

September 23, 2022

Max Zeff
Kalonymus Development Partners
13323 West Washington Boulevard, Suite 204
Los Angeles, California 90066

RE: Supplemental Infiltration Testing - Addendum No. 1
Fifth Avenue Mixed-Use Development
3744 & 3780 Fifth Avenue
San Diego, California 92130
Partner Project No. 21-337285.2

Dear Max Zeff:

Partner Assessment Corporation (Partner) is pleased to submit this geotechnical addendum letter that summarizes the results of our supplemental geotechnical investigation and onsite infiltration tests for the subject project.

The project site is located within a residential/commercial area of San Diego, California. The subject property is currently occupied by residences and commercial buildings with associated parking and landscape areas. The immediately surroundings consist of commercial properties to the north, Fifth Avenue to the east, commercial buildings to the south, an alleyway followed by commercial buildings to the west, and commercial buildings to the south.

Our supplemental geotechnical investigation was conducted on September 14, 2022. One boring, designated P3 was advanced using a truck-mounted drill using hollow-stem auger drilling techniques. The boring was made to an approximate depth of 50 feet below the existing ground surface and converted into an infiltration test well. The approximate locations of our prior and supplemental exploratory borings and infiltration tests are shown on Figure 2.

Logs of subsurface conditions encountered in the borings were prepared in the field by a representative of Partner Engineering. Soil samples consisting of Standard Penetration Tests (SPT) samples were collected at approximately 10-foot depth intervals in accordance with ASTM D 1586. Typed boring logs were prepared from the field logs and are presented at the end of this letter.

Groundwater was not encountered in our borings at the time of drilling. However, groundwater levels fluctuate over time and may be different at the time of construction and during the project life from what we observed in our borings. We recommend that the contractor further evaluate groundwater conditions prior to the start of construction.


The supplemental infiltration test, P3, was performed using the Boring Percolation Test procedure as outlined in *The City of San Diego Storm Water Standards, Appendix D, "Approved Infiltration Rate Assessment Methods for Selection of Storm Water BMP's", dated October 2018*. The boring was 8 inches in diameter and lined with screened 2-inch diameter slotted pipes below a depth of 45 feet and 2-inch diameter solid pipes from 45 feet to the ground surface. The annular space of the well screen sections were filled with #3 Monterey sand. Subsequent to completion of well installation, the casings were then filled with water and a load to presoak for one hour. Please refer to accompanying boring data in our geotechnical report for soil classification. The

results obtained in the field were properly stabilized and are presented below. Figures and Percolation test data are attached in Appendix A.

Test Number	P1*	P2*	P3
Location	See Figure 2	See Figure 2	See Figure 2
Depth of Tested Area (below ground surface)	20 ft	20 ft	50 ft
Pre-soak Depth	17 ft	17 ft	44 ft
Test Start Depth	12.5 ft.	8.7 ft	44 ft
Final Water Drop	1.0 in.	15.5 in.	0.6 in
Un-factored Infiltration Rate	0.04 in/hr	1.13 in/hr	0.03 in/hr

We recommend that an appropriate factor of safety be applied to the unfactored infiltration rates presented above to account for both the site suitability assessment and design. We have included Worksheet D.5-1 from the City of San Diego Stormwater Standards with Section A – Suitability Assessment portion filled out at the end of this addendum to assist with calculating the appropriate factor of safety. The civil engineer in charge of the infiltration design should complete Section B – Design as it pertains to the project in order to calculate the appropriate Factor of Safety.

