PRELIMINARY DRAINAGE REPORT

FOR THE

NEW RECTORY BUILDING

At
St. Bernard of Clairvaux Catholic Church
10755 North 124th Street
Scottsdale, Arizona 85259

Case No. 866-PA-2020

For
The Roman Catholic Diocese of Phoenix
400 East Monroe Street
Phoenix, AZ 85004

For Submittal to:
City of Scottsdale
7447 E. Indian School Road
Scottsdale, Arizona 85251

Prepared by:

VESPRO

8502 E. Via de Ventura, Suite 101
Scottsdale, AZ 85258

February 24, 2021

Job No. 20004

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FIGURES

EXHIBITS

APPENDICES

1 INTRODUCTION

1.1 Project Name, Location, Size and Brief Description

This report for the new Rectory Building (Project Site) at St. Bernard of Clairvaux Catholic Church has been prepared by VESPRO, per the direction of Brent Maupin Engineering & Design as part of the permit and construction requirements to meet the City of Scottsdale (COS) and Flood Control District of Maricopa County (FCDMC) regulations.

The Project Site is located at 10755 North 124th Street, Scottsdale, AZ 85259, within a portion of the southeast quarter of Section 23, Township 3 North, Range 5 East of the Gila and Salt River Baseline and Meridian, Maricopa County, Arizona. The Project Site is further described as being located at the northeast corner of the 124th Street and East Sahuaro Drive intersection (See Figure 1 – Vicinity Map). The Project Site is bound by existing Church buildings to the south and west, Desert Mountain High School athletic fields to the north, and an existing wash and residential homes to the east (See Figure 2 – Aerial Photo Map).

The existing Church property and Project Site are zoned as R1-43 ELS.

The Church property consists of approximately 8.94 acres (excluding right-of-way). The proposed Rectory Site consists of approximately 0.71 acres (30,990 +/- square feet) net and is an undeveloped pad within the Church property. The Rectory will consist of a 3,540-sf livable, one story, 5-bedroom building and adjacent improvements.

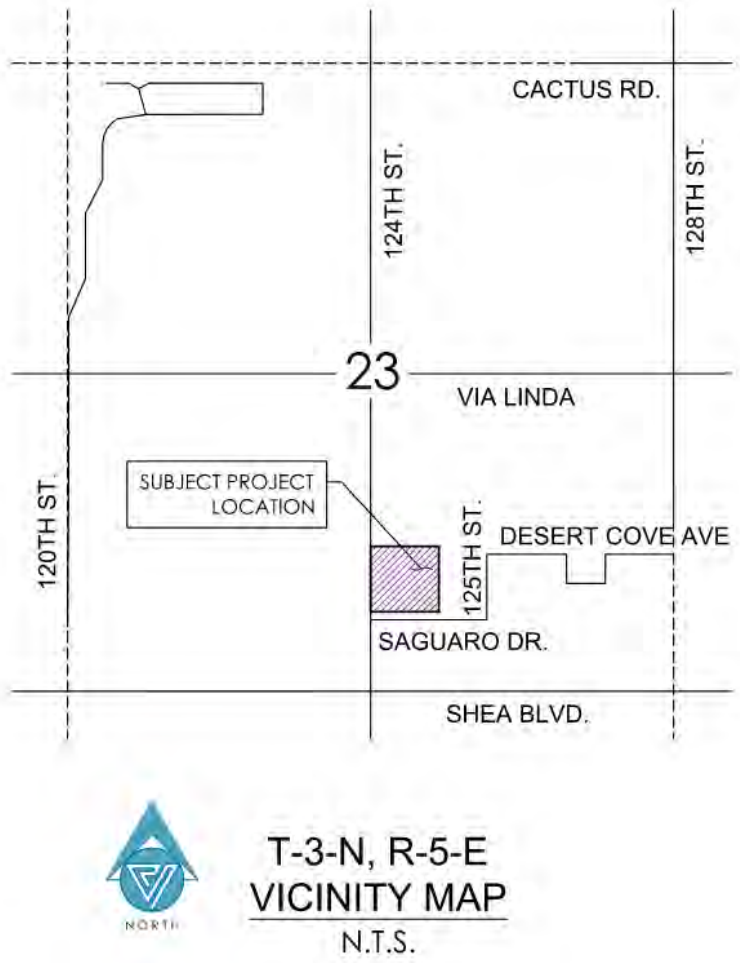
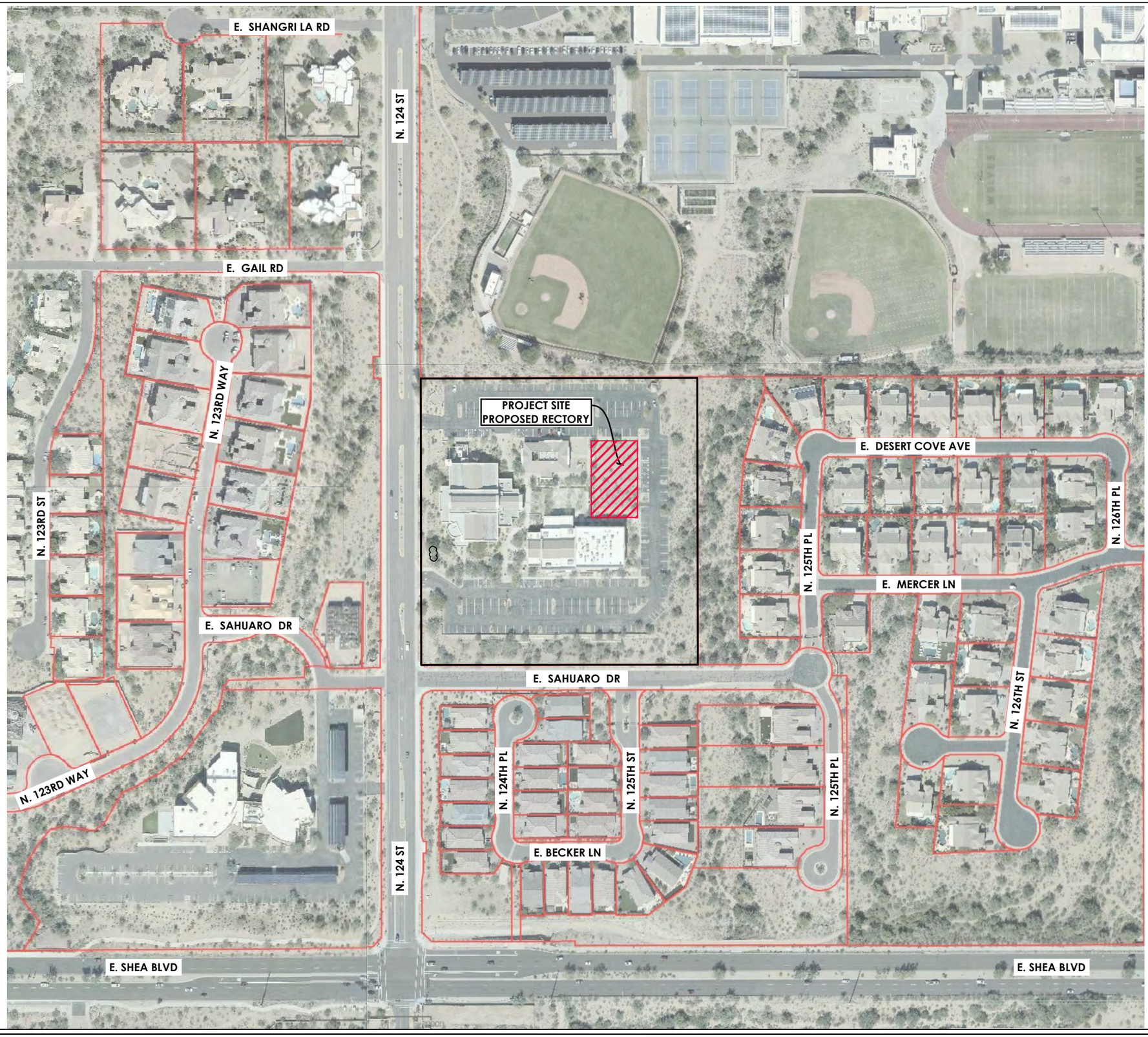


