Environmental Geotechnology Laboratory, Inc.

May 7, 2026

Ms. Judy Lee
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Ontario, California 91764

Subject: **Report of Geotechnical Engineering Investigation, Proposed Senior Condominium Buildings and Associated Structures, APN: 1014-591-04-0000 and 1014-591-05-0000, 1608 & 1624 Philadelphia Street, Ontario, California 91761, EGL Project No.: 26-AA-051GE**

Ladies and Gentlemen:

In accordance with your request, Environmental Geotechnology Laboratory, Inc. (EGL) has prepared this geotechnical engineering report for the proposed development at the subject site. The purpose of this report was to evaluate the subsurface conditions and to provide recommendations for foundation designs and other relevant parameters for the proposed construction.

Based on the findings and observations during our investigation, it is concluded that the subject site is suitable from the geotechnical engineering viewpoint, provided that recommendations set forth herein are followed.

This opportunity to be of service is sincerely appreciated. If you have any questions pertaining to this report, please call the undersigned.

Respectfully submitted,

Environmental Geotechnology Laboratory, Inc.



Ryan Jones, GE 2852
Senior Engineer

Dist: (1) Addressee
RJ/ky

REPORT OF GEOTECHNICAL ENGINEERING INVESTIGATION

Proposed Senior Condominium Buildings
and Associated Structures

APN: 1014-591-04-0000 and 1014-591-05-0000

At

1608 & 1624 Philadelphia Street
Ontario, California 91761

Prepared by
ENVIRONMENTAL GEOTECHNOLOGY LABORATORY, INC.
Project No.: 26-AA-051GE
May 7, 2026

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1.0 INTRODUCTION

1.1 Purpose

This report presents a summary of our preliminary geotechnical engineering investigation for the proposed residential development at 1608 & 1624 Philadelphia Street, Ontario, California. The approximate regional location is shown on the Site (Location) Map, Figure 1. The purposes of this investigation were to evaluate the subsurface conditions at the area of proposed construction and to provide recommendations pertinent to grading, foundation design and other relevant parameters of the proposed development.

1.2 Scope of Services

Our scope of services included the followings:

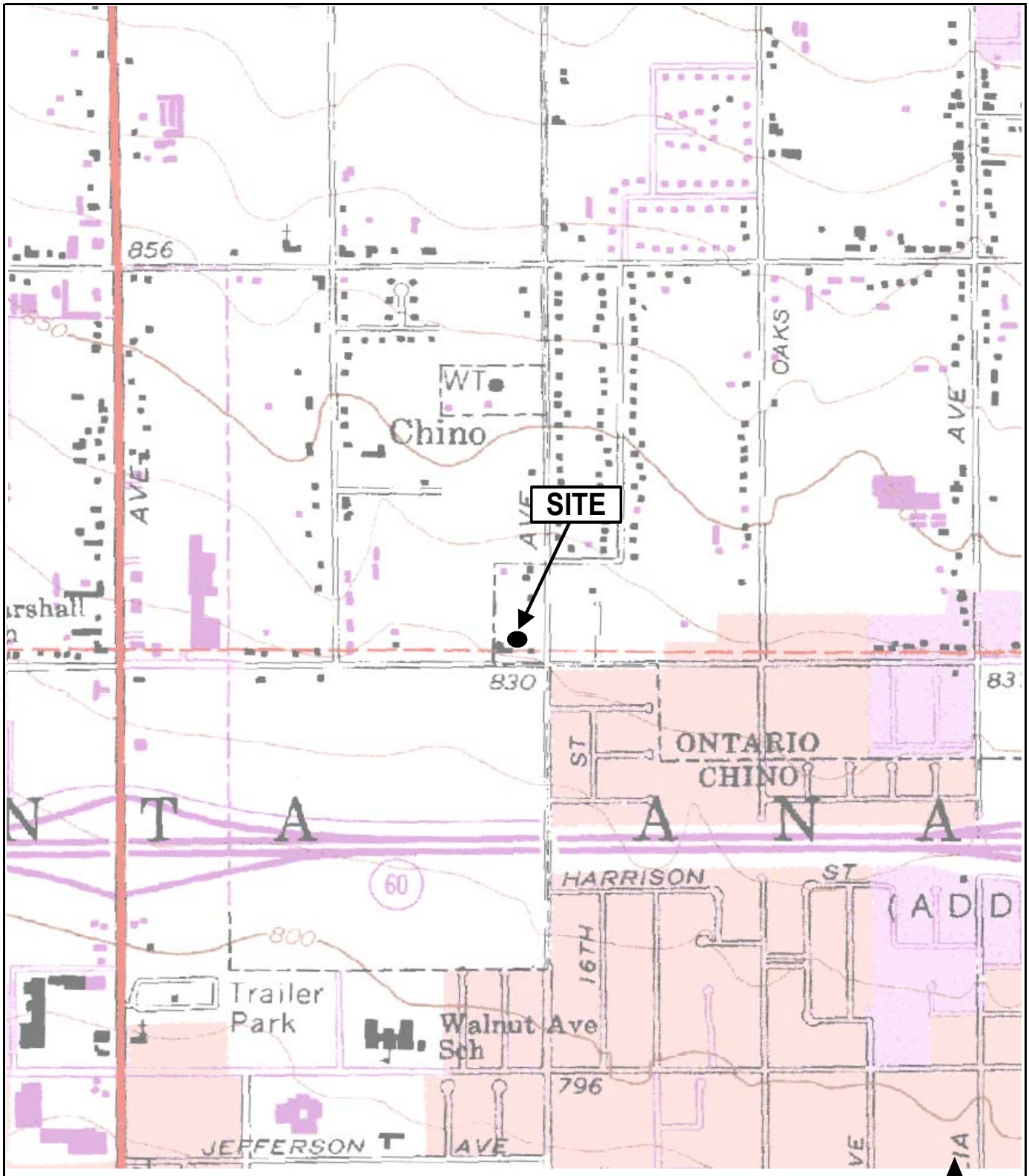
- Review of available soil data of the subject site and its vicinity.
- Subsurface exploration consisting of logging and sampling of six (6) 8-inch diameter hollow-stem auger borings. Borings were extended to a maximum depth of 20.0 feet below the existing ground surface. The boring logs are presented in Appendix A.
- Perform laboratory testing on representative onsite samples to establish soil-engineering characteristics. Field moisture and density are presented on boring logs in Appendix A. Laboratory test results are presented in Appendix B.
- Engineering analyses of the geotechnical data obtained from our background studies, field investigation, and laboratory testing.
- Preparation of this report to present our findings, conclusions, and recommendations for the proposed construction.

1.3 Site Conditions

The subject site is located on the northwest corner of Philadelphia Street and Benson Avenue in the City of Ontario, County of San Bernardino, California. The project site consists of two lots (APN: 1014-591-04-0000 and 1014-591-05-0000) and is currently vacant and covered with low- to medium-height grasses and weeds. Topographically, the subject site is relatively flat. Detailed configuration of the site is shown on the Site Plan, Figure 2.

1.4 Proposed Construction

Based on the Site Plan provided by the project architect, it is our understanding that the proposed development at the site consists of new senior condominium buildings and associated structures. The proposed buildings are anticipated to be two-story wood frame structures with



MAP EXPLANATION

SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

N

Not to Scale

ENVIRONMENTAL
GEOTECHNOLOGY
LABORATORY

Project Address:
1608 & 1624 Philadephia St.,
Ontario, California

SITE LOCATION MAP

04/26

Figure 1

B–1

B–2

2B+'

B–3

B–5

B–4

B–6

S. BENSON AVENUE

PHILADELPHIA STREET

NORTH

Scale: 1" = 30'

LEGEND

B–1 Approximate Location of Hollow Stem Auger Boring No. 1 (EGL, 2026)

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Site Plan

5/7/2026

FIGURE 2

concrete slab-on-grade. Column loads are unknown at this time, but are expected to be light to medium. Minor cut/fill grading operation is anticipated to achieve the desired grades.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Subsurface condition was explored on April 3, 2026 with the aid of a hollow stem drill rig of 2R Drilling Services. A total of six (6) 8-inch diameter hollow-stem auger borings were drilled to a maximum depth of 20.0 feet below the existing ground surface. Upon completion of drilling, sampling, logging and percolation testing, all borings were backfilled with onsite soil removed from excavations and tamped. The purpose of the excavation was to investigate the engineering characteristics of the onsite soils with respect to the proposed development.

EGL's field engineer supervised and logged all borings. Relatively undisturbed ring samples and bulk samples were collected during drilling for laboratory testing. Approximate locations of these borings are shown on the Site Plan, Figure 2. Exploratory boring logs are presented in Appendix A. Ring samples were taken at frequent intervals. The samples taken by a hollow stem auger were obtained by driving a sampler with successive blows of a 140-pound hammer dropping from a height of 30 inches.

2.2 Laboratory Testing

Representative samples were tested for the following parameters: in-situ moisture content and density, direct shear strength, consolidation and corrosion potential. The results of our laboratory testing along with a summary of the testing procedures are presented in Appendix B. In-situ moisture and density test results are presented on the boring logs in Appendix A.

