

APPENDIX F2

INFILTRATION TESTING REPORT

June 26, 2023

Brookfield Properties
2101 Rosecrans Avenue, Suite 6250
El Segundo, California 90245



**SOUTHERN
CALIFORNIA
GEOTECHNICAL**
A California Corporation

Attention: Mr. Amir Latifian
Associate, Development | Logistics

Project No.: **23G146-2**

Subject: **Results of Infiltration Testing**
Proposed Industrial Building – SWC West Lowell Street and North Locust Avenue
Rialto, California

Reference: Geotechnical Investigation, Proposed Industrial Building – SWC West Lowell Street and North Locust Avenue, Rialto, California, prepared for Brookfield Properties, by Southern California Geotechnical, Inc. (SCG), SCG Project No. 23G146-1, dated June 26, 2023.

Mr. Latifian:

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. 23P123, dated January 31, 2023. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site 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 subject site is located at the southwest corner of West Lowell Street and North Locust Avenue in Rialto, California. The site is bounded to the north by West Lowell Street, to the west by a truck yard lot and Lake Padden Lane, to the south by a vacant lot used for stockpiling concrete mix materials, and to the east by commercial development and North Locust Avenue. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 of this report.

The subject site is an L-shaped property consisting of several rectangular-shaped parcels, which total 39.92± acres in size. The majority of the site is vacant and undeveloped except for portions of the northern and southern parcels which appear to have been graded. Ground surface coverage in the undeveloped areas consists of exposed soil with sparse to moderate native grass and weed growth. Ground surface coverage in the graded areas consists of crushed aggregate base (CAB). Remnants of two previous structures are located in the southwest corner of the site.

Detailed topographic information was not available at the time of this report. Based on elevations obtained from Google Earth, and visual observations made at the time of the subsurface investigation, the overall site topography slopes downward to the south and southeast at gradients of $1\frac{1}{2}$ to $2\frac{1}{2}\pm$ percent.

Proposed Development

A conceptual site plan was provided to our office by the client. Based on this plan, the subject site will be developed with a $750,560\pm$ ft² industrial building, located in the western area of the site. Dock-high doors will be constructed along a portion of the east building wall. The new building is expected to be surrounded by asphaltic concrete (AC) pavements in the parking and drive areas, and Portland cement concrete (PCC) pavements in the loading dock area. Several landscaped planters and concrete flatwork are also expected to be included throughout the site.

The proposed development will use on-site storm water infiltration. Based on our experience with similar projects in the area, the infiltration system is assumed to consist of a below-grade chamber located in the truck-court areas of the site. The bottom of the infiltration systems is expected to be $10\pm$ feet below the existing site grades.

Concurrent Study

SCG concurrently conducted a geotechnical investigation at the subject site, which is referenced above. As part of this study, twelve (12) borings were advanced to depths of 4 to $25\pm$ feet below existing site grades. Additionally, ten (10) backhoe-excavated trenches were dug to depths ranging from $6\frac{1}{2}$ to $10\pm$ feet below existing site grades.

Artificial fill soils were encountered at the ground surface at most of the boring and trench locations extending to depths of 2 to $4\frac{1}{2}\pm$ feet below the existing site grades. The fill soils generally consist of medium dense to very dense silty sands and gravelly sands, and occasional loose silty sands. The fill soils possess a disturbed appearance and some samples contain artificial debris, such as plastic, metal, and clothing fragments, resulting in their classification as artificial fill. Native alluvial soils were encountered at the ground surface or beneath the fill soils at all of the boring and trench locations, extending to at least the maximum depth explored of $25\pm$ feet below the existing site grades. The alluvium generally consists of dense to very dense gravelly sands and sandy gravels, and occasional medium dense to very dense sands and silty sands. Occasional to extensive cobbles were encountered at the boring and trench locations at various depths. Occasional boulders were encountered at all of the trench locations at depths of $2\frac{1}{2}$ to $4\frac{1}{2}\pm$ feet.

Groundwater

Groundwater was not encountered at any of the borings or trenches. Based on the lack of any water within the borings and trenches, and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of at least $25\pm$ feet below existing site grades, at the time of the subsurface investigation.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of four (4) backhoe-excavated trenches, extending to a depth 10± 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 Infiltration Trench Nos. I-1 through I-4) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

A surficial (6±-inch thick) layer of crushed miscellaneous base (CMB) was encountered at Infiltration Trench Nos. I-1 and I-4. Artificial fill soils were encountered beneath the CMB at both of these infiltration trenches extending to depths of 1 to 2± feet below existing site grades. The fill soils consist dense silty fine sands and silty fine to medium sands. Native alluvial soils were encountered at the ground surface or beneath the fill soils at all of the infiltration trench locations. The alluvial soils consist of medium dense silty fine sands with vary amounts of medium to coarse sands, dense gravelly fine to coarse sands and fine to coarse sandy gravel with occasional to extensive cobbles extending to the maximum depth explored of 10± feet. The Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are presented in this report.

Groundwater was not encountered at any of the boring and trenches during the geotechnical investigation or any of the infiltration trenches during the infiltration testing. Based on the lack of any water within the borings and trenches, and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of 25± feet below existing site grades, at the time of the subsurface investigation

As part of our research, we reviewed readily available groundwater data in order to determine regional groundwater depths. Recent water level data was obtained from the California Department of Water Resources, Water Data Library Station Map, website, <https://wdl.water.ca.gov/waterdatalibrary/>. One monitoring well on record is located as close as 3,700 feet east-northeast of the site. Water level readings within this monitoring well indicate a high groundwater level of 279± feet below the ground surface in June 1993.