Figure 1 – Vicinity Map



VESPRO
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www.Vespro.net

REVISIONS

ST. BERNARD OF CLAIRVAUX CATHOLIC CHURCH

10755 N. 124TH ST. - SCOTTSDALE, ARIZONA 85259

FIGURE 2 - AERIAL PHOTO MAP

PROJECT NO:	20004
DRAWING DATE:	01/05/2021
DRAWN BY:	RSJ
CHECKED BY:	PV
DRAWING SCALE:	NTS
DRAWING FILE:	FIG2-AERIAL PHOTO MAP.DWG

FIGURE
2

14-DR-2021
4/16/2021

1.2 Type of Report

This document is a Preliminary Drainage Report for the New Rectory Building at the St. Bernard of Clairvaux Catholic Church located at 10755 North 124th Street, Scottsdale, AZ 85259.

1.3 Purpose and Objective

The purpose and objective of this Drainage Report is to provide hydrologic and hydraulic analyses in conformance with the published City of Scottsdale Design Standards & Policies Manual and the design standards set forth by the Flood Control District of Maricopa County (FCDMC) as pertaining to the proposed Rectory Building. It is the intent of this report to identify existing and proposed conditions, and to meet the City of Scottsdale Requirements.

1.4 Site Location Relative to Known FEMA Flood Hazard Zones

According to FEMA FIRM Maps #04013C1780L and #04013C1785L, dated October 16, 2013, the Project Site is located within a Flood Zone 'X': Areas of 0.2% annual chance flood; areas less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. See Figures 3A and 3B for the corresponding FEMA FIRMette(s).