3.0 SUMMARY OF GEOTECHNICAL CONDITIONS

3.1 Soil Conditions

Our subsurface exploration and testing program revealed the existence of alluvial soil to the maximum explored depth of 20.0 feet. The onsite soils consist predominantly of silty sand (SM), clayey sand (SC), poorly graded sand (SP), well-graded sand (SW), silty clay (CL) and clayey silt (ML). In general, the surficial soil consists of olive brown, fine to coarse (medium) grained, slightly moist to moist, and loose to medium dense silty sand (SM) to the depths of approximately 6.0 to 8.0 feet. Below this surficial layer, our deep borings B-1 and B-2 encountered greenish gray to olive gray, fine to coarse grained, slightly moist to very moist, and

medium dense to very stiff/hard clayey sand (SC) and silty clay with clayey silt (CL-ML) to a depth of approximately 12.0 feet. In contrast, our deep boring B-3 encountered well-graded sand (SW) below the surficial soils, consisting of gray, fine to coarse grained, dry, and dense material. Below approximately 12 feet, borings B-1 and B-2 encountered similar subsurface conditions consisting of poorly graded sand with silt (SP-SM), olive gray in color, fine grained, dry to slightly moist, and medium dense, extending to the depths of approximately 18 .0 feet. In comparison, boring B-3 encountered layers of olive gray to gray, slightly moist to moist, and very stiff sandy silt (ML) to a depth of approximately 18.0 feet. These materials were underlain by olive gray, very moist, and very stiff to hard silty clay with clayey silt (CL-ML) to the maximum explored depth of 20.0 feet below the existing ground surface. Rock clasts, 1”- to 3”-sized and cobbles are locally encountered throughout the subsurface profile. Based on CDMG (2006), the site is underlain by Young alluvial-fan deposits (Qyfga; see Figure 3).

3.2 Groundwater

Static ground water levels were not encountered during our subsurface investigations to the maximum explored depth of 20 feet below the existing ground surface. Based on the historically high groundwater depth map prepared by Wildermuth Environmental Inc. the historic groundwater is approximately 200 – 250 feet below ground surface at the subject site (Reference #11). The nearby northerly historic groundwater well data in area of South Benson Avenue and Francis Avenue (California Department of Water Resources, State Well No. 01S08W35J002S) indicated the top of water level is approximately 214.4 feet below ground surface. Groundwater is therefore not expected to be a significant constraint during the construction. However, groundwater may be a significant constraint if grading is completed during the rainy season when perched water is more likely to occur.

4.0 CONCLUSIONS

Based on the results of our subsurface investigation, it is our opinion that the proposed construction is feasible from a geotechnical standpoint, provided the recommendations contained herein are incorporated in the design and construction. The following is a summary of the geotechnical design and construction factors that may affect the development of the site:

4.1 Seismicity

Our studies of regional and local seismicity indicate that there are no known active faults



Qyfga: Young alluvial fan Deposits

Note: Map modified from Geologic Map of the "Seismic Hazard Zone Report for the Ontario Quadrangle 040" by CDMG (2006)

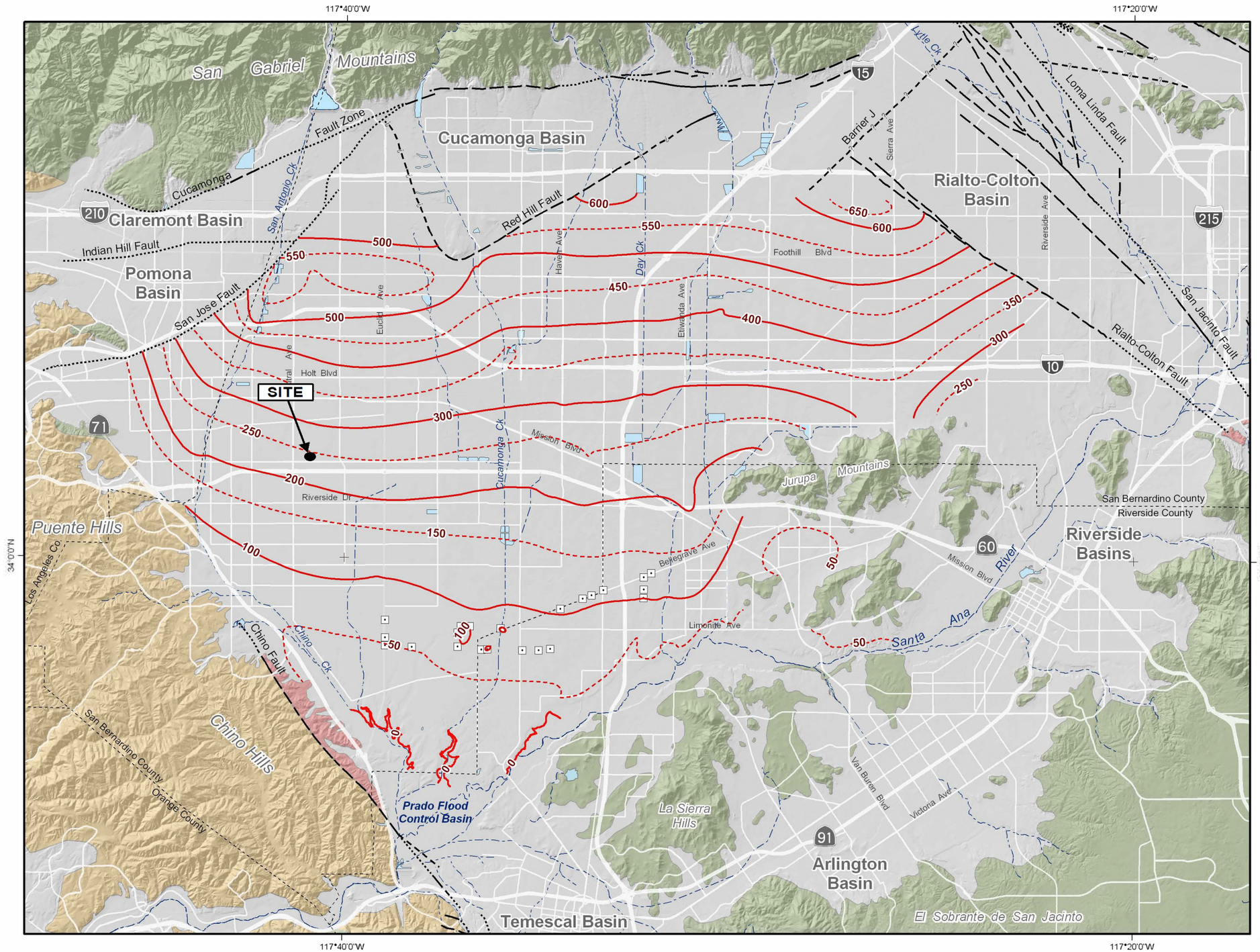
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1608 & 1624 Philadelphia Street (APN: 1014-591-04 & 05)
Ontario, California

REGIONAL GEOLOGY MAP

05/26

Figure 3



800 Depth to Groundwater Contours
775 (feet below ground surface)

Other Features

Chino Desalter Well

Flood Control and Conservation Basins

Geology

Water-Bearing Sediments

Quaternary Alluvium

Consolidated Bedrock

Plio-Pleistocene Sedimentary Rocks

Cretaceous to Miocene Sedimentary Rocks

Pre-Tertiary Igneous and Metamorphic Rocks

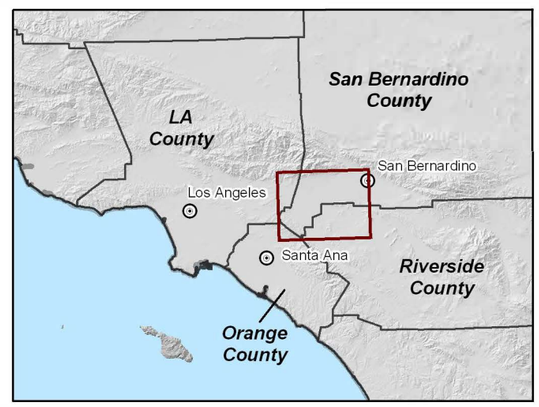
Faults

Location Certain

Location Approximate

Location Concealed

Location Uncertain



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N

0 1 2 3 4 5 Miles

0 2 4 6 8 KM

Chino Basin

Depth to Groundwater Contours

Chino Basin -- Fall 2006

crossing the property. However, the site is located in a seismically active region and is subject to seismically induced ground shaking from nearby and distant faults, which is a characteristic of all Southern California communities.

4.2 Seismic Induced Hazards

Based on EGL's review of the "Seismic Hazard Zones Map of Ontario Quadrangle" (Figure 1), the property site is not located in a mapped earthquake-induced liquefaction or landslide potential areas. It is our understanding that a liquefaction study is not required by the city for the subject site.

4.3 Excavatability

Excavation of the subsurface materials should be able to be accomplished with conventional earthwork equipment.

4.4 Surficial Soil Removal and Recompaction

Based on our investigation, it is concluded that the existing surficial soils may not be suitable for structure support as they presently exist and will require remedial grading as discussed herein.

4.5 Groundwater

Static ground water levels were not encountered during our subsurface investigations to the maximum explored depth of 20 feet below the existing ground surface. Based on the historically high groundwater depth map prepared by Wildermuth Environmental Inc. the historic groundwater is approximately 200 – 250 feet below ground surface at the subject site (Reference #11). The nearby northerly historic groundwater well data in area of South Benson Avenue and Francis Avenue (California Department of Water Resources, State Well No. 01S08W35J002S) indicated the top of water level is approximately 214.4 feet below ground surface. Groundwater is therefore not expected to be a significant constraint during the construction. However, groundwater may be a significant constraint if grading is completed during the rainy season when perched water is more likely to occur.