Sincerely,

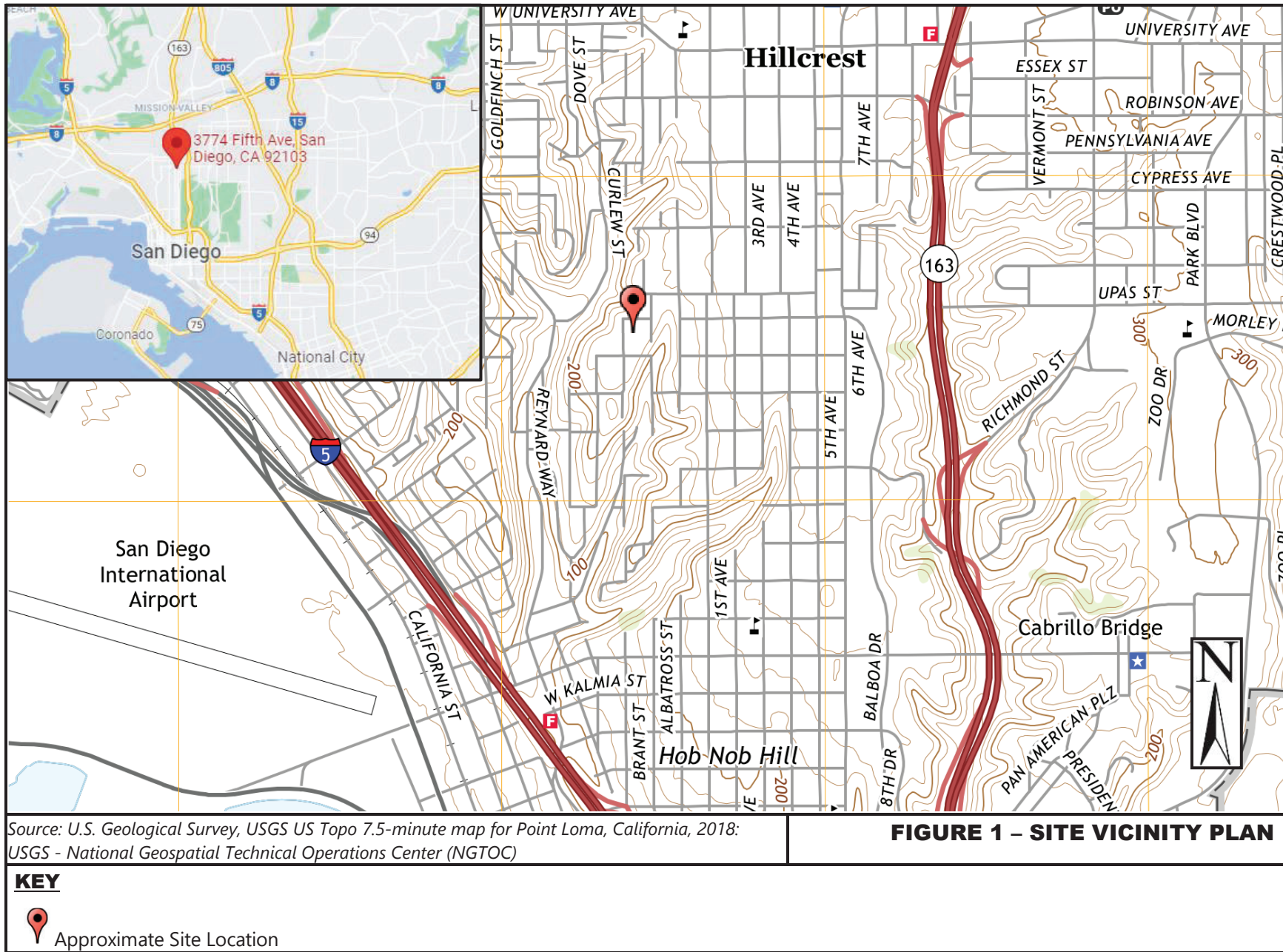

Andrew J. Atry
Senior Engineer

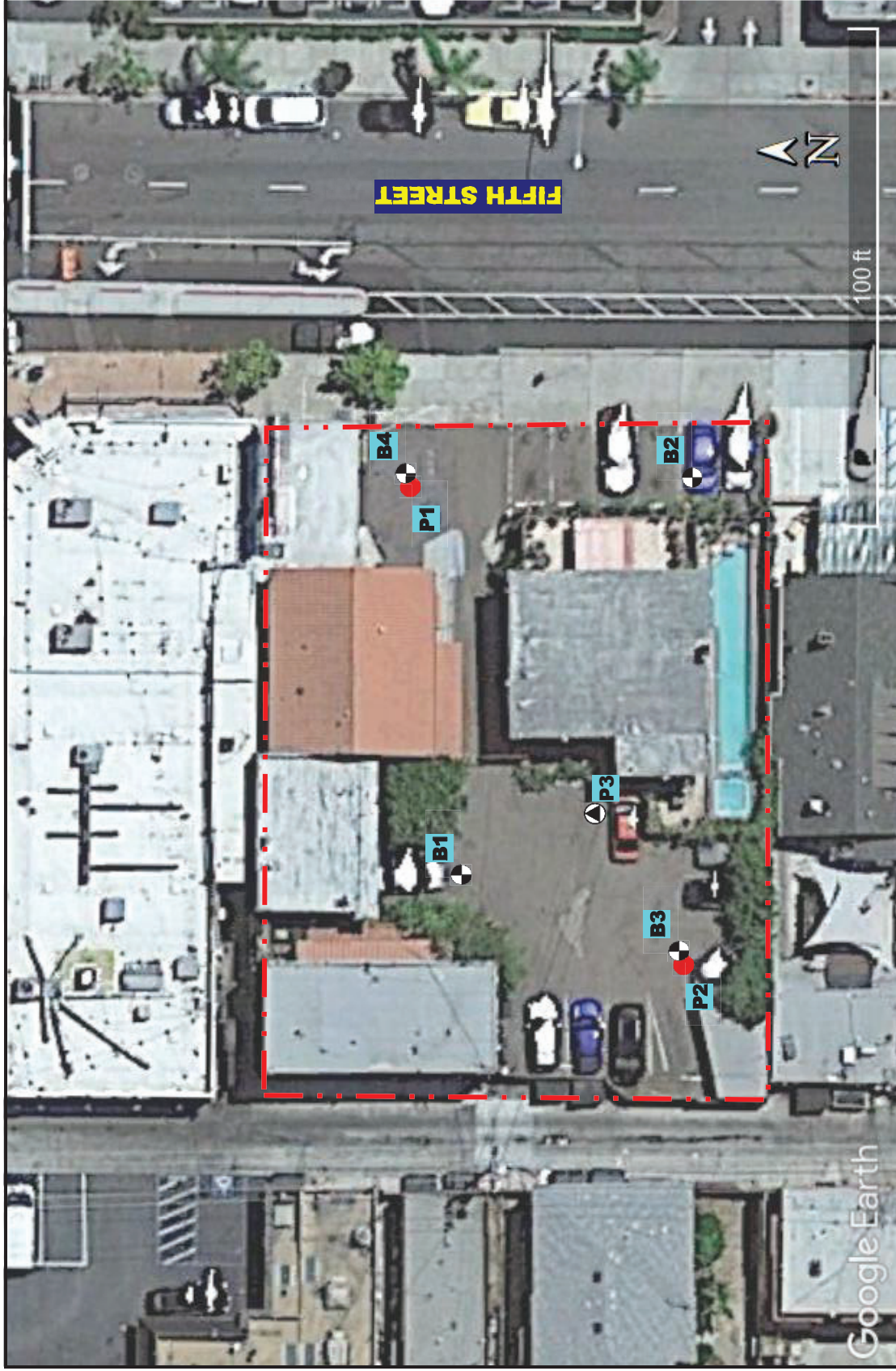


Attachments: Figure 1 – Site Vicinity Plan
Figure 2 – Boring Location Plan
Table 1 – Worksheet D.5-1 (form I-9)
Boring Log
Percolation Test Data

FIGURES

- Site Location Map
- Boring Location Plan





Source: Google Earth, 2022

FIGURE 2 – BORING LOCATION PLAN

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TABLES

Worksheet D.5-1: Factor of Safety and Design Infiltration Rate Worksheet for Full
Infiltration Designs

Appendix D: Approved Infiltration Rate Assessment Methods for Selection and Design of Storm Water BMPs

Worksheet D.5-1: Factor of Safety and Design Infiltration Rate Worksheet for Full Infiltration Designs

Factor of Safety and Design Infiltration Rate Worksheet			Worksheet D.5-1: Form I-9		
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) $p = w \times v$
A	Suitability Assessment	Soil assessment methods	0.25		
		Predominant soil texture	0.25		
		Site soil variability	0.25		
		Depth to groundwater / impervious layer	0.25		
		Suitability Assessment Safety Factor, $S_A = \sum p$			
B	Design	Level of pretreatment/ expected sediment loads	0.5		
		Redundancy/resiliency	0.25		
		Compaction during construction	0.25		
		Design Safety Factor, $S_B = \sum p$			
Combined Safety Factor, $S_{total} = S_A \times S_B$ [Minimum of 2 and Maximum of 9]					
Observed Infiltration Rate, inch/hr., $K_{observed}$ (corrected for test-specific bias) Note: This worksheet is only applicable when the observed infiltration rate is greater than or equal to 1 inch/hr.					
Design Infiltration Rate, in/hr., $K_{design} = K_{observed} / S_{total}$ Note: If the estimated design infiltration rate is less than or equal to 0.5 inch/hr. then the applicant may choose to implement partial infiltration BMPs.					
Supporting Data					
Briefly describe infiltration test and provide reference to test forms:					

Note: Worksheet D.5-1: Form I-9 is only applicable to design BMPs in “full infiltration condition”. This form is not applicable for categorization of infiltration feasibility (Worksheet C.4-1: Form I-8) and/or for designing BMPs in “partial infiltration condition” or “no infiltration condition”.