1.5 Previous Drainage Report

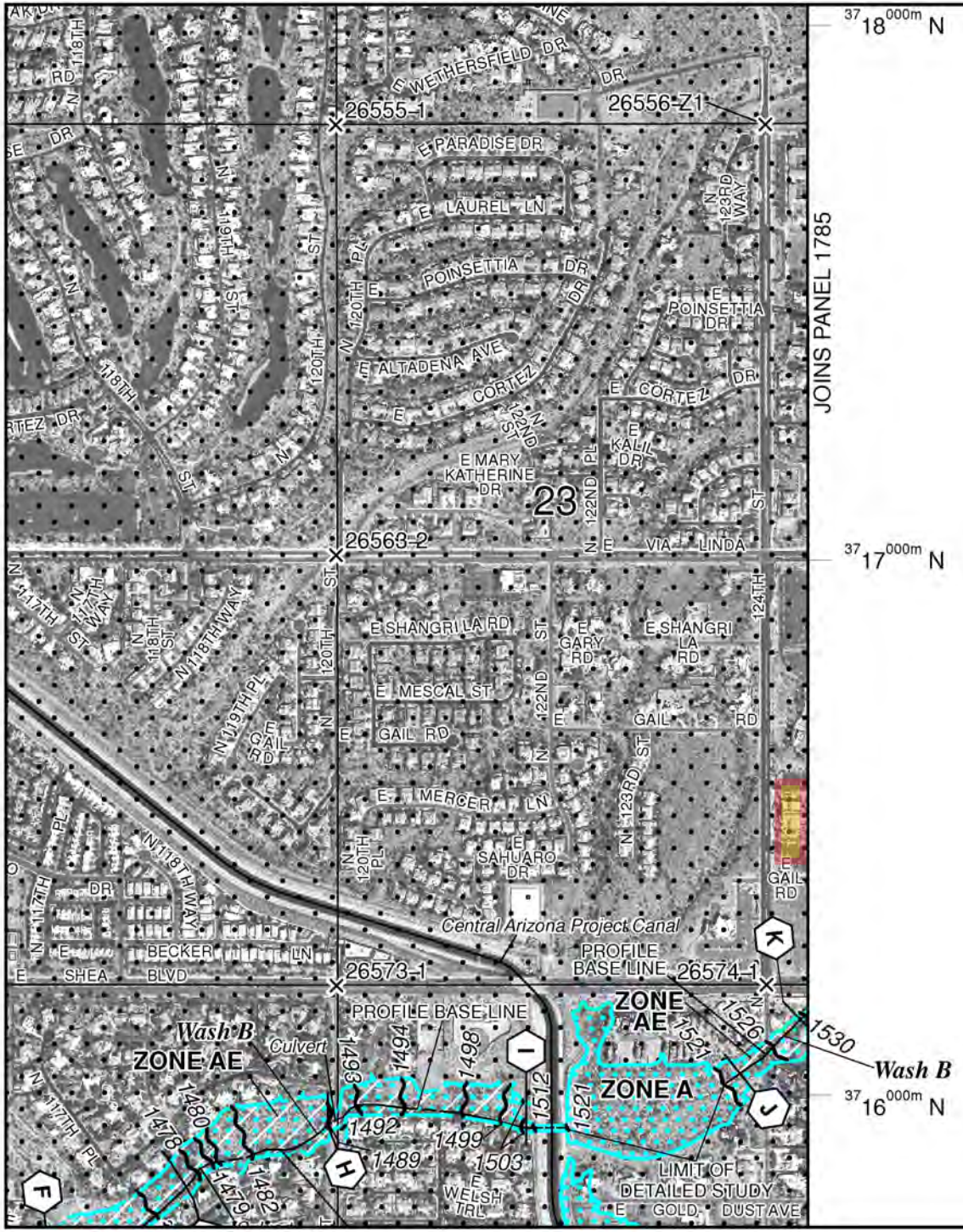
The Church property was developed with the main Church and Parish office in 1998 and the Drainage Design was completed by Wood Patel Engineers. In 2010 the Parish Center was developed, and the Drainage Design was completed by Hess-Rountree. The Drainage Report by Hess-Rountree is included as Appendix A herein. The Drainage Report by Hess-Rountree included the Drainage Report by Wood Patel as Appendix B therein.

2 DESCRIPTION OF EXISTING DRAINAGE CONDITIONS AND CHARACTERISTICS

2.1 FEMA Flood Hazard Zone(s)

According to the Flood Insurance Rate Map (FIRM) for Maricopa County and Incorporated Areas, Arizona, Panel Number(s) 04013C1780L and #04013C1785L, dated October 16, 2013, the Project Site is located within a Flood Zone 'X' (See Figure 3A & 3B – FEMA FIRMETTE Maps): The Federal Emergency Management Agency classifies this zone type as:

Zone X — Areas of 0.2% annual chance flood; areas less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.



MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

METE

PANEL 1780L

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 1780 OF 4425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1780	L
SCOTTSDALE, CITY OF	045012	1780	L