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. As previously mentioned, 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 trench. 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 of the trench 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.

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 the trench locations, the volumetric measurements were made at 5-minute increments. 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:

<u>Infiltration Test No.</u>	<u>Depth (feet)</u>	<u>Soil Description</u>	<u>Measured Infiltration Rate (inches/hour)</u>
I-1	10	Light Brown Gravelly fine to coarse Sand/fine to coarse Sandy Gravel	19.4
I-2	10	Brown fine to coarse Sandy Gravel	22.3
I-3	10	Light Brown Gravelly fine to coarse Sand	23.6
I-4	10	Brown Gravelly fine to coarse Sand/fine to coarse Sandy Gravel	17.5

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 between 17.5 and 23.6 inches per hour. Based on the infiltration test results, the design infiltration rate for the proposed below-grade infiltration system located in the southwestern area of the site will be 17.5 inches per hour.

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration system to identify the soil classification at the base of the infiltration basin. It should be confirmed that the soils at the base of the proposed infiltration system corresponds with those presented in this report to ensure that the performance of the system will be consistent with the rates reported herein.

The design of storm water disposal systems should be performed by the project civil engineer, in accordance with the City of Rialto and/or County of San Bernardino guidelines. It is recommended

any such systems be designed and constructed 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 flow rates through the system. It should be noted that the recommended infiltration rates are based on infiltration testing at four (4) discrete locations and that the overall infiltration rates of the proposed infiltration system could vary considerably.

Infiltration Rate Considerations

The infiltration rates presented herein was determined in accordance with the San Bernardino County guidelines and are considered valid only for the time and place of the actual test. Varying subsurface conditions will exist in other areas of the site, which could alter the recommended infiltration rates presented above. The infiltration rates will decline over time between maintenance cycles as silt or clay particles accumulate on the BMP surface. The infiltration rate is highly dependent upon a number of factors, including density, silt and clay content, grain size distribution throughout the range of particle sizes, and particle shape. Small changes in these factors can cause large changes in the infiltration rates.

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. Changes in soil moisture content will affect the infiltration rate. 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.

Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Compaction of the soils at the bottom of the infiltration system can significantly reduce the infiltration ability of the basins. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration systems to identify the soil classification at the base of each system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rates reported herein.

We recommend that scrapers and other rubber-tired heavy equipment not be operated on the basin bottom, or at levels lower than 2 feet above the bottom of the system, particularly within basins. As such, the bottom 24 inches of the infiltration systems should be excavated with non-rubber-tired equipment, such as excavators.

Chamber Maintenance

The proposed project may include below-grade infiltration chambers. Water flowing into these chambers will carry some level of sediment. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal chamber maintenance program should be established to ensure that these silt and clay deposits are removed from the chamber on a regular basis.

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 area could potentially be damaged due to saturation of the subgrade soils. **The proposed infiltration systems for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the building(s), it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. 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.

The infiltration system designer should also give special consideration to the effect that the proposed infiltration systems may have on nearby subterranean structures, open excavations, or descending slopes. In particular, infiltration systems should not be located near the crest of descending slopes, particularly where the slopes are comprised of granular soils. Such systems will require specialized design and analysis to evaluate the potential for slope instability, piping failures and other phenomena that typically apply to earthen dam design. This type of analysis is beyond the scope of this infiltration test report, but these factors should be considered by the infiltration system designer when locating the infiltration systems.

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.



