

INFILTRATION TESTING REPORT

ANTHEM CHAPEL
6595 COVINGTON WAY
GOLETA, CALIFORNIA

PROJECT NO.: 306481-001

APRIL 18, 2024

(REVISED JUNE 13, 2024)

PREPARED FOR
ANTHEM CHAPEL
ATTENTION: PASTOR NATE WAGNER
& PASTOR LARS LINTON

BY
EARTH SYSTEMS PACIFIC
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April 18, 2024
(Revised June 13, 2024)

Project No.: 306481-001
Report No.: 24-4-64

Anthem Chapel
Attention: Pastor Nate Wagner and Pastor Lars Linton
6595 Covington Way
Goleta, California 93117

Project: Anthem Chapel
6595 Covington Way
Goleta, California
Subject: Infiltration Testing Report

As authorized, Earth Systems Pacific (Earth Systems) has prepared an Infiltration Testing Report for proposed stormwater infiltration feasibility at Anthem Chapel located at the street address of 6595 Covington Way in Goleta, California. The accompanying Infiltration Testing Report presents the results of our subsurface exploration and infiltration testing. This report completes the scope of services described within our Proposal No. SBA-22-12-006 dated December 22, 2023 and authorized by Larry Linton on January 4, 2024.

We have appreciated the opportunity to be of service to you on this project. Please call if you have any questions, or if we can be of further service.

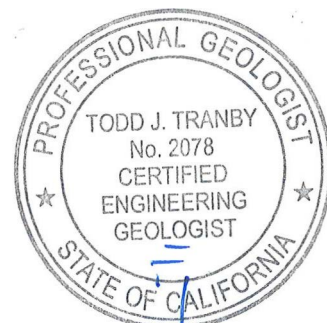
Respectfully submitted,

EARTH SYSTEMS PACIFIC



Meng Wei Lu
Geotechnical Engineer

6-13-2024



Todd Tranby
Engineering Geologist

6-13-2024

Copies: 1 - Client (email)
1 - Project File

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INTRODUCTION

Project Description

This report presents results of infiltration testing performed for a proposed main sanctuary and a parking lot to determine stormwater infiltration feasibility at Anthem Chapel located at the street address of 6595 Covington Way in Goleta, California (see Vicinity Map in Appendix A).

The main sanctuary will be a two-story, approximately 16,000 square-foot building. The new parking lot is anticipated to be paved with asphalt concrete and permeable pavers.

Purpose and Scope of Work

The purpose of the geotechnical study was to analyze the soil and groundwater conditions at the project site and to provide infiltration test rates. The scope of work included:

- Drilling and logging 16 hand-augered and 9 hollow-stem auger borings to study soil and groundwater conditions.
- Performing infiltration testing in the sixteen hand-augered infiltration borings.
- Analyzing the infiltration data obtained.
- Preparing this report.

Site Setting

The proposed construction area is located at the southeast corner of North Los Carneros Road and Covington Way in Goleta, California. The property is bounded by North Los Carneros Road on the southwest, by Covington Way on the northwest, by a Goleta Valley Historical Society site and Los Carneros Lake Park to the northeast, and by Santa Barbara County Fire Station 14 to the southeast. The project site is relatively flat with slight surface drainage to the south. The geographic coordinates of the project site are 34.4437° North Latitude and -119.8536° West Longitude.

SOIL AND GROUNDWATER CONDITIONS

Evaluation of the subsurface indicates that much of the proposed main sanctuary area is underlain by alluvium composed of lean sand clays, clayey sands, and silty sands within the depth of influence of anticipated shallow foundations. The clayey soils vary from medium stiff to very stiff, and the sandy soils vary from medium dense to dense. The density and stiffness of the soils increase with depth. At a depth of about 23.5 feet a very stiff fat clay was

encountered, and below a depth of 40 feet was hard sandy clay. These two latter units are thought to be weathered and unweathered Rincon Formation bedrock.

Groundwater was encountered at a depth of about 20 feet in Borings B-1. It should be noted that fluctuations in groundwater levels may occur because of variations in rainfall, regional climate, and other factors.

INFILTRATION TESTING

On December 28, 2024 and March 13, 2024, Borings IT-1 through IT-16 were drilled to depths of approximately 2 to 12 feet below the existing site grades to determine the soil profile and allow installation of plastic casing for infiltration testing (see Site Plan in Appendix A for infiltration boring locations).

After drilling was completed, 3-inch diameter slotted PVC casings were lowered into the boreholes. The annuli between the casings and boring walls were then filled with pea gravel. The City of Santa Barbara falling-head borehole infiltration test procedure was used for infiltration testing. Approximately 2 feet of water was added to the bottom each hole to start the tests, and the drop in the water surface monitored by taking periodic measurements. Readings were taken at reasonable time intervals based on the infiltrating rate, and after each of these intervals, water was added to return the water level to its approximate original depth above the hole bottom. The tests were run until the infiltration rates were reasonably stable.

It should be noted that the rate the water surface drops in a borehole is a percolation rate, which is related to, but is not an infiltration rate. Percolation rate ignores the wetted soil surface area into which the water is infiltrating and does not account for the volume of water infiltrated. An infiltration rate considers both factors. Hence, percolation rates (in unit length per unit time) are an overestimation of infiltration rates (also in unit length per unit time). Earth Systems uses the Porchet equation to account for the wetted surface area and volume of water infiltrated to estimate an infiltration rate. Forms of the equation can be found in the Riverside County - Low Impact Development BMP Design Handbook (2001), the South Orange County Version, Technical Guidance Documents Appendices (2017), or in a paper by J.W. Van Hoorn, "Determining Hydraulic Conductivity with the Inversed Auger Hole and Infiltrometer Methods." The Porchet equation in its most simple form is the volume of water infiltrated divided by the product of the change in time and the wetted surface area. By substitution, the equation can be shown to be equal to:

$$\text{Infiltration Rate (inches /hr.)} = \frac{\Delta H * r * 60}{\Delta t * (r + 2H_{\text{avg}})}$$

where: ΔH = Change in water level (inches)
 Δt = Change in time (minutes)
 r = Radius of test hole (inches)
 H_{avg} = Average height of water in test hole (inches)

The above equation does not account for the gravel pack in the annulus between the borehole wall and the slotted pipe fitted in the test hole. Ignoring the gravel pack inflates the amount of water infiltrated and, hence, yields an unconservative infiltration rate. A method to account for the volume occupied by the gravel (and the slotted pipe) and adjust the infiltration rate accordingly is presented in Caltrans Test 750. Earth Systems makes this additional adjustment to our test data. The equation is:

$$\text{Correction Factor} = n * [1 - (O/D)^2] + (I/D)^2$$

Where: n = Pea gravel porosity
 O = Outside diameter of slotted pipe (inches)
 D = Test hole diameter (inches)
 I = Inside diameter of slotted pipe (inches)

Earth Systems has determined an average porosity for the pea gravel used in our testing. The other values are simple measurements.