5.0 RECOMMENDATIONS

Based on the subsurface conditions exposed during field investigation and laboratory testing program, it is recommended that the following recommendations be incorporated in the design and construction phases of the project.

5.1 Grading

5.1.1 Site Preparation

Prior to initiating grading operations, any existing vegetation, trash, debris, over-sized materials (greater than 6 inches), and other deleterious materials within construction areas should be removed from the subject site.

5.1.2 Surficial Soil Removals

No detailed grading plan was available at the time of preparing this report however, based on our field exploration and laboratory data obtained to date, it is recommended that the building pad for the new condominium building be removed and recompacted. The removal depth should be at least 5 feet below existing grade or 2 feet below the bottom of the footing, whichever is deeper. The recommended removal should be extended at least 5 feet beyond the proposed building lines. The existing near surface soils should also be removed at least one foot within the proposed concrete slab and driveway areas. The construction areas should be excavated and then observed by a representative of this office to verify the soil conditions for any potential needs of removal of loose soils and replacement with compacted fill. This may also be necessary due to difference in expansion characteristics of foundation materials beneath a structure.

Locally deeper removals may be necessary to expose competent natural ground. The actual removal depths should be determined in the field as conditions are exposed. Visual inspection and/or testing may be used to define removal requirements.

5.1.3 Treatment of Removal Bottoms

Soils exposed within areas approved for fill placement should be scarified to a depth of 12 inches, conditioned to near optimum moisture content, then compacted in-place to minimum project standards.

5.1.4 Structural Backfill

The onsite soils may be used as compacted fill provided they are free of organic materials and debris. Soils imported from off-site sources should be similar to the onsite soils and should be approved by the Soil Engineer prior to transporting to the site. Fills should be placed in relatively thin lifts; brought to near optimum moisture content, then compacted to obtain at least 90

percent relative compaction based on laboratory standard ASTM D-1557-12.

5.2 Shallow Foundation Design

5.2.1 Bearing Value

For the proposed buildings, an allowable bearing value of 1800 pounds per square foot (psf) may be used for design of the footings placed at a depth of at least 18 inches below the lowest adjacent ground and founded on the new certified compacted fill. For the proposed site walls, that are not part of the building, an allowable bearing value of 2200 pounds per square foot (psf) may be used for the footings placed at a depth of 18 inches below the lowest adjacent ground surface and founded on the new certified compacted fill. Single spread footings should be at least 24 inches square and continuous footings should be at least 12 inches wide. These bearing values may be increased by 200 psf for each additional foot of depth or width to a maximum value of 2500 psf. The above recommended value may be increased by one third (1/3) when considering short duration seismic or wind loads.

5.2.2 Settlement

Settlement of the footings placed as recommended and subject to no more than allowable loads is not anticipated to exceed 3/4 inch. Differential settlement between adjacent columns is not anticipated to exceed 1/4 inch.

5.2.3 Lateral Pressures

Passive earth pressure may be computed as an equivalent fluid pressure of 300 pounds per cubic foot, with a maximum earth pressure of 2500 pounds per square foot. An allowable coefficient of friction between soil and concrete of 0.40 may be used with the dead load forces. When combining passive pressure and frictional resistance, the passive pressure component should be reduced by one third (1/3).

Active earth pressure from horizontal backfill may be computed as an equivalent fluid weighting of 35 pounds per cubic foot. The above value assumes free-draining conditions.

5.3 Foundation Construction

It is anticipated that the entire structure will be underlain by onsite soils of very low expansion potential. The following presents our recommendations for the foundation construction. All footings should be founded at a minimum depth of 18 inches below the lowest adjacent ground surface and founded into new certified compacted fill. Proposed footings should include

surcharge from adjacent neighboring structures, including structural footings and/or walls. All continuous footings should have at least two No. 4 reinforcing bar placed both at the top and two No. 4 reinforcing bar placed at the bottom of the footings.

5.4 Concrete Slab

Concrete slabs should be a minimum of 4 inches thick and reinforced with a minimum of #3 rebar spaced at 24” on center each way, or its equivalent. All slab reinforcement should be supported to ensure proper positioning during placement of concrete. Concrete slabs in moisture sensitive areas should be underlain with a vapor barrier consisting of a minimum of ten-mil polyethylene membrane with all laps sealed. A minimum of two inches of sand should be placed over the membrane to aid in uniform curing of concrete.

5.5 Retaining Wall

Wall should be provided with subdrains to reduce the potential for the buildup of hydrostatic pressure. Backdrains could consist of free drainage materials (SE of 30 or greater) or CalTrans Class 2 permeable materials immediately behind the wall and extending to within 18 inches of the ground surface. A 4-inch diameter perforated pipe wrapped in gravel and geofabric should be installed at the base of the wall and sloped to discharge to a suitable collection facility or through weep holes. Alternatively, commercially available drainage fabric could be used. The fabric manufacturer’s recommendations should be followed in the installation of the drainage fabric backdrain.

5.6 Temporary Excavation and Backfill of Utility Trenches

All trench excavations should conform to CAL-OSHA and local safety codes. All utilities trench backfill should be brought to near optimum moisture content and then compacted to obtain a minimum relative compaction of 90 percent of ASTM D-1557-12. All temporary excavations should be observed by a field engineer of this office so as to evaluate the suitability of the excavation to the exposed soil conditions.

6.0 SEISMIC DESIGN

Based on our studies on seismicity, there are no known active faults crossing the property. However, the subject site is located in Southern California, which is a tectonically active area. The following CBC 2025 (Chapter 16) & ASCE 7-22 seismic related values may be used:

Site Classification: (ASCE, Table 20.2-1)	D
Spectral Response Accelerations (g):	
(MCE_r Spectral Acceleration, 0.2-Second, S_S	1.850
(MCE_r Spectral Acceleration, 1-Second, S_1	0.590

Based on the U.S. Seismic Design Maps (SEAOC & OSHPD, 2026), the proposed structures may be designed to accommodate up to a site modified horizontal acceleration of 0.67g with 2% probability of being exceeded in 50 years. However, Project Structural Engineer should be aware of the information provided to determine if any additional structural strengthening is warranted.

7.0 CORROSION POTENTIAL

Chemical laboratory tests were conducted on the existing onsite near surface materials sampled during EGL's field investigation to aid in evaluation of soil corrosion potential and the attack on concrete by sulfate in the soils. The test results are presented in Appendix B.

According to ACI 318-25 Table 19.3.1.1, a sulfate content of 0.001 percent by weight in soils is assigned to Class "S0" and the severity of exposure to sulfate for concrete placed in contact with the onsite soil is considered "Not Applicable". Based on the testing results and ACI 318-25 Table 19.3.2.1, it is concluded that there is no restriction on the type of cement ("No Type Restriction") to be used at the site; however EGL recommends that Type II cement be used.

Based on the minimum resistivity test results, the subsurface soils are mildly corrosive to buried metal pipe. Any underground steel utilities should be blasted and given protective coating. Should additional protective measures be warranted, a corrosion specialist should be consulted.

8.0 INSPECTION

As a necessary requisite to the use of this report, the following inspection is recommended:

* Temporary excavations.
* Removal of surficial and unsuitable soils.
* Backfill placement and compaction.
* Utility trench backfill.
* Foundation excavation.

The geotechnical engineer should be notified at least 1 day in advance of the start of

construction. A joint meeting between the client, the contractor, and the geotechnical engineer is recommended prior to the start of construction to discuss specific procedures and scheduling.

9.0 PERCOLATION TEST

Based on the soil material encountered and past experience with similar soils the absorption rate of the soil should be adequate for the proposed infiltration system for rainwater runoff at the site. EGL also performed percolation tests at the site to determine the infiltration rate of the natural soil based on the *Technical Guidance Document for Water Quality Management Plans* (San Bernardino County, 2013). Approximate locations of the test borings are shown on the Site Plan (Figure 2). Percolation test results are presented in Appendix C. Based on the results of our preliminary percolation tests of the test material, the design infiltration rate is 6.37 in/hr. It is our opinion that dispersal of on-site storm water runoff by infiltration system is considered feasible from a geotechnical engineering standpoint. The infiltration system and the final plumbing plans should be designed and prepared by the project Civil Engineer.

Based on the consolidation test results presented in the Appendix B all the samples collected below 5 feet showed a deformation of less than 1.0% at the time of saturation. It is EGL's opinion that hydro-consolidation of the soil due to the proposed infiltration system is negligible and should not impact the proposed structure.

Based on EGL's review of the "Seismic Hazard Zones Map of Ontario Quadrangle" (Figure 1), the property site is not located in a mapped earthquake-induced liquefaction or landslide potential areas. It is EGL's opinion that the proposed infiltration system will not increase the potential for liquefaction to occur at the site.

Due to the high percentage of sandy materials at the site it is EGL's opinion that an infiltration system may be placed at the site. The infiltration system should be a minimum of 10 feet away from the building foundation and should not be surcharged by the building foundation. It is also recommended that the infiltration system be placed within natural soil and not compacted fill material. The infiltration system should also have an overflow or bypass to protect the site from flooding.

10.0 DRAINAGE

The pad should be properly drained toward the street away from the slope and structure via

swales or area drains. Positive pad drainage shall be incorporated into the final plans. In no case should water be allowed to pond within the site, impound against structures, or flow in a concentrated and/or uncontrolled manner down the descending slope areas.