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

MAP NUMBER
04013C1780L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

Figure 3A

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

14-DR-2021
4/16/2021

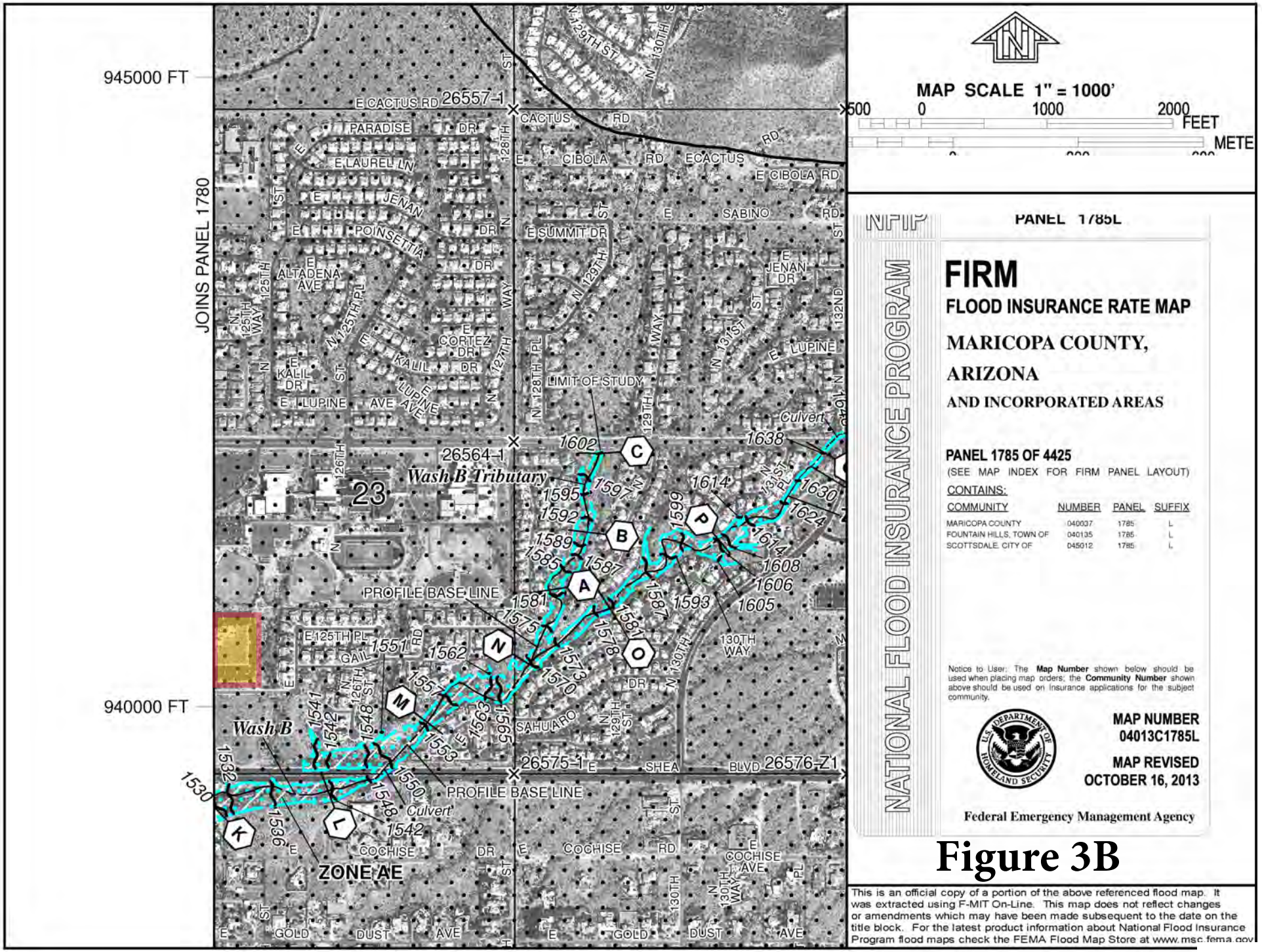


Figure 3B

14-DR-2021
4/16/2021

2.2 Offsite Drainage

As noted in the Hess-Rountree Drainage Report and the Wood-Patel Drainage Report, there no offsite stormwater flows which impact the site.

2.3 Onsite Drainage

As mentioned previously, the proposed Rectory Site lies on an undeveloped pad within the existing developed Church property. The Rectory Site is elevated above the surrounding developed portion of the Site. Existing topography shows that stormwater runoff generated within the Rectory Site boundary currently flows off of the undeveloped, relatively flat, pad in all directions to existing parking lot area, existing landscaped areas, and existing walkway areas. Stormwater is directed via sheet flow and existing storm drain infrastructure to an existing detention basin. The outfall for the Church property is located near the southwest corner of the site at elevation 1228.37.

The Church property was developed with the main Church and Parish office in 1998 and the drainage design was completed by Wood Patel Engineers. In 2010 the Parish Center was developed, and the drainage was designed by Hess-Rountree. The report by Hess-Rountree is included herein as Appendix A. In the Drainage Report by Hess-Rountree included the Drainage Report by Wood Patel Appendix B therein.

The existing Church Site Drainage Plan was designed to capture all onsite generated storm-water run off in a series of detention basins. The stormwater runoff from the Rectory Site is detained in existing detention basins and the relevant existing detention basins for the Rectory Site are shown in Exhibit “A”.

Stormwater from the north side of the Rectory flows north to the existing detention basins (DB1 and DB2) located in the north parking lot. This flow is piped directly to the large surface detention basin (DB5) located at the south boundary of the property adjacent to Sahuaro Drive. Stormwater from the west side of the Rectory is routed south and then east along with the stormwater from the south side of the Rectory. This flow is routed via surface flow and drainage pipe. The drainage pipe drains directly into the existing detention basin DB5. Stormwater that flows into the east parking lot flows south to the existing detention basin DB5.

3 Proposed Drainage Plan (See Exhibit "B")

3.1 General Description of Proposed Drainage System and Components

As discussed within Section 2, the existing drainage system and components were designed for future complete buildout of the entire St. Bernard of Clairvaux property including the new Rectory.

The proposed Project Site generated stormwater will enter the existing storm drain infrastructure, detention basin, and then bleed through an existing 8-inch bleed pipe to the east channel, see Appendix "A" for details from Hess-Rountree and Wood-Patel Drainage Reports. No additional storm drain infrastructure or stormwater conveyance measures are proposed.

The ultimate outfall of the site is located at southeast corner of the site at an elevation of 1228.37.

As shown in Exhibit "B" stormwater will be routed from the northwest portion of the Rectory Site through a scupper through the sidewalk to existing detention basins DB1 and DB2 located within the north parking lot. The storm water from these detention basins are piped directly to the large detention basin on the south side of the property adjacent to Sahuaro Drive.

Also shown in Exhibit "B" stormwater from the west side of the Rectory Site will be routed south and then east and flow via a combination of surface flow into the east parking area and into the drainage pipe south of the detention basin DB5. Stormwater from the southside of the Rectory Site, northeast side of the Rectory will flow into the east parking areas and then flow to drainage basin DB5. Stormwater from the southside of the Rectory, northeast side of the Rectory, and east side of the Rectory will flow to the east parking area and then flow to the Drainage Basin DB5.

