

## EXHIBIT C

### **COUNTY OF ALAMEDA MINIMUM INSURANCE REQUIREMENTS**

Without limiting any other obligation or liability under this Agreement, the Contractor, at its sole cost and expense, shall secure and keep in force during the entire term of the Agreement or longer, as may be specified below, the following minimum insurance coverage, limits and endorsements. The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances. If the contractor maintains broader coverage and/or higher limits than the minimums shown below, the County requires and shall be entitled to the broader coverage and/or the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the County.

| TYPE OF INSURANCE COVERAGES |                                                                                                                                                                | MINIMUM LIMITS                                                                                        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>A</b>                    | <b>Commercial General Liability</b><br>Premises Liability; Products and Completed Operations; Contractual Liability; Personal Injury and Advertising Liability | \$3,000,000 per occurrence (CSL)<br>Bodily Injury and Property Damage<br>\$5,000,000 policy aggregate |
| <b>B</b>                    | <b>Commercial or Business Automobile Liability</b><br>All owned vehicles, hired or leased vehicles, non-owned, borrowed and permissive uses.                   | \$1,000,000 per occurrence (CSL)<br>Any Auto<br>Bodily Injury and Property Damage                     |
| <b>C</b>                    | <b>Workers' Compensation (WC) and Employers Liability (EL)</b><br>Required for all contractors with employees                                                  | WC: Statutory Limits<br>EL: \$1,000,000 per accident for bodily injury or disease                     |
| <b>D</b>                    | <b>Installation Floater as applicable</b>                                                                                                                      | Limits equal to the completed value of equipment/supplies                                             |
| <b>E</b>                    | <b>Pollution and Environmental Liability</b>                                                                                                                   | \$1,000,000 per occurrence                                                                            |

**Endorsements and Conditions:**

1. **ADDITIONAL INSURED:** County of Alameda, its Board of Supervisors, the individual members thereof, and all County officers, agents, employees, volunteers, and representatives are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 if a later edition is used). Auto policy shall contain or be endorsed to contain additional insured coverage for the County.
2. **DURATION OF COVERAGE:** All required insurance shall be maintained during the entire term of the Agreement. In addition, Insurance policies and coverage(s) written on a claims-made basis shall be maintained and evidence of insurance must be provided during the entire term of the Agreement and for at least five (5) years following the later of termination of the Agreement and acceptance of all work provided under the Agreement, with the retroactive date of said insurance (as may be applicable) concurrent with the commencement of activities pursuant to this Agreement. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of five (5) years after completion of work.
3. **REDUCTION OR LIMIT OF OBLIGATION:** All insurance policies, including excess and umbrella insurance policies, shall be primary and non-contributory coverage at least as broad as ISO CG 20 10 04 13 as respects the County, its officers, officials, employees, or volunteers. Any insurance or self-insurance maintained by the County, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it. Pursuant to the provisions of this Agreement insurance effected or procured by the Contractor shall not reduce or limit Contractor's contractual obligation to indemnify and defend the Indemnified Parties.
4. **INSURER FINANCIAL RATING:** Insurance shall be maintained through an insurer with an A.M. Best Rating of no less than A: VII or equivalent, shall be admitted to the State of California unless otherwise acceptable by Risk Management, and with deductible amounts acceptable to the County. Acceptance of Contractor's insurance by County shall not relieve or decrease the liability of Contractor hereunder. Self-insured retentions must be declared and approved. Any deductible or self-insured retention amount or other similar obligation under the policies shall be the sole responsibility of the Contractor. The policy language shall provide or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or County.
5. **SUBCONTRACTORS:** Contractor shall include all subcontractors as an insured (covered party) under its policies or shall verify that the subcontractor, under its own policies and endorsements, has complied with the insurance requirements in this Agreement, including this Exhibit.
6. **JOINT VENTURES:** If Contractor is an association, partnership or other joint business venture, required insurance shall be provided by one of the following methods:
  - Separate insurance policies issued for each individual entity, with each entity included as a "Named Insured" (covered party), or at minimum named as an "Additional Insured" on the other's policies. Coverage shall be at least as broad as in the ISO Forms named above.
  - Joint insurance program with the association, partnership or other joint business venture included as a "Named Insured".
7. **CANCELLATION OF INSURANCE:** Each insurance policy required above shall provide that coverage shall not be cancelled, except with notice of cancellation provided to the County in accordance with policy terms and conditions.
8. **CERTIFICATE OF INSURANCE:** Before commencing operations under this Agreement, Contractor shall provide Certificate(s) of insurance and applicable insurance endorsements as set forth in the provisions of this Agreement and this Exhibit C, in forms satisfactory to County, evidencing that all required insurance coverage is in effect. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The County reserves the right to require the Contractor to provide complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

EXHIBIT D

**COUNTY OF ALAMEDA**  
**THE IRAN CONTRACTING ACT (ICA) OF 2010**  
For Procurements of \$1,000,000 or more

The California Legislature adopted the Iran Contracting Act (ICA) to respond to policies of Iran in a uniform fashion (PCC § 2201(q)). The ICA prohibits persons engaged in investment activities in Iran from bidding on, submitting proposals for, or entering into or renewing contracts with public entities for goods and services of one million dollars (\$1,000,000) or more (PCC § 2203(a)). A person who “engages in investment activities in Iran” is defined in either of two ways:

1. The person provides goods or services of twenty million dollars (\$20,000,000) or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or
2. The person is a financial institution (as that term is defined in 50 U.S.C. § 1701) that extends twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created by the California Department of General Services (DGS) pursuant to PCC § 2201(b) as a person engaging in the investment activities described in paragraph 1 above.

By signing below, I hereby certify that as of the time of bidding or proposing for a new contract or renewal of an existing contract, neither I nor the company I own or work for are identified on the DGS list of ineligible persons and neither I nor the company I own or work for are engaged in investment activities in Iran in violation of the Iran Contracting Act of 2010.

If either I or the company I own or work for are ineligible to bid or submit a proposal or to renew a contract, but I believe I or it qualifies for an exception listed in PCC § 2202(c), I have described in detail the nature of the exception: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

PRINCIPAL: \_\_\_\_\_ TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

END OF DOCUMENT



Prepared for **Shah Kawasaki Architects**

**GEOTECHNICAL INVESTIGATION  
PROPOSED REHABILITATION  
WHITECOTTON COTTAGE  
SAN LEANDRO, CALIFORNIA**

***UNAUTHORIZED USE OR COPYING OF THIS DOCUMENT IS STRICTLY  
PROHIBITED BY ANYONE OTHER THAN THE CLIENT FOR THE SPECIFIC  
PROJECT***

July 8, 2026  
Project No. 24-2639

July 8, 2026  
Project No. 24-2639

Ms. Youngchae Lee  
Shah Kawasaki Architects  
570 10<sup>th</sup> Street, Suite 201  
Oakland, California 94607

Subject:       Geotechnical Investigation  
                  Proposed Rehabilitation  
                  Whitecotton Cottage  
                  San Leandro, California

Dear Ms. Lee:

We are pleased to present the results of our geotechnical investigation for the proposed rehabilitation of the existing cottage, Whitecotton Cottage, located on the Fairmont Hospital campus at 15400 Foothill Boulevard in San Leandro, California. Our investigation was performed in accordance with our proposal dated January 15, 2026.

The Whitecotton Cottage is situated on a relatively level pad at the base of a 10- to 15-foot-high, south-facing slope. Available plans indicate the cottage is a two-story, wood-framed structure with a crawl space and a brick foundation surrounded by trees, shrubs, and an abandoned terrace. The cottage is roughly rectangular shaped with maximum plan dimensions of about 40 feet by 55 feet. The cottage has a crawlspace, except for a basement in the middle. The basement has plan dimensions of about 20 feet by 35 feet and a finished floor at about 7.75 feet below the ground floor. The cottage, constructed in 1903, historically served as the residence for the hospital Superintendent and has been vacant since 2000.

We understand plans are to rehabilitate the cottage. Other site improvements may include new a trash enclosure and/or new pavements adjacent to the cottage in currently paved and unpaved areas to the south of the cottage.

From a geotechnical standpoint, we conclude the proposed improvements can proceed as planned, provided the recommendations presented in this report are incorporated into the project plans and specifications and implemented during construction. The primary geotechnical concerns at the site are: 1) the presence of very highly expansive near-surface soil, and 2) providing adequate foundation support for the proposed improvements. To mitigate the effects of very highly expansive near-surface soil, we recommend the proposed improvements be supported by hand-excavated end-bearing piers or drilled piers.

The recommendations contained in our report are based on limited subsurface exploration. Consequently, variations between expected and actual subsurface conditions may be encountered during construction. Therefore, we should be engaged to observe site preparation, fill placement,

Ms. Youngchae Lee  
Shah Kawasaki Architects  
July 8, 2026  
Page 2



and foundation installation, during which time we may make changes to our recommendations if deemed necessary.

We appreciate the opportunity to provide our services to you on this project. Should you have any questions, please call.

Sincerely yours,  
ROCKRIDGE GEOTECHNICAL, INC.

A blue ink signature of Linda H.J. Liang is written over a circular professional seal. The seal contains the text: 'REGISTERED PROFESSIONAL ENGINEER', 'HUI JUN LIANG', 'GE 2663', 'ROCKRIDGE GEOTECHNICAL', and 'STATE OF CALIFORNIA'.

Date: 07/08/2026

Linda H.J. Liang, P.E., G.E.  
Principal Engineer

A blue ink signature of Craig S. Shields is written over a circular professional seal. The seal contains the text: 'REGISTERED PROFESSIONAL ENGINEER', 'CRAIG S. SHIELDS', 'GE 2116', 'ROCKRIDGE GEOTECHNICAL', and 'STATE OF CALIFORNIA'.

Date: 07/08/2026

Craig S. Shields, P.E., G.E.  
Principal Engineer

Enclosure

## TABLE OF CONTENTS

|       |                                                        |    |
|-------|--------------------------------------------------------|----|
| 1.0   | INTRODUCTION .....                                     | 1  |
| 2.0   | SCOPE OF SERVICES .....                                | 1  |
| 3.0   | FIELD INVESTIGATION AND LABORATORY TESTING.....        | 2  |
| 3.1   | Dynamic Penetrometer Tests .....                       | 2  |
| 3.2   | Hand-Auger Borings.....                                | 3  |
| 3.3   | Laboratory Testing.....                                | 3  |
| 3.4   | Data Review.....                                       | 3  |
| 4.0   | SUBSURFACE CONDITIONS .....                            | 4  |
| 4.1   | Groundwater .....                                      | 4  |
| 5.0   | SEISMIC CONSIDERATIONS .....                           | 5  |
| 5.1   | Regional Seismicity .....                              | 5  |
| 5.2   | Geologic Hazards.....                                  | 7  |
| 5.2.1 | Ground Shaking .....                                   | 7  |
| 5.2.2 | Ground Surface Rupture .....                           | 8  |
| 5.2.3 | Liquefaction and Liquefaction-Induced Settlement.....  | 8  |
| 5.2.4 | Cyclic Densification.....                              | 8  |
| 6.0   | CONCLUSIONS AND RECOMMENDATIONS .....                  | 9  |
| 6.1   | Expansive Soil .....                                   | 9  |
| 6.2   | Foundation Support and Settlement.....                 | 10 |
| 6.2.1 | Hand-Excavated Piers .....                             | 10 |
| 6.2.2 | Drilled Piers .....                                    | 11 |
| 6.2.3 | Mat Foundation.....                                    | 12 |
| 6.3   | Site Preparation and Grading.....                      | 13 |
| 6.3.1 | Subgrade Preparation .....                             | 14 |
| 6.3.2 | Fill Materials and Compaction Criteria .....           | 14 |
| 6.3.3 | Utility Trench Backfill.....                           | 15 |
| 6.3.4 | Exterior Concrete Flatwork.....                        | 16 |
| 6.4   | Surface Drainage, Bioswales, and Landscaping.....      | 17 |
| 6.4.1 | Surface Drainage.....                                  | 17 |
| 6.4.2 | Bioswales .....                                        | 17 |
| 6.4.3 | Landscaping.....                                       | 18 |
| 6.5   | Construction Considerations.....                       | 18 |
| 6.6   | Pavement Design .....                                  | 19 |
| 6.6.1 | Flexible (Asphalt Concrete) Pavement Design.....       | 19 |
| 6.6.2 | Rigid (Portland-Cement Concrete) Pavement Design ..... | 20 |
| 6.6.3 | Non-Permeable Concrete Pavers .....                    | 21 |
| 6.6.4 | Permeable Concrete Pavers.....                         | 22 |
| 6.7   | Seismic Design.....                                    | 25 |

|     |                                       |    |
|-----|---------------------------------------|----|
| 7.0 | ADDITIONAL GEOTECHNICAL SERVICES..... | 26 |
| 8.0 | LIMITATIONS.....                      | 26 |