Joseph Hernandez
Staff Geologist

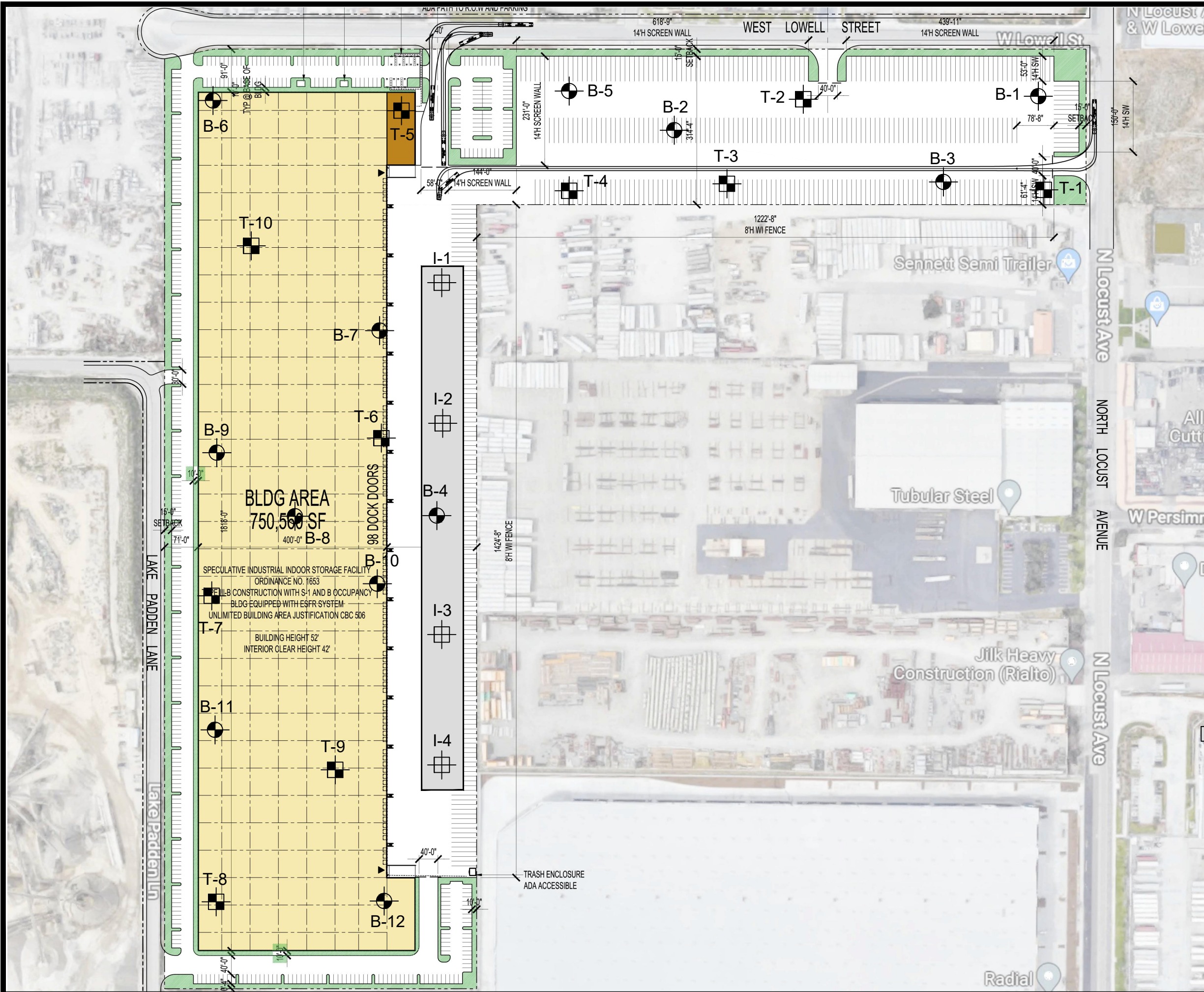


Robert G. Trazo, GE 2655
Principal Engineer



Distribution: (1) Addressee

Enclosures: Plate 1: Site Location Map
Plate 2: Infiltration Test Location Plan
Trench Log Legend and Logs (4 pages)
Infiltration Test Results Spreadsheets (4 pages)
Grainsize Distribution Graphs (4 pages)



GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION TEST LOCATION
- APPROXIMATE BORING LOCATION (SCG. PROJECT NO, 23G146-1)
- APPROXIMATE TRENCH LOCATION (SCG. PROJECT NO, 23G146-1)
- PROPOSED INFILTRATION SYSTEM

NOTE: CONCEPTUAL SITE PLAN PREPARED BY SKH. AERIAL PHOTO OBTAINED FROM GOOGLE EARTH.

INFILTRATION TEST LOCATION PLAN	
PROPOSED INDUSTRIAL BUILDING	
RIALTO, CALIFORNIA	
SCALE: 1" = 200'	 SOUTHERN CALIFORNIA GEOTECHNICAL
DRAWN: MK	
CHKD: RGT	
SCG PROJECT 23G146-2	
PLATE 2	

SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH NO.
I-1

JOB NO.: 23G146-2

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Proposed Industrial Building

LOGGED BY: Joseph Hernandez

SEEPAGE DEPTH: Dry

LOCATION: Rialto, CA

ORIENTATION: N 60 E

READINGS TAKEN: At Completion

DATE: 5-24-2023

TOP OF TRENCH ELEVATION: --

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
	b		1	A: Crushed Miscellaneous Base, 6± thick	N 60 E SCALE: 1" = 5' A B C D Cobbles Boulders
	b		4	B: FILL: Light Brown Silty fine Sand, little medium to coarse Sand, trace coarse Gravel, extensive Cobbles, dense - damp	
				C: ALLUVIUM: Brown Silty fine to coarse Sand, trace fine to coarse Gravel, occasional Cobbles, medium dense - dry to damp	
5	b		1	D: ALLUVIUM: Light Brown Gravelly fine to coarse Sand/fine to coarse Sandy Gravel, extensive Cobbles, occasional Boulders, dense - dry to damp	
10	b		2	Trench Terminated @ 10 feet	
15					

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.: 23G146-2

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Proposed Industrial Building

LOGGED BY: Joseph Hernandez

SEEPAGE DEPTH: Dry

LOCATION: Rialto, CA

ORIENTATION: S 55 E

READINGS TAKEN: At Completion

DATE: 5-24-2023

TOP OF TRENCH ELEVATION: --

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
5	b		1	A: ALLUVIUM: Gray Brown Silty fine to medium Sand, little coarse Sand, trace fine to coarse Gravel, occasional Cobbles, dense - dry	S 55 E SCALE: 1" = 5' Cobbles Boulders
	b		1	B: ALLUVIUM: Gray Gravelly fine to coarse Sand, extensive Cobbles, occasional Boulders, dense - dry	
10	b		2	C: ALLUVIUM: Brown fine to coarse Sandy Gravel, extensive Cobbles, occasional Boulders, dense - dry to damp	
				Trench Terminated @ 10 feet	