3.2 Storm Water Storage Requirements

The City of Scottsdale has established a requirement to retain stormwater runoff falling within the property boundaries in accordance with the current City of Scottsdale Design Standards and Policy Manual (COS DS&PM), which includes the requirement to store the 100-year, 2-hour stormwater runoff volume. This volume is calculated below:

$$Vr = C\left(\frac{R}{12}\right) A$$

Where:

Vr = Required storage volume in cubic feet

C = The runoff coefficient utilized in the original Wood-Patel report was 0.95 for entire site

R = Precipitation amount, per approved NOAA Publication, depth in inches of the 100-year, 2-hour rainfall (2.35 inches), per NOAA website

A = Area of project site in square feet

The St. Bernard of Clairvaux Church property as mentioned previously is a developed site with only a small portion of the property, the Project Site to be improved. Previous detention calculations for this property have been completed and used a runoff coefficient of 2.82 to determine the volume required for the property. The resulting volume required was 77,350 cubic feet. The precipitation depth for the area in which this property lies has been updated since 1998 and the new precipitation depth is 2.35 inches. Accordingly, the volume required for the site is 60,810 cubic feet.

The existing volume detained onsite is 77,500 cubic feet. Therefore, the excess stormwater detention volume is approximately 16.000 cubic feet.

3.3 Stormwater Dissipation

The existing detention system was designed to dissipate stormwater runoff generated from the 100-year storm event in less than 36 hours. The existing 8-inch bleed pipe dissipates the existing detention system (volume provided 77,500 cubic feet) within 36-hours. For additional information see previous Drainage Reports by Hess-Rountree in Appendix "A".

4 Finished Floor Elevations

The finish floor elevation has been set at least 12 inches above the 100-year high water elevation of the adjacent channel to the east. The ultimate outfall is a bleed pipe linking the dissipation basin BD5 to the east wash. Refer to Drainage Exhibit B.

5 Special Conditions

There are no special conditions required for this site.

5.1 Storm Drain Maintenance

Ongoing maintenance of the existing drainage systems is required to preserve their design integrity. Poor maintenance can prevent the system from performing to its intended design purpose and can result in reduced performance. Maintenance is the responsibility of the property owner for facilities on private property. A regular maintenance program is required to have drainage systems perform to the level of protection or service as presented in this report and the project's plans and specifications.

6 SUMMARY AND CONCLUSION

The Drainage Report describes the existing and proposed site conditions, and identifies the 100-year, 2-hour storm detention requirements for the property and Project Site. And identifies the proposed Drainage Design for the new Rectory addition. The proposed drainage improvements include:

- Identification of the existing stormwater improvements that adequately capture and convey the 100-year storm and conveys the flows to onsite detention basins.
- The volume of stormwater detained on site will dissipate in less than 36 hours, via the 8-inch bleed line.
- The proposed finished floor elevation is at least 12 inches above the lowest adjacent back of curb elevation.
- The Rectory Addition will be constructed in accordance with previously approved Drainage Design for the Church Campus and in conformance with the published City of Scottsdale Design Standards & Policies Manual and the design standards set forth by the Flood Control District of Maricopa County.

7 REFERENCES

i. City of Scottsdale Design Standards & Policies Manual, 2018

ii. Hess-Rountree Drainage Report, May 2010

iii. Wood, Patel & Associates, Inc., Final Drainage Report Fore St. Bernard of Clairvaux, January 1998

iv. Hess-Rountree As-built Civil Plans

v. Church, Parish Center, and Parish Office As-Built Plans

vi. Flood Control District of Maricopa County, Hydrology Drainage Design Manual for Maricopa County, Arizona, August 2013

vii. Flood Control District of Maricopa County, Hydraulics Drainage Design Manual for Maricopa County, Arizona, August 2013

viii. Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona and Incorporated Areas, Panel Number 04013C2235L, revised October 16, 2013.

Appendix A

Drainage Report

By Hess-Rountree, 2010

PRELIMINARY DRAINAGE REPORT

FOR THE

NEW PARISH CENTER

Reviewed By ______ Date
5-25-10
Corrections
Accepted [X]
S-O # 327-PA-2008
Case # 38-DR-2010
145-3-10

AT

St. Bernard of Clairvaux Catholic Church
10755 North 124th Street
Scottsdale, Arizona 85259

FOR

THE ROMAN CATHOLIC DIOCESE OF PHOENIX
400 East Monroe Street
Phoenix, AZ 85004
Phone: (602)354-2000

Registered Professional Engineer (Civil)
Certificate No. 36664
PERCY MYRON, JR.
Date Signed 5/3/10
ARIZONA, U.S.A.
Expires 09/30/10

Stormwater Review By:
Joe Rumann
Phone 480-312-7072
Fax 480-312-7971
E-mail jrumann@ScottsdaleAZ.gov
Review Cycle 2 Date 5-25-10

Prepared by:

Hess-Rountree, Inc.
9831 South 51st Street, Suite C110
Phoenix, Arizona 85044
(480) 496-0244

REVISED MAY 3, 2010
H-R #0910-02

KW 2nd 5/17/10
Drainage Report
145-3-10

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A. SITE LOCATION AND DESCRIPTION

This existing site is located at 10755 North 124th Street, Scottsdale, AZ 85259, a portion of the southeast quarter of Section 23, T3N, R5E, City of Scottsdale, Arizona.

This project consists of the construction of a new parish center and associated hardscape areas on an existing church site.

B. OFFSITE DRAINAGE

The site is bounded by Desert Mountain High School on the north, a well defined wash on the east and Sahuaro Drive on the south. 124th Street is adjacent to the west property line. Per the attached Final Drainage Report for this site, prepared by Wood, Patel & Associates, Inc., located in Appendix B, there are no apparent offsite flows impacting the site.