## REFERENCES

## FIGURES

APPENDIX A – Dynamic Penetrometer Test Results and Boring Logs

APPENDIX B – Laboratory Test Results

### LIST OF FIGURES

|          |                                                |
|----------|------------------------------------------------|
| Figure 1 | Site Location Map                              |
| Figure 2 | Site Plan                                      |
| Figure 3 | Regional Geologic Map                          |
| Figure 4 | Regional Fault and Historic Seismicity Map     |
| Figure 5 | Earthquake Zones of Required Investigation Map |

### APPENDIX A

|                            |                                                      |
|----------------------------|------------------------------------------------------|
| Figures A-1<br>through A-3 | Dynamic Penetrometer Test Results and<br>Boring Logs |
| Figures A-4<br>and A-5     | Dynamic Penetrometer Test Results                    |
| Figure A-6                 | Classification Chart                                 |

**GEOTECHNICAL INVESTIGATION  
PROPOSED REHABILITATION  
WHITECOTTON COTTAGE  
San Leandro, California**

## **1.0 INTRODUCTION**

This report presents the results of the geotechnical investigation performed by Rockridge Geotechnical, Inc. for the proposed rehabilitation of the existing cottage, Whitecotton Cottage, located on the Fairmont Hospital campus at 15400 Foothill Boulevard in San Leandro, California. The cottage is located west of the intersection of Foothill Boulevard and Fairmont Drive, as shown in the Site Location Map (Figure 1).

The cottage is situated on a relatively level pad at the base of a 10- to 15-foot-high, south-facing slope. Available plans indicate the cottage is a two-story, wood-framed structure with a crawl space and a brick foundation surrounded by trees, shrubs, and an abandoned terrace. The cottage is roughly rectangular shaped with maximum plan dimensions of about 40 feet by 55 feet. The cottage has a crawlspace, except for a basement in the middle, as shown in the Site Plan (Figure 2). The basement has plan dimensions of about 20 feet by 35 feet and a finished floor at about 7.75 feet below the ground floor. The cottage, constructed in 1903, historically served as the residence for the hospital Superintendent and has been vacant since 2000.

We understand plans are to rehabilitate the cottage. Other site improvements may include a new trash enclosure and/or new pavements adjacent to the cottage in currently paved and unpaved areas to the south of the cottage.

## **2.0 SCOPE OF SERVICES**

Our investigation was performed in accordance with our proposal dated January 15, 2026. Our scope of services consisted of reviewing available subsurface information in the site vicinity, exploring subsurface conditions at the site, and performing engineering analyses to develop conclusions and recommendations regarding:

- soil and groundwater conditions at the site

- site seismicity and seismic hazards, including the potential for liquefaction and liquefaction-induced ground failure
- the most appropriate foundations type(s) for the proposed improvements
- design criteria for the recommended foundation type(s), including vertical and lateral capacities
- estimates of foundation settlement
- site grading and excavation, including subgrade preparation and criteria for fill quality and compaction
- exterior concrete flatwork
- flexible and rigid pavements
- 2025 California Building Code (CBC) site class and mapped design spectral response acceleration parameters
- construction considerations.

### **3.0 FIELD INVESTIGATION AND LABORATORY TESTING**

We explored the subsurface conditions at the site by performing five dynamic penetrometer tests (DPTs), advancing three hand-auger borings, and performing laboratory tests on selected soil samples. Prior to the field investigation, we contacted Underground Services Alert (USA) to notify them of our work, as required by law, and retained a private utility locator to check for buried utilities at DPT and boring locations. Details of our field investigation and laboratory testing are presented in this section.

#### **3.1 Dynamic Penetrometer Tests**

On February 17, 2026, we performed five DPTs, designated as DPT-1 through DPT-5, at the approximate locations shown in Figure 2. The DPTs were advanced to practical refusal, defined as more than 50 blows to advance 10 centimeters, at depths of about 3-1/2 to 8 feet below the existing ground surface (bgs).

The DPTs were performed following the methodology presented in the technical paper titled *A Portable Dynamic Penetrometer for Geotechnical Investigations*, prepared by J.R. Triggs and P.D. Simpson (Triggs & Simpson, 1990). The DPT consisted of manually driving a 1.4-inch-diameter, cone-tipped probe with a 35-pound hammer falling 15 inches. The blow counts

required to drive the probe were recorded at 10-centimeter intervals and converted to SPT N-values for use in our engineering analyses. The results of the DPTs are presented in Figures A-1 through A-5 in Appendix A.

### **3.2 Hand-Auger Borings**

On February 18, 2026, our field engineer advanced three hand-auger borings, designated as HA-1 through HA-3, at the approximate locations shown in Figure 2. The borings were advanced using a 3-inch-diameter hand auger to depths of 3-3/4 to 5 feet bgs. Our field engineer obtained soil samples at several depths for visual classification and laboratory testing. Upon completion, the boreholes were backfilled with soil cuttings. The subsurface conditions encountered in the borings are described in Figures A-1 through A-3. The soil encountered in our borings was classified in accordance with the classification chart shown in Figure A-6.

### **3.3 Laboratory Testing**

We re-examined the soil samples in our office to confirm the field classifications and selected representative samples for laboratory testing. Laboratory tests were performed in our laboratory to moisture content, percent particle passing the #200 sieve, and plasticity (Atterberg limits). The results of the laboratory tests are presented in Appendix B.

### **3.4 Data Review**

We reviewed subsurface information from a geotechnical investigation performed nearby. Specifically, we reviewed the following report:

- *Site Characterization Report, Fairmont Hospital, San Leandro, California*, prepared by Gregg & Associates, Inc., dated August 1988.

The geotechnical investigation by Gregg & Associates, Inc. (Gregg) included drilling seven borings to depths ranging from 15 to 34 feet bgs in June and July 1988. The borings were drilled approximately 330 feet east of the Whitecotton Cottage at the approximate locations shown in Figure 1.

## 4.0 SUBSURFACE CONDITIONS

The regional geologic map of the site vicinity (Figure 3) indicates the site is in an area underlain by Pleistocene-aged alluvium (Qpa) and 120 feet south of an area mapped as underlain by Jurassic-aged plutonic bedrock of the Great Valley complex (Ji). The results of our field investigation indicate the site is underlain by alluvium overlying bedrock. Where explored, the upper 2 to 4 feet of alluvium consists of medium stiff to stiff clay with variable amounts of sand and medium dense to dense sand with variable amounts of clay. Below depths of 2 to 4 feet, the alluvium consists of very stiff to hard clay with variable amounts of sand and very dense sand with variable amounts of clay. Based on the mapped geology and nearby borings (Gregg, 1988), we judge the DPTs encountered refusal in bedrock at depths of 3-1/2 to 8 feet bgs.

Atterberg limits test performed on samples of the clay obtained from our borings at depths of 2-1/2 and 4-1/2 feet bgs indicate the near-surface clay is very highly expansive<sup>1</sup> with plasticity indices (PIs) of 43 and 48.

### 4.1 Groundwater

Groundwater was not encountered in our hand-auger borings. Groundwater was not encountered above the alluvium/bedrock interface by Gregg (1988) during drilling. The depth to groundwater is expected to vary several feet annually, depending on rainfall amounts. Based on our experience with sites on or near hillslopes, groundwater may be encountered where it has been perched above impervious soil/rock or flows through pervious zones in the underlying bedrock from the hillslope above.

---

<sup>1</sup> Expansive soil undergoes volumetric changes with changes in moisture content (i.e., shrinks when dried and swells when wetted).

## 5.0 SEISMIC CONSIDERATIONS

### 5.1 Regional Seismicity

The site is located within the Coast Ranges Geomorphic Province of California, which is characterized by northwest-trending valleys and ridges. These topographic features are controlled by folds and faults that resulted from the collision of the Farallon and North American plates and subsequent strike-slip faulting along the San Andreas Fault system. The San Andreas Fault is more than 600 miles long and extends from Point Arena in the north to the Gulf of California in the south. The Coast Ranges Geomorphic Province is bounded on the east by the Great Valley and on the west by the Pacific Ocean.

The major active faults in the area are the Hayward, San Andreas, and Calaveras faults. These and other faults in the region are shown in Figure 4. For these and other active faults within a 50-kilometer radius of the site, the distance from the site and estimated characteristic moment magnitude<sup>2</sup> [Petersen et al. (2014) & Thompson et al. (2016)] are summarized in Table 1. These references are based on the Third Uniform California Earthquake Rupture Forecast (UCERF3), prepared by Field et al. (2013).

---

<sup>2</sup> Moment magnitude ( $M_w$ ) is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area.

**TABLE 1  
Regional Faults and Seismicity**

| <b>Fault Segment</b>                              | <b>Approximate<br/>Distance from Site<br/>(km)</b> | <b>Direction<br/>from Site</b> | <b>Characteristic<br/>Moment<br/>Magnitude</b> |
|---------------------------------------------------|----------------------------------------------------|--------------------------------|------------------------------------------------|
| Total Hayward + Rodgers Creek<br>(RC+HN+HS+HE)    | 0.3                                                | East                           | 7.58                                           |
| Hayward (South, HS)                               | 0.3                                                | East                           | 7.00                                           |
| Hayward (North, HN)                               | 9.6                                                | Northwest                      | 6.90                                           |
| Total Calaveras (CN+CC+CS+CE)                     | 14                                                 | Northeast                      | 7.43                                           |
| Calaveras (North, CN)                             | 14                                                 | Northeast                      | 6.86                                           |
| Contra Costa - Lafayette Connected                | 16                                                 | North                          | 7.20                                           |
| Franklin                                          | 17                                                 | Northeast                      | 7.10                                           |
| Mount Diablo Thrust North CFM                     | 17                                                 | Northeast                      | 6.72                                           |
| Mount Diablo Thrust                               | 19                                                 | Northeast                      | 6.67                                           |
| Mount Diablo Thrust South                         | 20                                                 | East                           | 6.50                                           |
| Concord                                           | 24                                                 | Northeast                      | 6.45                                           |
| Greenville (North)                                | 28                                                 | Northeast                      | 6.86                                           |
| Total North San Andreas<br>(SAO+SAN+SAP+SAS)      | 29                                                 | West                           | 8.04                                           |
| North San Andreas (Peninsula,<br>SAP)             | 29                                                 | West                           | 7.38                                           |
| Las Positas                                       | 29                                                 | East                           | 6.50                                           |
| Clayton                                           | 29                                                 | Northeast                      | 6.57                                           |
| Monte Vista - Shannon                             | 31                                                 | Southwest                      | 7.14                                           |
| Green Valley                                      | 37                                                 | North                          | 6.30                                           |
| Calaveras (Central, CC)                           | 39                                                 | Southeast                      | 6.85                                           |
| San Gregorio (North)                              | 39                                                 | West                           | 7.44                                           |
| Great Valley 05 (Pittsburg - Kirby<br>Hills alt1) | 41                                                 | Northeast                      | 6.60                                           |
| Great Valley 05 (Pittsburg - Kirby<br>Hills alt2) | 42                                                 | Northeast                      | 6.66                                           |
| Great Valley 06 (Midland alt1)                    | 44                                                 | East                           | 7.27                                           |
| Hayward (Extension, HE)                           | 45                                                 | Southeast                      | 6.18                                           |
| Great Valley 06 (Midland alt2)                    | 46                                                 | East                           | 7.12                                           |

Damaging earthquakes have occurred along many of these faults in recorded history, as depicted in Figure 4 (USGS, 2021). Notable historic earthquakes which have impacted the Bay Area in recorded history include:

- 1838 San Andreas Earthquake,  $M_w = 7.4$  (estimated)
- 1865 San Andreas Earthquake,  $M_w = 6.5$  (estimated)
- 1868 Hayward Earthquake,  $M_w = 7.0$  (estimated)
- 1906 Great San Francisco Earthquake (San Andreas Fault),  $M_w = 7.9$  (estimated)
- 1989 Loma Prieta Earthquake (San Andreas Fault),  $M_w = 6.9$
- 2014 West Napa Earthquake,  $M_w = 6.0$

As a part of the UCERF3 project, researchers estimated that the probability of at least one  $M_w \geq 6.7$  earthquake occurring in the greater San Francisco Bay Area during a 30-year period (starting in 2014) is 72 percent. The highest probabilities are assigned to sections of the Hayward (South), Calaveras (Central), and San Andreas (Santa Cruz Mountains) faults. The respective probabilities are approximately 25, 21, and 17 percent.

