November 22, 2017

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

IDI Gazeley
8 Corporate Park, Suite 300-34
Irvine, California 92606

Attention: Mr. Stephen Hollis

Project No.: **17G199-2**

Subject: **Results of Infiltration Testing**
Rider 2 – Proposed Commercial/Industrial Building
NEC Redlands Avenue and Rider Street
Perris, California

Reference: Geotechnical Investigation, Rider 2 – Proposed Commercial/Industrial Building, NEC Redlands Avenue and Rider Street, Perris, California, prepared for IDI Gazeley by Southern California Geotechnical, Inc. (SCG), SCG Project No. 17G199-1, dated November 22, 2017.

Gentlemen:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 17P381 dated October 10, 2017. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the onsite soils. The infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Site and Project Description

The site is located at the northeast corner of Redlands Avenue and Rider Street in Perris, California. The site is bounded to the north by an agricultural field, to the west by Redlands Avenue, to the south by Rider Street and to the east by a flood control channel. The general location of the site is illustrated on the Site Location Map included as Plate 1 of this report.

The subject site consists of a trapezoidal-shaped parcel that is approximately 37.93± acres in size. The site was most recently utilized as an agricultural field. Current groundcover consists of crop stubble and some small native shrubs.

Detailed topographic information was obtained from a conceptual site plan prepared by Albert A. Webb Associates (Webb), the project civil engineer. This plan indicates that the overall site topography generally slopes downward to the east-southeast at an estimated gradient of less

than 1 percent. The maximum site elevation is 1445± feet mean sea level (msl) located in the northwestern corner of the subject site, and the minimum site elevation is 1441± feet msl in the southeastern corner of the subject site.

Proposed Development

The site plan provided to our office by the client indicates that the new development be developed with one (1) new commercial/industrial building. The building will be located in the center of the site and will be 822,520± ft² in size. The building will be constructed in a cross-dock configuration with loading docks along both the north and south sides of the building. It is expected that the building will be surrounded by asphaltic concrete pavements for parking and drive lanes and Portland cement concrete pavements in the loading dock areas. Landscape planters and concrete flatwork are expected to be included throughout the site. A detention basin will be located in the southeastern corner of the site.

We understand that the proposed development will include on-site infiltration to dispose of storm water. Based on the conceptual site plan prepared by Webb, the proposed infiltration system will consist of an infiltration basin located in the southeastern corner of the site. The bottom of the proposed infiltration basin is expected to be at an elevation of 1431.5± feet msl.

Concurrent Study

Southern California Geotechnical, Inc. (SCG) recently conducted a geotechnical investigation at the subject site, referenced above. As a part of this study, twelve (12) borings were advanced to depths of 5 to 50± feet below existing site grades.

Alluvium was encountered at the ground surface at all of the boring locations. The alluvium consists of loose to dense silty fine sands and fine sandy silts and stiff to hard clayey silts, silty clays and sandy clays, extending to the maximum depth explored of 50± feet.

Groundwater

Free water was encountered during drilling at a depth of 33± feet below the ground surface. Based on the water level measurements and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth of 33± feet below existing site grades at the time of the subsurface investigation. As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the groundwater depths in this area is the California Department of Water Resources website, http://www.water.ca.gov/waterdatalibrary/. Several monitoring wells are located within a mile radius of the subject site with high groundwater level readings ranging from 26 to 108± feet from the ground surface. Therefore, the high groundwater depth of 26± feet (February 2012) reported in a monitoring well located 0.75 miles east of the subject site is considered to be conservative with respect to the recent site conditions.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of four (4) backhoe excavated trenches, extending to depths of 7 to 9± feet below existing site grades. The trenches were logged during excavation by a member of our staff. The approximate locations of the infiltration trenches (identified as I-1 through I-4) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Native alluvium was encountered at the ground surface at all of the infiltration trench locations, extending to at least the maximum depth explored of 9± feet below existing site grades. The native alluvial soils generally consist of medium dense to dense clayey fine to medium sands and medium stiff to very stiff silty clays, clayey silts, and fine sandy clays. Free water was not encountered during the excavation of any of the trenches. The Trench Logs, which illustrate the conditions encountered at the trench locations, are included with this report.

Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration system that will be used at the subject site. The infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At the test locations, the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trenches. The rings were driven into the soil using a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing Procedure

Infiltration testing was performed at all four (4) of the test locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the test.

The schedule for readings was determined based on the observed soil type at the base of each backhoe excavated trench. Based on the existing soils at each infiltration test location, the volumetric measurements were made at increments ranging from 10 to 30 minutes. The water

volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates for the infiltration tests are calculated in centimeters per hour and then converted to inches per hour. The rates are summarized below:

Infiltration Test No.	Mean Sea Level (feet)	Soil Description	Infiltration Rate (inches/hour)
I-1	1433	Fine to medium Sandy Clay, trace Silt	2.4
I-2	1432.5	Clayey fine to medium Sand	0.7
I-3	1434	Fine to medium Sandy Clay, trace Silt	2.1
I-4	1432	Clayey fine to medium Sand, trace Silt	1.7

Laboratory Testing

Grain Size Analysis

The grain size distribution of selected soils from the base of each infiltration test trench has been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented at the end of this report.

Design Recommendations

Four (4) infiltration tests were performed at the subject site. As noted above, the calculated infiltration rates at the infiltration test locations range from 0.7 to 2.4 inches per hour. The primary factors affecting the infiltration rates are the varying relative densities, and the clay and silt content of the encountered soils, which vary at different depths and locations at the subject site. In general, very dense clayey sands were encountered at the bottom of Infiltration Test No. I-2, which exhibited the slowest infiltration rate.

Based on the infiltration test results, we recommend a design infiltration rate of 1.0 inch per hour be used for the proposed infiltration basin located in the southeastern corner of the subject site.

The design of the proposed storm water infiltration system should be performed by the project civil engineer, in accordance with the City of Perris and/or County of Riverside guidelines. However, it is recommended that the system be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the system. The presence of such materials would decrease the effective infiltration rate. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rate recommended above is based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rate.** It should be noted that the recommended

infiltration rate is based on infiltration testing at four (4) discrete locations and the overall infiltration rate of the storm water infiltration system could vary considerably.

