014-0.018)	**0.018** (0.015-0.020)	**0.020** (0.017-0.023)	**0.022** (0.018-0.025)
30-day	**0.004** (0.003-0.004)	**0.005** (0.005-0.006)	**0.007** (0.006-0.008)	**0.008** (0.007-0.009)	**0.010** (0.008-0.011)	**0.011** (0.010-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.015)	**0.016** (0.013-0.018)	**0.017** (0.014-0.019)
45-day	**0.003** (0.003-0.003)	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.006** (0.006-0.007)	**0.008** (0.007-0.009)	**0.009** (0.007-0.010)	**0.010** (0.008-0.011)	**0.011** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.011-0.015)
60-day	**0.003** (0.002-0.003)	**0.003** (0.003-0.004)	**0.004** (0.004-0.005)	**0.005** (0.005-0.006)	**0.006** (0.006-0.007)	**0.007** (0.006-0.008)	**0.008** (0.007-0.009)	**0.009** (0.007-0.010)	**0.010** (0.008-0.011)	**0.010** (0.009-0.012)

[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.

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PF graphical

APPENDIX F
(Section 404 Certification Form)

Section 404 Certification Form

CITY OF SCOTTSDALE

Before the City issues development permits for a project, the developer's Engineer or the property owner must certify that it complies with or is exempt from Section 404 of the Clean Water Act of the United States. Section 404 regulates the discharge of dredged or fill material into a wetland, lake (including dry lakes), river, stream (including intermittent streams, ephemeral washes and arroyos) or other waters of the United States.

Prior to submittal of improvement plans to Project Review, this form must be completed (and submitted with the improvement plans) as evidence of compliance.

Certification of Section 404 Permit Status:

Owner's Name: SimonCRE Phone No.: 480-745-1956

Project Name/Description: Kerry's Car Care - Shea Case No.:

Project Location/Address: 11653 East Sahuaro Drive
Scottsdale, Arizona 85259

A registered Engineer or the property owner must check the applicable condition and certify by signing below that:

1. **Section 404 does apply to the project because there will be a discharge of dredged or fill material to waters of the U.S., and:**

   ☐ A Section 404 Permit has already been obtained for this project.

   or

   ☐ This project qualifies for a "Nationwide Permit," and this project will meet all terms and conditions of the applicable nationwide permit.

2. **Section 404 <u>does not</u> apply to the project because:**

   ☑ No watercourse waters of the U.S. exist on the property.

   ☐ No jurisdictional waters of the U.S. exist on property. Attached is a copy of the COE's Jurisdictional Determination.

   ☐ Watercourses or other waters of the U.S. do exist on the property, but the project will not involve the discharge of dredged or fill material into any of these waters.

Registered Professional Engineer (Civil) CERTIFICATE NO. 53640 JEFFREY P. HUNT DATE SIGNED 8/20/19 ARIZONA U.S.A. Expires 06/30/2021

I certify that the above statement is true.

Engineer's Signature and Seal, or Owner's Signature — Date: 08/20/2019

P.E. Cypress Civil Development
Title/ Company

Planning and Development Services
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • www.ScottsdaleAZ.gov

10-UP-2019
09/26/2019