## 5.2 Geologic Hazards

Because the site is in a seismically active region, we evaluated the potential for earthquake-induced geologic hazards including ground shaking, ground surface rupture, liquefaction,<sup>3</sup> lateral spreading,<sup>4</sup> and cyclic densification.<sup>5</sup> We used the results of our geotechnical investigation to evaluate the potential of these phenomena occurring at the site.

### 5.2.1 Ground Shaking

The seismicity of the site is governed by the activity of the Hayward Fault, although ground shaking from future earthquakes on other faults, including the San Andreas and Calaveras faults, will also be felt at the site. The intensity of earthquake ground motion at the site will depend upon the characteristics of the generating fault, distance to the earthquake epicenter, and

---

<sup>3</sup> Liquefaction is a phenomenon where loose, saturated, cohesionless soil experiences temporary reduction in strength during cyclic loading such as that produced by earthquakes.

<sup>4</sup> Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

<sup>5</sup> Cyclic densification is a phenomenon in which non-saturated, cohesionless soil is compacted by earthquake vibrations, causing ground-surface settlement.

magnitude and duration of the earthquake. We judge strong to very strong ground shaking could occur at the site during a large earthquake on one of the nearby faults.

### **5.2.2 Ground Surface Rupture**

Historically, ground surface displacements closely follow the trace of geologically young faults. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the site. Therefore, we conclude the probability of fault offset at the site from a known active fault to be nil. In a seismically active area, the remote possibility exists for future faulting in areas where no faults previously existed; however, we conclude the probability of surface faulting, and consequently secondary ground failure from previously unknown faults, is very low.

### **5.2.3 Liquefaction and Liquefaction-Induced Settlement**

When saturated, cohesionless soil liquefies, it experiences a temporary loss of shear strength created by a transient rise in excess pore pressure generated by a strong ground motion. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Flow failure, lateral spreading, differential settlement, loss of bearing strength, ground fissures, and sand boils are evidence of excess pore pressure generation and liquefaction.

The site has **not** been mapped within a zone of liquefaction potential as shown on the map titled *State of California Earthquake Zones of Required Investigation, Hayward Quadrangle, California Geological Survey, Official Map*, dated July 2, 2003 (see Figure 5). Considering the site is underlain at shallow depths by bedrock, which is not susceptible to liquefaction, we conclude the potential for liquefaction and associated hazards (i.e., lateral spreading) to occur at the site is nil.

### **5.2.4 Cyclic Density**

Cyclic densification (also referred to as differential compaction) of non-saturated sand (sand above the groundwater table) can occur during an earthquake, resulting in settlement of the ground surface and overlying improvements. The results of our field investigation indicate the

soil above the groundwater consists of medium dense to very dense sand with variable clay content and medium stiff to hard clay with variable sand content that is not susceptible to cyclic densification due to its cohesion and/or density. Therefore, we conclude the potential for ground surface settlement resulting from cyclic densification at the site is very low.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

From a geotechnical standpoint, we conclude the proposed improvements can proceed as planned, provided the recommendations presented in this report are incorporated into the project plans and specifications and implemented during construction. The primary geotechnical concerns at the site are: 1) the presence of very highly expansive near-surface soil, and 2) providing adequate foundation support for the proposed improvements. Our conclusions and recommendations to address the geotechnical aspects of the project are presented in this section.

### **6.1 Expansive Soil**

Atterberg limits tests performed on samples of the near-surface native clay at depths of 2-1/2 and 4-1/2 feet bgs indicate the near-surface native clay is very highly expansive. Expansive near-surface soil is subject to volume changes during seasonal fluctuations in moisture content. These volume changes can cause movement and cracking of foundations and slabs. Therefore, foundations and slabs should be designed and constructed to mitigate the effects of the expansive soil. In general, the effects of expansive soil can be mitigated by moisture-conditioning the expansive soil, providing non-expansive soil below slabs, and either supporting foundations below the zone of severe moisture change or by providing a stiff, shallow foundation that can limit deformation of the superstructure as the underlying soil shrinks and swells.

At expansive soil sites it is critical to manage surface and subsurface drainage to prevent water from collecting beneath pavements and slabs, where it can lead to swelling and shrinking of the subgrade soil and can cause subgrade instability under vehicular loads. If permeable pavements, tree wells, irrigated landscape zones, and stormwater infiltration basins will be constructed close to the proposed building, they should incorporate design elements that prevent saturation of the soil adjacent to and below building foundations. While the objective of permeable pavement systems and infiltration basins is to allow for water storage and infiltration, we conclude

infiltration into the subgrade soil is not feasible at this site due to the low permeability of the expansive clay. Furthermore, from a geotechnical standpoint, water should not be allowed to collect alongside or beneath the building foundations, pavements, and flatwork. This can be achieved by providing subdrain systems and impermeable liners beneath permeable surfaces and installing vertical barriers between permeable surfaces underlain by subdrains and non-permeable surfaces underlain by conventional aggregate base.

## **6.2 Foundation Support and Settlement**

The site is underlain by firm alluvium and bedrock below depths of 2 to 4 feet bgs that can provide adequate foundation support. However, we encountered very highly expansive soil underlying the site. Shallow foundations, such as spread footings, bearing on very highly expansive soil will be subject to relatively seasonal movements due to seasonal moisture fluctuation of the underlying expansive soil. Therefore, we recommend the proposed improvements be supported on deep foundations that derive support below the zone of severe moisture change. We judge hand-excavated end-bearing piers or drilled piers to be appropriate foundation systems for the proposed improvements.

We also conclude that trash enclosures and utility pads, if any, may be supported on a mat over 18 inches of non-expansive soil, such as select fill (See Section 6.3.2).

We estimate total and differential settlement of properly constructed hand-excavated piers, drilled piers, and mat foundation designed based on the recommendations presented in this report will not exceed 1/2 inch and 1/4 inch across a 30-foot horizontal distance, respectively. Recommendations for hand-excavated piers, drilled piers, and mat foundation are presented in this section.

### **6.2.1 Hand-Excavated Piers**

Hand-excavated, end-bearing piers are generally installed by excavating rectangular-shaped shafts down to a bearing layer. The shafts are constructed with reinforcing steel and backfilled with structural concrete. The walls of the pier excavation are shored with timber as it is excavated. The piers should bottom at least 5 feet below the ground surface and in firm alluvium

or bedrock. The width and spacing of the piers should be determined by the Structural Engineer based on the load demand and the ability of the existing foundation to span between the piers, where applicable.

We recommend hand-excavated piers be designed using an allowable bearing pressure of 4,000 pounds per square foot (psf) for dead-plus-live loads; this value may be increased by one-third for total design loads, which include wind or seismic forces. The allowable bearing pressures for dead-plus-live and total loads include factors of safety of at least 2.0 and 1.5, respectively.

Lateral loads may be resisted by a combination of friction along the pier bottom and passive resistance against the pier. To compute lateral resistance, we recommend using equivalent fluid weights (triangular distribution) of 220 and 300 pcf above and below a depth of 4 feet bgs, respectively; the upper foot of soil should be ignored unless confined by a slab. A friction factor of 0.30 may be used to compute base friction for piers. The passive pressure and frictional resistance values include a factor of safety of at least 1.5 and may be used in combination without further reduction.

The piers should bottom in firm alluvium or bedrock. Where loose/weak soil or bedrock is encountered at the bottom of pier excavations, it should be removed and replaced with lean concrete or concrete. Pier excavations should be free of standing water, debris, and disturbed materials prior to placing concrete. The bottoms of the pier excavation should be moistened following excavation and maintained in a moist condition until concrete is placed. We should check pier excavations prior to placement of the reinforcement and concrete.

### **6.2.2 Drilled Piers**

Drilled piers should be at least 12 inches in diameter and spaced at least three diameters on center. Drilled piers should be designed to derive their axial capacity from skin friction in firm native soil and bedrock below a depth of 4 feet bgs. To compute axial capacity for dead-plus-live loads acting in compression, we recommend using an allowable skin friction of 750 psf between depths of 4 and 8 feet bgs and 1,500 psf below a depth of 8 feet bgs. Skin friction to a depth of 4 feet bgs and end bearing should be ignored for vertical support. These skin friction values may

be increased by one-third for total load conditions. To compute uplift resistance for the piers, the same skin friction values provided for dead-plus-live loads may be used.

To compute lateral resistance, we recommend using equivalent fluid weights of 230 and 300 pcf above and below a depth of 4 feet bgs, respectively, with a maximum pressure of 3,000 psf. The passive pressure may be assumed to act over a width of two pier diameters, or center-to-center spacing between piers, whichever distance is shorter. The upper foot of soil should be ignored for lateral resistance unless confined by a slab. The passive pressure value includes a factor of safety of at least 1.5.

Drilled piers should be installed by a qualified contractor with demonstrated experience in this type of foundation and subsurface conditions, including drilling into bedrock. The bottoms of the pier holes should be free of debris and water before placement of concrete. If groundwater is encountered during pier drilling, the pier hole should be pumped dry prior to placement of concrete. If more than 6 inches of water is present in the drilled hole prior to placement of concrete, then the concrete should be placed by tremie methods.

Concrete used for pier construction should be discharged vertically using a hose to tremie fill the drilled holes to reduce aggregate segregation. Under no circumstances should concrete be allowed to free-fall against either the steel reinforcement or the sides of the excavation during pouring. Concrete should be placed in the pier holes within 24 hours of completion of drilling if groundwater is encountered.

### **6.2.3 Mat Foundation**

The trash enclosure may be supported on a mat underlain by 18 inches of non-expansive soil, such as select fill (Section 6.3.2). The mat subgrade, including the non-expansive soil, should be prepared following the recommendations presented in Section 6.3.1 and 6.3.2. The edges of the mat should be thickened such that the mat edge is bottomed at least 12 inches below the lowest adjacent exterior grade.

For mat design, we recommend using a modulus of subgrade reaction of 25 pounds per cubic inch (pci) for dead-plus-live loads for the apartment building. This value has already been scaled

to take into account the plan dimensions of the foundation and may be increased by one-third for total load conditions. The mat should be designed to impose a maximum dead-plus-live bearing pressure of 2,000 psf on the foundation subgrade soil. This pressure may be increased by one-third for total load conditions.