11.0 ASPHALT PAVEMENT

Preliminary structural pavement sections are designed according to the CalTrans Highway Design Manual and an assumed “R”-value of 40.

Location	Traffic Index	AC Thickness (inches)	Class 2 Aggregate Base Thickness (inches)	Compacted Subgrade (inches)
Parking Areas	4.5	3	5	12
Driveways	5.0	4	6	12

A traffic index of 4.5 is typically used for parking area for passenger vehicles with an average daily traffic of less than 200 trips. A traffic index of 5.0 is used for drive areas with an average daily traffic of less than 1,200 passenger vehicles with minor truck traffic. These pavement sections are considered preliminary and may be revised after the grading is completed provided additional testing is performed on the subgrade soil.

12.0 CONCRETE PAVEMENT

The onsite driveway may be designed with 4” concrete above 12 inches of compacted subgrade. The subgrade soil below the concrete should be compacted to obtain at least 90% relative compaction based on laboratory standard ASTM 1557. The concrete slab should be designed with a minimum reinforcement of #4 rebar at 18” on center both ways.

13.0 106 STATEMENT

Based on our field investigation and the laboratory testing results, it is our opinion that the grading and proposed structures will be safe against hazard from landslide, settlement, or slippage and the proposed construction will have no adverse effect on the geotechnical stability of the adjacent properties provided our recommendations are followed.

14.0 REMARKS

The conclusions and recommendations contained herein are based on the findings and

observations at the exploratory locations. However, soil materials may vary in characteristics between locations of the exploratory locations. If conditions are encountered during construction which appear to be different from those disclosed by the exploratory work, this office shall be notified so as to recommend the need for modifications. This report has been prepared in accordance with generally accepted professional engineering principles and practice. No warranty is expressed or implied. This report is subject to review by controlling public agencies having jurisdiction.

REFERENCES

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4. CDMG, (2000), "Seismic Hazard Zone Report for the Ontario 7.5-minute Quadrangle, Los Angeles County, California"; prepared by California Division of Mines and Geology; Seismic Hazard Zone Report 040; Revised 01/17/2006, 55 pgs, 6 figs, 5 tables, 3 plates.
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8. San Bernardino County , (2013), "Technical Guidance Document for Water Quality Management Plans"; effective dated 09-19-2013; prepared by CDM Smith Inc. Prepared for and submitted by The County of San Bernardino Areawide Stormwater Program.
9. SEAOC & OSHPD, (2026), "Seismic Design Maps", prepared by Structural Engineers Association of California (SEAOC) and Office of Statewide Health Planning and Development (OSHPD), http://www.seismicmaps.org
10. US Department of Commerce, DM-7.2, (1982), "Foundation and Earth Structures Design Manual 7.2", Department of the Navy, Alexandria, VA, dated May 1982.
11. Wildermuth Environmental Inc. (2016), "Depth to Groundwater Contours, Chino Basin- Fall 2006,Figure 1; http://www.wildermuthenvironmental.com/
12. Yeats, Robert S., (2004) "Tectonics of the San Gabriel Basin and Surroundings, Southern California"; GSA Bulletin; September/October 2004; v.116; no. 9/10; p. 1158-1182

APPENDIX A
FIELD INVESTIGATION

Subsurface condition was explored on April 3, 2026 with the aid of a hollow stem drill rig of 2R Drilling Services. A total of six (6) 8-inch diameter hollow-stem auger borings were drilled to a maximum depth of 20.0 feet below the existing ground surface. Upon completion of drilling, sampling, logging and percolation testing, all borings were backfilled with onsite soil removed from excavations and tamped. The purpose of the excavation was to investigate the engineering characteristics of the onsite soils with respect to the proposed development.

EGL's field engineer supervised and logged all borings. Relatively undisturbed ring samples and bulk samples were collected during drilling for laboratory testing. Approximate locations of these borings are shown on the Site Plan, Figure 2. Ring samples were taken at frequent intervals. The samples taken by a hollow stem auger were obtained by driving a sampler with successive blows of a 140-pound hammer dropping from a height of 30 inches.

Representative undisturbed samples of the subsurface soils were retained in a series of brass rings, each having an inside diameter of 2.42 inches and a height of 1.00 inch. All ring samples were transported to our laboratory. Bulk surface soil samples were also collected for additional classification and testing.

EGL

BORING LOG: B-1

PROJECT LOCATION: 1608 & 1624 Philadelphia Street, Ontario, California (APN: 1014-591-04 & 05)
PROJECT NO: 26-AA-051GE

EXCAVATION SERVICE:	2R Drilling
DATE EXCAVATED:	04/03/2026
DATE LOGGED:	04/03/2026
EXCAVATION METHOD:	Hollow Stem
SAMPLE METHOD:	Split-Tube
ELEVATION:	-----
LOGGED BY:	KY

S: Standard Penetration Test B: Bulk Sample R: Ring Sample

Depth (ft)	Sample: Bulk	Sample: Undisturbed	Blows Counts; 12"	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	*Earth Material Descriptions*
2		R	10	SM	112.0	5.5	@ 2.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose to medium dense, few gravels were encountered
6		R	27	SM	123.7	3.2	@ 5.0' Silty sand, fine to coarse grained, olive brown, dry to slightly moist, medium dense, few gravels were encountered
10		R	20	SC	105.6	13.7	@ 10.0' Clayey sand, fine to coarse grained, greenish grey, slightly moist to moist, medium dense
16		R	26	SP-SM	95.4	7.6	@ 15.0' Poorly graded with silt, fine grained, olive grey, slightly moist to moist, medium dense, few gravels were encountered
20		R	38	CL-ML	100.4	23.6	@ 20.0' Silty clay with clayey silt, olive grey, very moist, very stiff to hard
							Total Depth = 20 feet No Caving; No Groundwater Boring Backfilled and Tamped After Groundwater Observation Hammer Driving Weight = 140 lbs. Hammer Driving Height = 30 inches

BORING LOG: B-2

EXCAVATION METHOD:	Hollow Stem
SAMPLE METHOD:	Split-Tube

Depth (ft)	Sample: Bulk	Sample: Undisturbed	Blows Counts; 12"	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	*Earth Material Descriptions*
2		R	8	SM	110.5	4.8	@ 2.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose, few gravels were encountered
6		R	8	SM	112.3	6.4	@ 5.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose, few gravels were encountered
10		R	37	CL-ML	90.7	34.6	@ 10.0' Silty clay with clayey silt, grey and olive grey, very moist, very stiff to hard
16		R	29	SP-SM	100.9	3.8	@ 15.0' Poorly graded with silt, fine grained, olive grey, dry to slightly moist, medium dense, few gravels were encountered
20		R	27	CL	92.7	29.5	@ 20.0' Silty clay, grey, very moist, very stiff
							Total Depth = 20 feet No Caving; No Groundwater Boring Backfilled and Tamped After Groundwater Observation Hammer Driving Weight = 140 lbs. Hammer Driving Height = 30 inches

EGL

BORING LOG: B-3

PROJECT LOCATION: 1608 & 1624 Philadelphia Street, Ontario, California (APN: 1014-591-04 & 05)
PROJECT NO: 26-AA-051GE

EXCAVATION SERVICE: 2R Drilling
DATE EXCAVATED: 04/03/2026
DATE LOGGED: 04/03/2026
EXCAVATION METHOD: Hollow Stem
SAMPLE METHOD: Split-Tube
ELEVATION: -----
LOGGED BY: KY

S: Standard Penetration Test B: Bulk Sample R: Ring Sample

Depth (ft)	Sample: Bulk	Sample: Undisturbed	Sample: Blows Counts; 12"	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	*Earth Material Descriptions*
0 - 2		R	8	SM	110.6	8.6	@ 2.0' Silty sand, fine to medium grained, olive brown, moist, loose, trace of clay, few gravels were encountered
4 - 6		R	13	SM	117.2	7.8	@ 5.0' Silty sand, fine to medium grained, olive brown, moist, loose to medium dense, trace of clay, few gravels were encountered
8 - 10		R	45	SW	115.3	2.7	@ 10.0' Well-graded sand, fine to coarse grained, grey, dry, dense, few gravels were encountered
12 - 14		R	27	ML	104.5	15.6	@ 15.0' Sandy silt, olive grey and grey, slightly moist to moist, very stiff
16 - 18							
20 - 22		R	35	CL-ML	95.2	26.4	@ 20.0' Silty clay with clayey silt, grey, very moist, very stiff to hard
24 - 26							Total Depth = 20 feet No Caving; No Groundwater Boring Backfilled and Tamped After Groundwater Observation Hammer Driving Weight = 140 lbs. Hammer Driving Height = 30 inches

BORING LOG: B-4

EXCAVATION METHOD: Hollow Stem
SAMPLE METHOD: Split-Tube

Depth (ft)	Sample: Bulk	Sample: Undisturbed	Sample: Blows Counts; 12"	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	*Earth Material Descriptions*
0 - 2	B	R	13	SM	111.2	4.3	@ 2.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose to medium dense, trace of clay, few gravels were encountered
4 -		R	13	SM	111.3	6.4	@ 5.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose to medium dense, trace of clay, few gravels were encountered
6 - 8		R	11	SM	109.9	6.7	@ 7.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose to medium dense, trace of clay, few gravels were encountered
10 - 12							Total Depth = 8 feet No Caving; No Groundwater Boring Backfilled and Tamped After Percolation Test
14 - 16							Hammer Driving Weight = 140 lbs. Hammer Driving Height = 30 inches
18 - 20							
22 - 24							
26 -							

