



Mr. Ryan T. Clark
Southwest Signal Service
PO Box 1297
El Cajon, CA 92022

March 2, 2023
File No. 21-032

Subject: **Update Geotechnical Report - Infiltration Feasibility**
Proposed Commercial Property
10756 Rockvill Street
Santee, California

- Reference:
- 1) "Preliminary Design Grading and Drainage Plans, Southwest Signal, Rockvill Street, Santee, California, 92071," prepared by Kappa Surveying and Engineering, Inc., revision date May 14, 2021.
 - 2) "Geotechnical Investigation, Proposed Commercial Property, 10756 Rockvill Street, Santee, California," prepared by TerraPacific Consultants, Inc., dated March 16, 2021.

Dear Mr. Clark:

As requested, TerraPacific Consultants, Inc. (TCI) has prepared the following update geotechnical report for the subject project. We have been provided and reviewed the above referenced grading plans for the site prepared by Kappa Survey and Engineering, Inc. The plans indicate a proposed stormwater BMP treatment basin at the west side of the property bounded by segmental-type retaining walls on the north, east, and south sides and another masonry-type retaining wall on the west side. The proposed basin will also be located between an asphalt concrete driveway serving the proposed building to the east and existing concrete public sidewalk to the west.

The attached Geotechnical Plan, Figure 1 displays the approximate locations of our test pit excavations superimposed on the proposed grading plan for the site. The corresponding test pit excavation logs are also attached to the end of this report. As noted on the test pit logs, the site is underlain by hard granitic bedrock at depths ranging from 1.5 to 6.5 feet below ground surface (bgs). The northwest portion of the lot was originally graded with the deepest fill in order to create the relatively level building pad that currently exists at the site. The depth of fill is projected to deepen from the location of our Test Pit T-1 toward the west-northwest.



Based on our review of the proposed stormwater BMP treatment basin location, the site is not suitable for full or partial infiltration. The following setbacks cannot be maintained with the proposed BMP treatment basin location:

1. Retaining walls located around the proposed basin are within 10 feet.
2. Northern portion of the proposed basin is situated in an area with fill soils greater than 5 feet deep.
3. Water service lines/trenches indicated near the south end of the proposed basin are within 10 feet.

In addition, the very hard granitic bedrock underlying the site will inhibit infiltration of stormwater, particularly during periods of prolonged rainfall. It has been our experience that when surface water infiltrates through existing fill soils on a graded pad, it tends to become perched on top of the bedrock creating a shallow groundwater condition unsuitable for infiltration at a stormwater BMP treatment basin. It is our recommendation that the proposed basin be lined to mitigate infiltration into the subsurface soils/bedrock and potential distress to adjacent proposed structures and existing public improvements.

The information provided herein was obtained using the skill and degree of care ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists practicing in this or similar localities. No warranty, expressed or implied, is made as to the conclusions and professional advice in this report. This report is prepared for the sole use of our client and may not be assigned to others without the written consent of the client and TCI.

We appreciate the opportunity to provide geotechnical consulting services on this project. Should there be any questions regarding the information contained herein, please contact the undersigned.

Sincerely,
TerraPacific Consultants, Inc.

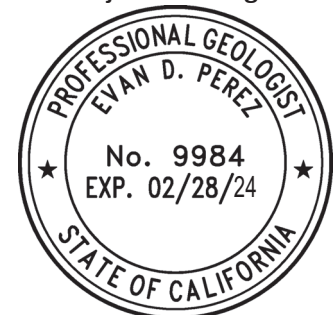
Matthew H. Marquez, PE 70072
Senior Engineer