Infiltration versus Permeability

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. The infiltration rates presented herein were determined in accordance with the ASTM Test Method D-3385-03 standard, and are considered valid for the time and place of the actual test. Changes in soil moisture content will affect these infiltration rates. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration areas could potentially be damaged due to saturation of subgrade soils. **The proposed infiltration system for the site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration systems at least 25 feet from any building, it is possible that infiltrating water into the subsurface soils could have an adverse effect on any proposed or existing structure. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rates contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an

unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

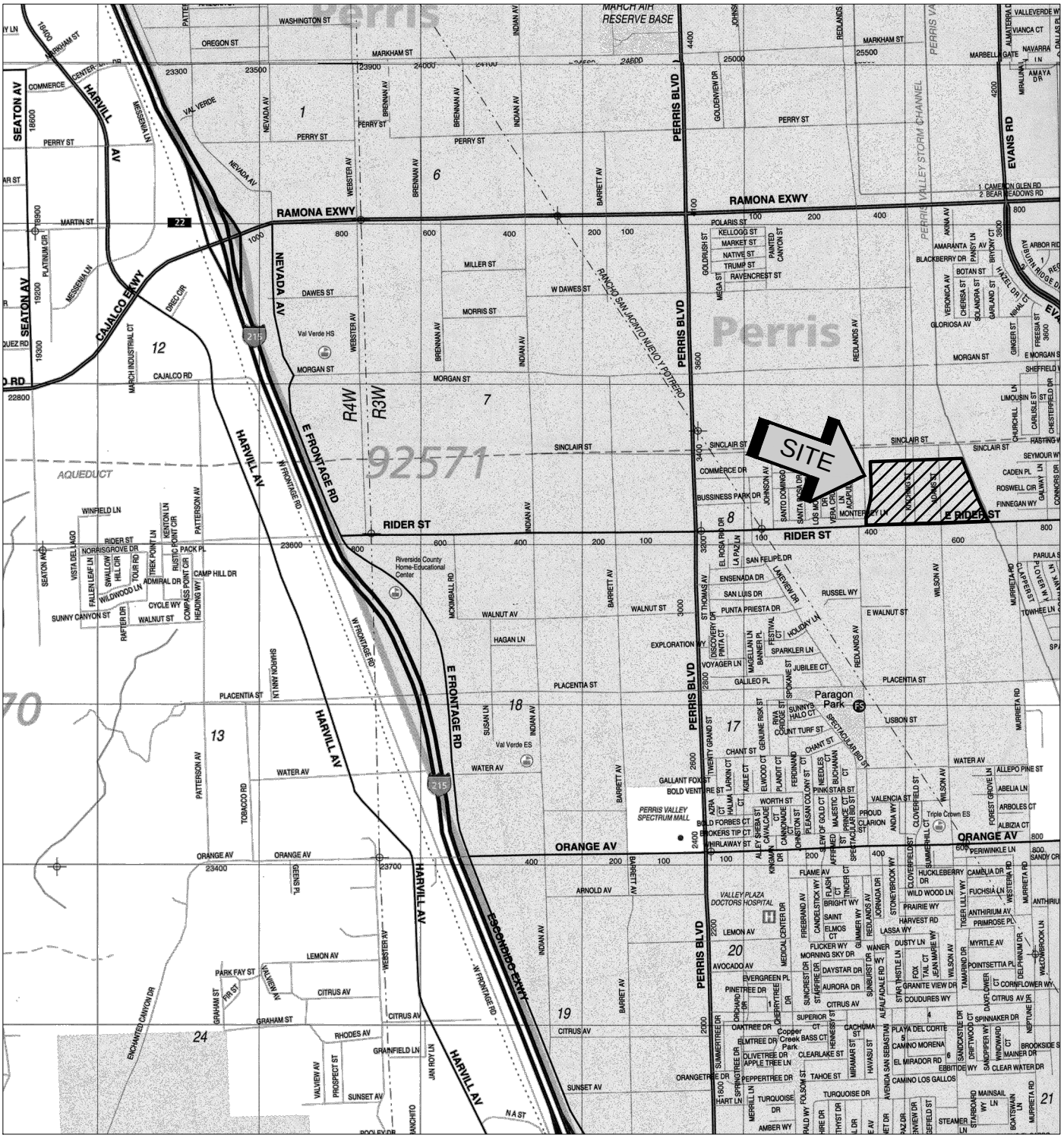
SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Scott McCann
Staff Scientist

Gregory K. Mitchell, GE 2364
Principal Engineer

Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Trench Logs (4 pages)
Infiltration Test Results Spreadsheets (4 pages)
Grain Size Distribution Graphs (4 pages)