Lateral loads may be resisted by a combination of passive pressure on the vertical faces of the mat and friction between the bottoms of the mat and the supporting soil. To compute lateral resistance, we recommend using an equivalent fluid weight of 220 pcf; the upper foot of soil should be ignored unless confined by a slab or pavement. Where the mat foundation is supported directly on soil, a friction factor of 0.30 may be used. The values for friction coefficient and passive pressure include a factor of safety of 1.5 and may be used in combination without further reduction.

The mat subgrade should be kept moist following excavation and maintained in a moist condition until it is covered, and we should check the mat subgrade prior to placing reinforcement and/or concrete.

### **6.3 Site Preparation and Grading**

Site clearing beneath new improvements, such as the new trash enclosure or pavement, should include removal of existing improvements, such as pavements, foundation elements, and underground utilities, if any. Any vegetation and organic topsoil (if present) should be stripped in areas to receive improvements. Tree roots with a diameter greater than 1/2 inch within 3 feet of subgrade should be removed. Excessively dry soil at tree removal locations, as determined in the field by the Geotechnical Engineer, should also be excavated and replaced.

In general, abandoned underground utilities, if encountered, should be removed to the project limit or service connections and properly capped or plugged with concrete. Where existing utility lines are outside of the proposed improvements or will not interfere with the proposed construction, they may be abandoned in-place, provided the lines are filled with lean concrete or cement grout to the property line. Voids resulting from demolition activities should be properly backfilled with engineered fill following the recommendations provided later in this section.

### 6.3.1 Subgrade Preparation

In areas that will receive fill or improvements (e.g., trash enclosure, pavements, and concrete flatwork), the expansive soil subgrade should be scarified to a depth of at least 8 inches and moisture-conditioned and compacted to the percent relative compaction<sup>6</sup> presented in Table 2 (Section 6.3.2). Note that “moisture-conditioning” may require wetting or drying of the soil, depending on the conditions encountered during construction. Where the in-situ moisture content of the native soil is relatively uniform and at or above the minimum moisture content recommended in Table 2, scarification of the subgrade prior to compaction is not necessary. Where bedrock is exposed at the subgrade level, scarification and recompaction is not necessary.

The site is underlain by very highly expansive near-surface clay. The prepared subgrade should be maintained in a moisture condition until covered by fill, aggregate base, concrete, etc.

### 6.3.2 Fill Materials and Compaction Criteria

Fill should consist of on-site soil or imported (select) fill that is free of organic matter, contains no rocks or lumps larger than 3 inches in greatest dimension, and be approved by the Geotechnical Engineer. Imported select fill should also have a liquid limit less than 40 and plasticity index less than 15 and be approved by the Geotechnical Engineer. Samples of proposed imported fill should be submitted to the Geotechnical Engineer at least three business days prior to use at the site. The grading contractor should also provide analytical test results or other suitable environmental documentation indicating the proposed imported fill is free of hazardous material at least three days before use at the site.

Fill should be placed in horizontal lifts not exceeding 8 inches in uncompacted thickness, moisture-conditioned, and compacted in accordance with the recommendations presented below in Table 2. Note that “moisture-conditioning” may require wetting or drying of the soil, depending on the conditions encountered. Fill placement within vehicular areas should also be

---

<sup>6</sup> Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557 laboratory compaction procedure.

compacted to the pavement subgrade compaction recommendations presented in Table 2 and be non-yielding.

**TABLE 2**  
**Summary of Compaction Recommendations**

| <b>Location</b>                                             | <b>Relative Compaction (percent)</b> | <b>Moisture Content</b> |
|-------------------------------------------------------------|--------------------------------------|-------------------------|
| Soil Subgrade – expansive clay                              | 87 - 92                              | 4+% above optimum       |
| Soil subgrade – low-plasticity soil                         | 90+                                  | Above optimum           |
| Pavement subgrade – expansive clay                          | 90+                                  | 2+% above optimum       |
| Pavement subgrade – low-plasticity soil                     | 95+                                  | Above optimum           |
| Pavement - aggregate base                                   | 95+                                  | Near optimum            |
| General fill – expansive clay                               | 87 - 92                              | 4+% above optimum       |
| General fill – low-plasticity soil                          | 90+                                  | Above optimum           |
| General fill – low-plasticity soil – more than 5 feet thick | 95+                                  | Above optimum           |
| General fill - clean sand or gravel                         | 95+                                  | Near optimum            |

Notes:

1. Low-plasticity soil includes select fill and aggregate base.
2. Expansive clay defined as clay with plasticity index greater than 15.
3. Clean sand or gravel consists of soil with less than 5 percent fines by weight of soil.
4. Compaction recommendations for utility trench backfill are same as for general fill.

### **6.3.3 Utility Trench Backfill**

Utility trench excavations should be designed, constructed, and maintained by the contractor and should conform to the current CAL-OSHA requirements. To provide uniform support, pipes or conduits should be bedded on clean sand or fine gravel (defined as soil with less than 5 percent fines by weight). Bedding should extend at least D/4 (with D equal to the outside pipe diameter) below the bottom of the pipe; however, the bedding should be at least 4 inches thick. After the pipes and conduits are tested, inspected (if required), and approved, they should be covered to a depth of 6 inches with clean sand or fine gravel, which should be mechanically tamped. The pipe bedding and cover should be eliminated where an impermeable plug is required as described below.

Backfill for utility trenches and other excavations is also considered fill, and it should be placed and compacted according to the recommendations presented previously (see Section 6.3.2). If imported clean sand or gravel is used as backfill, it should be compacted to at least 95 percent relative compaction. Jetting of trench backfill should not be permitted. Special care should be taken when backfilling utility trenches in pavement areas. Poor compaction may cause excessive settlements, resulting in damage to the pavement section.

Where sand- or gravel-backfilled trenches enter the building or cross planter areas and pass below asphalt or concrete pavements, an impermeable plug consisting of lean concrete or controlled low-strength material (CLSM), at least 3 feet in length, should be placed at the edge of the pavement. The CLSM should have minimum 28-day unconfined compressive strength of 50 pounds per square inch (psi). The purpose of these recommendations is to reduce the potential for water to become trapped in trenches beneath the building or pavements. This trapped water can cause heaving of soil beneath slabs and foundations and softening of subgrade soil beneath pavements.

#### **6.3.4 Exterior Concrete Flatwork**

We recommend a minimum of 12 inches of non-expansive soil, such as select fill (see Section 6.3.2) be placed beneath proposed exterior concrete flatwork, including patio slabs and sidewalks. At a minimum, the upper 4 inches of the non-expansive soil should consist of Class 2 aggregate base. The non-expansive soil should extend at least 6 inches beyond the slab edges where the flatwork is adjacent to landscaping, except where constrained by property lines. Non-expansive soil should be moisture-conditioned and compacted in accordance with the recommendations provided in Table 2 in Section 6.3.2. Class 2 aggregate base beneath concrete flatwork should be compacted to at least 90 percent relative compaction. Where bedrock is exposed at the subgrade level, we recommend 4 inches of Class 2 aggregate base be placed below the flatwork.

Even with 12 inches of non-expansive soil, exterior slabs may experience some cracking due to shrinking and swelling of the underlying, expansive soil. Thickening the slab edges to bottom at

least 12 inches below adjacent grade and providing additional reinforcement will control this cracking to some degree.

## **6.4 Surface Drainage, Bioswales, and Landscaping**

### **6.4.1 Surface Drainage**

Positive surface drainage should be provided around the building to direct surface water away from the foundations. Grades around the building should be determined by the Civil Engineer and conform to the requirements of the 2025 CBC, which will help minimize stormwater accumulation adjacent to foundations. In addition, roof downspouts should be discharged into controlled drainage facilities to keep the water away from the foundations. The use of water-intensive landscaping around the perimeter of the building should be avoided to reduce the amount of water introduced to the expansive clay subgrade.

Care should be taken to minimize the potential for subsurface water to collect beneath flatwork and pavements. Where landscape beds and tree wells are immediately adjacent to pavements or flatwork that are not designed as permeable systems, we recommend vertical cutoff barriers be incorporated into the design to prevent irrigation water from saturating the subgrade and aggregate base. These barriers may consist of either flexible impermeable membranes or deepened concrete curbs.

### **6.4.2 Bioswales**

Where bioswales or stormwater infiltration features will be part of the project, we recommend that bioswales be constructed at least 10 feet from the building and 5 feet from pavements and provided with underdrains and/or drain inlets. The subdrain pipes should be installed 8 inches above the bottom of the infiltration area for treatment areas that are at least 10 feet away from the building and 5 feet from pavements. The intent of this recommendation is to allow infiltration into the underlying soil, but to reduce the potential for bioretention areas to flood during periods of heavy rainfall.

Where it is necessary for a bioswale to be constructed within 10 feet of the building and 5 feet of pavements because of site constraints, the bottom of the bioswale should be lined with an

impermeable liner. Where a vertical curb or foundation is constructed near a bioswale, the curb and the edge of the foundation should be founded below an imaginary line extending up at an inclination of 1.5:1 (horizontal to vertical) from the base of the bioswale.

### **6.4.3 Landscaping**

The use of water-intensive landscaping around the perimeter of the building should be avoided to reduce the amount of water introduced into the subgrade. Irrigation of landscaping around the building should be limited to drip or bubbler-type systems. Tree roots with large roots or high water demand should be avoided since they may dry out the soil beneath foundations and cause settlement. The purpose of these recommendations is to avoid differential moisture changes adjacent to foundations, which have been known to cause differential movement of the building over short horizontal distances resulting in cracking of slabs and architectural damage.

Prior experience and industry literature indicate that some species of high water-demand trees can induce ground-surface settlement by drawing water from the expansive clay, causing it to shrink. Where these types of trees are planted near the building, the ground-surface settlement may damage the structure. This problem usually occurs 10 or more years after planting, as that is when the trees reach mature height. To reduce the risk of tree-induced building settlement, we recommend that trees of the following genera are not planted within 25 feet of the proposed building: *Eucalyptus*, *Populus*, *Quercus*, *Crataegus*, *Salix*, *Sorbus* (simple-leafed), *Ulmus*, *Cupressus*, *Chamaecyparis*, and *Cupressocyparis*. Because this is a limited list and does not include all genera that may induce ground-surface settlement, a tree specialist should be consulted before a selection of trees is chosen to be planted at the site.

### **6.5 Construction Considerations**

The soil at the site can be excavated with conventional earth-moving equipment such as loaders and backhoes. Hand-excavated piers and drilled piers may extend into bedrock and, therefore, contractors should be prepared to use equipment capable of excavating/drilling into rock.

Excavations that will be entered by workers should be shored or sloped in accordance with the Occupational Safety and Health Administration (OSHA) standards (29 CFR Part 1926). Where

space permits, the sides of excavations may be sloped. We recommend the inclination of temporary construction slopes be no steeper than 1:1 (horizontal to vertical) in clay (OSHA Type B Soil) and 0.5:1 in bedrock. The contractor should be responsible for the construction and safety of temporary slopes.

Due to proximity to existing foundations and structure, limited access and/or hand excavation equipment should be used. Heavy equipment should not be used within the existing building and within 10 horizontal feet from the existing building. Jumping jack or hand-operated vibratory plate compactors should be used for compacting fill within this zone

## **6.6 Pavement Design**

### **6.6.1 Flexible (Asphalt Concrete) Pavement Design**

The State of California flexible pavement design method was used to develop the recommended asphalt concrete pavement sections. Based on our experience, we selected a resistance value (R-Value) of 5, which is appropriate for expansive clay subgrade. Table 3 presents recommended pavement sections for traffic indices (TIs) ranging from 4.5 to 7.0 for untreated subgrade. The Civil Engineer for the project should check that the TIs used in design are appropriate for the anticipated traffic loading. We can provide additional pavement sections for different TIs upon request.