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.: 23G146-2

PROJECT: Proposed Industrial Building

LOCATION: Rialto, CA

DATE: 5-23-2023

EQUIPMENT USED: Backhoe

LOGGED BY: Joseph Hernandez

ORIENTATION: N 78 E

TOP OF TRENCH ELEVATION: --

WATER DEPTH: Dry

SEEPAGE DEPTH: Dry

READINGS TAKEN: At Completion

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
5	b		3	A: ALLUVIUM: Brown Silty fine to medium Sand, little coarse Sand, trace trace fine to coarse Gravel, trace fine root fibers, medium dense - damp	N 78 E SCALE: 1" = 5' Cobbles Boulders
	b		2	B: ALLUVIUM: Brown Gravelly fine to medium Sand, little Silt, little coarse Sand, extensive Cobbles, trace Boulders, dense - dry to damp	
				C: ALLUVIUM: Light Brown Gravelly fine to coarse Sand, extensive Cobbles, trace Boulders, dense - dry to damp	
10	b		2	Trench Terminated @ 10 feet	

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.: 23G146-2

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Proposed Industrial Building

LOGGED BY: Joseph Hernandez

SEEPAGE DEPTH: Dry

LOCATION: Rialto, CA

ORIENTATION: S 75 E

READINGS TAKEN: At Completion

DATE: 5-22-2023

TOP OF TRENCH ELEVATION: --

DEPTH	SAMPLE	DRY DENSITY (PCF)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
	b		1	A: Crushed Miscellaneous Base, 6±-inch thick	S 75 E SCALE: 1" = 5' Cobbles Boulders
	b		1	B: FILL: Gray Brown Silty fine to medium Sand, little coarse Sand, little fine to coarse Gravel, dense - dry	
5				C: ALLUVIUM: Light Gray Brown Gravelly fine to coarse Sand, extensive Cobbles, dense - dry	
	b		1		
10	b		2	D: ALLUVIUM: Brown Gravelly fine to coarse Sand/fine to coarse Sandy Gravel, extensive Cobbles, occasional Boulders, dense - dry to damp	
				Trench Terminated @ 10 feet	

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	Proposed Industrial Building
Project Location	Rialto, California
Project Number	23G146-2
Engineer	JJH

Infiltration Test No **I-1**

Constants			
	Diameter (ft)	Area (ft ²)	Area (cm ²)
Inner	1	0.785	730
Anlr. Spac	2	2.356	2189

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

Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				Inner Ring (ml)	Ring Flow (cm ³)	Annular Ring (ml)	Space Flow (cm ³)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	8:22 AM	5	0		0					
	Final	8:27 AM	5	3900	3900	13000	13000	64.14	71.27	25.25	28.06
2	Initial	8:28 AM	5	0		0					
	Final	8:33 AM	10	3750	3750	12900	12900	61.67	70.72	24.28	27.84
3	Initial	8:34 AM	5	0		0					
	Final	8:39 AM	15	3600	3600	12900	12900	59.21	70.72	23.31	27.84
4	Initial	8:40 AM	5	0		0					
	Final	8:45 AM	20	3450	3450	12800	12800	56.74	70.17	22.34	27.63
5	Initial	8:46 AM	5	0		0					
	Final	8:51 AM	25	3300	3300	12700	12700	54.27	69.62	21.37	27.41
6	Initial	8:52 AM	5	0		0					
	Final	8:57 AM	30	3200	3200	12600	12600	52.63	69.08	20.72	27.20
7	Initial	8:58 AM	5	0		0					
	Final	9:03 AM	35	3150	3150	12500	12500	51.81	68.53	20.40	26.98
8	Initial	9:04 AM	5	0		0					
	Final	9:09 AM	40	3100	3100	12400	12400	50.98	67.98	20.07	26.76
9	Initial	9:10 AM	5	0		0					
	Final	9:15 AM	45	3100	3100	12300	12300	50.98	67.43	20.07	26.55
10	Initial	9:16 AM	5	0		0					
	Final	9:21 AM	50	3000	3000	12400	12400	49.34	67.98	19.43	26.76
11	Initial	9:22 AM	5	0		0					
	Final	9:27 AM	55	3000	3000	12300	12300	49.34	67.43	19.43	26.55
12	Initial	9:28 AM	5	0		0					
	Final	9:33 AM	60	3000	3000	12300	12300	49.34	67.43	19.43	26.55

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Rialto, California
Project Number	23G146-2
Engineer	JJH

Infiltration Test No **I-2**

Constants			
	Diameter (ft)	Area (ft ²)	Area (cm ²)
Inner	1	0.785	730
Anlr. Spac	2	2.356	2189

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

Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				Inner Ring (ml)	Ring Flow (cm ³)	Annular Ring (ml)	Space Flow (cm ³)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	10:32 AM	5	0		0					
	Final	10:37 AM	5	4200	4200	13000	13000	69.08	71.27	27.20	28.06
2	Initial	10:38 AM	5	0		0					
	Final	10:43 AM	10	4000	4000	13000	13000	65.79	71.27	25.90	28.06
3	Initial	10:44 AM	5	0		0					
	Final	10:49 AM	15	3950	3950	12950	12950	64.96	70.99	25.58	27.95
4	Initial	10:50 AM	5	0		0					
	Final	10:55 AM	20	3800	3800	12900	12900	62.50	70.72	24.61	27.84
5	Initial	10:56 AM	5	0		0					
	Final	11:01 AM	25	3750	3750	12900	12900	61.67	70.72	24.28	27.84
6	Initial	11:02 AM	5	0		0					
	Final	11:07 AM	30	3650	3650	12800	12800	60.03	70.17	23.63	27.63
7	Initial	11:08 AM	5	0		0					
	Final	11:13 AM	35	3700	3700	12700	12700	60.85	69.62	23.96	27.41
8	Initial	11:14 AM	5	0		0					
	Final	11:19 AM	40	3600	3600	12600	12600	59.21	69.08	23.31	27.20
9	Initial	11:20 AM	5	0		0					
	Final	11:25 AM	45	3450	3450	12650	12650	56.74	69.35	22.34	27.30
10	Initial	11:26 AM	5	0		0					
	Final	11:31 AM	50	3500	3500	12600	12600	57.56	69.08	22.66	27.20
11	Initial	11:32 AM	5	0		0					
	Final	11:37 AM	55	3450	3450	12500	12500	56.74	68.53	22.34	26.98
12	Initial	11:38 AM	5	0		0					
	Final	11:43 AM	60	3450	3450	12500	12500	56.74	68.53	22.34	26.98