SOURCE: RIVERSIDE COUNTY
THOMAS GUIDE, 2013

SITE LOCATION MAP

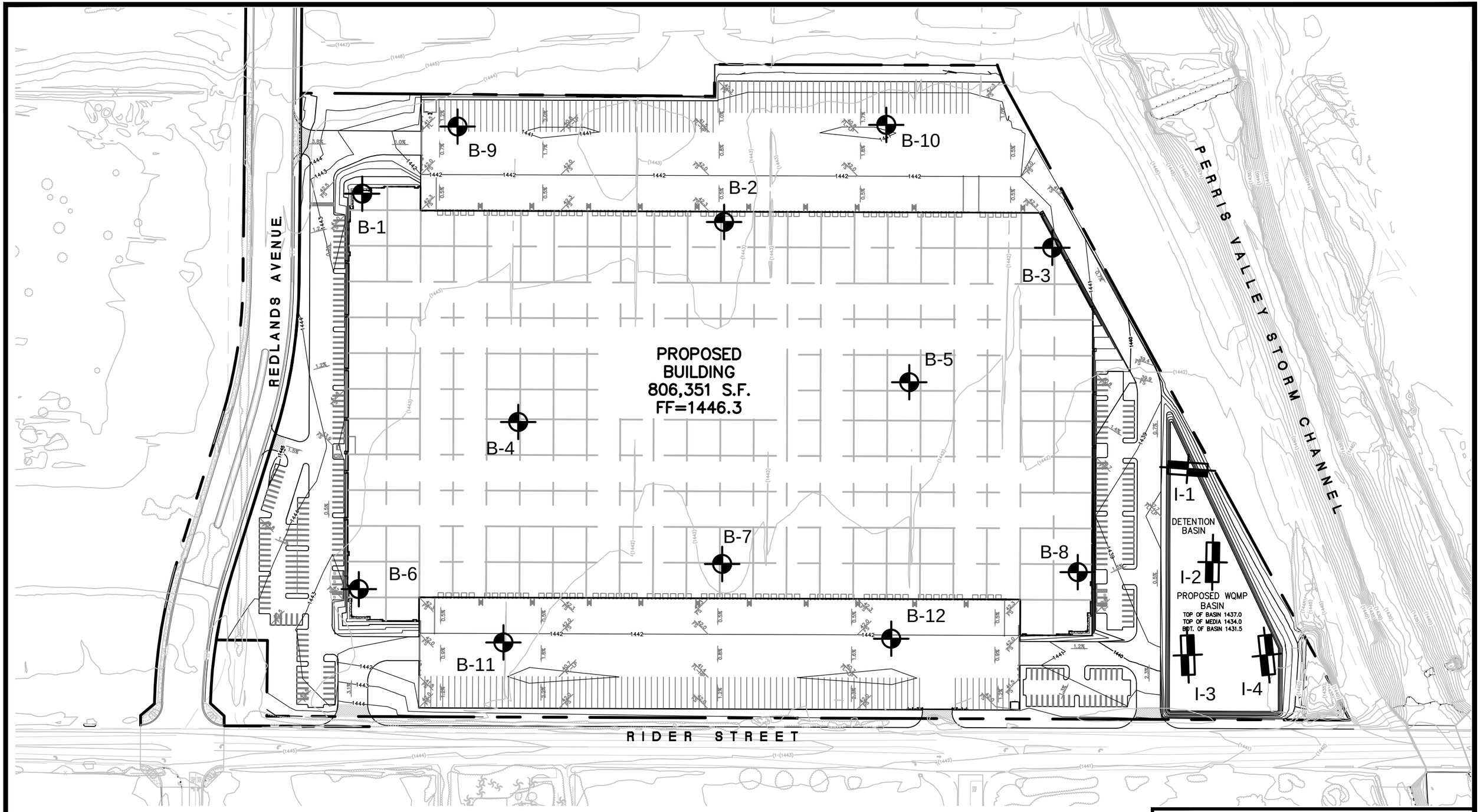
RIDER 2 - PROPOSED COMMERCIAL/INDUSTRIAL BUILDING

PERRIS, CALIFORNIA

SCALE: 1" = 2400'	
DRAWN: SAM CHKD: GKM	
SCG PROJECT 17G199-2	
PLATE 1	

SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL



GEOTECHNICAL LEGEND

APPROXIMATE INFILTRATION TEST LOCATION

APPROXIMATE BORING LOCATION SCG PROJECT NO. 17G199-1

NORTH

NOTE: SITE PLAN PREPARED BY ALBERT A. WEBB ASSOCIATES.

INFILTRATION TEST LOCATION PLAN

RIDER 2 - PROPOSED COMMERCIAL/INDUSTRIAL BUILDING

PERRIS, CALIFORNIA

SCALE: 1" = 150'	
DRAWN: JLL CHKD: GKM	
SCG PROJECT 17G199-2	
PLATE 2	

SOUTHERN CALIFORNIA GEOTECHNICAL

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-1

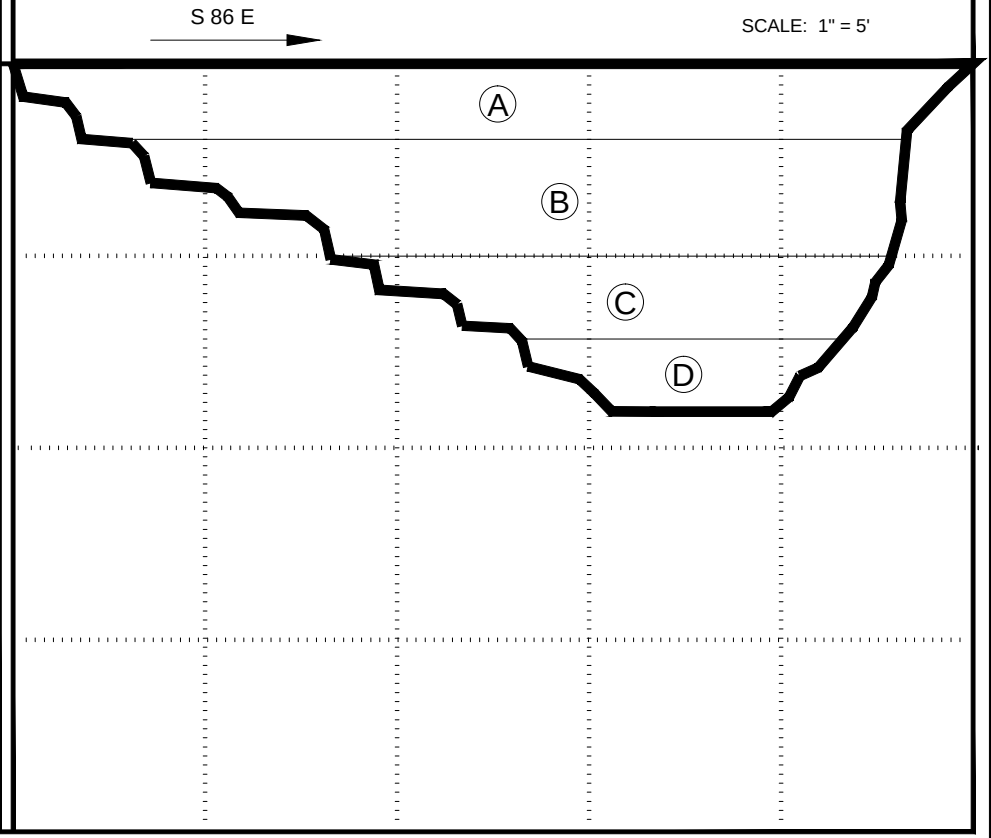
JOB NO.: 17G199-2
PROJECT: Rider 2 - Proposed C/I Building
LOCATION: Perris, CA
DATE: 11-1-2017

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: S 86 E
TOP OF TRENCH ELEVATION: 1442 feet msl

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: ALLUVIUM: Gray Brown Silty Clay, trace fine Sand, trace to abundant fine root fibers, very stiff - dry to damp
				B: ALLUVIUM: Light Gray Brown Clayey Silt, little fine Sand, trace medium Sand, trace calcareous veining, stiff - damp
5				C: ALLUVIUM: Light Gray Brown Clayey fine to medium Sand, trace Silt, medium dense - damp to moist
				D: ALLUVIUM: Brown fine to medium Sandy Clay, trace Silt, trace calcareous veining, medium stiff - damp to moist
10				Trench Terminated @ 9 feet Bottom of Trench Elevation: 1433 feet msl
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-2