EGL

BORING LOG: B-5

EXCAVATION SERVICE: 2R Drilling
DATE EXCAVATED: 04/03/2026
DATE LOGGED: 04/03/2026
EXCAVATION METHOD: Hollow Stem
SAMPLE METHOD: Split-Tube
ELEVATION: -----
LOGGED BY: KY

PROJECT LOCATION: 1608 & 1624 Philadelphia Street, Ontario, California (APN: 1014-591-04 & 05)
PROJECT NO: 26-AA-051GE

S: Standard Penetration Test B: Bulk Sample R: Ring Sample

Depth (ft)	Sample: Bulk	Sample: Undisturbed	Sample: Blows Counts; 12"	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	*Earth Material Descriptions*
0							
2		R	7	SM	109.7	7.5	@ 2.0' Silty sand, fine to coarse grained, olive brown, slightly moist to moist, loose, few gravels were encountered
4		R	18	SM	115.1	7.5	@ 5.0' Silty sand, fine to coarse grained, pale olive, slightly moist to moist, medium dense, few gravels were encountered
6		R	50/8"	SM-SW	No Recovery		@ 7.0' Silty sand to well-graded sand, fine to coarse grained, light olive brown, dry to slightly moist, very dense, few gravels were encountered
8							
10							Total Depth = 8 feet No Caving; No Groundwater Boring Backfilled and Tamped After Percolation Test
12							
14							Hammer Driving Weight = 140 lbs. Hammer Driving Height = 30 inches
16							
18							
20							
22							
24							
26							

BORING LOG: B-6

EXCAVATION METHOD: Hollow Stem
SAMPLE METHOD: Split-Tube

Depth (ft)	Sample: Bulk	Sample: Undisturbed	Sample: Blows Counts; 12"	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	*Earth Material Descriptions*
0							
2		R	11	SM	111.8	6.2	@ 2.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose, trace of clay, few gravels were encountered
4		R	9	SM	115.7	6.7	@ 5.0' Silty sand, fine to coarse grained, olive brown, slightly moist, loose, trace of clay, few gravels were encountered
6		R	50	SM-SW	119.0	3.6	@ 7.0' Silty sand to well-graded sand, fine to coarse grained, light olive brown, dry, very dense, little gravels were encountered
8							
10							Total Depth = 8 feet No Caving; No Groundwater Boring Backfilled and Tamped After Percolation Test
12							
14							Hammer Driving Weight = 140 lbs. Hammer Driving Height = 30 inches
16							
18							
20							
22							
24							
26							

APPENDIX B
LABORATORY TESTING

During the subsurface exploration, EGL personnel collected relatively undisturbed ring samples and bulk samples. The following tests were performed on selected soil samples:

Moisture-Density

The moisture content and dry unit weight were determined for each relatively undisturbed soil sample obtained in the test borings in accordance with ASTM D2937 standard. The results of these tests are shown on the boring logs in Appendix A.

Shear Tests

Shear tests were performed in a direct shear machine of strain-control type in accordance with ASTM D3080 standard. The rate of deformation was 0.025 inch per minute. Selected samples were sheared under varying confining loads in order to determine the Coulomb shear strength parameters: internal friction angle and cohesion. The shear test results are presented in the attached plates.

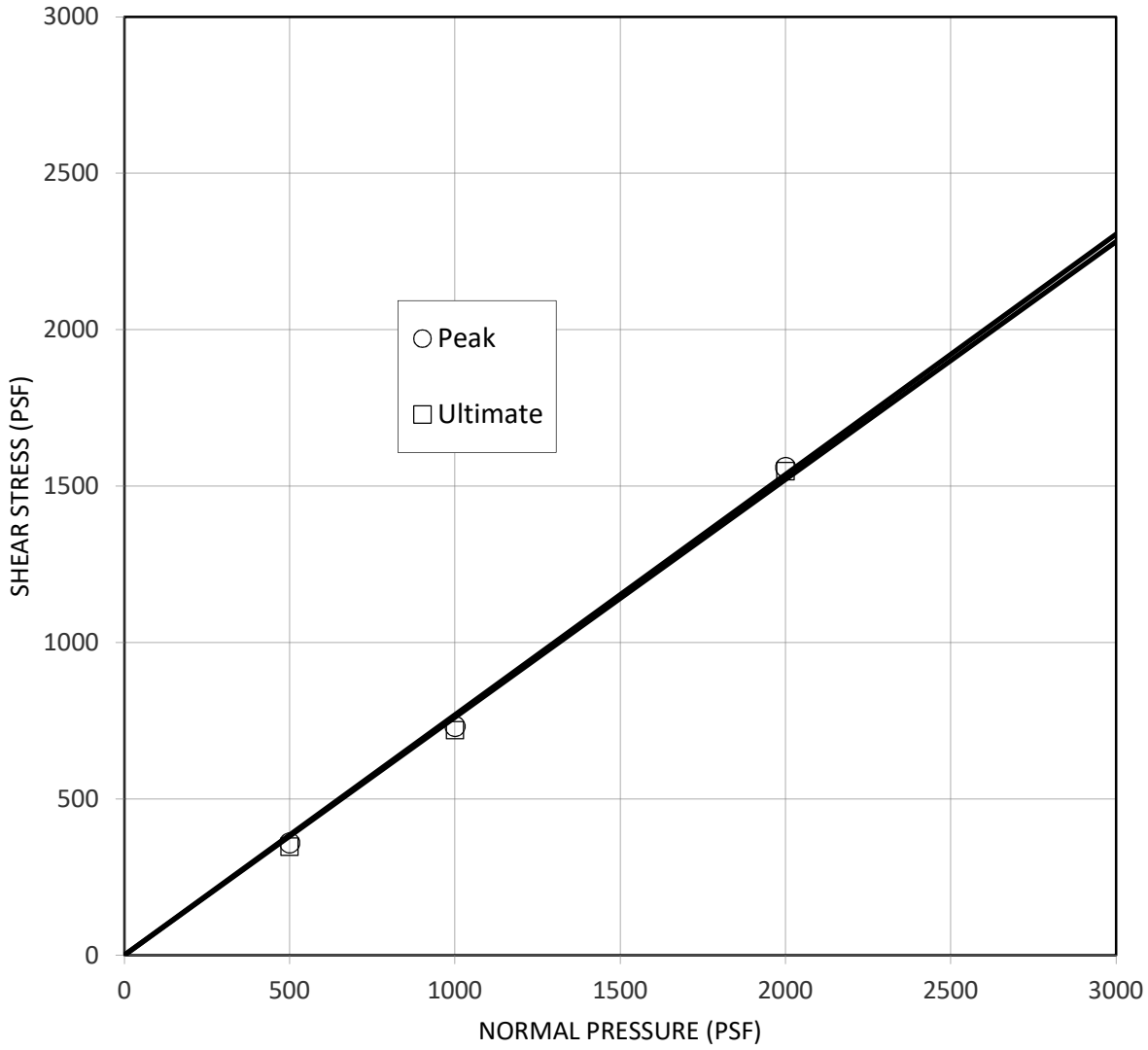
Consolidation Tests

Consolidation tests were performed on selected undisturbed soil samples in accordance with ASTM D2435 standard. The consolidation apparatus is designed for a one-inch high soil filled brass ring. Loads are applied in several increments in a geometric progression and the resulting deformations are recorded at selected time intervals. Porous stones are placed in contact with the top and bottom of each specimen to permit addition and release of pore fluid. The samples were inundated with water at a load of one kilo-pounds (kips) per square foot, and the test results are shown on the attached Figures.

Corrosion Test

Corrosion series of bulk sample was tested in accordance with Caltrans test methods. The series consist of Chloride Content, Sulfate Content, pH, and Minimum Resistivity tests. The methods used and test results are as follows:

Sample Location	pH	CT-412 Chloride	CT-417 Sulfate	CT-643 Min. Resistivity
B-4 @ 0-5’	8.38	63	0.001	14,000



Boring No.:	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-2	2	5.0	Ring	SM	○	0	36
					□	0	36

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
500	6.4	18.0	113.5	100.0
1000	6.4	17.7	114.6	100.0
2000	6.4	17.2	115.2	100.0