Based on the infiltration testing results in Appendix B, the slowest measured test infiltration rates for the depths tested and boring locations are summarized in the following table:

Boring	Test Hole Depth (feet)	Infiltration Rate (inch/hour)
IT-1	2.0	0.06
IT-2	11.31	0.52
IT-3	2.6	0.18
IT-4	11.8	0.05
IT-5	4.9	0.00

IT-6	2.3	0.05
IT-7	11.50	0.84
IT-8	3.65	0.02
IT-9	9.25	0.00
IT-10	5.5	0.05
IT-11	6.13	0.36
IT-12	7.5	0.77
IT-13	7.25	0.00
IT-14	5.05	0.54
IT-15	7.7	0.49
IT-16	6.7	1.84

There are many factors that influence the infiltration rate. Clear water was used in our tests, whereas deleterious material will likely be contained in the storm water. Variations in soil conditions within the limits of the proposed infiltration system will likely affect infiltration characteristics. The designer who utilizes the infiltration results should consider these factors, as well as apply a factor-of-safety to the infiltration rate to account for future disposal bed siltation.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

The analysis and conclusions submitted herein are based upon the tests performed for this study. If variations in the subsurface conditions become evident during construction of the stormwater disposal system(s), it will be necessary to reevaluate the infiltration rates reported in this letter.

The scope of services did not include any environmental assessment or investigation for the presence or absence of wetlands, hazardous or toxic materials in the soil, surface water, groundwater or air, on, below, or around this site. Any statements in this report or on the soil boring logs regarding odors noted, unusual or suspicious items or conditions observed, are strictly for the information of the client.

Findings of this report are valid as of this date; however, changes in conditions of a property can occur with passage of time whether they be due to natural processes or works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur whether they result from legislation or broadening of knowledge. Accordingly, findings of this

report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of 1 year.

In the event that any changes in the nature, design, or location of the proposed stormwater disposal system(s) and other improvements are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

This report is issued with the understanding that it is the responsibility of the Owner, or of his representative to ensure that the information and recommendations contained herein are called to the attention of the Architect and Engineers for the project and incorporated into the plan and that the necessary steps are taken to see that the Contractor and Subcontractors carry out such recommendations in the field.

As the Geotechnical Engineers for this project, Earth Systems has striven to provide services in accordance with generally accepted geotechnical engineering practices in this community at this time. No warranty or guarantee is expressed or implied. This report was prepared for the exclusive use of the Client for the purposes stated in this document for the referenced project only. No third party may use or rely on this report without express written authorization from Earth Systems for such use or reliance.

APPENDIX A

Vicinity Map

Regional Geologic Maps

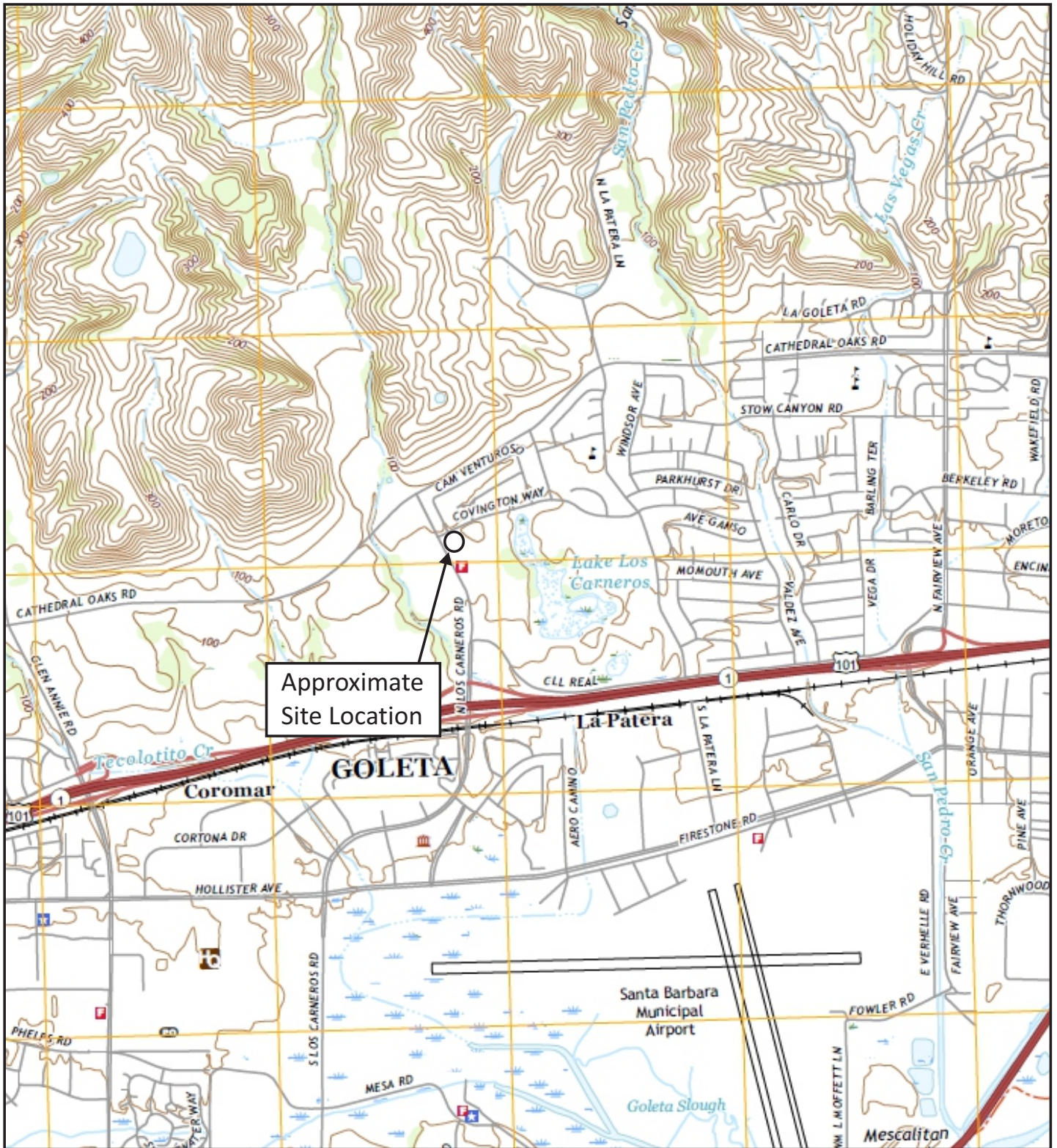
Field Study

Site Plan

Boring Logs

Boring Log Symbols

Unified Soil Classification System



*Taken from USGS Topo Map, Goleta Quadrangle, California, 2022.