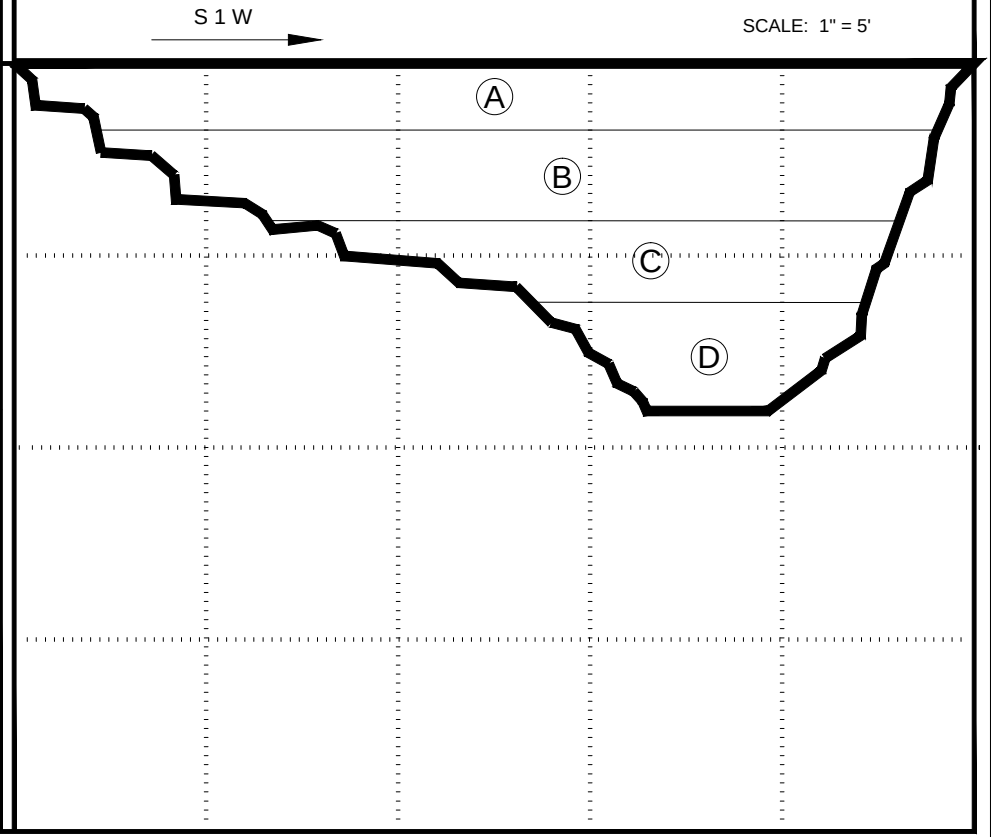
JOB NO.: 17G199-2
PROJECT: Rider 2 - Proposed C/I Building
LOCATION: Perris, CA
DATE: 11-1-2017

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: S 1 W
TOP OF TRENCH ELEVATION: 1441.5 feet msl

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: ALLUVIUM: Gray Brown Silty Clay, trace fine Sand, abundant fine root fibers, stiff - dry to damp
				B: ALLUVIUM: Gray Brown Clayey Silt, little fine Sand, trace calcareous veining, trace fine root fibers, medium stiff - damp
5				C: ALLUVIUM: Light Gray fine Sandy Clay, little medium Sand, little Silt, stiff - damp to moist
				D: ALLUVIUM: Brown Clayey fine to medium Sand, little calcareous veining, dense - moist
10				Trench Terminated @ 9 feet Bottom of Trench Elevation: 1432.5 feet msl
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-2

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-3

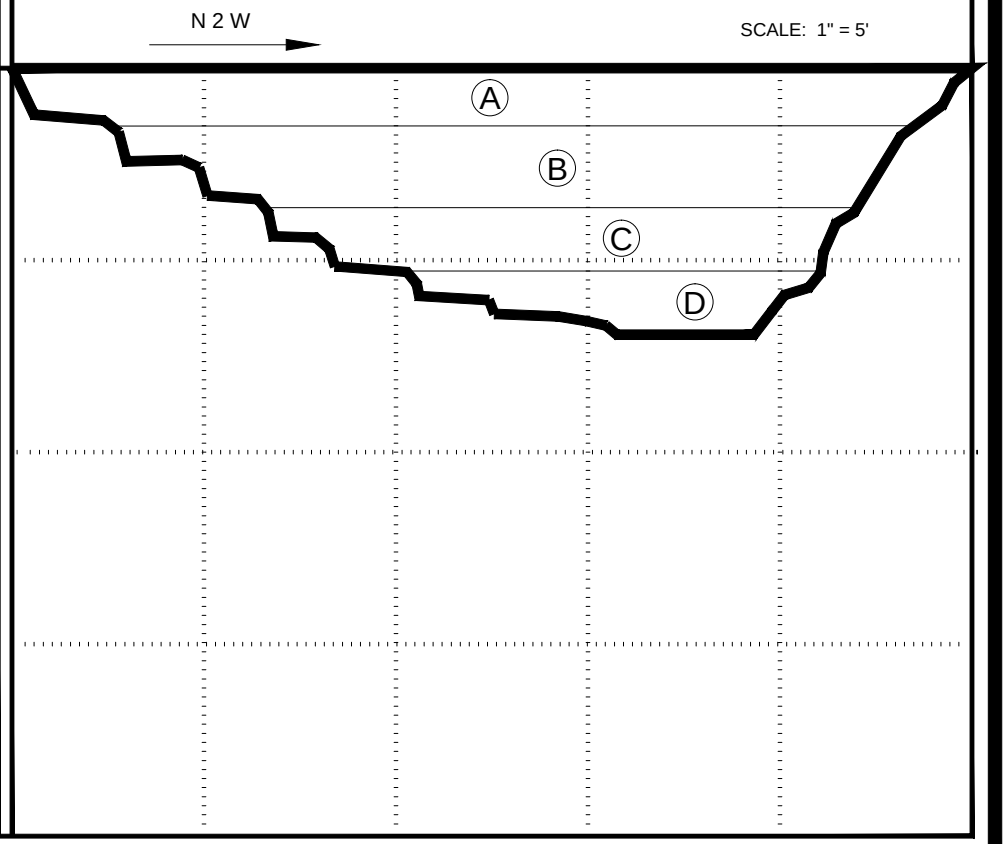
JOB NO.: 17G199-2
PROJECT: Rider 2 - Proposed C/I Building
LOCATION: Perris, CA
DATE: 11-1-2017