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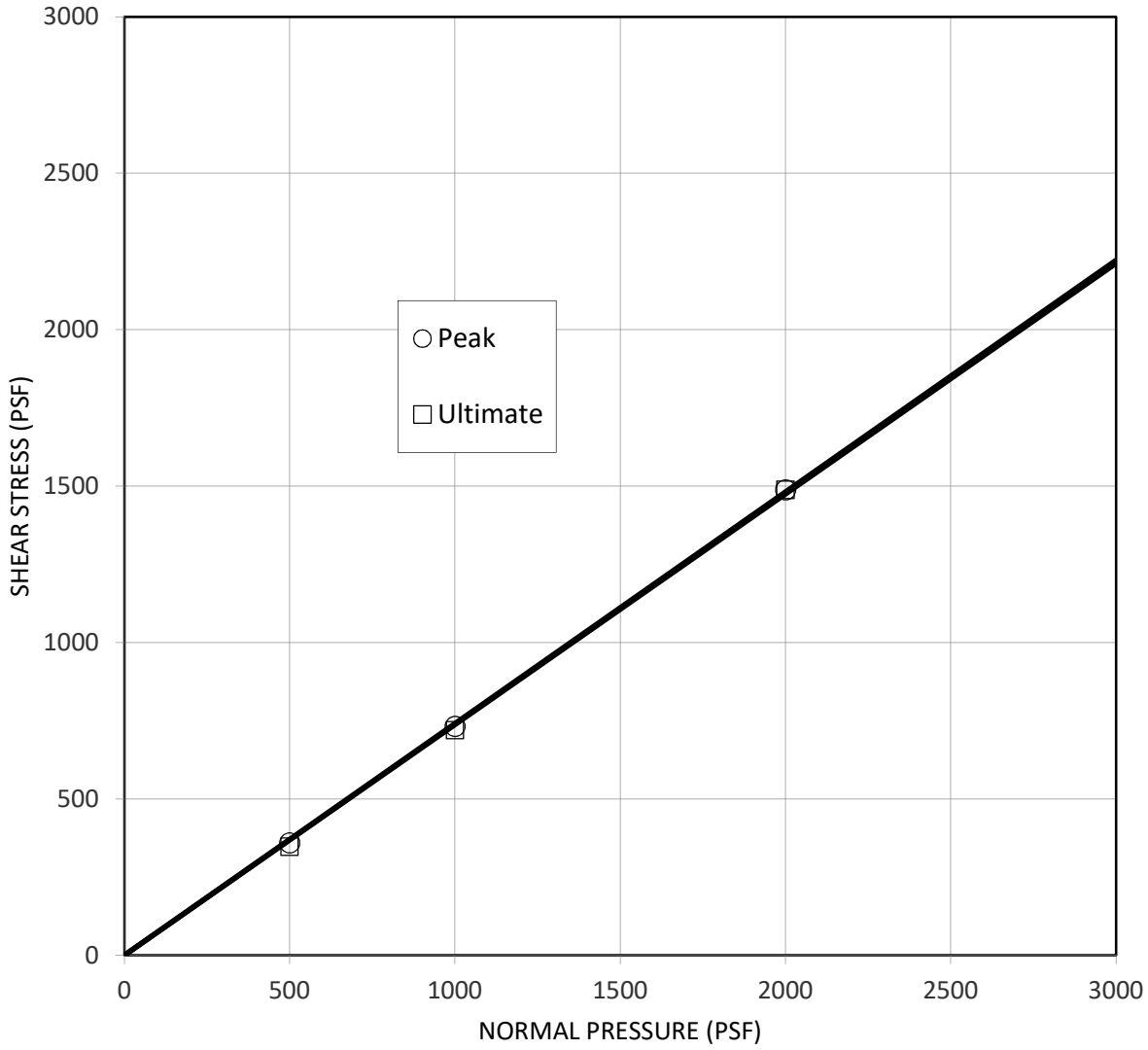
Address: 1608 & 1624 Philadelphia Street

Ontario, California

DIRECT SHEAR

05/26 (ASTM D3080) Figure

11819 Goldring Road, Unit A, Arcadia, California 91006; Phone (626) 263-3588; Email ryan@eglab.com



Boring No.:	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-4	2	5.0	Ring	SM	○	0	36
					□	0	36

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
500	6.4	19.5	110.4	100.0
1000	6.4	18.4	112.6	100.0
2000	6.4	18.1	113.4	100.0

ENVIRONMENTAL GEOTECHNOLOGY LABORATORY

EGL Project No.: 26-AA-051GE

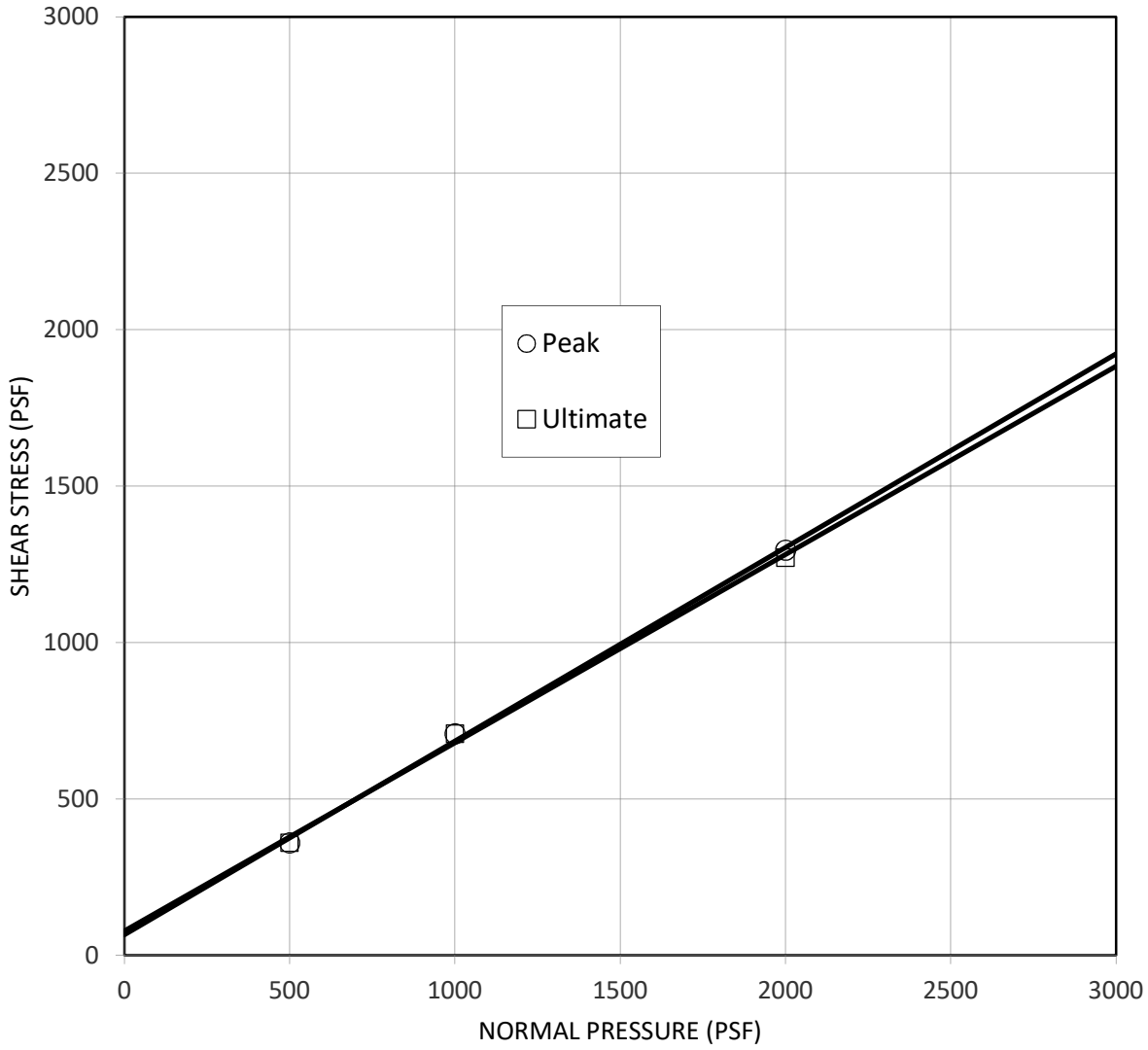
Address: 1608 & 1624 Philadelphia Street

Ontario, California

DIRECT SHEAR

05/26 (ASTM D3080) Figure

11819 Goldring Road, Unit A, Arcadia, California 91006; Phone (626) 263-3588; Email ryan@eglab.com



Boring No.:	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
B-5	1	2.0	Ring	SM	○	66	32
					□	78	31

Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
500	7.5	19.6	110.1	100.0
1000	7.5	20.0	110.4	100.0
2000	7.5	19.4	110.7	100.0