Approximate Scale: 1" = 2,000'

0 2,000' 4,000'



VICINITY MAP

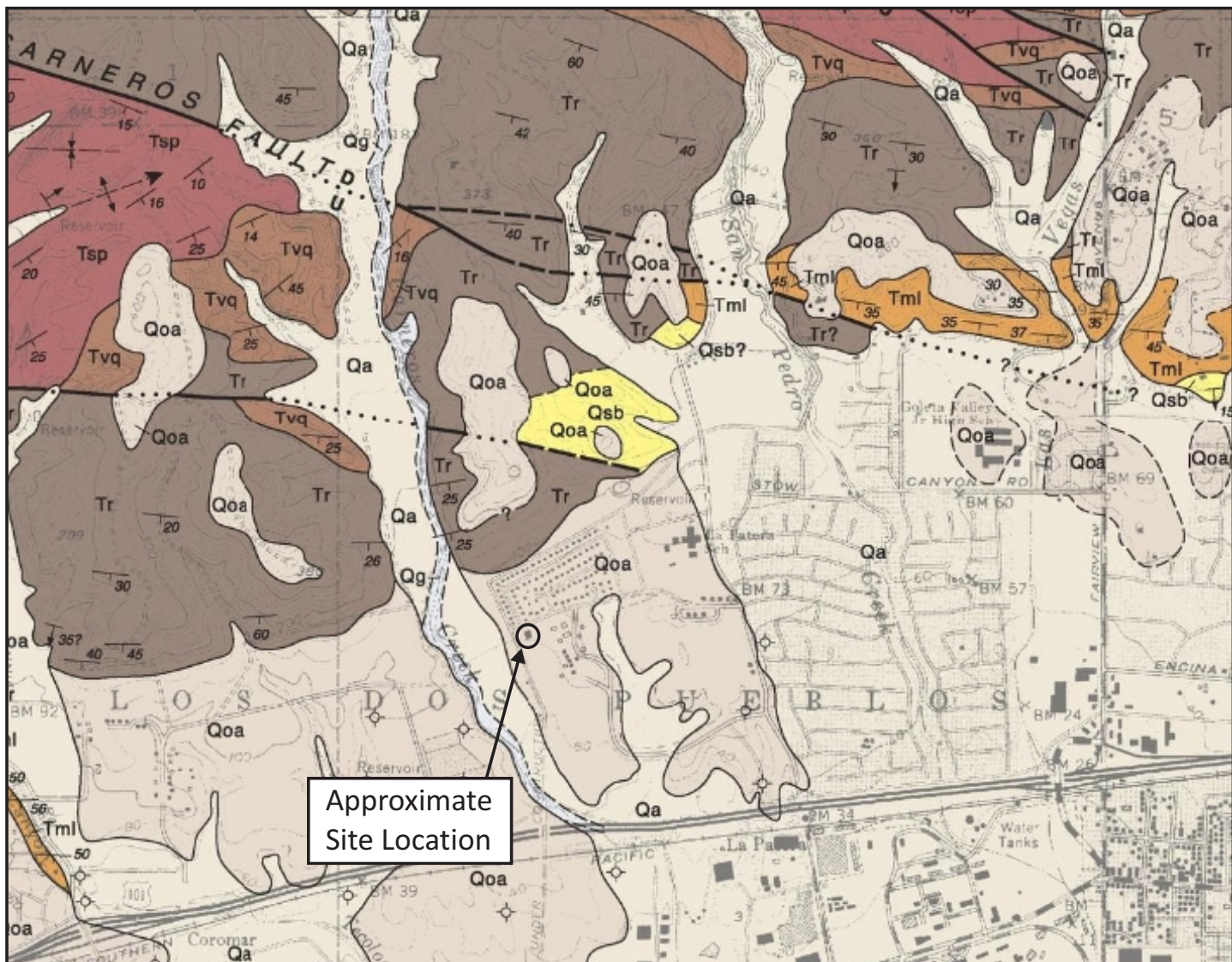
Anthem Chapel
6595 Covington Way
Goleta Area of Santa Barbara County, California



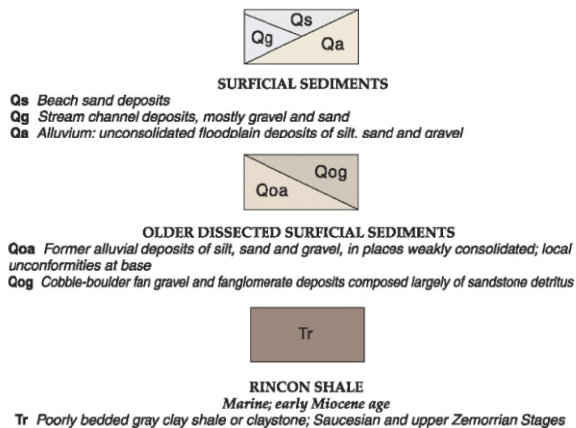
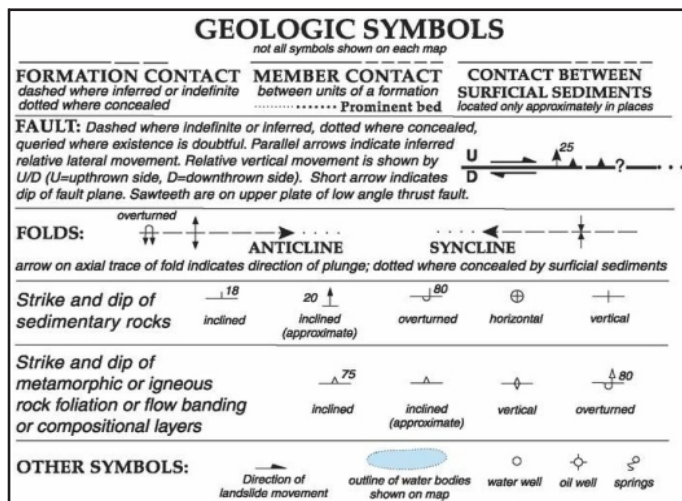
Earth Systems

March 2024

306481-001



*Taken from Dibblee, Jr., Geologic Map of The Goleta Quadrangle, Santa Barbara County, California, 1987, DF-07.