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: N 2 W
TOP OF TRENCH ELEVATION: 1441 feet msl

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: ALLUVIUM: Gray Brown Silty Clay, abundant fine root fibers, very stiff - dry to damp
				B: ALLUVIUM: Gray Brown Clayey Silt, trace fine Sand, slightly porous, trace calcareous veining, trace fine root fibers, stiff - damp to moist
				C: ALLUVIUM: Light Gray Brown Clayey fine to medium Sand, trace Silt, trace calcareous veining, medium dense - damp to moist
				D: ALLUVIUM: Light Brown fine to medium Sandy Clay, trace Silt, medium stiff to stiff - damp to moist
				Trench Terminated @ 7 feet Bottom of Trench Elevation: 1434 feet msl

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-3

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO. I-4

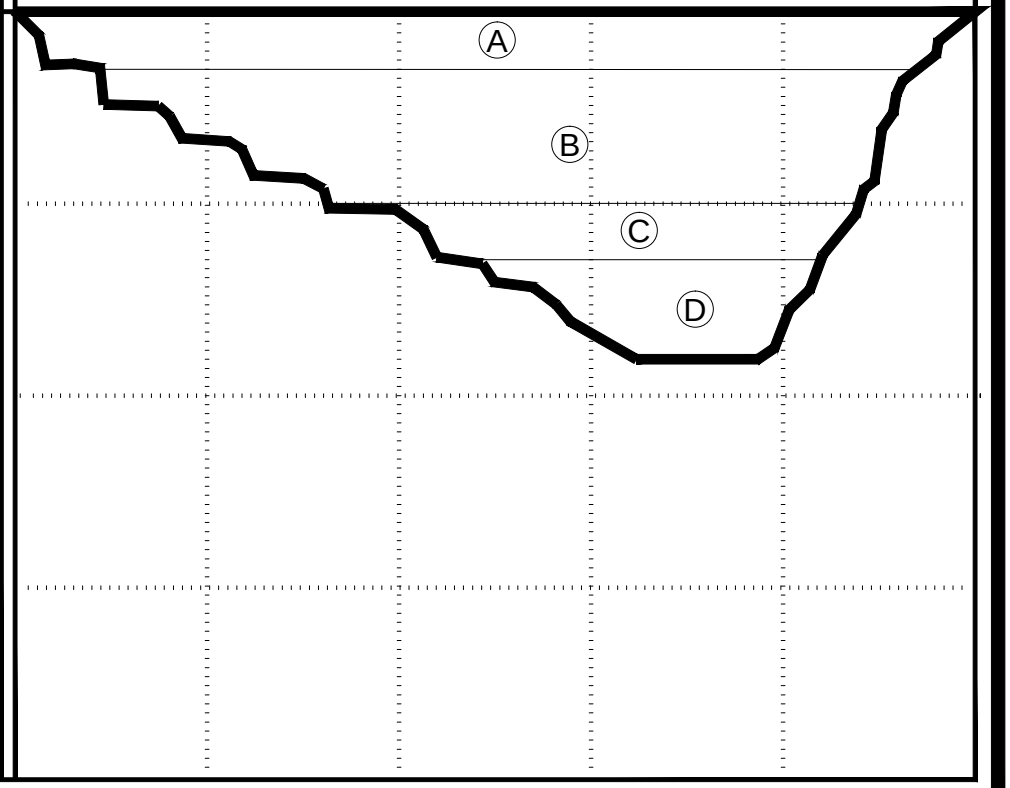
JOB NO.: 17G199-2
PROJECT: Rider 2 - Proposed C/I Building
LOCATION: Perris, CA
DATE: 11-1-2017

EQUIPMENT USED: Backhoe
LOGGED BY: Scott McCann
ORIENTATION: N 6 W
TOP OF TRENCH ELEVATION: 1441 feet msl

WATER DEPTH: Dry
SEEPAGE DEPTH: Dry
READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION
				A: ALLUVIUM: Gray Brown Silty Clay, trace fine Sand, abundant fine root fibers, stiff - damp
				B: ALLUVIUM: Gray Brown Clayey Silt, trace fine Sand, trace calcareous veining, trace fine root fibers, stiff - damp to moist
5				C: ALLUVIUM: Light Gray fine to medium Sandy Clay, trace Silt, stiff - damp to moist
				D: ALLUVIUM: Brown Clayey fine to medium Sand, trace Silt, trace calcareous veining, medium dense - moist
10				Trench Terminated @ 9 feet Bottom of Trench Elevation: 1432 feet msl
15				

GRAPHIC REPRESENTATION



KEY TO SAMPLE TYPES:
B - BULK SAMPLE (DISTURBED)
R - RING SAMPLE 2-1/2" DIAMETER (RELATIVELY UNDISTURBED)

TRENCH LOG

PLATE B-4

INFILTRATION CALCULATIONS

Project Name	Rider 2 - Proposed Commercial/Industrial Building
Project Location	Perris, CA
Project Number	17G199-2
Engineer	Scott McCann

Infiltration Test No: I-1

Constants

	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	2:00 PM	15	250	1700	1500	6800	9.32	12.43	3.67	4.89
	Final	2:15 PM	**15**	1950		8300					
2	Initial	2:16 PM	15	150	1300	400	5800	7.13	10.60	2.81	4.17
	Final	2:31 PM	**31**	1450		6200					
3	Initial	2:32 PM	15	50	1225	1400	5300	6.72	9.69	2.64	3.81
	Final	2:47 PM	**47**	1275		6700					
4	Initial	2:48 PM	15	50	1150	300	5300	6.30	9.69	2.48	3.81
	Final	3:03 PM	**63**	1200		5600					
5	Initial	3:04 PM	15	200	1100	500	5200	6.03	9.50	2.37	3.74
	Final	3:19 PM	**79**	1300		5700					
6	Initial	3:20 PM	15	150	1100	900	5200	6.03	9.50	2.37	3.74
	Final	3:35 PM	**95**	1250		6100					

INFILTRATION CALCULATIONS

Project Name	Rider 2 - Proposed Commercial/Industrial Building
Project Location	Perris, CA
Project Number	17G199-2
Engineer	Scott McCann