C. ONSITE STORM DRAINAGE

The site was originally designed to detain stormwater runoff from the 100-year, 2-hour storm. The north parking lot was designed to have two detention basins, DB1 and DB2 within the parking lot, that are piped directly to a large detention basin on the south side of the site, DB5. The eastern parking lot sheet flows to the south parking lot, which was designed to have two detention basins, DB3 and DB4 within the parking lot, which also drain into detention basin DB5. Another originally designed detention basin, DB6, located north of the southern driveway entrance, also drains into detention basin DB5. A drainage map located within Appendix B, shows all the detention basins described above.

All detention basins are present and appear to function as originally designed.

Based on the original drainage report in Appendix B, all detention basins were designed for the master planned full development of the site, including the new parish center. All storm drainage detained in the existing southern detention basin, DB5, will drain through a small diameter bleed off pipe into the existing wash located east of the site, as described and calculated within the attached Final Drainage Report in Appendix B.

Drainage from the new courtyard, located north of the new parish center building, will drain east and south around the east side of the new parish center building via overland sheet flow and a new storm drain system. This project will be designed to

have all storm drainage flow away from the proposed building to prohibit storm drainage from the 100-year, 2-hour storm from entering the building. All storm drainage generated from this project will be detained within the existing detention basins DB3, DB4 and DB5, located south of the improvement area. This storm drainage will then bleed off into the wash as originally designed.

There are no Army Corp. of Engineers 404 issues with this project.

As part of the final design, a storm water management plan will be created in compliance with National Pollutant Discharge Elimination Systems (NPDES) requirements. A Notice of Intent (NOI) and Notice of Termination (NOT) will be submitted at the beginning and end of this project.

E. FLOODPLAIN INFORMATION

The site is located within a zone designated as Zone "X" per Flood Insurance Rate Map, Panel 1710 of 4350, Map No. 04013C1710F, Revised September 30, 2005.

Zone "X" is defined as areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

APPENDIX A

Preliminary Grading and Drainage Plans

APPENDIX B

"Final Drainage Report for
St. Bernard of Clairvaux,
Scottsdale, Arizona"

Prepared by Wood, Patel & Associates, Inc.

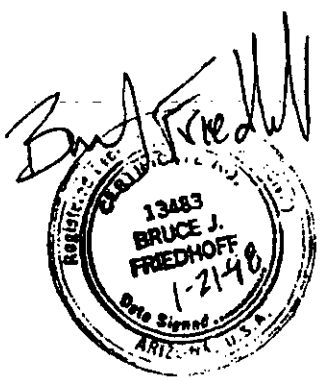
FINAL DRAINAGE REPORT
FOR
ST. BERNARD OF CLAIRVAUX
SCOTTSDALE, ARIZONA

Prepared for:

The Arch Diocese of Phoenix
400 East Monroe Street
Phoenix, AZ 85004

Prepared by:

Wood, Patel & Associates, Inc.
1550 East Missouri
Suite 203
Phoenix, AZ 85014
Bruce Friedhoff
(602) 234-1344
(Fax) 234-1322



January 21, 1998
WP # 96526

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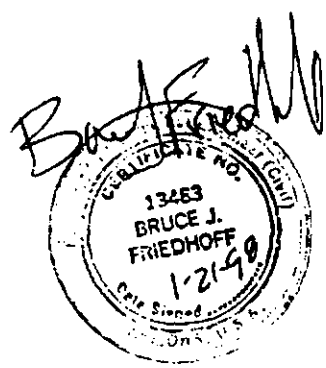
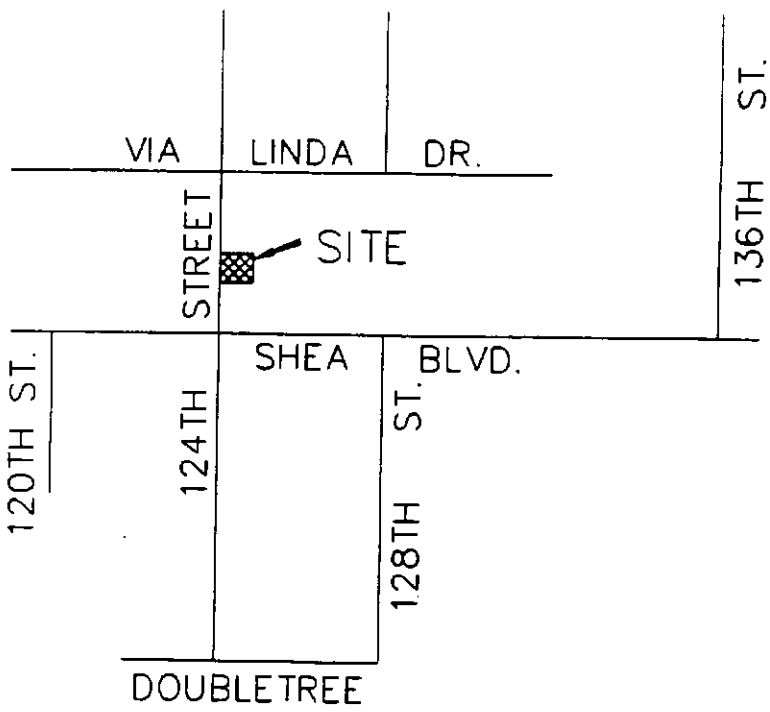


1.0 INTRODUCTION

The proposed church site, known as St. Bernard, is located in the northeast region of Scottsdale. The project is approximately 10 acres in gross size with 7.5 acres of developed area. St. Bernard is located in the west half of the southeast quarter of section 23, T3N, R5E in the City of Scottsdale, Maricopa County, Arizona. The site lies approximately ¼ mile north of Shea Boulevard on the east side of 124th Street. Refer to the Vicinity Map below.