REGIONAL GEOLOGIC MAP 1

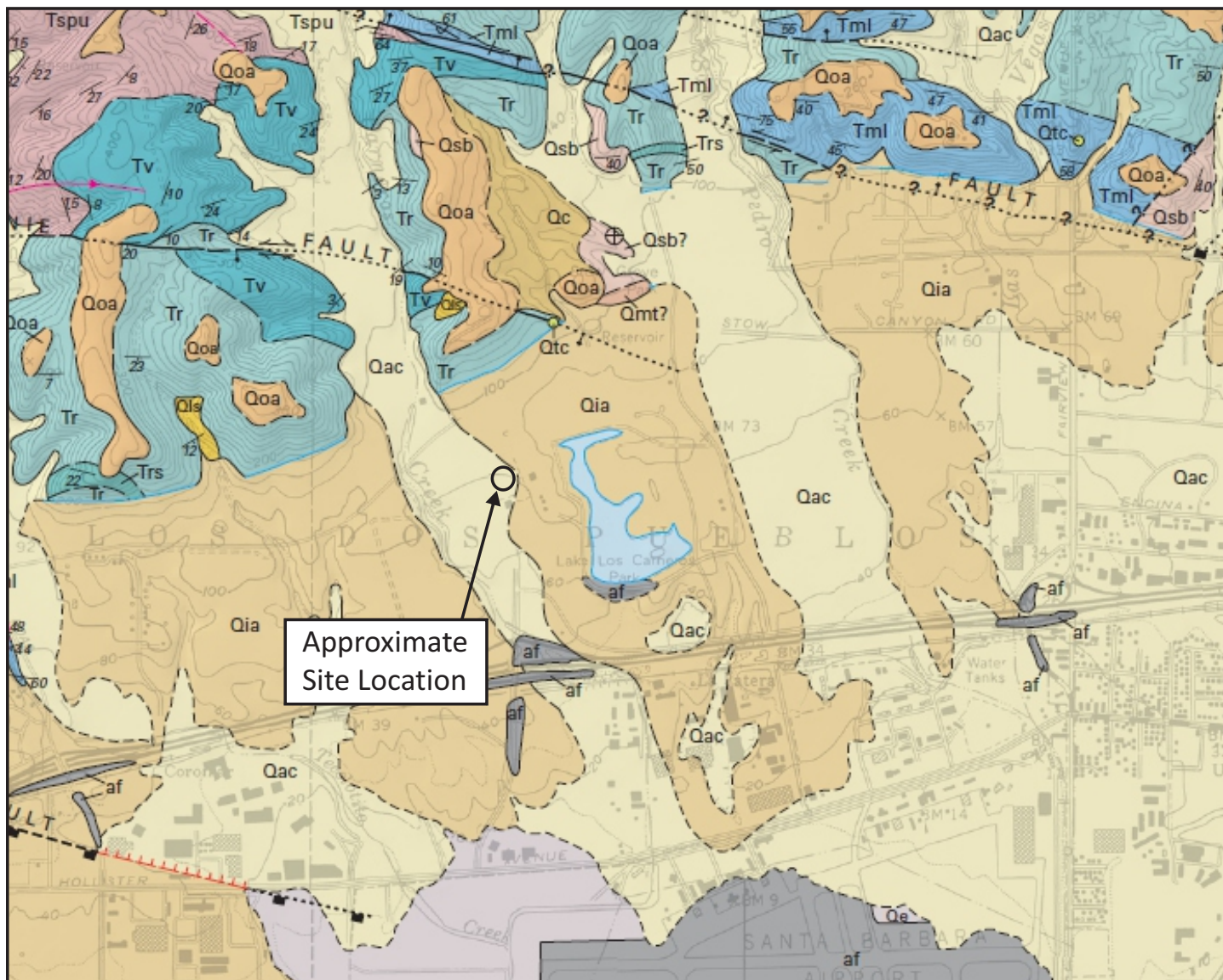
Anthem Chapel
6595 Covington Way
Goleta Area of Santa Barbara County, California



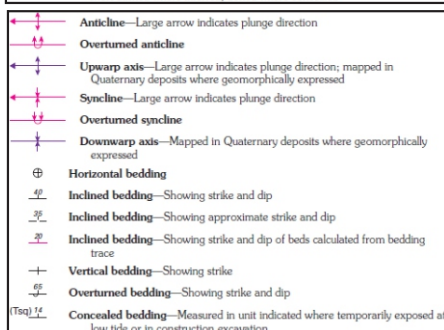
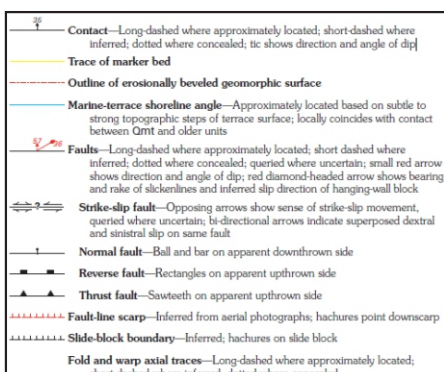
Earth Systems

March 2024

306481-001



*Taken from Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California, 2009.



Qac **Alluvium and colluvium (Holocene and upper Pleistocene)**—Poorly consolidated silt, sand, and gravel deposits of modern drainages and piedmont alluvial fans and floodplains. Exposed thickness generally less than 10 m



Qia **Intermediate alluvial deposits (upper Pleistocene)**—Weakly consolidated, stratified silt, sand, and gravel that form low, rounded, moderately dissected terraces and piedmont alluvial fans that rest at higher elevations than the modern coastal piedmont surface underlain by unit Qac. Thickness probably locally exceeds 20 m



Tr **Rincon Shale (lower Miocene)**—Marine, primarily massive and thick-bedded, light-brown-weathering mudstone, with subordinate dolomite, siliceous shale, sandstone, and tuff. Mudstone is bioturbated and massive, pervasively hackly fractured, and locally contains abundant microfossils. Single or multiple white-weathering tuff layers limited to upper 10 m of Rincon section. Thickness ranges from about 400 m to 460 m



Approximate Scale: 1" = 2,000'