MHM:EDP/lb

Attachments: Geotechnical Plan – Figure 1
Test Pit Logs



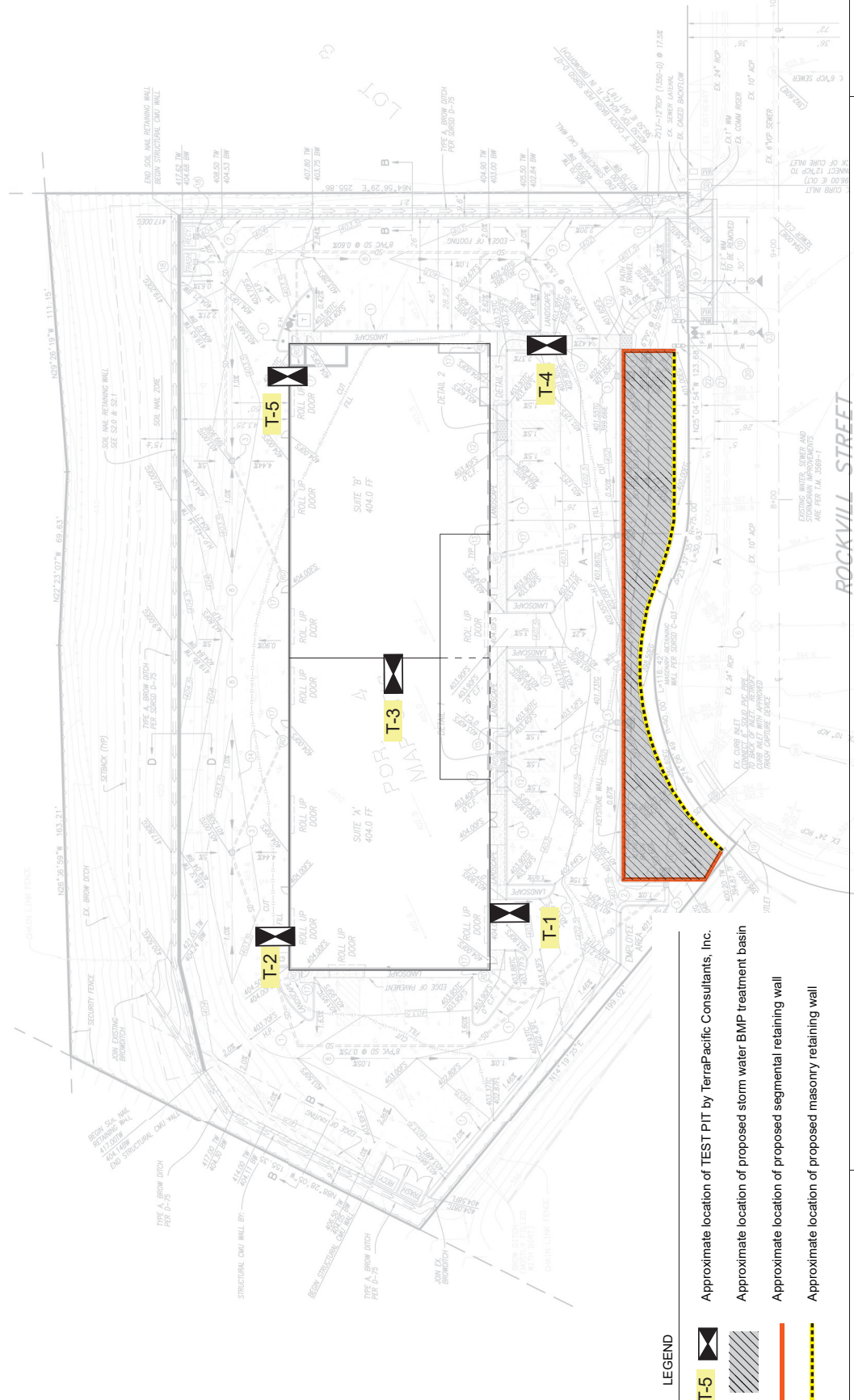
Evan D. Perez, PG 9984
Project Geologist









ATTACHMENTS

REFERENCE:
 Preliminary Design Grading & Drainage, Southwest Signal,
 Rockvill St. Santee CA 92071, Sheet C2, dated 7-30-21,
 prepared by Mansour Architecture



LEGEND

-  T-5 Approximate location of TEST PIT by TerraPacific Consultants, Inc.
-  Approximate location of proposed storm water BMP treatment basin
-  Approximate location of proposed segmental retaining wall
-  Approximate location of proposed masonry retaining wall

TerraPacific
 CONSULTANTS, INC.
 4010 Marens Boulevard
 San Diego, CA 92117
 858-527-1180

Geotechnical Plan

Southwest Signal Service
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Figure 1



Test Pit Log
Test Pit No: T-1

Project No: 21-032	Date: 2/19/21
Project Name: Southwest Signal Service	Logged By: D. Thomas
Location: Northwest Corner of Lot	Excavating Company: K+C Excavation
Sample Method: Modified California Sampler	Excavator: Kenny
Instrumentation: None installed	Excavation Method: Hand labor
Elevation: Pad	Hammer Wt. & Drop: 35 lbs. for 30"