VICINITY MAP

N.T.S.

2.0 OBJECTIVES

This final drainage report has been prepared to comply with the standards of the City of Scottsdale and the Maricopa County Flood Control District. The site will detain excess runoff generated from the 100-year storm event for a minimum of 24 hours and will not increase the rate of flow to the wash while maintaining all finished floor elevations at least one (1) foot above the 100-year high water elevation.

3.0 DESCRIPTION OF DRAINAGE CHARACTERISTICS

The property lies to the southwest of the McDowell Mountains with average slopes of 3% to 5% from north to south and ranges in elevation from 1589 to 1564. Ground cover consists mainly of saguaro, prickly pear, barrel cactus, creosote bush and palo verde. The site is bordered to the north by Desert Mountain High School, to the west by 124th Street, to the south by the Clinton Street right-of-way and to the east by a well defined wash.

The St. Bernard site is located on a ridge, with roughly two-thirds of the stormwater draining to the southwest corner where it flows along the 124th Street right-of-way to Shea Boulevard. The eastern third of the site drains to a natural wash that runs from north to south. The 100-year highwater elevations for the wash can be seen on the drainage map at the end of this report. Since no grading work will be performed under the wash high water mark, a Corps of Engineers 404 Permit will not be necessary. The wash is within the boundaries of the General Drainage Plan for North Scottsdale, written by Bob Ward from Water Resources Associates, Inc. on April 14, 1988.

According to the drainage report for the neighboring Desert Mountain High School, the stormwater generated to the north of our site will be detained and discharged to the wash at a rate less than or equal to predevelopment conditions. Likewise, a drainage report for Cholla Ranch from Carter Associates, Inc., a UDC Homes development north of Desert Mountain High School, states that stormwater generated on that site will be detained and discharged to the wash at a rate that does not increase the peak flow of the wash. There are no other known future developments upstream of the project that will affect the wash or development of this site.

An investigation of the aerial and topography maps of the area shows that offsite stormwater flows generated from the west of St. Bernard will be intercepted by 124th Street. The wash will intercept any runoff from the west. As the wash flows south from the church site, the stormwater crosses under Shea Boulevard and joins another wash that continues to the southwest.

According to the FEMA Flood Insurance Rate Map #04013C1710 D, the site lies within Zone X. Zone X is defined as:

> *"Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by the levees from the base flood".*

4.0 PROPOSED DRAINAGE PLAN

The site will be designed to detain excess rainfall runoff for the 100-year, 2-hour storm. Therefore, discharge to the wash will not exceed the original, undeveloped flows. Design will conform to the policies in the City of Scottsdale's Design Procedures and Criteria, and Design Facilities to Manage Stormwater Runoff.

A detention basin will be located along the southern boundary of the site and will provide detention for the 100-year, 2-hour storm event. Roof top runoff from the buildings will be piped directly to the detention basin. The courtyard area will be graded to area drains that will drain to the detention basin along the south boundary of the site. The north parking lot has two detention basins, DB1 and DB2, that drain via pipe directly to DB5. The eastern parking lot sheet flows to the southern parking lot, where runoff is detained in areas DB3 and DB4, which are also drained to the main detention basin. Basin DB6, located to the north of the southern driveway entrance, will detain runoff generated along 124th Street and the main church building.

The volume required for the developed area, not including runoff generated in the NAOS areas, is 77,350 cubic feet. The total volume provided in the detention areas is 77,500 cubic feet, leaving an excess capacity of 150 cubic feet.

The detention basin will be discharged to the wash through a 8" PVC pipe that will meter the flow between 0.9 cfs and 0.6 cfs to drain the basin within the 24-hour to 36-hour time period following the storm. Compared to a peak flow of 335 cfs in the wash, no significant impact will be placed on either downstream or upstream drainage systems.

Based on preliminary discussions with City of Scottsdale staff and review of the proposed basin geometry, it was concluded that varying the detention basin depth from 3' to 4.5' along Clinton Street between 124th Street and the existing wash to the east would provide adequate opportunity for shallow water exits and recovery with the provision that the deeper part of the basin would be located away from 124th Street at the east end of the property.

5.0 CONCLUSION

St. Bernard will be designed to meet all City of Scottsdale requirements. The post development peak flows discharged to the wash will be less than or equal to the pre-developed flows. The detention volume of 1.78 ac-ft will be provided on site and will drain in less than 36 hours from a small diameter pipe.

APPENDIX

12-11-97
RTL
WP#46526

St. Bernard Detention
Volume Calculations

- Volume Required

Gross Area = 10.015 Ac = 436,257 ft²
- 29,744 ft² 34th R/W
- 15,328 ft² Clinton R/W

Net Area = 391,185 ft²
-64,300 ft² NAOS

Improved Area = A_i = 326,885 ft²

$$V_{req} = \frac{CPA_i}{12} = \frac{0.95\,(2.82\text{ in})(326{,}885\text{ ft}^2)}{12\text{ in/ft}}$$

$$V_{req} = 77{,}353\text{ ft}^3$$

- Volume Provided

Basin	Area (sq ft)	Max. Depth (ft)	Avg. Depth (ft)	Volume (cu ft)
DB1	12,000	1.0	0.3	3,600
DB2	12,000	1.0	0.3	3,600
DB3	12,000	1.0	0.3	3,600
DB4	12,000	1.0	0.3	3,600
DB5	20,163	4.5	3.0	59,600
DB6	2,250	3.0	1.6	3,500
		Total Retention Provided		77,500

- Excess Detention

$V_{ex} \approx 150\text{ ft}^3$

1-8-98
RTY
WP# 96526

St. Bernard
Outflow Calculation

- Detention Volume = 77,350 ft^3

To drain basin in 36 hours,

$$Q = \frac{V}{t} = \frac{77350\ ft^3}{36(60)(60)} = 0.6\ ft^3/sec$$

To drain basin in 24 hours,

$$Q = \frac{V}{t} = \frac{77350}{24(60)(60)} = 0.9\ ft^3/sec$$

Use 8" outflow pipe, Q = 0.6 cfs.
See next page for calculation.