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Rialto, California
Project Number	23G146-2
Engineer	JJH

Infiltration Test No **I-3**

Constants			
	Diameter (ft)	Area (ft ²)	Area (cm ²)
Inner	1	0.785	730
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*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				Inner Ring (ml)	Ring Flow (cm ³)	Annular Ring (ml)	Space Flow (cm ³)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	9:42 AM	5	0	4050	0	12950	66.61	70.99	26.22	27.95
	Final	9:47 AM	5	4050		12950					
2	Initial	9:48 AM	5	0	3950	0	12900	64.96	70.72	25.58	27.84
	Final	9:53 AM	10	3950		12900					
3	Initial	9:54 AM	5	0	3900	0	12800	64.14	70.17	25.25	27.63
	Final	9:59 AM	15	3900		12800					
4	Initial	10:00 AM	5	0	3850	0	12700	63.32	69.62	24.93	27.41
	Final	10:05 AM	20	3850		12700					
5	Initial	10:06 AM	5	0	3800	0	12750	62.50	69.90	24.61	27.52
	Final	10:11 AM	25	3800		12750					
6	Initial	10:12 AM	5	0	3850	0	12600	63.32	69.08	24.93	27.20
	Final	10:17 AM	30	3850		12600					
7	Initial	10:18 AM	5	0	3750	0	12500	61.67	68.53	24.28	26.98
	Final	10:23 AM	35	3750		12500					
8	Initial	10:24 AM	5	0	3800	0	12400	62.50	67.98	24.61	26.76
	Final	10:29 AM	40	3800		12400					
9	Initial	10:30 AM	5	0	3750	0	12450	61.67	68.25	24.28	26.87
	Final	10:35 AM	45	3750		12450					
10	Initial	10:36 AM	5	0	3700	0	12400	60.85	67.98	23.96	26.76
	Final	10:41 AM	50	3700		12400					
11	Initial	10:42 AM	5	0	3650	0	12300	60.03	67.43	23.63	26.55
	Final	10:47 AM	55	3650		12300					
12	Initial	10:48 AM	5	0	3650	0	12300	60.03	67.43	23.63	26.55
	Final	10:53 AM	60	3650		12300					

INFILTRATION CALCULATIONS

Project Name	Proposed Industrial Building
Project Location	Rialto, California
Project Number	23G146-2
Engineer	JJH