Infiltration Test No: I-2

Constants

	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	12:15 PM	30	50	1150	0	4200	3.15	3.84	1.24	1.51
	Final	12:45 PM	**30**	1200		4200					
2	Initial	12:45 PM	30	0	850	400	3900	2.33	3.56	0.92	1.40
	Final	1:15 PM	**60**	850		4300					
3	Initial	1:15 PM	30	25	625	400	2100	1.71	1.92	0.67	0.76
	Final	1:45 PM	**90**	650		2500					
4	Initial	1:45 PM	30	100	600	200	1900	1.64	1.74	0.65	0.68
	Final	2:15 PM	**120**	700		2100					

INFILTRATION CALCULATIONS

Project Name	Rider 2 - Proposed Commercial/Industrial Building
Project Location	Perris, CA
Project Number	17G199-2
Engineer	Scott McCann

Infiltration Test No: I-3

Constants

	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	8:30 AM	10	100	2050	300	6400	16.86	17.54	6.64	6.91
	Final	8:40 AM	**10**	2150		6700					
2	Initial	8:41 AM	10	150	1450	700	4500	11.92	12.33	4.69	4.86
	Final	8:51 AM	**21**	1600		5200					
3	Initial	8:52 AM	10	150	1150	400	3600	9.46	9.87	3.72	3.89
	Final	9:02 AM	**32**	1300		4000					
4	Initial	9:03 AM	10	200	925	400	3250	7.61	8.91	2.99	3.51
	Final	9:13 AM	**43**	1125		3650					
5	Initial	9:14 AM	10	200	825	1500	2800	6.78	7.68	2.67	3.02
	Final	9:24 AM	**54**	1025		4300					
6	Initial	9:25 AM	10	50	775	400	2600	6.37	7.13	2.51	2.81
	Final	9:35 AM	**65**	825		3000					
7	Initial	9:36 AM	10	100	700	250	2500	5.76	6.85	2.27	2.70
	Final	9:46 AM	**75**	800		2750					
8	Initial	9:47 AM	10	200	650	200	2400	5.35	6.58	2.10	2.59
	Final	9:57 AM	**86**	850		2600					

INFILTRATION CALCULATIONS

Project Name	Rider 2 - Proposed Commercial/Industrial Building
Project Location	Perris, CA
Project Number	17G199-2
Engineer	Scott McCann

Infiltration Test No: I-4

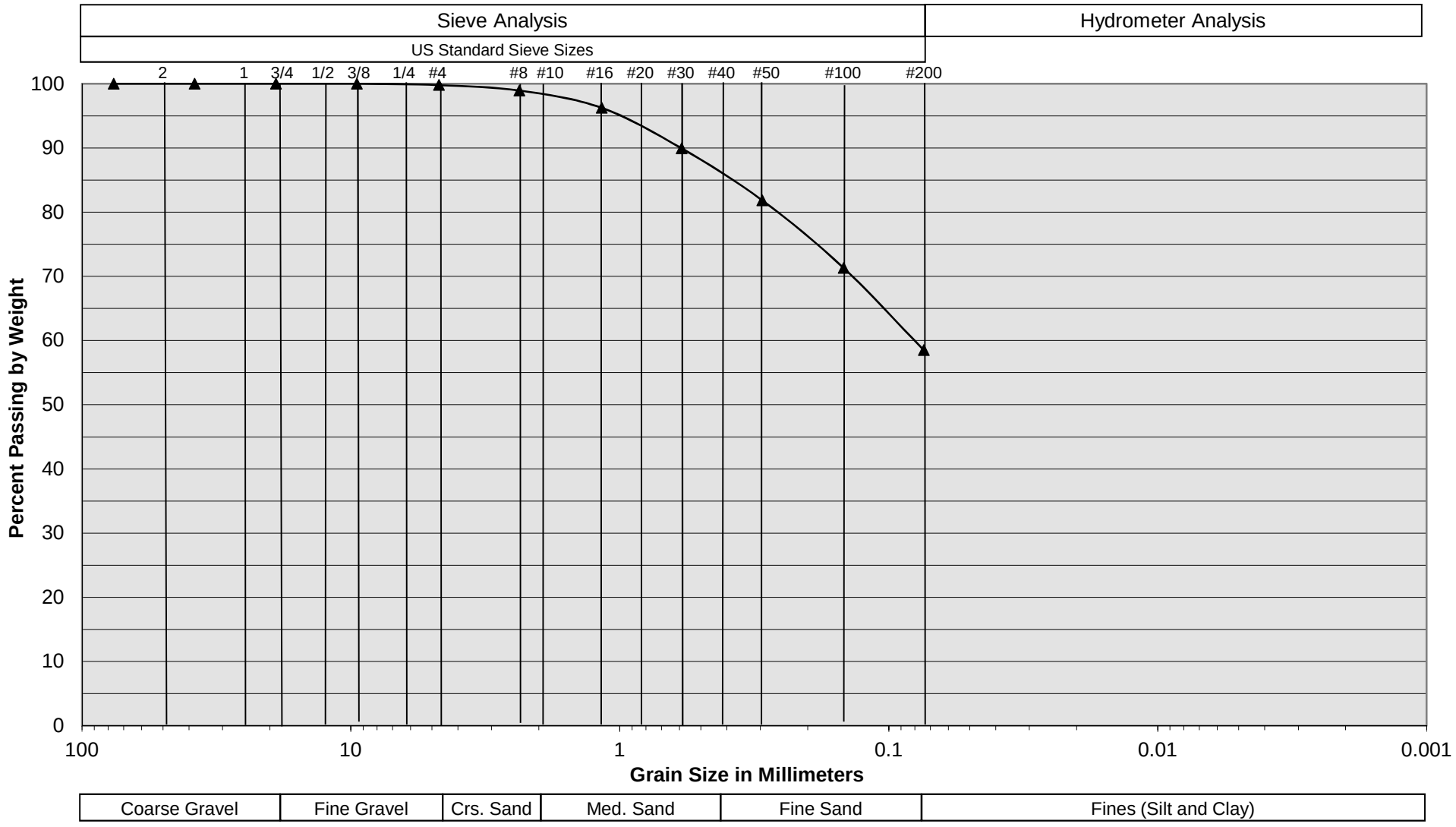
Constants

	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	10:30 AM	15	50	1250	300	5800	6.85	10.60	2.70	4.17
	Final	10:45 AM	**15**	1300		6100					
2	Initial	10:46 AM	15	100	850	400	4500	4.66	8.22	1.83	3.24
	Final	11:01 AM	**31**	950		4900					
3	Initial	11:02 AM	15	100	800	400	4100	4.39	7.49	1.73	2.95
	Final	11:17 AM	**47**	900		4500					
4	Initial	11:18 AM	15	50	800	350	3800	4.39	6.94	1.73	2.73
	Final	11:33 AM	**63**	850		4150					
5	Initial	11:34 AM	15	50	800	350	3550	4.39	6.49	1.73	2.55
	Final	11:49 AM	**79**	850		3900					
6	Initial	11:50 AM	15	100	800	200	3500	4.39	6.40	1.73	2.52
	Final	12:05 PM	**95**	900		3700					