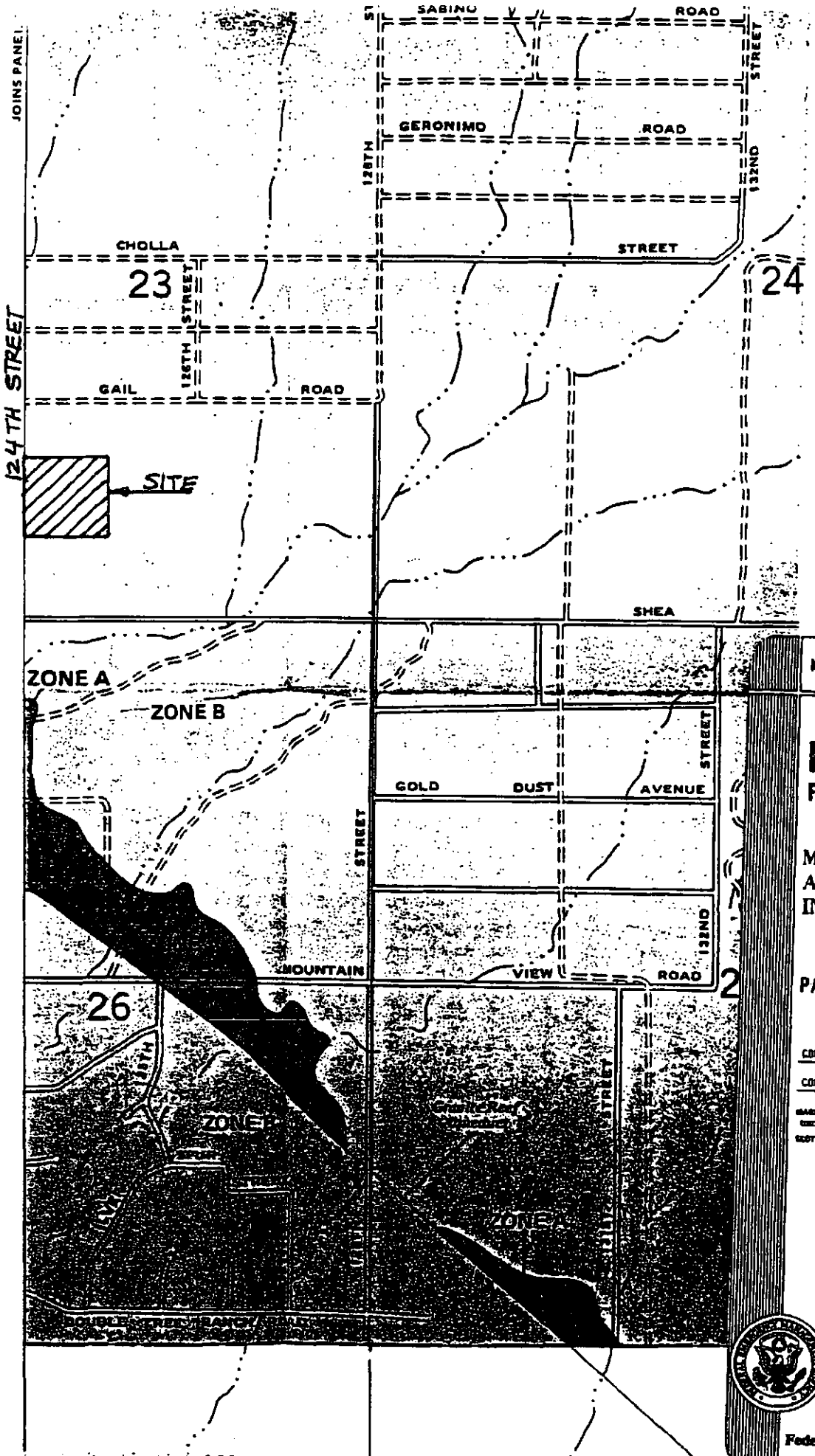
8" Outflow Pipe
Worksheet for Circular Channel

Project Description	
Project File	n:\970415\stbern.fm2
Worksheet	St. Bernard Detention Outflow
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Capacity

Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.002230	ft/ft
Diameter	0.67	ft

Results		
Depth	0.67	ft
Discharge	0.57	ft³/s
Flow Area	0.35	ft²
Wetted Perimeter	2.09	ft
Top Width	0.00	ft
Critical Depth	0.35	ft
Percent Full	100.00	%
Critical Slope	0.007239	ft/ft
Velocity	1.63	ft/s
Velocity Head	0.04	ft
Specific Energy	FULL	ft
Froude Number	FULL	
Maximum Discharge	0.61	ft³/s
Full Flow Capacity	0.57	ft³/s
Full Flow Slope	0.002230	ft/ft

14-DR-2021
4/16/2021



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1710 OF 4350

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	1710	D
SCOTTSDALE, CITY OF	045012	1710	D

MAP NUMBER
04013C1710 D

EFFECTIVE DATE:
APRIL 15, 1988

Federal Emergency Management Agency