REGIONAL GEOLOGIC MAP 2

Anthem Chapel
6595 Covington Way
Goleta Area of Santa Barbara County, California



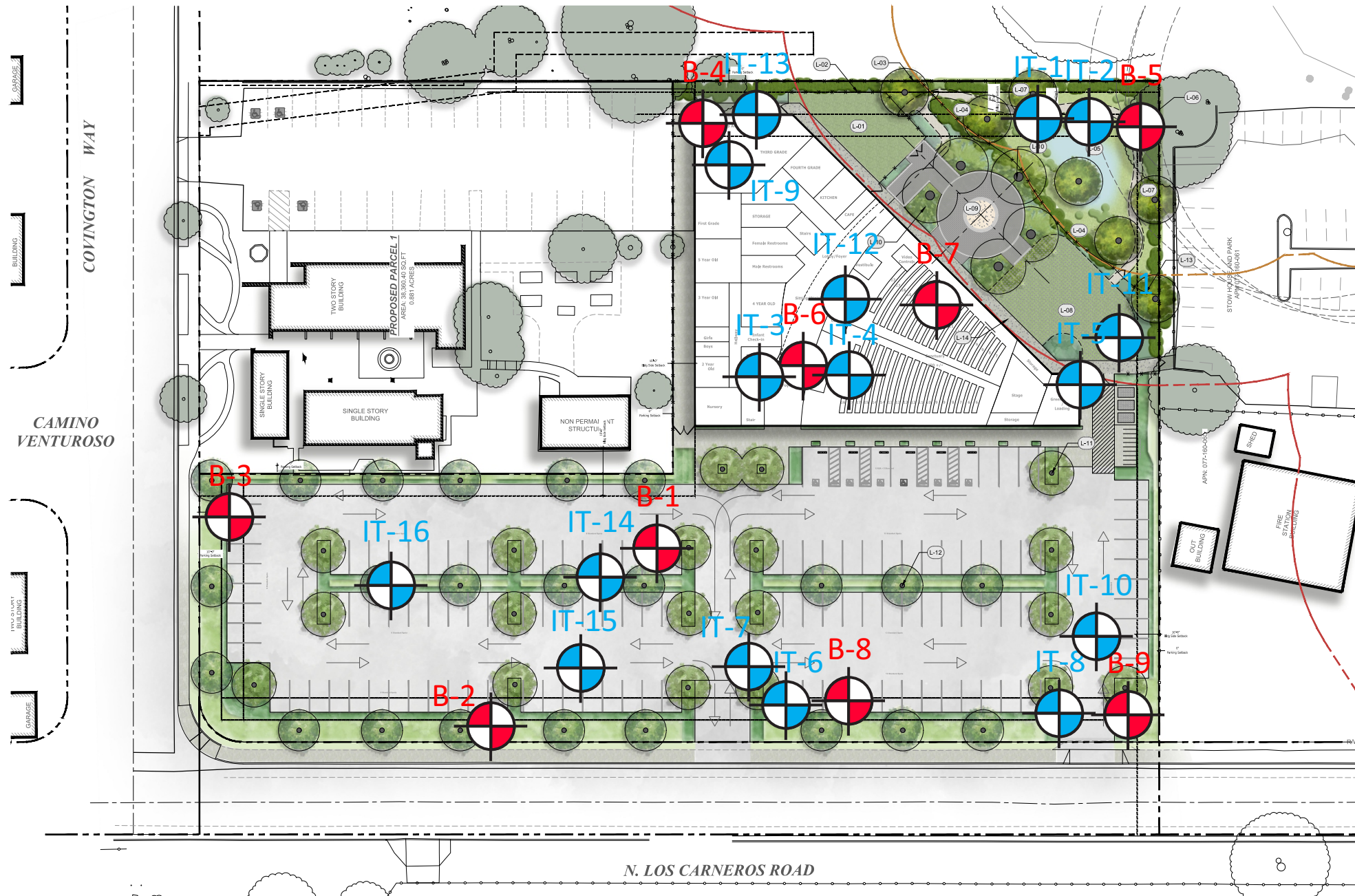
Earth Systems

March 2024

306481-001

FIELD STUDY

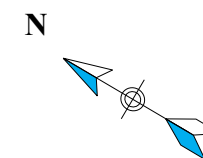
- A. Nine borings were drilled to depths of 15 to 51.5 feet below the existing ground surface to observe the soil profile. In addition, sixteen borings were drilled to depths of 2 to 12 feet perform infiltration testing. The borings were drilled on December 28, 2024 and March 13, 2024 using a hand auger and an 8-inch hollow-stem auger powered by a SIMCO truck mounted drilling rig. The approximate locations of the test borings were determined in the field by pacing and sighting and are shown on the Site Plan in this Appendix.
- B. Infiltration testing was performed between January 2, 2024 and March 19, 2024.
- C. The final boring logs represent interpretations of the field logs during the subsurface study. The final logs are included in this Appendix.



- B-9**
 : Approximate boring locations.
- IT-16**
 : Approximate infiltration testing locations.

Approximate Scale: 1" = 60'

0 60' 120'



SITE PLAN

Anthem Chapel
 6595 Covington Way
 Goleta Area of Santa Barbara County, California

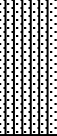


June 2024

306481-001

BORING NO: B-1						DRILLING DATE: December 28, 2023			
PROJECT NAME: Anthem Chapel						DRILL RIG: SIMCO			
PROJECT NUMBER: 306481-001						DRILLING METHOD: Hollow-Stem Auger			
BORING LOCATION: Per Plan						LOGGED BY: A. Luna/S. Jensen			
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
				4/9/16		CL	106.2	20.2	ALLUVIUM: Dark Brown fine Sandy Lean Clay, very stiff, damp
5				15/25/37		SM	111.0	12.0	ALLUVIUM: Light Orange Brown Silty fine Sand, trace Clay, dense, damp
				16/26/32		SC	119.6	10.6	ALLUVIUM: Orange Brown Clayey fine Sand, dense, damp
10				14/24/31		SM	112.2	8.3	ALLUVIUM: Orange Brown Silty fine Sand, dense, damp
15				8/12/12		SM		6.9	ALLUVIUM: Light Orange Brown Silty fine to medium Sand, medium dense, damp
20				6/14/21		SM		20.6	ALLUVIUM: Brown Silty fine Sand, dense, wet
25				6/9/11		CH		32.4	RINCON FORMATION: Weathered gray Fat Clay, iron oxide staining, very stiff, wet
30				6/11/14					
35				25/50-6"		CH		25.8	same as above