ATTACHMENTS

Boring Log

Percolation Tests Data

PARTNER

BORING LOG KEY - EXPLANATION OF TERMS

SURFACE COVER: General description with thickness to the inch, ex. Topsoil, Concrete, Asphalt, etc,

FILL: General description with thickness to the 0.5 feet. Ex. Roots, Debris, Processed Materials (Pea Gravel, etc.)

NATIVE GEOLOGIC MATERIAL: Deposit type, 1.Color, 2.moisture, 3.density, 4.SOIL TYPE, other notes - Thickness to 0.5 feet

1. Color - Generalized

Light Brown (usually indicates dry soil, rock, caliche)

Brown (usually indicates moist soil)

Dark Brown (moist to wet soil, organics, clays)

Reddish (or other bright colors) Brown (moist, indicates some soil development/or residual soil)

Greyish Brown (Marine, sub groundwater - not the same as light brown above)

Mottled (brown and gray, indicates groundwater fluctuations)

2. Moisture

dry - only use for wind-blown silts in the desert

damp - soil with little moisture content

moist - near optimum, has some cohesion and stickyness

wet - beyond the plastic limit for clayey soils, and feels wet to the touch for non clays

saturated - Soil below the groundwater table, sampler is wet on outside

3A. Relative Density for Granular Soils

Relative Density	Ring	SPT
very loose	0-7	0-4
loose	7-14	4-10
medium dense	14-28	10-30
dense	28-100	30-50
very dense	100+	Over 50

3B. Consistency of Fine-Grained Cohesive Soils

Consistnecy	SPT	Undrained Shear Strength, tsf
very soft	0-2	less than 0.125
soft	2-4	0.125 - 0.25
medium stiff	4-8	0.25 - 0.50
stiff	8-15	0.50 - 1.0
very stiff	15-30	1.0 - 2.0
hard	Over 30	Over 2.0

4. Classification

Determine percent Gravel (Material larger than the No. 4 Sieve)

Determine percent fines (Material passing the No. 200 Sieve)

Determine percent sand (Passing the No. 4 and retained on the No. 200 Sieve)

Determine if clayey (make soil moist, if it easily roll into a snake it is clayey)

Coarse Grained Soils (Less than 50% Passing the No. 200 Sieve)

GP	SP	Mostly sand and gravel, with less than 5 % fines	sandy GRAVEL	SAND
GP-GM	SP-SM	Mostly sand and gravel 5-12% fines, non-clayey	sandy GRAVEL with silt	SAND with Silt
GP-GC	SP-SC	Mostly sand and gravel 5-12% fines, clayey	sandy GRAVEL with clay	SAND with clay
GC	SC	Mostly sand and gravel >12% fines clayey	clayey GRAVEL	clayey SAND
GM	SM	Mostly sand and gravel >12% fines non-clayey	silty GRAVEL	silty SAND

Fine Grained Soils (50% or more passes the No. 200 Sieve)

ML	Soft, non clayey	SILT with sand
MH	Very rare, holds a lot of water, and is pliable with very low strength	high plasticity SILT
CL	If sandy can be hard when dry, will be stiff/plastic when wet	CLAY with sand/silt
CH	Hard and resilient when dry, very strong/sticky when wet (may have sand in it)	FAT CLAY
H = Liquid limit over 50%, L - LL under 50%		
C = Clay		
M = Silt		

Samplers

S = Standard split spoon (SPT)

R = Modified ring

Bulk = Excavation spoils

ST = Shelby tube

C = Rock core

Boring Number:		P3		Boring Log Page 1 of 1	
Location:		See Figure 2		Date Started:	4/14/2022
Site Address:		3774 5th Avenue		Date Completed:	4/14/2022
		San Diego, CA 92130		Depth to Groundwater:	N/A
Project Number:		21-337285.2		Field Technician:	JC
Drill Rig Type:		Hollow Stem Auger		Partner Engineering and Science	
Sampling Equipment:		SPT & Rings		2154 Torrance Blvd., Suite 201	
Borehole Diameter:		8 inch		Torrance, CA 90501	
Depth, FT	Sample	N-Value	USCS	Description	
0				SURFACE COVER: Asphalt Concrete PAVEMENT (6-in.) over Base (2-in.)	
0.5	S	49	SC	NATIVE: Mottled reddish brown and pale brown, damp, medium dense, Clayey SAND	
1					
1.5					
2					
2.5					
3					
3.5					
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4.5					
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21					
	S	48	SP-SM	Mottled Grayish brown and yellow brown, moist, medium dense, SAND with Silt, fine sand, micaceous	
(Continued on next page)					