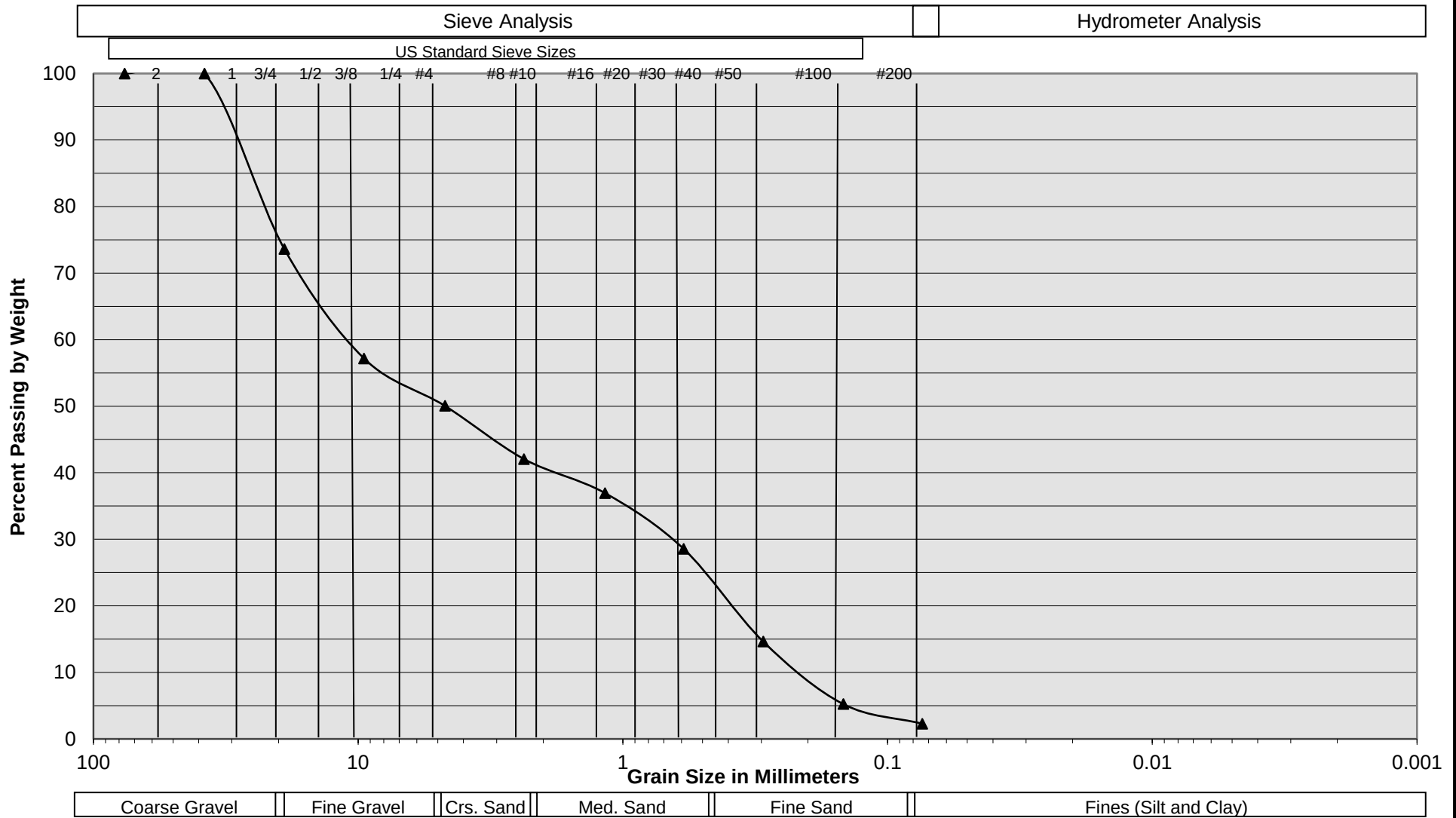
Infiltration Test No **I-4**

Constants			
	Diameter (ft)	Area (ft ²)	Area (cm ²)
Inner	1	0.785	730
Anlr. Spac	2	2.356	2189

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

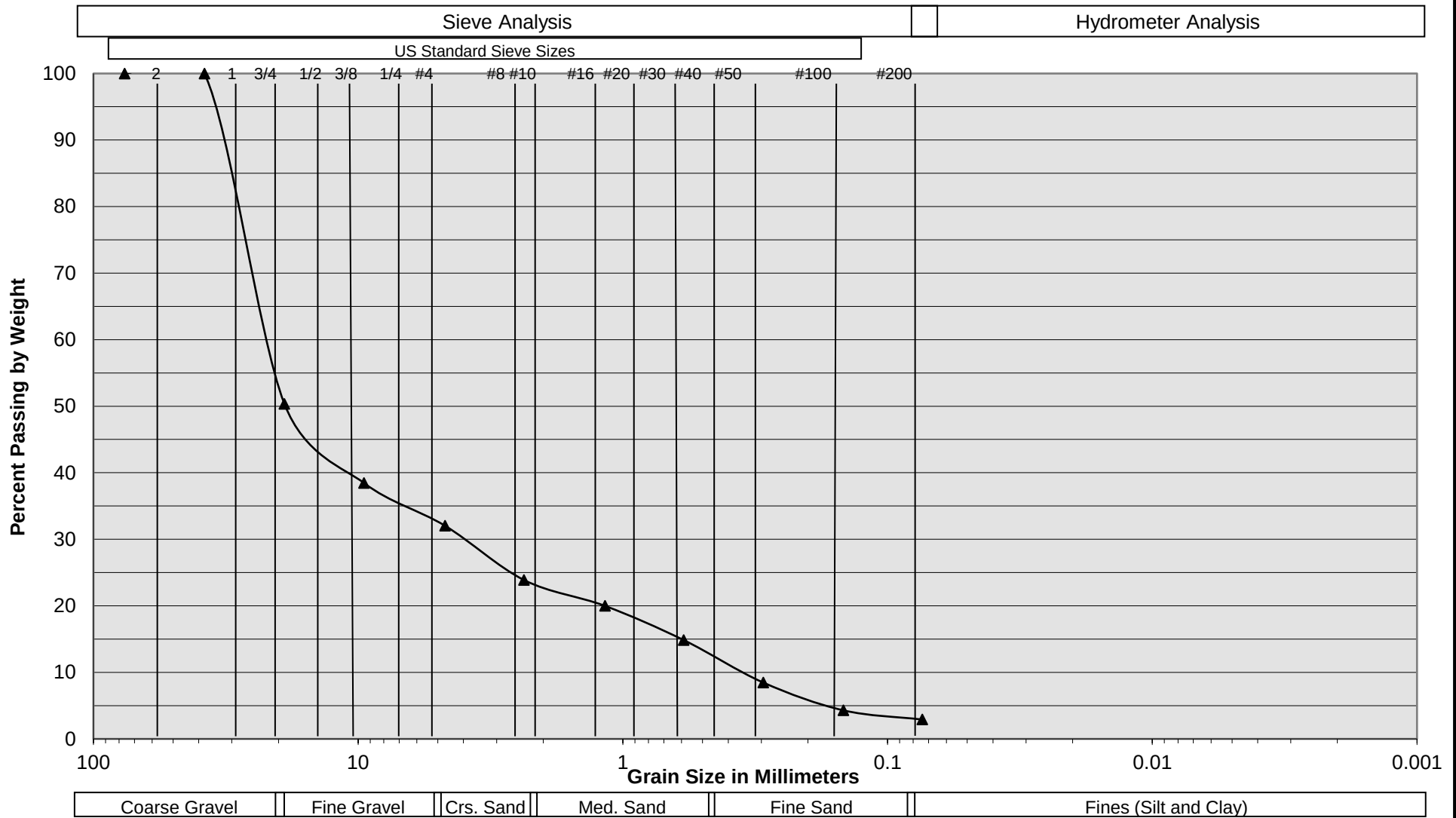
Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				Inner Ring (ml)	Ring Flow (cm ³)	Annular Ring (ml)	Space Flow (cm ³)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	12:35 PM	5	0		0					
	Final	12:40 PM	5	3400	3400	11500	11500	55.92	63.05	22.02	24.82
2	Initial	12:41 PM	5	0		0					
	Final	12:46 PM	10	3250	3250	11400	11400	53.45	62.50	21.04	24.61
3	Initial	12:47 PM	5	0		0					
	Final	12:52 PM	15	3150	3150	11300	11300	51.81	61.95	20.40	24.39
4	Initial	12:53 PM	5	0		0					
	Final	12:58 PM	20	3000	3000	11200	11200	49.34	61.40	19.43	24.17
5	Initial	12:59 PM	5	0		0					
	Final	1:04 PM	25	2950	2950	11200	11200	48.52	61.40	19.10	24.17
6	Initial	1:05 PM	5	0		0					
	Final	1:10 PM	30	2900	2900	11000	11000	47.70	60.30	18.78	23.74
7	Initial	1:11 PM	5	0		0					
	Final	1:16 PM	35	2750	2750	10000	10000	45.23	54.82	17.81	21.58
8	Initial	1:17 PM	5	0		0					
	Final	1:22 PM	40	2800	2800	11000	11000	46.05	60.30	18.13	23.74
9	Initial	1:23 PM	5	0		0					
	Final	1:28 PM	45	2750	2750	10000	10000	45.23	54.82	17.81	21.58
10	Initial	1:29 PM	5	0		0					
	Final	1:34 PM	50	2700	2700	10000	10000	44.41	54.82	17.48	21.58
11	Initial	1:35 PM	5	0		0					
	Final	1:40 PM	55	2700	2700	9900	9900	44.41	54.27	17.48	21.37
12	Initial	1:41 PM	5	0		0					
	Final	1:46 PM	60	2700	2700	9950	9950	44.41	54.55	17.48	21.48