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-2 PROJECT NAME: Anthem Chapel PROJECT NUMBER: 306481-001 BORING LOCATION: Per Plan									DRILLING DATE: December 28, 2023 DRILL RIG: SIMCO DRILLING METHOD: Hollow-Stem Auger LOGGED BY: A. Luna/S. Jensen
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
				9/19/24		SM	111.8	6.6	ALLUVIUM: Brown Silty fine Sand, little to some Clay, medium dense, damp
5				10/17/22		CL	111.9	18.1	ALLUVIUM: Brown fine Sandy Lean Clay, very stiff, damp
				13/25/33			112.6	15.5	
10				13/24/42			108.4	19.3	
15				14/25/27		SM	108.0	7.2	ALLUVIUM: Brown Silty fine Sand, trace to little Clay, dense, damp
20									Total Depth: 16.5 feet No Groundwater Encountered
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-3					DRILLING DATE: December 28, 2023				
PROJECT NAME: Anthem Chapel					DRILL RIG: SIMCO				
PROJECT NUMBER: 306481-001					DRILLING METHOD: Hollow-Stem Auger				
BORING LOCATION: Per Plan					LOGGED BY: A. Luna/S. Jensen				
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
5				4/5/7 6/10/13		CL			ALLUVIUM: Gray Silty Lean Clay, stiff to very stiff, damp to moist
10				7/9/10 5/8/9		SC			ALLUVIUM: Dark Brown Clayey fine Sand, medium dense, damp
15				11/13/12 5/6/7		SM CL			ALLUVIUM: Brown Silty fine Sand, medium dense, damp ALLUVIUM: Brown fine Sandy Clay, stiff, damp
20									Total Depth: 16.5 feet No Groundwater Encountered
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-4 PROJECT NAME: Anthem Chapel PROJECT NUMBER: 306481-001 BORING LOCATION: Per Plan								DRILLING DATE: December 28, 2023 DRILL RIG: SIMCO DRILLING METHOD: Hollow-Stem Auger LOGGED BY: A. Luna/S. Jensen	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
5				7/8/14 10/12/14		CL			ALLUVIUM: Brown fine Sandy Lean Clay, very stiff, damp
10				10/11/11		SC			
15				10/13/15		SM			ALLUVIUM: Light Brown Silty fine Sand, medium dense, dry to damp
20									Total Depth: 15.0 feet No Groundwater Encountered
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-5					DRILLING DATE: December 28, 2023				
PROJECT NAME: Anthem Chapel					DRILL RIG: SIMCO				
PROJECT NUMBER: 306481-001					DRILLING METHOD: Hollow-Stem Auger				
BORING LOCATION: Per Plan					LOGGED BY: A. Luna/S. Jensen				
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
						SC			ALLUVIUM: Gray Brown Clayey fine Sand, some Silt, loose to medium dense, moist to very moist
5				16/17/18		CL			ALLUVIUM: Brown fine Sandy Lean Clay, damp, hard
10				8/10/13		SC			ALLUVIUM: Brown Clayey fine Sand, medium dense, damp
15				7/8/8		SM			ALLUVIUM: Brown Silty fine Sand, trace Clay, medium dense, damp
									Total Depth: 15.0 feet No Groundwater Encountered
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-6						DRILLING DATE: December 28, 2023			
PROJECT NAME: Anthem Chapel						DRILL RIG: SIMCO			
PROJECT NUMBER: 306481-001						DRILLING METHOD: Hollow-Stem Auger			
BORING LOCATION: Per Plan						LOGGED BY: A. Luna/S. Jensen			
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
5				17/16/8		SM			ALLUVIUM: Brown Silty fine Sand, some Clay, medium dense, damp
10				7/10/14		CL			ALLUVIUM: Brown fine Sandy Lean Clay, very stiff, damp
15				7/9/13		SM			ALLUVIUM: Brown to Orange Brown Silty fine Sand, little to some Clay, medium dense, damp
20				7/12/17					Total Depth: 15.0 feet No Groundwater Encountered
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-7						DRILLING DATE: December 28, 2023			
PROJECT NAME: Anthem Chapel						DRILL RIG: SIMCO			
PROJECT NUMBER: 306481-001						DRILLING METHOD: Hollow-Stem Auger			
BORING LOCATION: Per Plan						LOGGED BY: A. Luna/S. Jensen			
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
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254									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-8	DRILLING DATE: December 28, 2023
PROJECT NAME: Anthem Chapel	DRILL RIG: SIMCO
PROJECT NUMBER: 306481-001	DRILLING METHOD: Hollow-Stem Auger
BORING LOCATION: Per Plan	LOGGED BY: A. Luna/S. Jensen

Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
5				8/13/14		SC			ALLUVIUM: Brown Clayey fine Sand, medium dense, damp
10				5/9/12		SM			ALLUVIUM: Brown Silty fine Sand, some Clay, damp
15				5/11/13					
20									Total Depth: 16.5 feet No Groundwater Encountered
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: B-9	DRILLING DATE: December 28, 2023
PROJECT NAME: Anthem Chapel	DRILL RIG: SIMCO
PROJECT NUMBER: 306481-001	DRILLING METHOD: Hollow-Stem Auger
BORING LOCATION: Per Plan	LOGGED BY: A. Luna/S. Jensen

Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
5				16/19/20		SM			ALLUVIUM: Brown Silty fine Sand, medium dense, damp
10				9/11/16		SC			ALLUVIUM: Brown Clayey fine Sand, medium dense, damp
15				9/10/15		SM			ALLUVIUM: Brown Silty fine Sand, medium dense, damp
20									Total Depth: 16.5 feet No Groundwater Encountered
25									
30									
35									

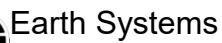
Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-1								DRILLING DATE: December 28, 2024	
PROJECT NAME: Anthem Chapel								DRILL RIG: SIMCO	
PROJECT NUMBER: 306481-001								DRILLING METHOD: Hollow-Stem Auger	
BORING LOCATION: Per Plan								LOGGED BY: A. Luna/S. Jensen	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0						SM			ALLUVIUM: Gray Brown Clayey fine Sand, loose to medium dense, very moist
5									Total Depth: 2.0 feet No Groundwater Encountered
6									
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9									
10									
11									
12									
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14									
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-2 PROJECT NAME: Anthem Chapel PROJECT NUMBER: 306481-001 BORING LOCATION: Per Plan									DRILLING DATE: December 28, 2024 DRILL RIG: SIMCO DRILLING METHOD: Hollow-Stem Auger LOGGED BY: A. Luna/S. Jensen
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
1						SC			ALLUVIUM: Gray Brown Clayey fine Sand, medium dense, very moist
2									
3						SM			ALLUVIUM: Brown Silty fine Sand, medium dense, damp to moist
4									
5									
6									
7									
8									
9						CL			ALLUVIUM: Brown fine Sandy Clay, very stiff, damp
10									
11									
12									
13									
14									
15									Total Depth: 12.0 feet No Groundwater Encountered
16									
17									
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.