**TABLE 3**  
**Asphalt Concrete Pavement Sections**

| <b>TI</b> | <b>Asphalt Concrete<br/>(inches)</b> | <b>Class 2 Aggregate Base<br/>(inches)</b> |
|-----------|--------------------------------------|--------------------------------------------|
| 4.5       | 2.5                                  | 9.5                                        |
| 5.0       | 3.0                                  | 10.0                                       |
| 5.5       | 3.0                                  | 12.0                                       |
| 6.0       | 3.5                                  | 13.0                                       |
| 6.5       | 4.0                                  | 13.5                                       |
| 7.0       | 4.0                                  | 15.5                                       |

The upper 8 inches of the subgrade should be moisture-conditioned and compacted in accordance with recommendations presented in Section 6.3.1 and should be non-yielding under a proof-roll with heavy equipment. The Class 2 aggregate base should be moisture-conditioned to near optimum, compacted to at least 95 percent relative compaction, and be non-yielding under a proof-roll with heavy equipment.

If pavements are adjacent to irrigated landscaped areas (including infiltration basins), curbs adjacent to those areas should extend through the aggregate base and at least 3 inches into the underlying soil to reduce the potential for irrigation water to infiltrate into the pavement section.

### **6.6.2 Rigid (Portland-Cement Concrete) Pavement Design**

The minimum thickness for concrete pavements should be based on the anticipated traffic loading, the modulus of rupture of the concrete used, and the supporting characteristics of the subgrade below the pavement section. Pavements should be and constructed in accordance with the American Concrete Institute (ACI) Commercial Concrete Parking Lots and Site Paving Design and Construction Guide (ACI PRC-330-21). The compressive strength of the concrete should be at least 3,750 psi with a modulus of rupture of the concrete of 550 psi at 28 days. Reinforcing steel may be used for shrinkage crack control. Based on our experience and ACE PRC-330-21, we recommended the minimum rigid pavement section and maximum spacing between joints presented in Table 4 below.

**TABLE 4  
Portland-Cement Concrete Pavement Design**

| <b>Traffic Categories</b>                             | <b>Maximum<br/>ADTT<sup>7</sup></b> | <b>Concrete<br/>Thickness<br/>(inches)</b> | <b>Class 2<br/>Aggregate Base<br/>Thickness<br/>(inches)</b> | <b>Maximum<br/>Spacing<br/>Between Joints<br/>(feet)</b> |
|-------------------------------------------------------|-------------------------------------|--------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|
| Car parking areas<br>and Access Lanes<br>(Category A) | 1                                   | 4.5                                        | 6                                                            | 10                                                       |
|                                                       | 10                                  | 5.0                                        | 6                                                            | 10                                                       |
| Entrance and Truck<br>Service Lanes<br>(Category B)   | 25                                  | 6.0                                        | 6                                                            | 12.5                                                     |
| City Bus Lanes<br>(Category C)                        | 5                                   | 8.0                                        | 6                                                            | 15                                                       |
| Garbage or Fire<br>Truck Lane<br>(Category E)         | 1                                   | 7.0                                        | 6                                                            | 15                                                       |

Where the outer edge of a concrete pavement meets asphalt concrete pavement, the concrete slab should be thickened by 50 percent at a taper not to exceed a slope of 1 in 10. Recommendations for subgrade preparation and aggregate base compaction for Portland-cement concrete pavement are the same as those described above for asphalt concrete pavement.

### **6.6.3 Non-Permeable Concrete Pavers**

To reduce the potential for differential movement, the expansive clay within the upper 8 inches of the soil subgrade and a lateral extent of about 6 inches beyond the limits of the non-permeable pavers should be removed and replaced with non-expansive soil (i.e., select fill). We recommend non-permeable pedestrian pavers and sand bedding be underlain by at least 4 inches of Class 2 aggregate base compacted to at least 90 percent relative compaction; this Class 2 aggregate base is in addition to the aforementioned 8 inches of non-expansive soil.

Where non-permeable concrete pavers will be subject to vehicular traffic, we recommend they consist of fully dentated, interlocking shapes and be at least 80 millimeters (3.15 inches) thick. The pavers should be placed on a 1- to 2-inch-thick sand leveling course underlain by Class 2

<sup>7</sup> ADDT is the Average Daily Truck Traffic in both directions (excludes panel trucks, pickup trucks, and other four-wheel vehicles).

aggregate base. The thickness of the Class 2 aggregate base beneath non-permeable pavers subject to vehicular traffic should be consistent with that recommended in Table 3 for asphalt pavement for the applicable TI. The subgrade and Class 2 aggregate base should be compacted in accordance with the recommendations for asphalt concrete pavement in Section 6.6.1.

#### 6.6.4 Permeable Concrete Pavers

We recommend permeable interlocking concrete pavements (ICP) be designed in accordance with the guidelines presented by the Interlocking Concrete Pavement Institute (Smith, 2017). These guidelines include specific recommendations for permeable aggregate subbase, base, and bedding courses to be placed beneath ICP pavements. We recommend permeable pavements for both vehicular and pedestrian traffic be designed for **no exfiltration** of water into the subgrade soil. The underlying expansive clay soil has very low permeability and is subject to high volume changes with changes in moisture content. This requires installing a subdrain system at the base of the pervious aggregate materials, which are underlain by an impermeable liner.

The soil subgrade beneath ICP pavements should be prepared and compacted in accordance with the recommendations presented in Section 6.3. In addition, the subgrade should be a firm and non-yielding surface. The subgrade should be proof-rolled under the observation of our field engineer to confirm it is non-yielding prior to placing the impermeable membrane and aggregate base materials. The soil subgrade at the bottom of the permeable section should slope down toward the drainpipe trench at a gradient of at least 2 percent. The perforated pipe should slope down to a suitable outlet at a minimum gradient of 1 percent. The pipe should be placed with the perforations down on a minimum of 2 inches of permeable subbase.

Subgrade slopes of about 3 percent or greater may require engineered baffles or berms to slow downslope flows and increase infiltration.

ICPI's guidelines call for 1.5 to 2 inches of bedding material consisting of ASTM No. 8 crushed aggregate directly below the pavers. This material is also recommended for fill material between the pavers. As shown in Table 5 below, this material consists of fine gravel with 10 to 30 percent sand.

**TABLE 5**  
**Gradation Requirements for ASTM No. 8 Crushed Aggregate**

| Sieve Size | Percentage Passing Sieve |
|------------|--------------------------|
| 1/2 inch   | 100                      |
| 3/8 inch   | 85 – 100                 |
| No. 4      | 10 – 30                  |
| No. 8      | 0 – 10                   |
| No. 16     | 0 – 5                    |

The ASTM No. 8 bedding should be underlain by a permeable base course of ASTM No. 57 crushed aggregate. As shown in Table 6, ASTM No. 57 aggregate consists of crushed, open-graded gravel with a gradation between that of the 3/4-inch drain rock and the ASTM No. 8 aggregate.

**TABLE 6**  
**Gradation Requirements for ASTM No. 57 Crushed Aggregate**

| Sieve Size | Percentage Passing Sieve |
|------------|--------------------------|
| 1-1/2 inch | 100                      |
| 1 inch     | 95 – 100                 |
| 1/2 inch   | 25 – 60                  |
| No. 4      | 0 – 10                   |
| No. 8      | 0 – 5                    |

The ASTM No. 57 permeable base course should be underlain by a permeable subbase course of ASTM No. 2 crushed aggregate. The gradation requirements for ASTM No. 2 crushed aggregate subbase are presented in Table 7.

**TABLE 7**  
**Gradation Requirements for ASTM No. 2 Crushed Aggregate**

| Sieve Size   | Percentage Passing Sieve |
|--------------|--------------------------|
| 3 inches     | 100                      |
| 2-1/2 inches | 90-100                   |
| 2 inches     | 35-70                    |
| 1-1/2 inches | 0-15                     |
| 3/4 inch     | 0 -5                     |

The No. 2 crushed aggregate subbase course should be placed in lifts not exceeding 6 inches in loose thickness and compacted using a smooth-drum roller operated in static (non-vibratory) mode that weighs a minimum of 10 tons. The subsequent course of No. 57 crushed aggregate may be placed in one lift and should be compacted with a smooth-drum roller in vibratory mode with sufficient passes to create an unyielding surface. Placement and compaction of the permeable aggregate base and subbase should be performed under the observation of our field engineer. Following compaction of the No. 57 aggregate, the No. 8 bedding, not exceeding 2 inches in loose thickness, should be placed and screeded to a level, undisturbed surface immediately prior to paver installation.

The required thicknesses of the permeable aggregate base and subbase courses depend on the infiltration and water storage design requirements, as well as the traffic loading demand. Our recommendations for the minimum permeable ICP pavement sections subject to vehicular traffic (including fire and garbage trucks) are presented in Table 8. Also included in Table 8 is a recommended section for permeable ICPs subject to pedestrian traffic only.

**TABLE 8**  
**Recommended Pavement Sections for**  
**Permeable Interlocking Concrete Pavers**

| <b>Pavement Type</b> | <b>ASTM No. 8<br/>Crushed Bedding<br/>Aggregate<br/>(inches)</b> | <b>ASTM No. 57<br/>Crushed Base<br/>(inches)</b> | <b>ASTM No. 2<br/>Crushed<br/>Subbase<br/>(inches)</b> |
|----------------------|------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|
| Pedestrian           | 1.5-2.0                                                          | 4.0                                              | 6.0                                                    |
| Vehicular            | 1.5-2.0                                                          | 4.0                                              | 10.0                                                   |

The above-recommended ICP pavement sections are based on the ICPI technical guidelines (Smith, 2017). From a geotechnical standpoint, it is acceptable to design the pedestrian ICP section to exclude the No. 2 subbase course, in which case the No. 57 base course should be increased to 10 inches. If this approach is used, the perforated pipe should include a filter fabric sleeve to prevent the finer aggregate from entering the perforations.

## 6.7 Seismic Design

The site is located at latitude 37.7092° and longitude -122.1200°. Since we do not have shear wave velocity information at the site, we recommend a default site class be considered, which evaluates the more critical of Site Class D, CD, and C ( $V_{S100} = 750$  to 1,600 feet per second) for design. In accordance with the 2025 CBC (ASCE 7-22), we recommend using the seismic design parameters provided in Table 9 (Mapped Two-Period Seismic Design Parameters) or Table 10 (Multi-Period Acceleration Response Spectra).

**TABLE 9**  
**Mapped Two-Period Seismic Design Parameters**

| Hazard Level                                                                | Parameter                                           | Value  |
|-----------------------------------------------------------------------------|-----------------------------------------------------|--------|
| Risk-Targeted<br>Maximum<br>Considered<br>Earthquake<br>(MCE <sub>R</sub> ) | $S_s$                                               | 2.42 g |
|                                                                             | $S_1$                                               | 0.85 g |
|                                                                             | $S_{MS}$                                            | 2.52 g |
|                                                                             | $S_{M1}$                                            | 1.86 g |
|                                                                             | Seismic Design<br>Category<br>(Risk Category I-III) | E      |
|                                                                             | $PG_{AM}$                                           | 0.89 g |
| Design<br>Earthquake<br>(DE)                                                | $S_{DS}$                                            | 1.68 g |
|                                                                             | $S_{D1}$                                            | 1.24 g |

**TABLE 10**  
**Mapped Multi-Period Acceleration Response Spectra**

| <b>Period<br/>(seconds)</b> | <b>MCE<sub>R</sub><br/>(g)</b> | <b>DE<br/>(g)</b> |
|-----------------------------|--------------------------------|-------------------|
| 0                           | 1.06                           | 0.71              |
| 0.01                        | 1.07                           | 0.71              |
| 0.02                        | 1.08                           | 0.72              |
| 0.03                        | 1.16                           | 0.77              |
| 0.05                        | 1.46                           | 0.98              |
| 0.075                       | 1.84                           | 1.23              |
| 0.10                        | 2.10                           | 1.40              |
| 0.15                        | 2.47                           | 1.64              |
| 0.20                        | 2.76                           | 1.84              |
| 0.25                        | 2.78                           | 1.85              |
| 0.30                        | 2.80                           | 1.87              |
| 0.40                        | 2.73                           | 1.82              |
| 0.50                        | 2.48                           | 1.65              |
| 0.75                        | 2.09                           | 1.39              |
| 1.0                         | 1.82                           | 1.21              |
| 1.5                         | 1.33                           | 0.89              |
| 2.0                         | 1.03                           | 0.69              |
| 3.0                         | 0.68                           | 0.45              |
| 4.0                         | 0.47                           | 0.31              |
| 5.0                         | 0.36                           | 0.24              |

## **7.0 ADDITIONAL GEOTECHNICAL SERVICES**

Prior to construction, we should review the project plans and specifications to check that they conform to the intent of our recommendations. During construction, our field engineer should observe foundation installation and check fill compaction. These observations will allow us to compare actual with anticipated soil conditions and to check the contractor's work conforms to the geotechnical aspects of the plans and specifications.