Depth (ft)	Lithology	DESCRIPTION & REMARKS	USCS	Sample Type	Blow Counts	Dry Density (pcf)	Moisture (%)
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0		FILL: From 0.0', Sand, medium brown, moist, dense, medium coarse grained		Ring	--	127.9	5.1
1							
2		FILL: From 2.0', Sand, medium brown, slightly moist, dense to very dense, medium to coarse grained, with 8" granitic clast up to 12"		Bulk	--	112.2	6.8
3				Ring	--	--	--
4							
5		FILL: From 5.0', Sand, medium brown, slightly moist, dense, medium to coarse grained, with increase in rock content		Ring	--	117.3	7.2
6							
7		NATIVE: From 6.5', Granite, gray, dry, very hard @ 7.0', Refusal					
8							
9							
10							

Total Depth: 7.0'	Test Pit T-1
Water: No	
Caving: No	
Footing Dimensions: N/A	
Page 1 of 1	

Test Pit Log
Test Pit No: T-2

Project No: 21-032	Date: 2/19/21
Project Name: Southwest Signal Service	Logged By: D. Thomas
Location: Northwest Corner of Proposed Structure	Excavating Company: K+C Excavation
Sample Method: Modified California Sampler	Excavator: Kenny
Instrumentation: None installed	Excavation Method: Hand labor
Elevation: Pad	Hammer Wt. & Drop: 35 lbs. for 30"

Depth (ft)	Lithology	DESCRIPTION & REMARKS	USCS	Sample Type	Blow Counts	Dry Density (pcf)	Moisture (%)
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0		FILL: From 0.0', Sand, medium brown to gray brown, slightly moist, dense, medium to coarse grained					
1		NATIVE: From 1.0', Granite, gray, slightly moist, hard, weathered					
3		NATIVE: From 3.0', Granite, gray, dry, very hard					
4							
5							
6							
7							
8							
9							
10							

Total Depth: 3.2'	Test Pit T-2
Water: No	
Caving: No	
Footing Dimensions: N/A	
Page 1 of 1	

Test Pit Log
Test Pit No: T-3

Project No: 21-032	Date: 2/19/21
Project Name: Southwest Signal Service	Logged By: D. Thomas
Location: Middle of Proposed Structure	Excavating Company: K+C Excavation
Sample Method: Modified California Sampler	Excavator: Kenny
Instrumentation: None installed	Excavation Method: Hand labor
Elevation: Pad	Hammer Wt. & Drop: 35 lbs. for 30"

Depth (ft)	Lithology	DESCRIPTION & REMARKS	USCS	Sample Type	Blow Counts	Dry Density (pcf)	Moisture (%)
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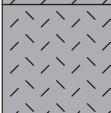
0		FILL: From 0.0', Sand, medium brown, slightly moist, dense, medium to coarse grained, with some 4" granitic clast		Bulk	--	--	--
1				Ring	--	125.3	6.4
2		NATIVE: From 2.5', Granite, gray, dry, hard, weathered, moderately fractured					
3				Ring	--	134.2	4.2
4		NATIVE: From 3.5', Granite, gray, dry, very hard, refusal					
5							
6							
7							
8							
9							
10							

Total Depth: 3.5' Water: No Caving: No Footing Dimensions: N/A	Test Pit T-3 Page 1 of 1
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Test Pit Log
Test Pit No: T-4

Project No: 21-032	Date: 2/19/21
Project Name: Southwest Signal Service	Logged By: D. Thomas
Location: Southwest Corner of Proposed Structure	Excavating Company: K+C Excavation
Sample Method: Modified California Sampler	Excavator: Kenny
Instrumentation: None installed	Excavation Method: Hand labor
Elevation: Pad	Hammer Wt. & Drop: 35 lbs. for 30"