Grain Size Distribution



Sample Description	I-1 @ 9 feet
Soil Classification	Brown fine to medium Sandy Clay, trace Silt

Rider 2 - Proposed Commercial/Industrial Building
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PLATE C-1

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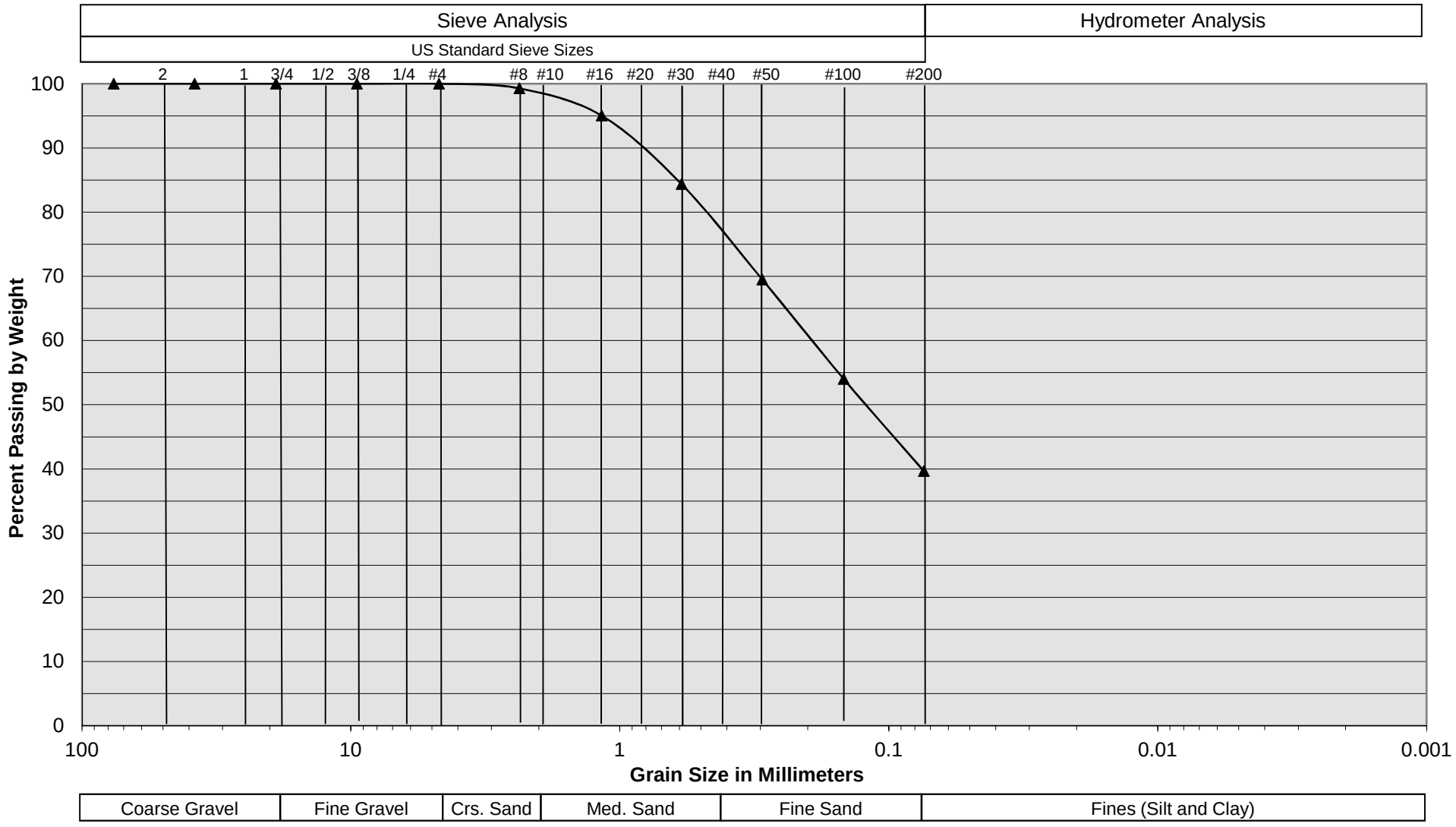
Grain Size Distribution



Sample Description	I-2 @ 9 feet
Soil Classification	Brown Clayey fine to medium Sand

Rider 2 - Proposed Commercial/Industrial Building
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PLATE C-2