## **8.0 LIMITATIONS**

This geotechnical investigation has been conducted in accordance with the standard of care commonly used as state-of-practice in the profession. No other warranties are either expressed or implied. The recommendations made in this report assume that the subsurface conditions do not deviate appreciably from those disclosed in our field investigation. If any variations or

undesirable conditions are encountered during construction, we should be notified so additional recommendations can be made. The foundation recommendations presented in this report are developed exclusively for the proposed development described in this report and are not valid for other locations and construction in the site vicinity.

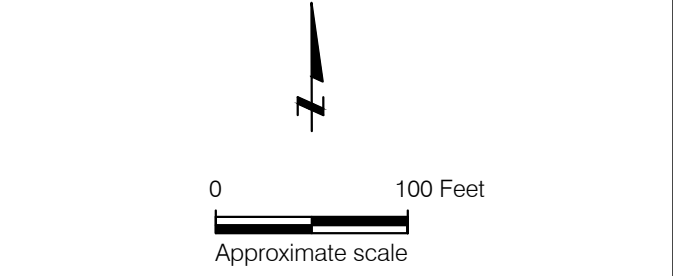
## REFERENCES

- American Society of Civil Engineers (ASCE). (2021). *ASCE/SEI 7-22: Minimum Design Loads and Associated Criteria for Buildings and Other Structures*. ASCE Publications. <https://ascelibrary.org/doi/book/10.1061/9780784415788>
- California Department of General Services. (2025). *California Building Code*. State Government of California. <https://www.dgs.ca.gov/BSC/Codes>
- California Department of Transportation (Caltrans). (2022). *Caltrans Standard Specifications*. State Government of California. [https://dot.ca.gov/-/media/dot-media/programs/design/documents/2022\\_stdspecs-all.pdf](https://dot.ca.gov/-/media/dot-media/programs/design/documents/2022_stdspecs-all.pdf)
- Field, E.H., Biasi, G.P., Bird, P., Dawson, T.E., Felzer, K.R., Jackson, D.D., Johnson, K.M., Jordan, T.H., Madden, C., Michael, A.J., Milner, K.R., Page, M.T., Parsons, T., Powers, P.M., Shaw, B.E., Thatcher, W.R., Weldon, R.J., & Zeng, Y. (2013). *Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)—The Time-Independent Model* (Open-File Report 2013-1165). United States Geological Survey. <http://doi.org/10.3133/ofr20131165>
- Gregg & Associates, Inc. (1988). *Site Characterization Report, Fairmont Hospital, San Leandro, California*, August 1988.
- Petersen, M.D., Moschetti, M.P., Powers, P.M., Mueller, C.S., Haller, K.M., Frankel, A.D., Zeng, Y., Rezaeian, S., Harmsen, S.C., Boyd, O.S., Field, N., Chen, R., Rukstales, K.S., Luco, N., Wheeler, R.L., Williams, R.A., & Olsen, A.H. (2014). *Documentation for the 2014 Update of the United States National Seismic Hazard Maps* (Open-File Report 2014-1091). United States Geological Survey. <https://pubs.usgs.gov/of/2014/1091/>
- Thompson, E.M., Wald, D.J., Worden, B., Field, E.H., Luco, N., Petersen, M.D., Powers, P.M., Badie, R. (2016). *Shakemap earthquake scenario: Building Seismic Safety Council 2014 Event Set (BSSC2014)*. United States Geological Survey. <https://doi.org/10.5066/F7V122XD>
- United States Geological Survey. (2021). *Earthquake Hazards Program: Advanced National Seismic System (ANSS) Comprehensive Catalog of Earthquake Events and Products*. United States Department of the Interior. <https://earthquake.usgs.gov/earthquakes/search/>

## **FIGURES**

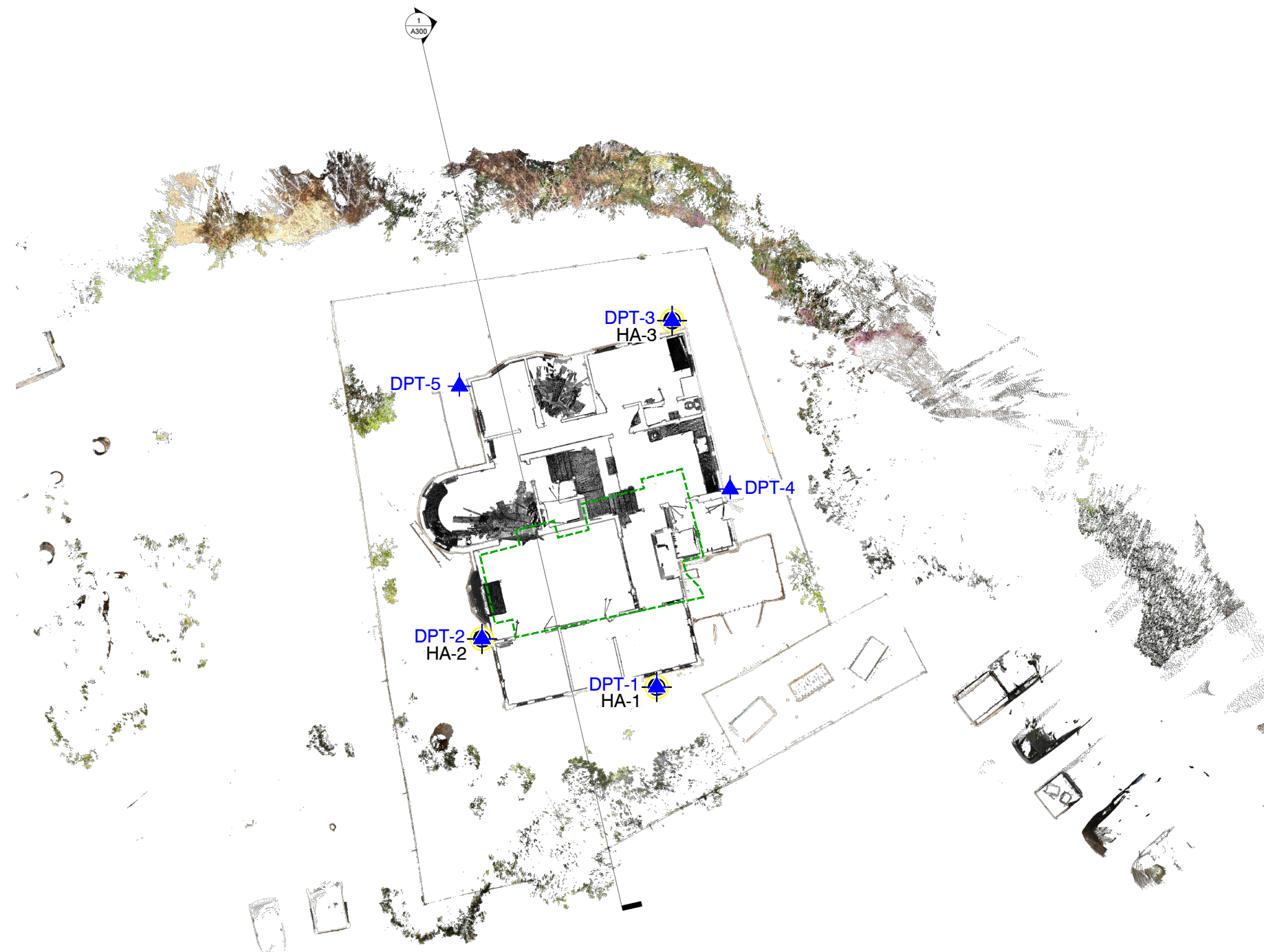


- EXPLANATION**
- FHB-1 Approximate location of boring and vadose well by Gregg & Associates, Inc., June 1988
  - FH-1 Approximate location of boring by Gregg & Associates, Inc., June and July 1988
  - Project limits



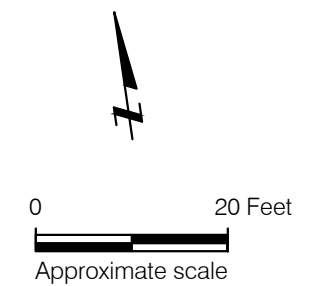
Base map: Google Earth, 2024

|                                                                                                                        |                     |          |
|------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
| <b>WHITECOTTON COTTAGE</b><br>San Leandro, California                                                                  |                     |          |
| <b>SITE LOCATION MAP</b>                                                                                               |                     |          |
| Date 03/12/26                                                                                                          | Project No. 24-2639 | Figure 1 |
|  <b>ROCKRIDGE</b><br>GEOTECHNICAL |                     |          |



**EXPLANATION**

- DPT-1 ▲ Approximate location of dynamic penetrometer test by Rockridge Geotechnical, Inc., February 17, 2026
- HA-1 ● Approximate location of hand-auger boring by Rockridge Geotechnical, Inc., February 18, 2026
- Approximate basement footprint



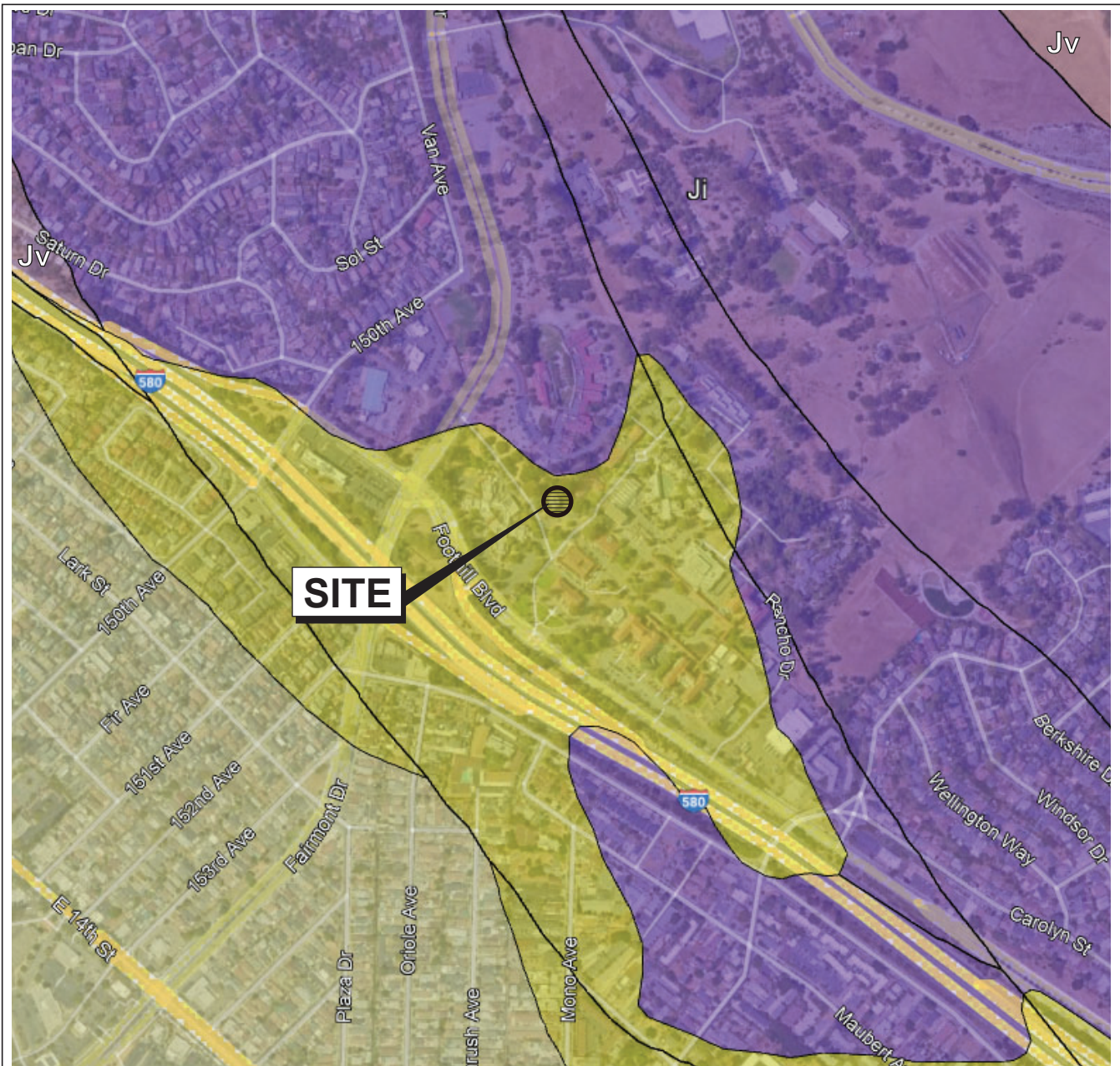
**WHITE COTTON COTTAGE**  
San Leandro, California