ENVIRONMENTAL GEOTECHNOLOGY LABORATORY

EGL Project No.: 26-AA-051GE

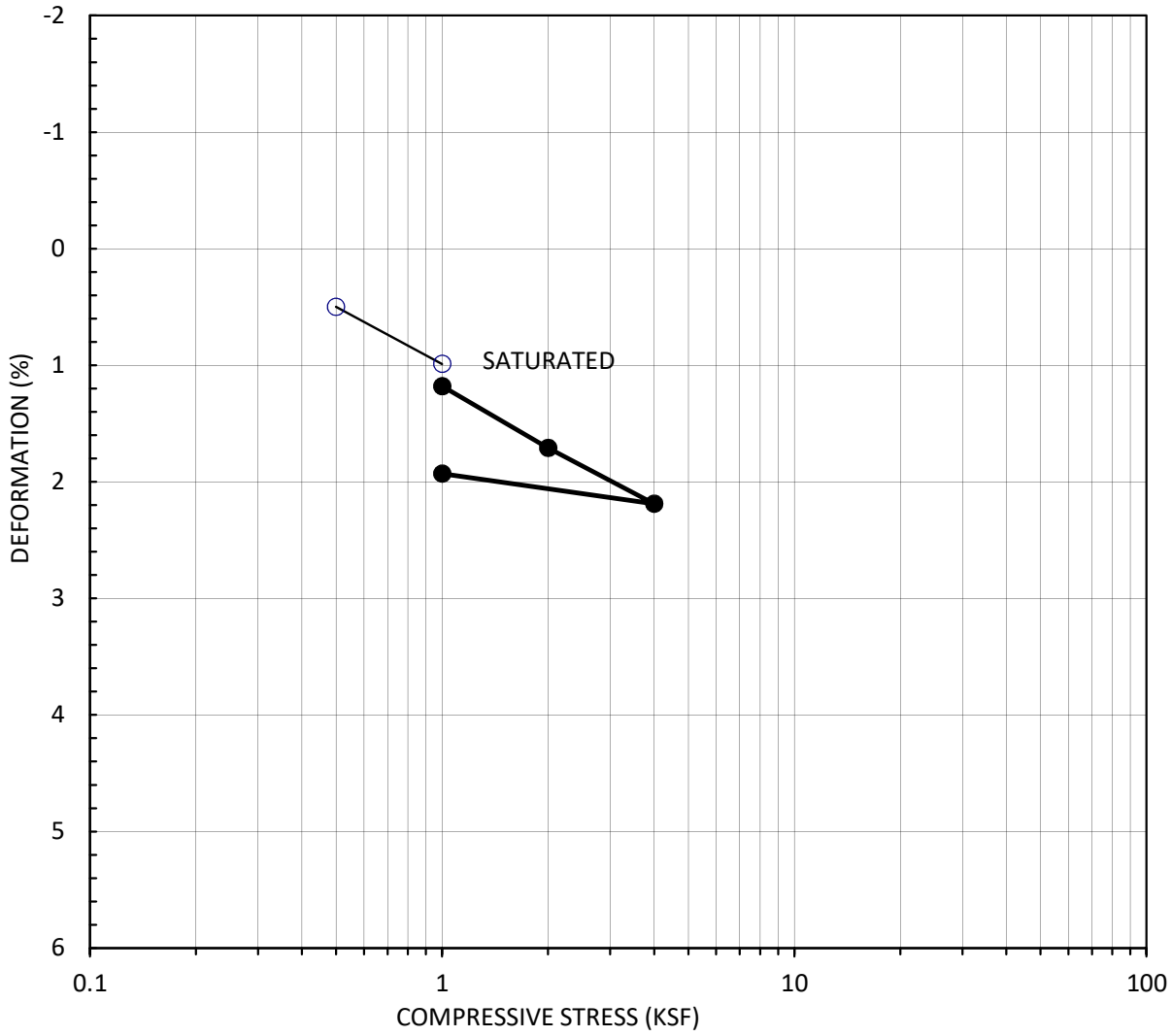
Address: 1608 & 1624 Philadelphia Street

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DIRECT SHEAR

05/26 (ASTM D3080) Figure

11819 Goldring Road, Unit A, Arcadia, California 91006; Phone (626) 263-3588; Email ryan@eglab.com



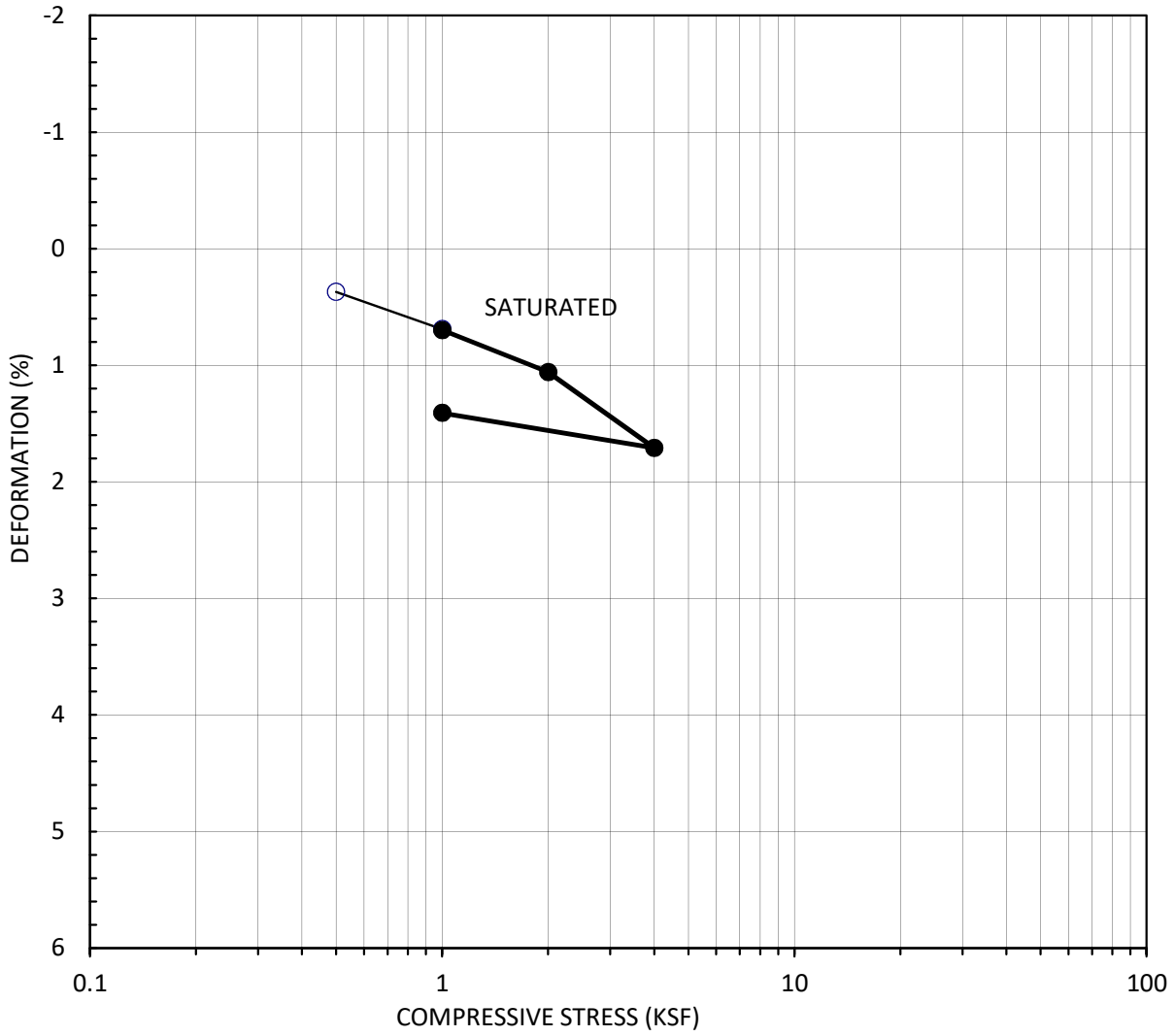
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density	Init. Void Ratio
○	B-1	2	5.0	SM	3.2	125.7	0.341

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05/26 (ASTM D2435) Figure



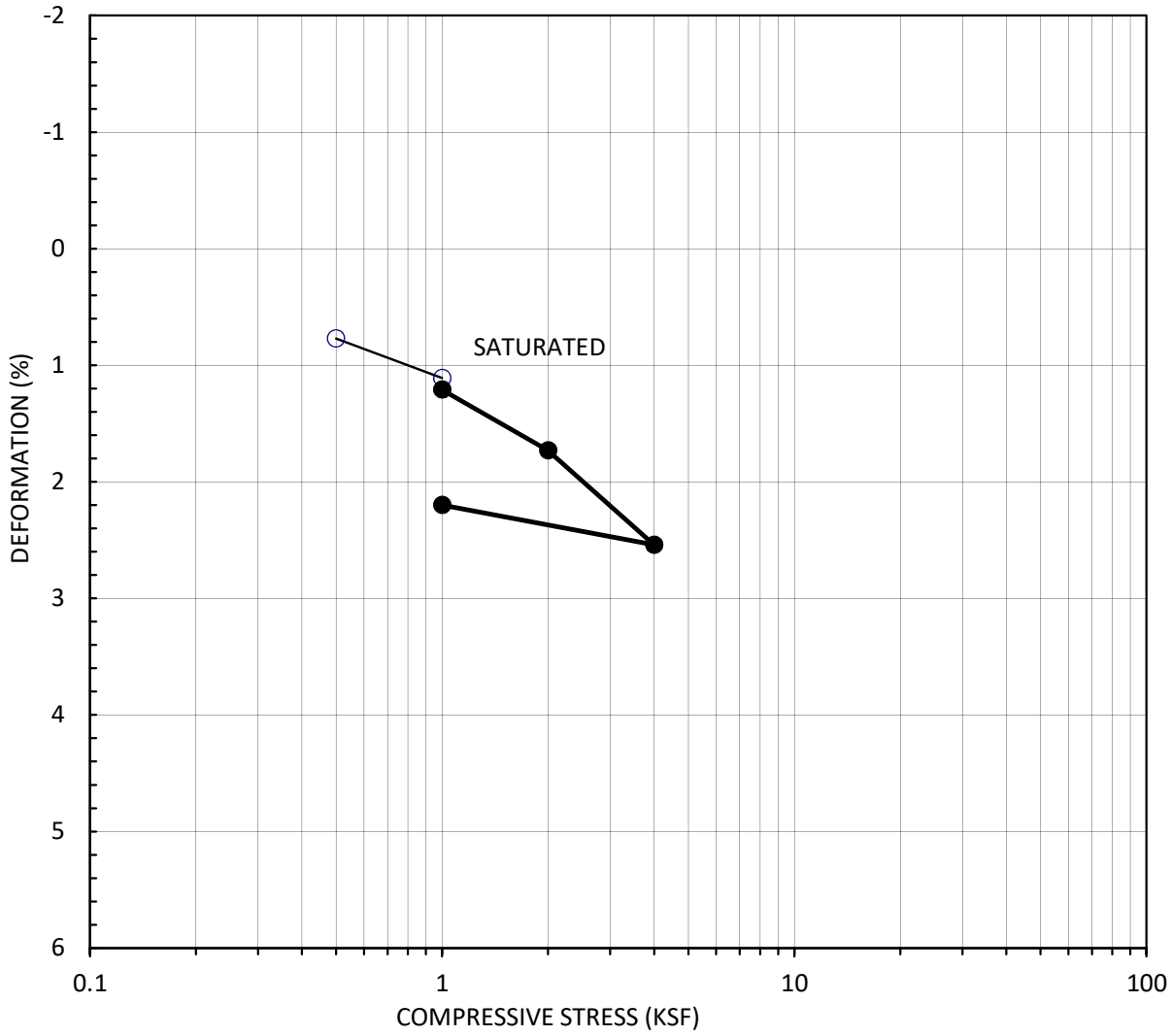
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density	Init. Void Ratio
○	B-2	3	10.0	CL-ML	34.6	91.4	0.843