Grain Size Distribution



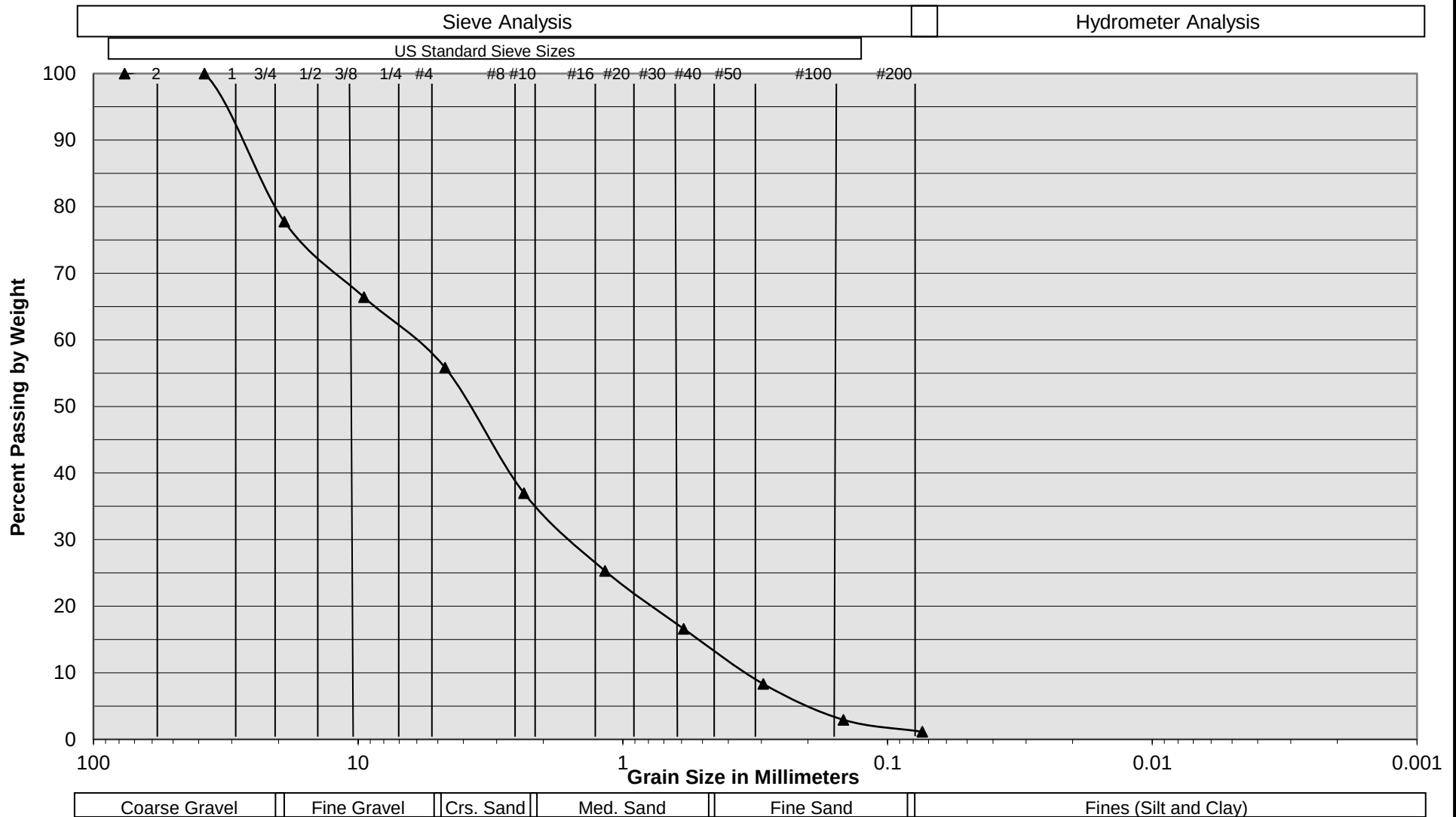
Sample Description	I-1 @ 10'		
Soil Classification	Light Brown Gravelly fine to coarse Sand/fine to coarse Sandy Gravel		
Proposed Industrial Building Rialto, California Project No. 23G146-2 PLATE C- 1			SOUTHERN CALIFORNIA GEOTECHNICAL <i>A California Corporation</i>