**SITE PLAN**

Date 03/11/26 Project No. 24-2639 Figure 2



Reference: Base map from a drawing titled "Floor Plan- Existing", by Locus Laser Scanning, undated.

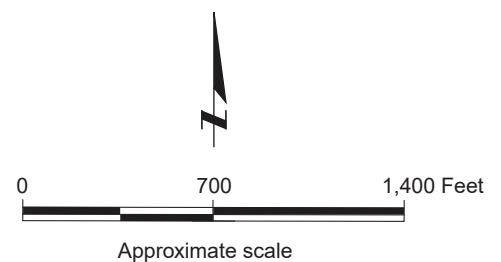


#### EXPLANATION

- Qha Alluvium (Holocene)
- Qpa Alluvium (Pleistocene)
- Jv Great Valley complex volcanic rocks (Jurassic)
- Ji Great Valley complex plutonic rocks (Jurassic)

— Geologic contact:  
dashed where approximate and dotted  
where concealed, queried where uncertain

Base map: Google Earth with U.S. Geological Survey (USGS),  
Alameda County, 2024.



**WHITE COTTON COTTAGE**  
San Leandro, California

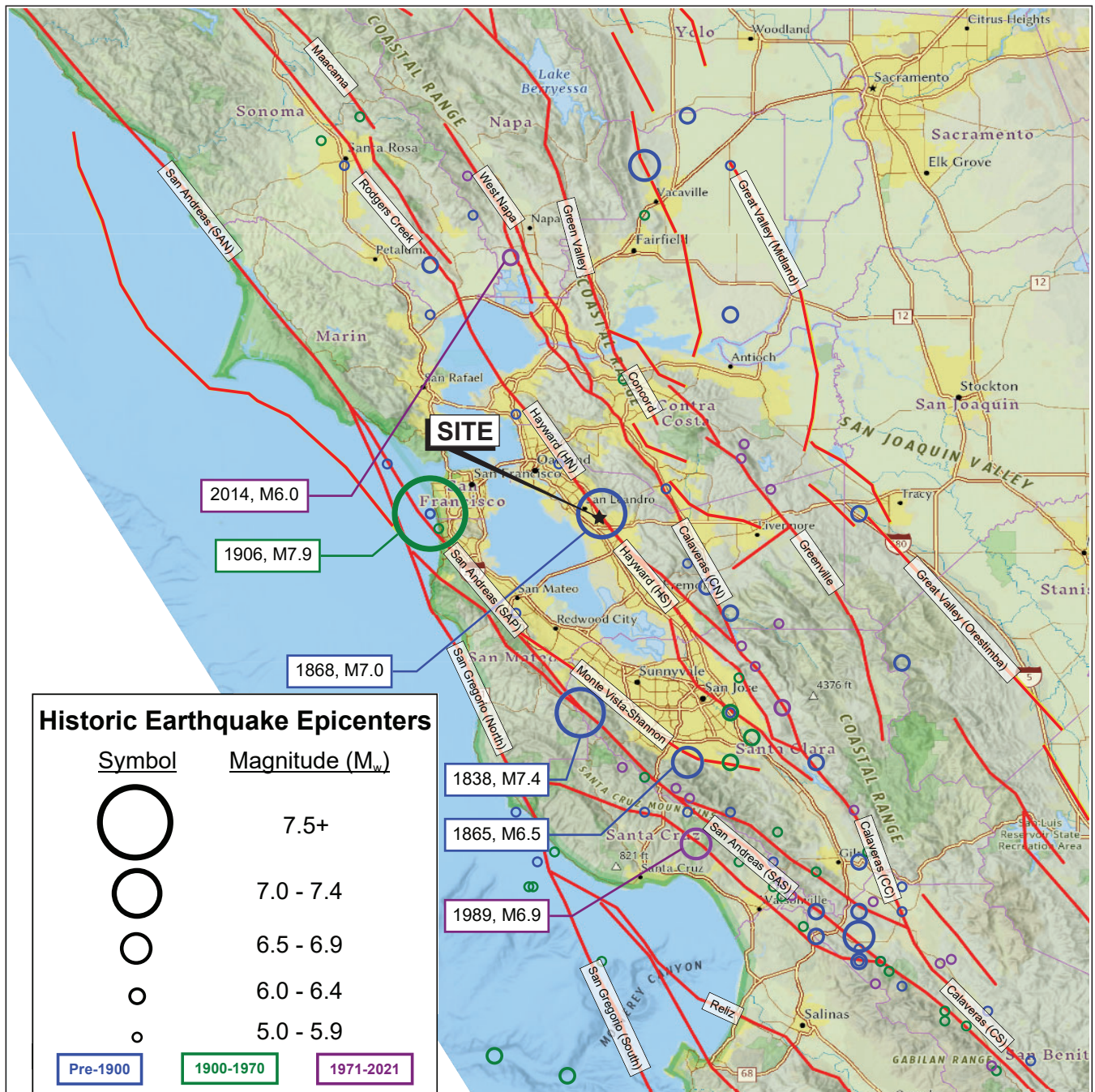
**ROCKRIDGE**  
**GEOTECHNICAL**

#### REGIONAL GEOLOGIC MAP

Date 03/11/26

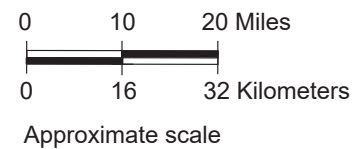
Project No. 24-2639

Figure 3



#### EXPLANATION

— Faults (National Seismic Hazard Model)