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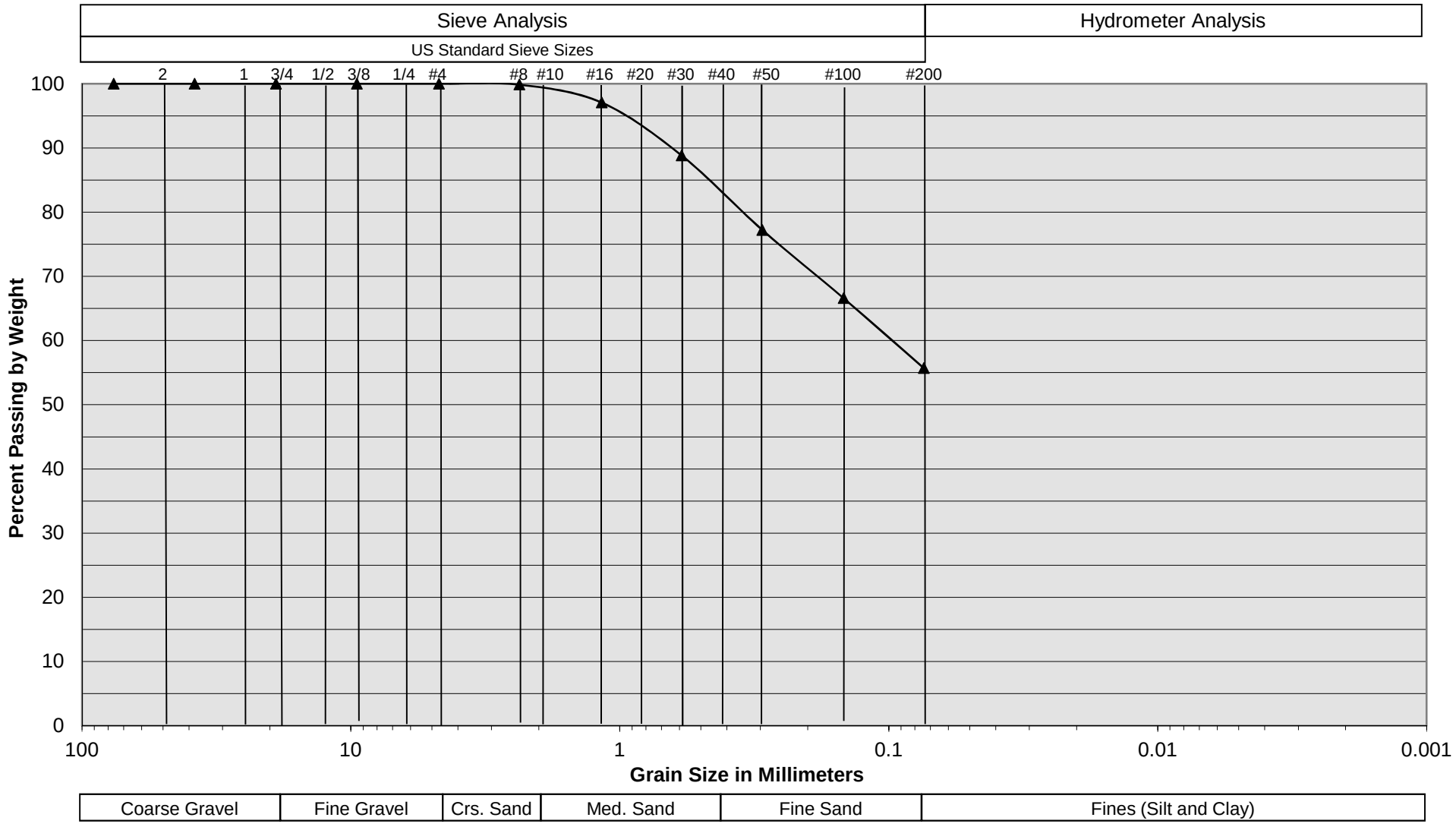
Grain Size Distribution



Sample Description	I-3 @ 7 feet
Soil Classification	Light Brown fine to medium Sandy Clay, trace Silt

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PLATE C-3

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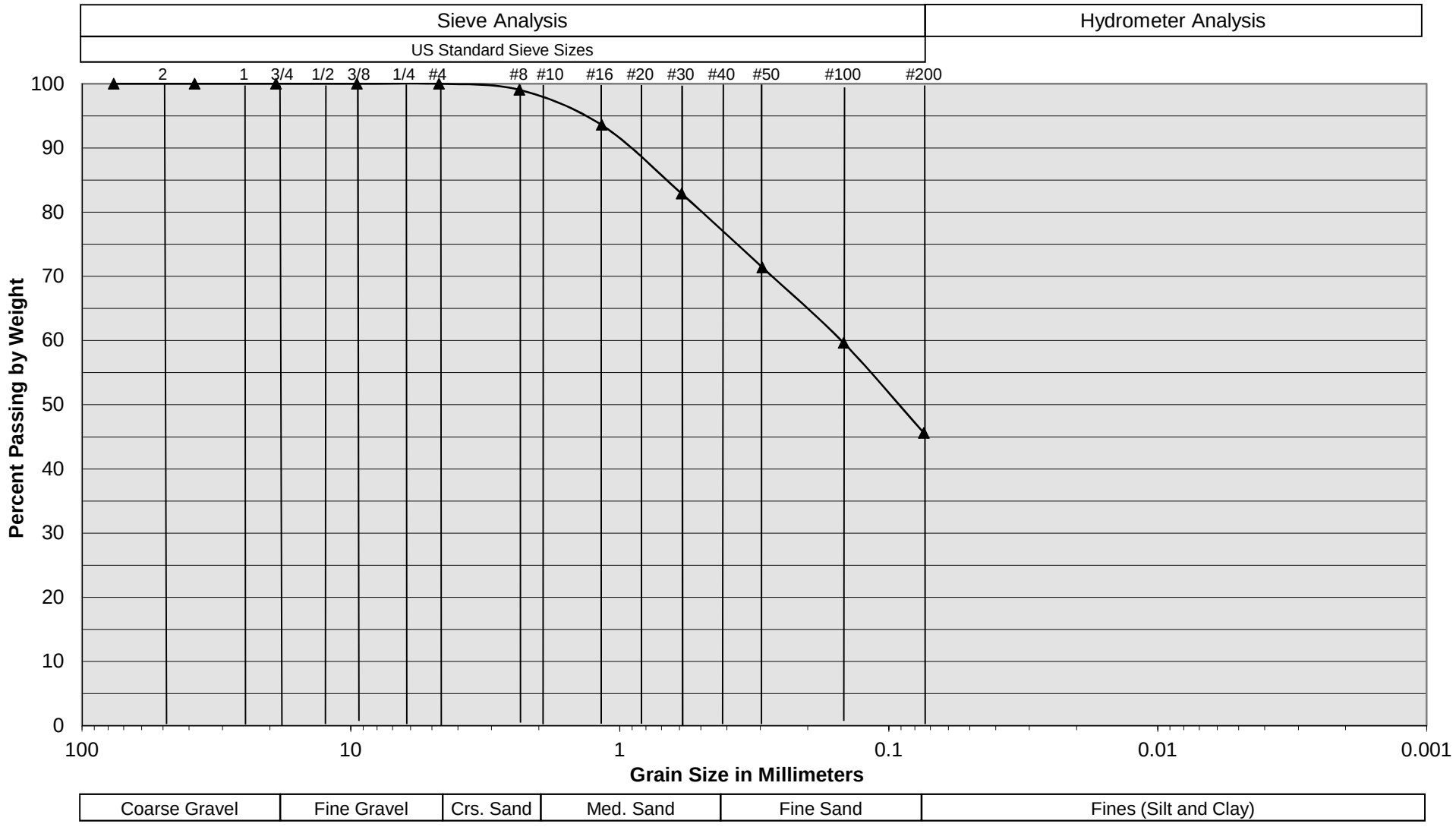
Grain Size Distribution



Sample Description	I-4 @ 9 feet
Soil Classification	Brown Clayey fine to medium Sand, trace Silt

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PLATE C-4

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