Grain Size Distribution



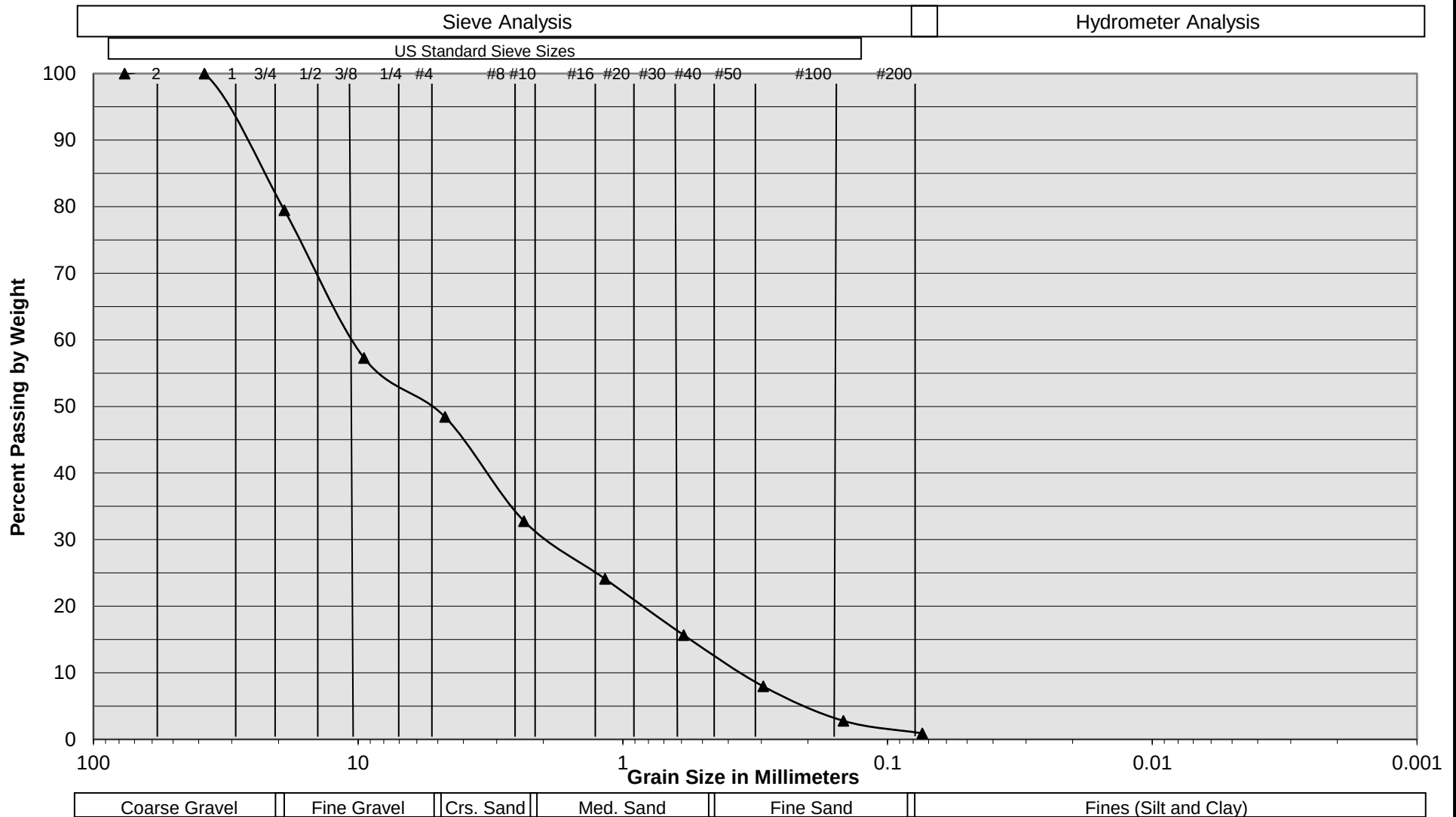
Sample Description	I-2 @ 10'
Soil Classification	Brown fine to coarse Sandy Gravel
Proposed Industrial Building Rialto, California Project No. 23G146-2 PLATE C- 2	
	 SOUTHERN CALIFORNIA GEOTECHNICAL A California Corporation

Grain Size Distribution



Sample Description	I-3 @ 10'		
Soil Classification	Light Brown Gravelly fine to coarse Sand		
Proposed Industrial Building Rialto, California Project No. 23G146-2 PLATE C- 3			SOUTHERN CALIFORNIA GEOTECHNICAL <i>A California Corporation</i>

Grain Size Distribution



Sample Description	I-4 @ 10'		
Soil Classification	Brown Gravelly fine to coarse Sand/fine to coarse Sandy Gravel		
Proposed Industrial Building Rialto, California Project No. 23G146-2 PLATE C- 4			SOUTHERN CALIFORNIA GEOTECHNICAL <i>A California Corporation</i>