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05/26 (ASTM D2435) Figure



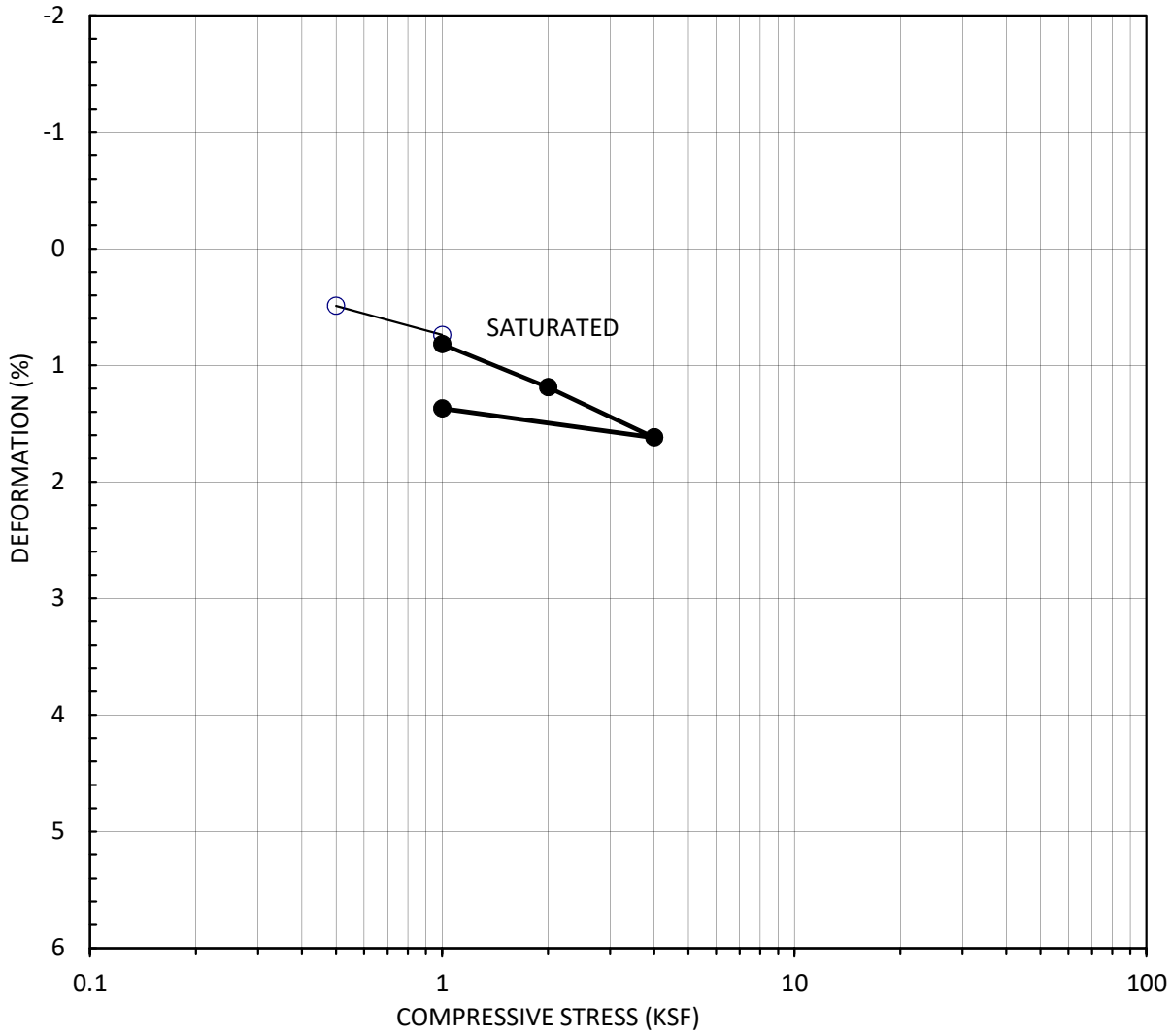
Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density	Init. Void Ratio
○	B-3	2	5.0	SM	7.8	118.6	0.421

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05/26 (ASTM D2435) Figure



Symbol	Boring No.	Sample No.	Depth (Ft.)	Soil Type	Init. Moisture Content (%)	Init. Dry Density	Init. Void Ratio
○	B-6	3	7.0	SM-SW	3.6	120.2	0.402

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05/26 (ASTM D2435) Figure

APPENDIX C: PERCOLATION TEST RESULTS

Infiltration Testing Per San Bernardino County - Technical Guidance Document for WQMPs

r (in) = radius hole
t_i (hr:min) = intial time after filling or refilling
t_f (hr:min) = final time
d_b (ft) = depth to bottom
d_i (ft) = depth to water surface at ti
d_f (ft) = depth to water surface at tf
ΔH (in) = change in height over time
Have = average head height over the time interval
t (hr) = Time reading interval
It (in/hr) = (ΔHxr)/(Δt(r+2Havg)) tested infiltration rate

Test boring were presoaked and tested on 4-11-2026. Test borings were presoaked with a minimum of 5 gallons prior to performing the percolation tests. After all the water drained out of the borings, the tests were performed. For all borings more than 6 inches seeped out of the hole in less than 25 minutes during the first two tests so the time interval of 10 minutes was used for the remaining tests.

Job Site: APN: 1014-591-04 & 05, 1608 & 1624 Philadelphia Street, Ontario Project No: 26-AA-051GE

B-4									
r (in)	t_i (hr:min)	t_f (hr:min)	Δt (hr)	d_b (in)	d_i (in)	d_f (in)	ΔH (in)	H_{ave} (ft)	It (in/hr)
4	11:35	11:45	0.167	96	70.0	77.0	7.0	22.5	3.42
4	11:47	11:57	0.167	96	70.0	77.0	7.0	22.5	3.42
4	12:00	12:10	0.167	96	76.0	80.5	4.5	17.8	2.73
4	12:12	12:22	0.167	96	76.0	80.0	4.0	18.0	2.40
4	12:25	12:35	0.167	96	76.0	79.8	3.8	18.1	2.23
4	12:37	12:47	0.167	96	76.0	79.8	3.8	18.1	2.23
4	12:49	12:59	0.167	96	76.0	79.8	3.8	18.1	2.23
4	13:02	13:12	0.167	96	76.0	79.5	3.5	18.3	2.07

B-5									
r (in)	t_i (hr:min)	t_f (hr:min)	t (hr)	d_b (in)	d_i (in)	d_f (in)	ΔH (in)	H_{ave} (ft)	It (in/hr)
4	8:16	8:20	0.067	96	72.0	96.0	24.0	12.0	51.43
4	8:23	8:27	0.067	96	74.0	96.0	22.0	11.0	50.77
4	8:30	8:35	0.083	96	76.0	96.0	20.0	10.0	40.00
4	8:37	8:43	0.100	96	76.0	96.0	20.0	10.0	33.33
4	8:46	8:52	0.100	96	76.0	96.0	20.0	10.0	33.33
4	8:55	9:02	0.117	96	76.0	96.0	20.0	10.0	28.57
4	9:05	9:12	0.117	96	76.0	96.0	20.0	10.0	28.57
4	9:14	9:21	0.117	96	76.0	96.0	20.0	10.0	28.57

B-6									
r (in)	t_i (hr:min)	t_f (hr:min)	Δt (hr)	d_b (in)	d_i (in)	d_f (in)	ΔH (in)	H_{ave} (ft)	It (in/hr)
4	9:50	10:00	0.167	96	74.0	94.0	20.0	12.0	17.11
4	10:03	10:13	0.167	96	74.0	92.0	18.0	13.0	14.37
4	10:15	10:25	0.167	96	76.0	92.5	16.5	11.8	14.37
4	10:27	10:37	0.167	96	76.0	92.0	16.0	12.0	13.69
4	10:39	10:49	0.167	96	76.0	92.0	16.0	12.0	13.69
4	10:51	11:01	0.167	96	76.0	92.0	16.0	12.0	13.69
4	11:04	11:14	0.167	96	76.0	91.5	15.5	12.3	13.03
4	11:17	11:27	0.167	96	76.0	91.0	15.0	12.5	12.39

Factor of Safety based on the Technical Guidance Document for WQMP, Worksheet H & Tables VII.3 & VII.4 FS = 2.25

Average Infiltration Rate (in/hour) = 14.34

Infiltration Rate / FS (in/hour) = **6.37**