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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-4 PROJECT NAME: Anthem Chapel PROJECT NUMBER: 306481-001 BORING LOCATION: Per Plan									DRILLING DATE: December 28, 2024 DRILL RIG: SIMCO DRILLING METHOD: Hollow-Stem Auger LOGGED BY: A. Luna/S. Jensen
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0						SW			ARTIFICIAL FILL: Light Yellow Brown Silty fine to coarse Sand, loose, dry
5						SC			ALLUVIUM: Brown Clayey fine Sand, medium dense, damp
10						CL			ALLUVIUM: Brown fine Sandy Clay, very stiff, damp
15									Total Depth: 12.0 feet No Groundwater Encountered
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-5	DRILLING DATE: December 28, 2024
PROJECT NAME: Anthem Chapel	DRILL RIG: SIMCO
PROJECT NUMBER: 306481-001	DRILLING METHOD: Hollow-Stem Auger
BORING LOCATION: Per Plan	LOGGED BY: A. Luna/S. Jensen

Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
5						CL			ALLUVIUM: Brown fine Sandy Clay, very stiff, damp
10									Total Depth: 5.0 feet No Groundwater Encountered
15									
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-6					DRILLING DATE: December 28, 2024				
PROJECT NAME: Anthem Chapel					DRILL RIG: SIMCO				
PROJECT NUMBER: 306481-001					DRILLING METHOD: Hollow-Stem Auger				
BORING LOCATION: Per Plan					LOGGED BY: A. Luna/S. Jensen				
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0						SM			ALLUVIUM: Dark Brown Silty fine Sand, loose to medium dense, damp
5									Total Depth: 2.0 feet No Groundwater Encountered
6									
7									
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-7 PROJECT NAME: Anthem Chapel PROJECT NUMBER: 306481-001 BORING LOCATION: Per Plan								DRILLING DATE: December 28, 2024 DRILL RIG: SIMCO DRILLING METHOD: Hollow-Stem Auger LOGGED BY: A. Luna/S. Jensen	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0						SM			ALLUVIUM: Dark Brown Silty fine Sand, loose to medium dense, damp
5						CL			ALLUVIUM: Brown fine Sandy Clay, very stiff, damp to moist
10						SM			ALLUVIUM: Brown Silty fine Sand, medium dense, damp
15									Total Depth: 12.0 feet No Groundwater Encountered
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-8 PROJECT NAME: Anthem Chapel PROJECT NUMBER: 306481-001 BORING LOCATION: Per Plan								DRILLING DATE: December 28, 2024 DRILL RIG: SIMCO DRILLING METHOD: Hollow-Stem Auger LOGGED BY: A. Luna/S. Jensen	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0						SM			ALLUVIUM: Brown Silty fine Sand, medium dense, damp ALLUVIUM: Brown Clayey fine Sand, medium dense, damp
5						SC			
10									Total Depth: 5.0 feet No Groundwater Encountered
15									
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

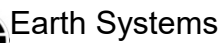
BORING NO: IT-9	DRILLING DATE: December 28, 2024
PROJECT NAME: Anthem Chapel	DRILL RIG: SIMCO
PROJECT NUMBER: 306481-001	DRILLING METHOD: Hollow-Stem Auger
BORING LOCATION: Per Plan	LOGGED BY: A. Luna/S. Jensen

Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
1						SC			ALLUVIUM: Dark Gray Brown Clayey fine Sand, loose to medium dense, very moist
2									
3									
4									
5						CL			ALLUVIUM: Dark Brown fine Sandy Clay, very stiff, damp to moist
6									
7									
8									
9						SC			ALLUVIUM: Brown Clayey fine Sand, medium dense, damp
10									Total Depth: 10.0 feet No Groundwater Encountered
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-10								DRILLING DATE: March 13, 2024	
PROJECT NAME: Anthem Chapel								DRILL RIG:	
PROJECT NUMBER: 306481-001								DRILLING METHOD: Hand Auger	
BORING LOCATION: Per Plan								LOGGED BY: A. Nikouei	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
									ARTIFICIAL FILL: Dark Brown Sandy Clay, soft, damp
						SC			ALLUVIUM: Brown Clayey fine Sand, loose to medium dense, damp
						SC			ALLUVIUM: Brown Clayey fine Sand, medium dense to dense, Dry
5						SC			ALLUVIUM: Brown Clayey fine Sand, dense, damp
						CL			ALLUVIUM: Brown Sandy Clay, hard, damp
									Total Depth: 6.5 feet No Groundwater Encountered
10									
15									
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.



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BORING LOCATION: Per Plan

LOGGED BY: A. Nikouei

Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
1						SC			ALLUVIUM: Brown Clayey fine Sand, loose to medium dense, damp
2						SC			ALLUVIUM: Brown Clayey fine Sand, loose to medium dense, moist
3						CL			ALLUVIUM: Brown fine Sandy Clay, hard, damp to moist
4						CL			ALLUVIUM: Brown fine Sandy Clay to Clayey fine Sand, hard, dry
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-12								DRILLING DATE: March 13, 2024	
PROJECT NAME: Anthem Chapel								DRILL RIG:	
PROJECT NUMBER: 306481-001								DRILLING METHOD: Hand Auger	
BORING LOCATION: Per Plan								LOGGED BY: A. Nikouei	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
					SW				ARTIFICAIL FILL: Light Brown Sand, dense, dry
					CL				ALLUVIUM: Brown fine Sandy Clay, soft, damp
					CL				ALLUVIUM: Orange Brown fine Sandy Clay to Clayey fine Sand, hard, dry to damp
					CL				ALLUVIUM: Brown to Orange Brown fine Sandy Clay, hard, damp
					SC				ALLUVIUM: Brown Clayey fine Sand, dense, damp
									Total Depth: 8.0 feet No Groundwater Encountered