Boring Number:		P3		Boring Log Page 1 of 1	
Location:		See Figure 2		Date Started:	4/14/2022
Site Address:		3774 5th Avenue		Date Completed:	4/14/2022
		San Diego, CA 92130		Depth to Groundwater:	N/A
Project Number:		21-337285.2		Field Technician:	JC
Drill Rig Type:		Hollow Stem Auger		Partner Engineering and Science	
Sampling Equipment:		SPT & Rings		2154 Torrance Blvd., Suite 201	
Borehole Diameter:		8 inch		Torrance, CA 90501	
Depth, FT	Sample	N-Value	USCS	Description	
20	S	48	SP-SM	Mottled Grayish brown and yellow brown, moist, medium dense, SAND with Silt, fine sand, micaceous	
20.5					
21					
21.5					
22					
22.5					
23					
23.5					
24					
24.5					
25					
25.5					
26					
26.5					
27					
27.5	S	42	SM	Light gray, moist, medium dense, Silty SAND; very fine sand, trace clay, micaceous	
28					
28.5					
29					
29.5					
30					
30.5					
31					
31.5					
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32.5					
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38.5					
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40.5					
41					
(Continued on next page)					

Boring Number:	P3			Boring Log Page 1 of 1
Location:	See Figure 2			Date Started: 4/14/2022
Site Address:	3774 5th Avenue			Date Completed: 4/14/2022
	San Diego, CA 92130			Depth to Groundwater: N/A
Project Number:	21-337285.2			Field Technician: JC
Drill Rig Type:	Hollow Stem Auger			Partner Engineering and Science
Sampling Equipment:	SPT & Rings			2154 Torrance Blvd., Suite 201
Borehole Diameter:	8 inch			Torrance, CA 90501
Depth, FT	Sample	N-Value	USCS	Description
40	S	79	SM	Pale yellow brown, moist, very dense, Silty SAND; very fine sand, trace clay, micaceous --- Becomes pale brown.
40.5				
41				
41.5				
42				
42.5				
43				
43.5				
44				
44.5				
45				
45.5	S	83		
46				
46.5				
47				
47.5				
48				
48.5				
49				
49.5				
50				
50.5				Boring ended at 50 feet and converted into Percolation test well.
51				No groundwater encountered
51.5				Following the completion of testing, well was destroyed and backfilled with neat cement
52				Patched with cold patch Asphalt
52.5				
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PARTNER

Project:		3774 and 3780 Fifth Avenue				Project No.:			21-337285.2				Date:	9/14/2022
Test Hole No.:		P3				Tested By:			JC					
Depth of Test Hole, D _t (ft):		50				USCS Soil Classification:			SM					
Casing Depth (ft):		50				Test Hole Diameter (in):			8					
Trial No.	Date	Start Time, t _o	Initial Depth to Water, D ₀ (ft)	Stop Time, T _f	Final Depth to Water, D _f (ft)	Time Interval, Δt (min)	Initial Head, H ₀ (ft)	Final Head, H _f (ft)	Water Level Drop, ΔH (in)	Average Head Height, H _{avg} (in)	Tested Infiltration Rate, I _t (in/hr)	Notes		
Presoak	9/14/2022	11:05 AM	44.00	11:30 AM	44.20	25.0	6.00	5.80	2.40	70.80				
Presoak	9/14/2022					0.0	50.00	50.00	0.00	600.00		30-min readings for six hours		
1	9/14/2022	11:35 AM	44.00	12:05 PM	44.10	30.0	6.00	5.90	1.20	71.40				
2	9/14/2022	12:05 PM	44.00	12:35 PM	44.10	30.0	6.00	5.90	1.20	71.40				
3	9/14/2022	12:35 PM	44.00	1:05 PM	44.05	30.0	6.00	5.95	0.60	71.70				
4	9/14/2022	1:05 PM	44.00	1:35 PM	44.06	30.0	6.00	5.94	0.72	71.64				
5	9/14/2022	1:35 PM	44.00	2:05 PM	44.05	30.0	6.00	5.95	0.60	71.70				
6	9/14/2022	2:05 PM	44.00	2:35 PM	44.05	30.0	6.00	5.95	0.60	71.70	0.03			
Comments:	1. Percolation test was performed in accordance with the EXHIBIT 7.III - TECHNICAL GUIDANCE DOCUMENT (TGD) FOR THE PREPARATION OF CONCEPTUAL/PRELIMINARY AND/OR PROJECT WATER QUALITY MANAGEMENT PLANS (WQMPs), dated December 20, 2013.													
	2. Weather:													