Depth (ft)	Lithology	DESCRIPTION & REMARKS	USCS	Sample Type	Blow Counts	Dry Density (pcf)	Moisture (%)
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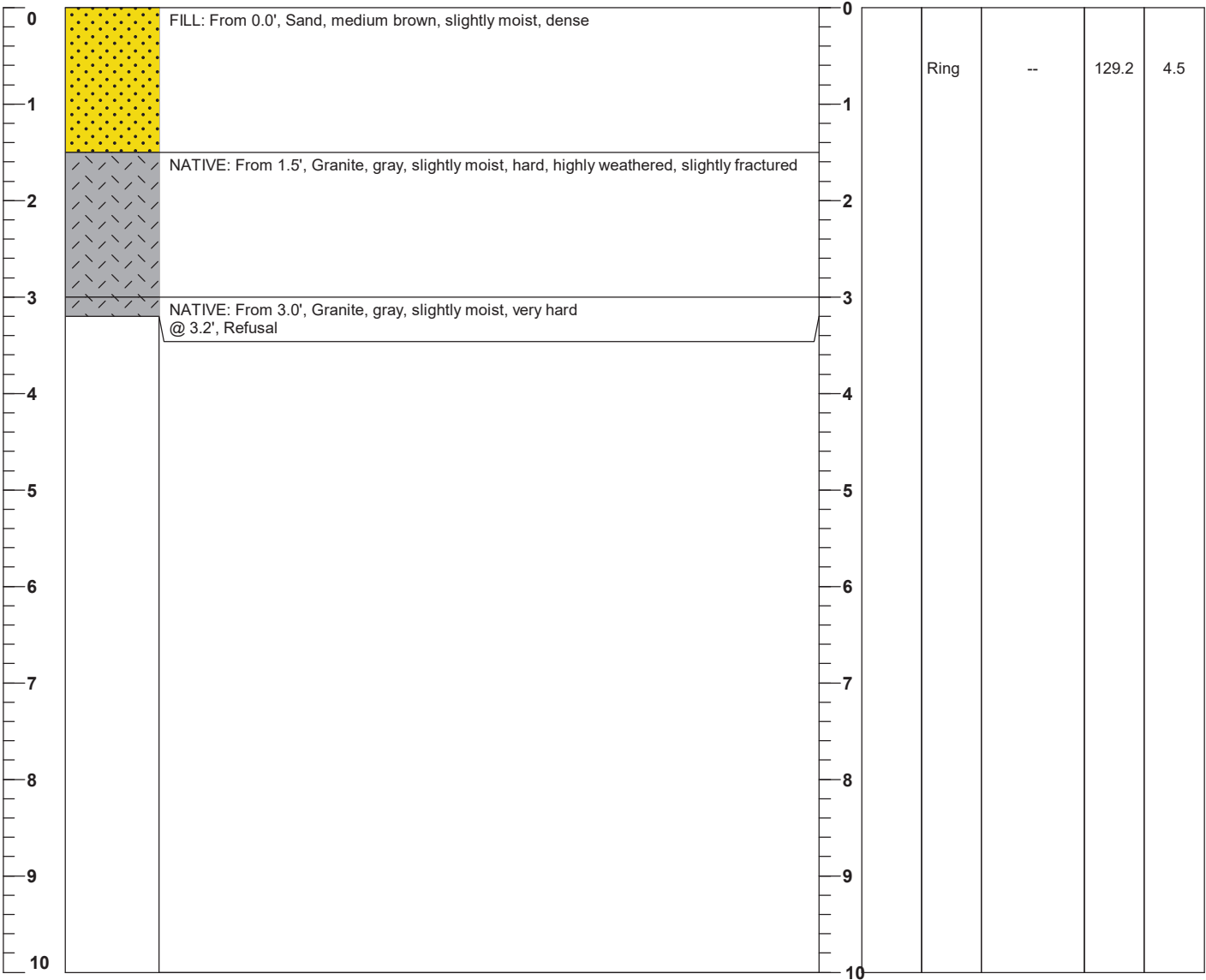
0		FILL: From 0.0', Sand, medium brown, slightly moist, dense, medium to coarse sand		Bulk	--	--	--
1							
2		NATIVE: From 1.5', Granite, gray, hard, dry, moderately fractured, weathered					
3		NATIVE: From 2.5', Granite, gray, hard, dry					
4							
5							
6							
7							
8							
9							
10							

Total Depth: 3.5' Water: No Caving: No Footing Dimensions: N/A	Test Pit T-4 Page 1 of 1
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Test Pit Log
Test Pit No: T-5

Project No: 21-032	Date: 2/19/21
Project Name: Southwest Signal Service	Logged By: D. Thomas
Location: Southeast Corner of Proposed Structure	Excavating Company: K+C Excavation
Sample Method: Modified California Sampler	Excavator: Kenny
Instrumentation: None installed	Excavation Method: Hand labor
Elevation: Pad	Hammer Wt. & Drop: 35 lbs. for 30"

Depth (ft)	Lithology	DESCRIPTION & REMARKS	USCS	Sample Type	Blow Counts	Dry Density (pcf)	Moisture (%)
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Total Depth: 3.2'	Test Pit T-5 Page 1 of 1
Water: No	
Caving: No	
Footing Dimensions: N/A	