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-13								DRILLING DATE: March 13, 2024	
PROJECT NAME: Anthem Chapel								DRILL RIG:	
PROJECT NUMBER: 306481-001								DRILLING METHOD: Hand Auger	
BORING LOCATION: Per Plan								LOGGED BY: A. Nikouei	
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0						CL			ALLUVIUM: Dark Brown fine Sandy Clay, soft, moist to wet
1						CL			ALLUVIUM: Brown fine Sandy Clay, soft, damp
2						CL			Note: More Sandy than above layer
3						CL			ALLUVIUM: Brown fine Sandy Clay, hard, damp
4						CL			ALLUVIUM: Brown fine Sandy Clay, hard, damp
5						CL			Note: More Clayey than above layer
6									Total Depth: 8.0 feet
7									No Groundwater Encountered
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Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-14							DRILLING DATE: March 13, 2024			
PROJECT NAME: Anthem Chapel							DRILL RIG:			
PROJECT NUMBER: 306481-001							DRILLING METHOD: Hand Auger			
BORING LOCATION: Per Plan							LOGGED BY: A. Nikouei			
Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS	
	Bulk	SPT	Mod. Calif.							
					CL					ALLUVIUM: Dark Brown fine Sandy Clay, soft, dry to damp
					CL					ALLUVIUM: Brown fine Sandy Clay, hard, dry to damp
					CL					ALLUVIUM: Light Brown to Brown fine Sandy Clay, hard, dry
					CL				ALLUVIUM: Brown to Orange Brown fine Sandy Clay, hard, damp	
									Total Depth: 5.0 feet	
									No Groundwater Encountered	

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING NO: IT-15	DRILLING DATE: March 13, 2024
PROJECT NAME: Anthem Chapel	DRILL RIG:
PROJECT NUMBER: 306481-001	DRILLING METHOD: Hand Auger
BORING LOCATION: Per Plan	LOGGED BY: A. Nikouei

Vertical Depth	Sample Type			PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
	Bulk	SPT	Mod. Calif.						
0									
						CL			ALLUVIUM: Dark Grayish Brown Silty Clay, some fine Sand, soft, damp
5						CL			ALLUVIUM: Brown fine Sandy Clay, hard, damp
						CL			ALLUVIUM: Brown to Orange Brown fine Sandy Clay to Clayey fine Sand, hard to very hard, dry to damp
10									Total Depth: 8.0 feet No Groundwater Encountered
15									
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.



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PROJECT NAME: Anthem Chapel
PROJECT NUMBER: 306481-001
BORING LOCATION: Per Plan

DRILLING DATE: March 13, 2024
DRILL RIG:
DRILLING METHOD: Hand Auger
LOGGED BY: A. Nikouei

[illegible]

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

BORING LOG SYMBOLS



Modified California Split Barrel Sampler



Modified California Split Barrel Sampler - No Recovery



Standard Penetration Test (SPT) Sampler



Standard Penetration Test (SPT) Sampler - No Recovery



Perched Water Level



Water Level First Encountered



Water Level After Drilling



Pocket Penetrometer (tsf)



Vane Shear (ksf)

- 1. The location of borings were approximately determined by pacing and/or siting from visible features. Elevations of borings are approximately determined by interpolating between plan contours. The location and elevation of the borings should be considered.
- 2. The stratification lines represent the approximate boundary between soil types and the transition may be gradual.
- 3. Water level readings have been made in the drill holes at times and under conditions stated on the boring logs. This data has been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, tides, temperature, and other factors at the time measurements were made.

BORING LOG SYMBOLS



Earth Systems

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT <u>LESS</u> THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT <u>GREATER</u> THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENT

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

UNIFIED SOIL CLASSIFICATION SYSTEM



Earth Systems

APPENDIX B

Infiltration Testing Results

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-1
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/3/24
Test Date	1/4/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D _T (feet)	2.00
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.00
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-2
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/3/24
Test Date	1/4/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D_T (feet)	11.31
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.59
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-3
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/1/24
Test Date	1/2/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D_T (feet)	2.60
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.20
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-4
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/1/24
Test Date	1/2/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D_T (feet)	11.80
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.20
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-5
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/3/24
Test Date	1/4/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D _T (feet)	4.90
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.00
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-6
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/1/24
Test Date	1/2/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D _T (feet)	2.30
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.00
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-7
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/1/24
Test Date	1/2/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D _T (feet)	11.50
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.00
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-8
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/1/24
Test Date	1/2/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D_T (feet)	3.65
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.30
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-9
Tester	A. Luna/S. Jensen
Pre-Soak Date	1/3/24
Test Date	1/4/24

Test Hole Radius, r (inches)	4.5
Total Depth of Test Hole, D_T (feet)	9.25
Inside Diameter of Pipe, I (inches)	3.00
Outside Diameter of Pipe, O (inches)	3.38
Pipe Stick-Up (feet)	0.95
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.46
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-10
Tester	Sandra Jensen
Pre-Soak Date	3/15/2024
Test Date	3/18/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D_T (feet)	5.50
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	0.00
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-11
Tester	Sandra Jensen
Pre-Soak Date	3/15/2024
Test Date	3/18/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D_T (feet)	6.13
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	1.22
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-12
Tester	Sandra Jensen
Pre-Soak Date	3/15/2024
Test Date	3/18/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D_T (feet)	7.50
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	0.90
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-13
Tester	Sandra Jensen
Pre-Soak Date	3/18/2024
Test Date	3/19/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D_T (feet)	7.25
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	0.50
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-14
Tester	Sandra Jensen
Pre-Soak Date	3/14/2024
Test Date	3/15/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D_T (feet)	5.05
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	0.00
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-15
Tester	Sandra Jensen
Pre-Soak Date	3/14/2024
Test Date	3/15/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D _T (feet)	7.70
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	0.15
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]

INFILTRATION RATE BY THE BOREHOLE PERCOLATION TEST METHOD

This workbook calculates an adjusted infiltration rate from a borehole percolation test. The percolation rate is adjusted for sidewall area according to the Porchet method, and then re-adjusted for the effect of the gravel placed in annulus between the borehole wall and a pipe placed in the borehole by a method presented in Caltrans Test 750.

Project Name	Anthem Chapel
Project Number	306481-001
Test Hole No.	IT-16
Tester	Sandra Jensen
Pre-Soak Date	3/13/2024
Test Date	3/14/2024

Test Hole Radius, r (inches)	2.0
Total Depth of Test Hole, D_T (feet)	6.70
Inside Diameter of Pipe, I (inches)	2.00
Outside Diameter of Pipe, O (inches)	2.38
Pipe Stick-Up (feet)	1.15
Porosity of Gravel, n	0.41
Porosity Correction Factor, C	0.51
Factor of Safety (FOS), F	N/A

[illegible]