**WHITE COTTON COTTAGE**  
San Leandro, California

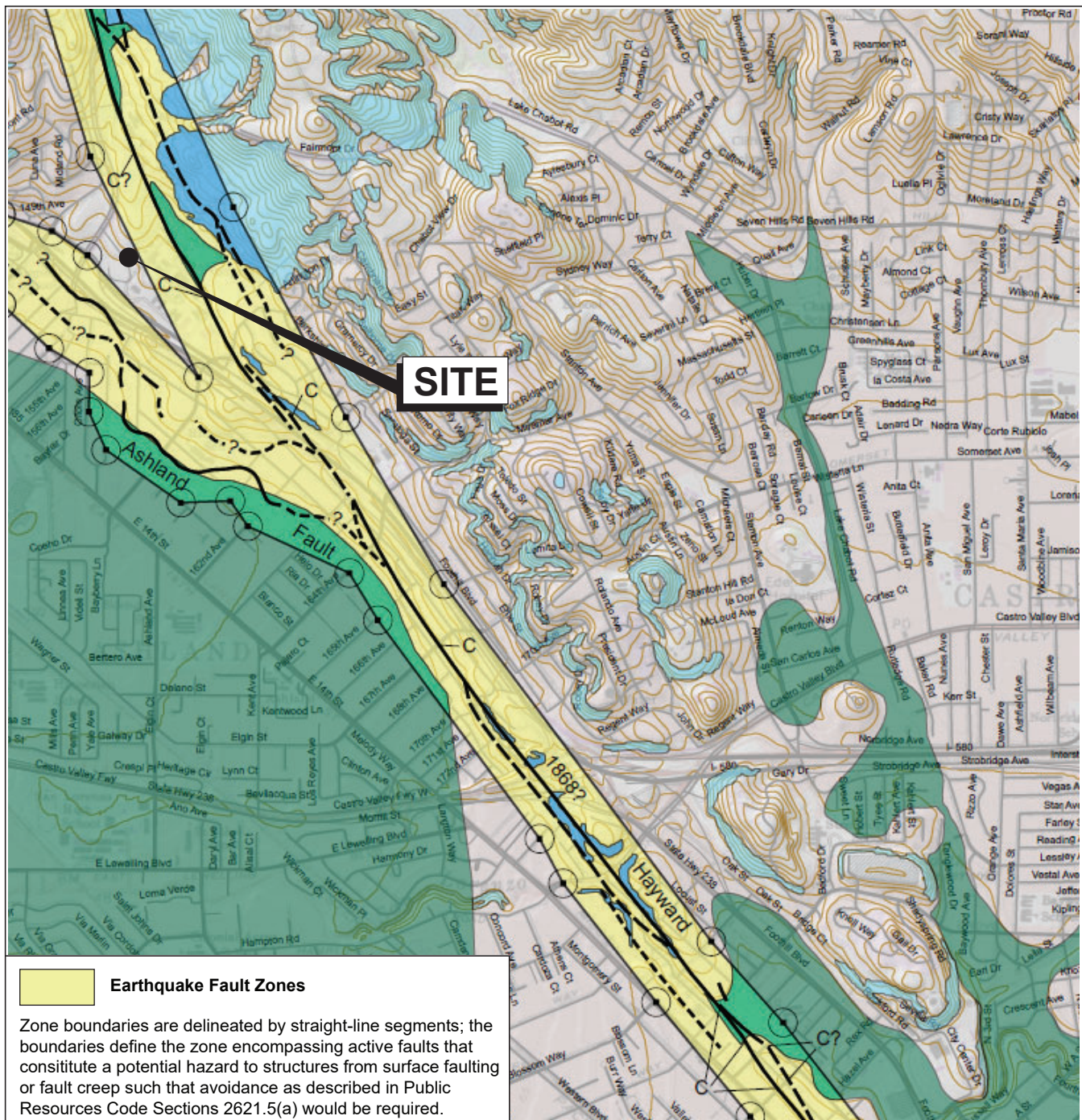
**ROCKRIDGE**  
GEOTECHNICAL

#### REGIONAL FAULT AND HISTORIC SEISMICITY MAP

Date 03/11/26

Project No. 24-2639

Figure 4



**WHITE COTTON COTTAGE**  
 San Leandro, California

## EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP

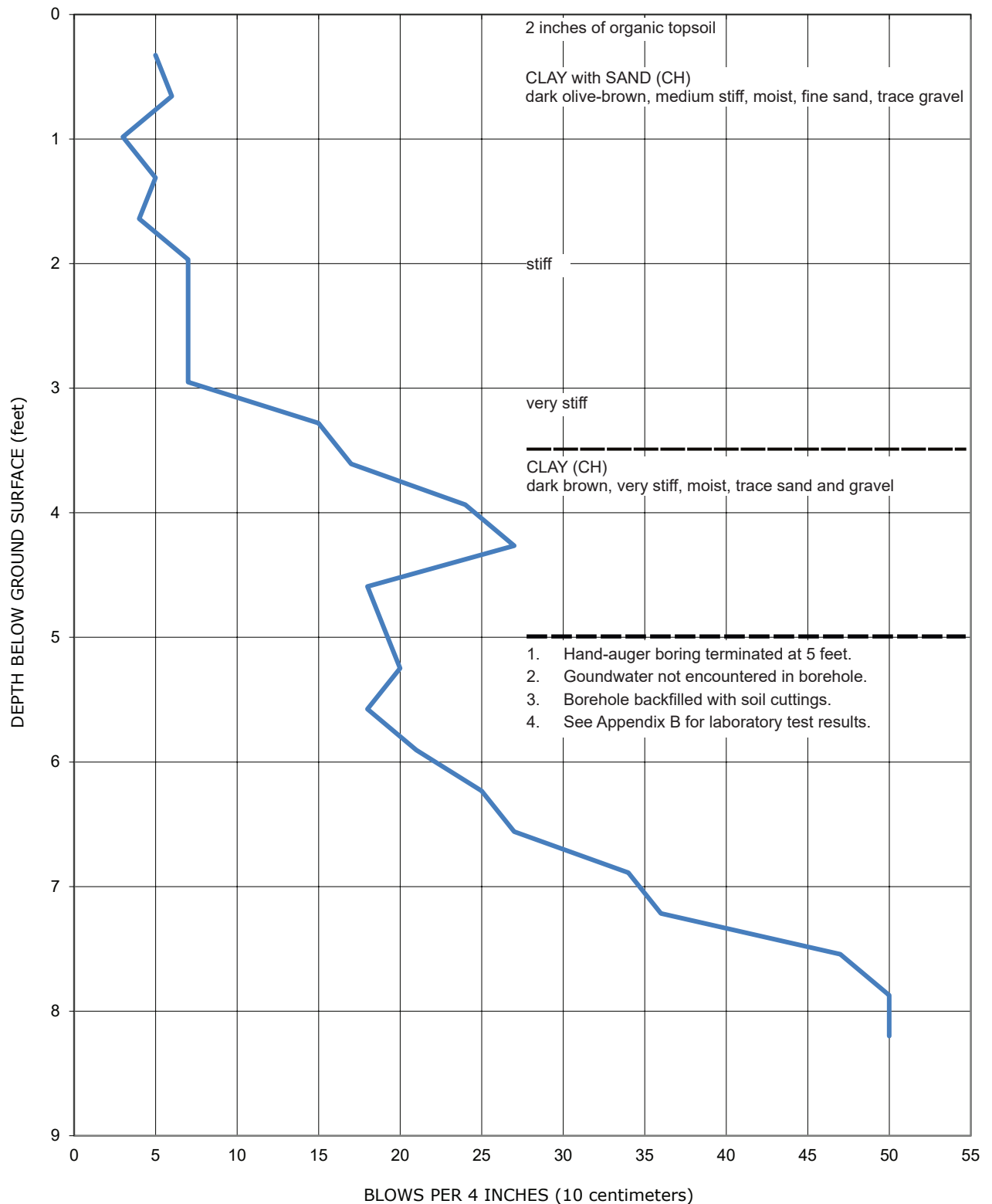
**ROCKRIDGE**  
 GEOTECHNICAL

Date 03/11/26

Project No. 24-2639

Figure 5

**APPENDIX A**  
**Dynamic Penetrometer Test Results and Boring Logs**



**WHITE COTTON COTTAGE**  
San Leandro, California

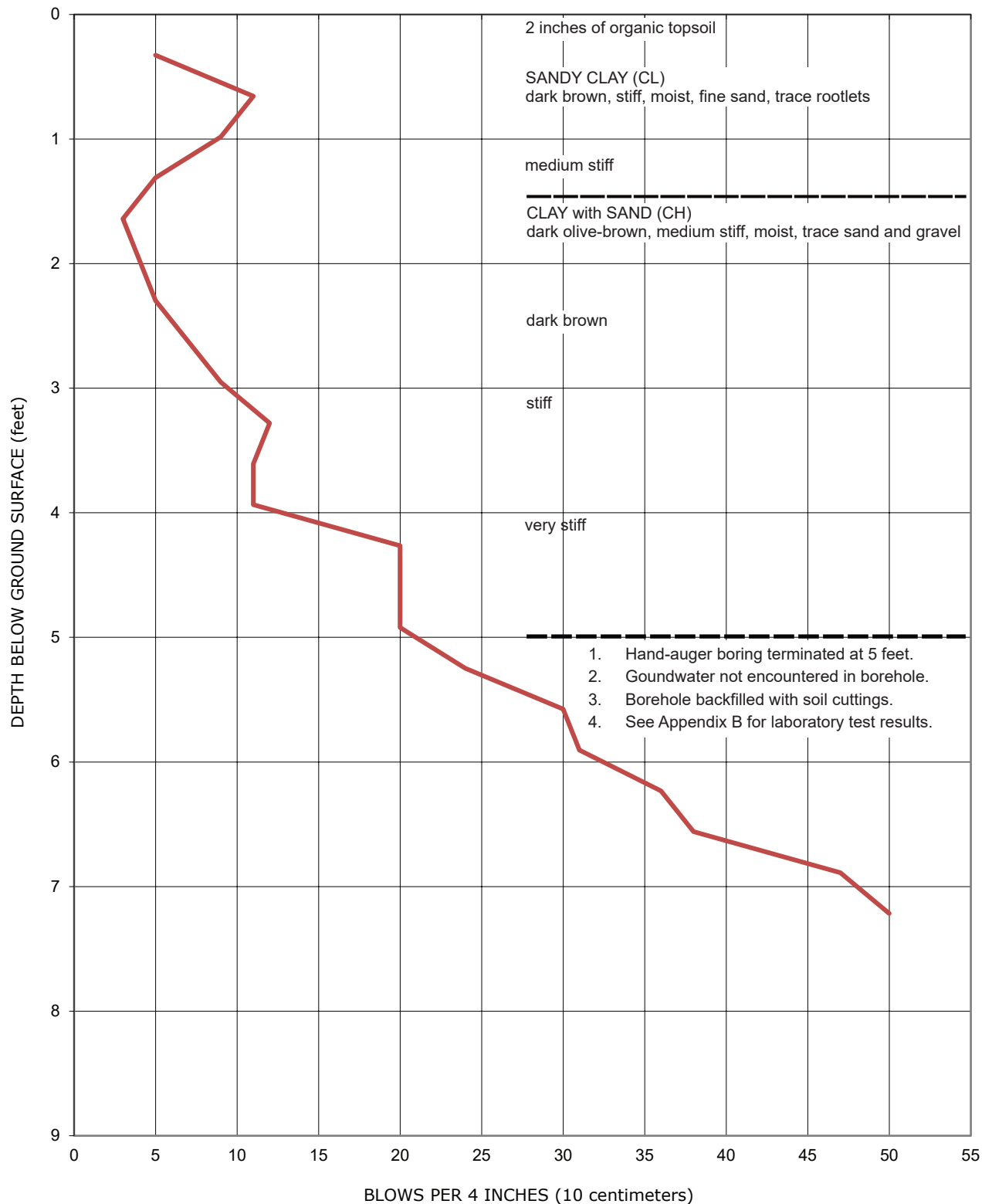


**DYNAMIC PENETROMETER  
TEST AND BORING RESULTS  
DPT-1/ HA-1**

Date 03/11/26

Project No. 24-2639

Figure A-1



**WHITE COTTON COTTAGE**  
San Leandro, California

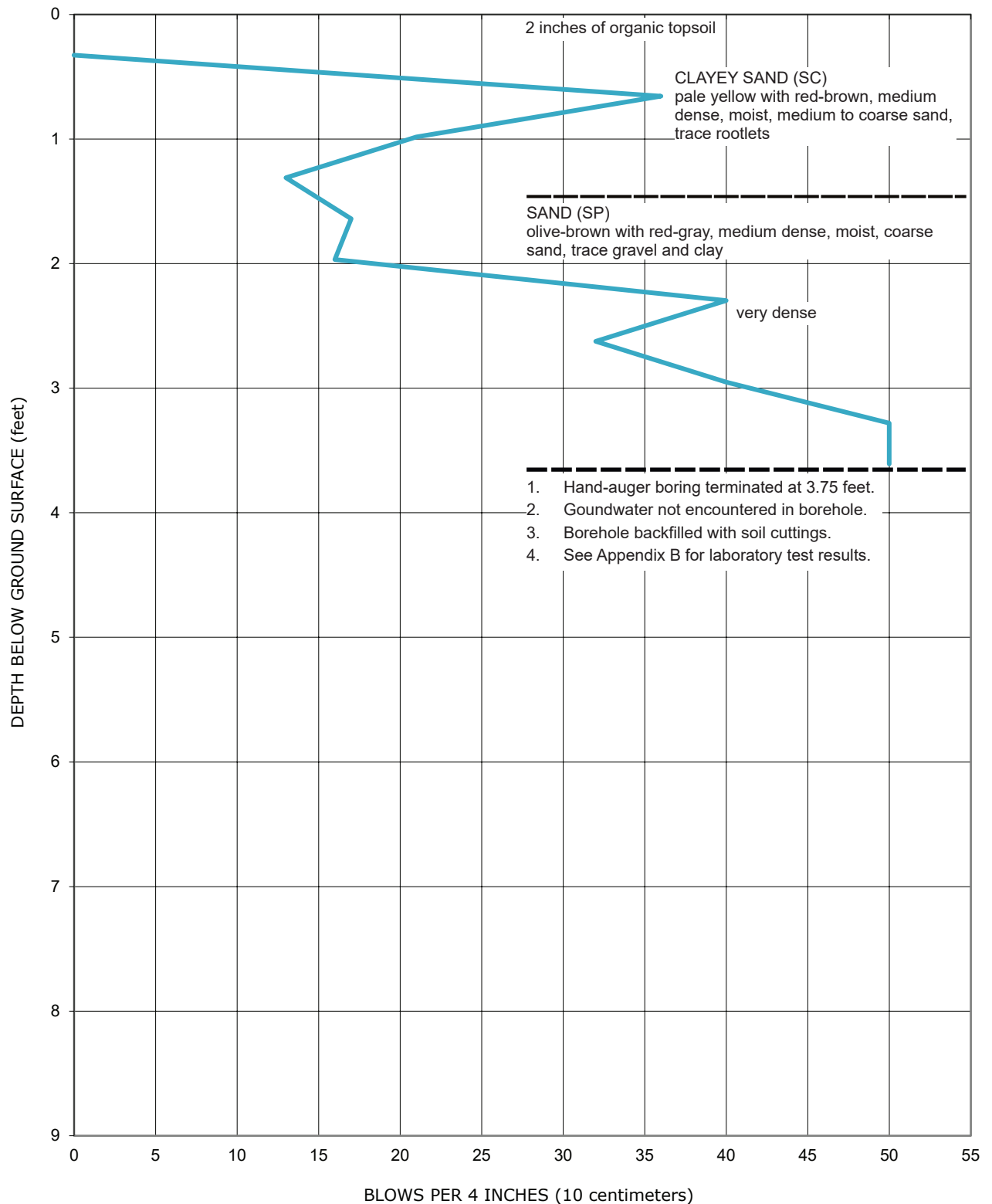


**DYNAMIC PENETROMETER  
TEST AND BORING RESULTS  
DPT-2/ HA-2**

Date 03/11/26

Project No. 24-2639

Figure A-2



**WHITE COTTON COTTAGE**  
San Leandro, California

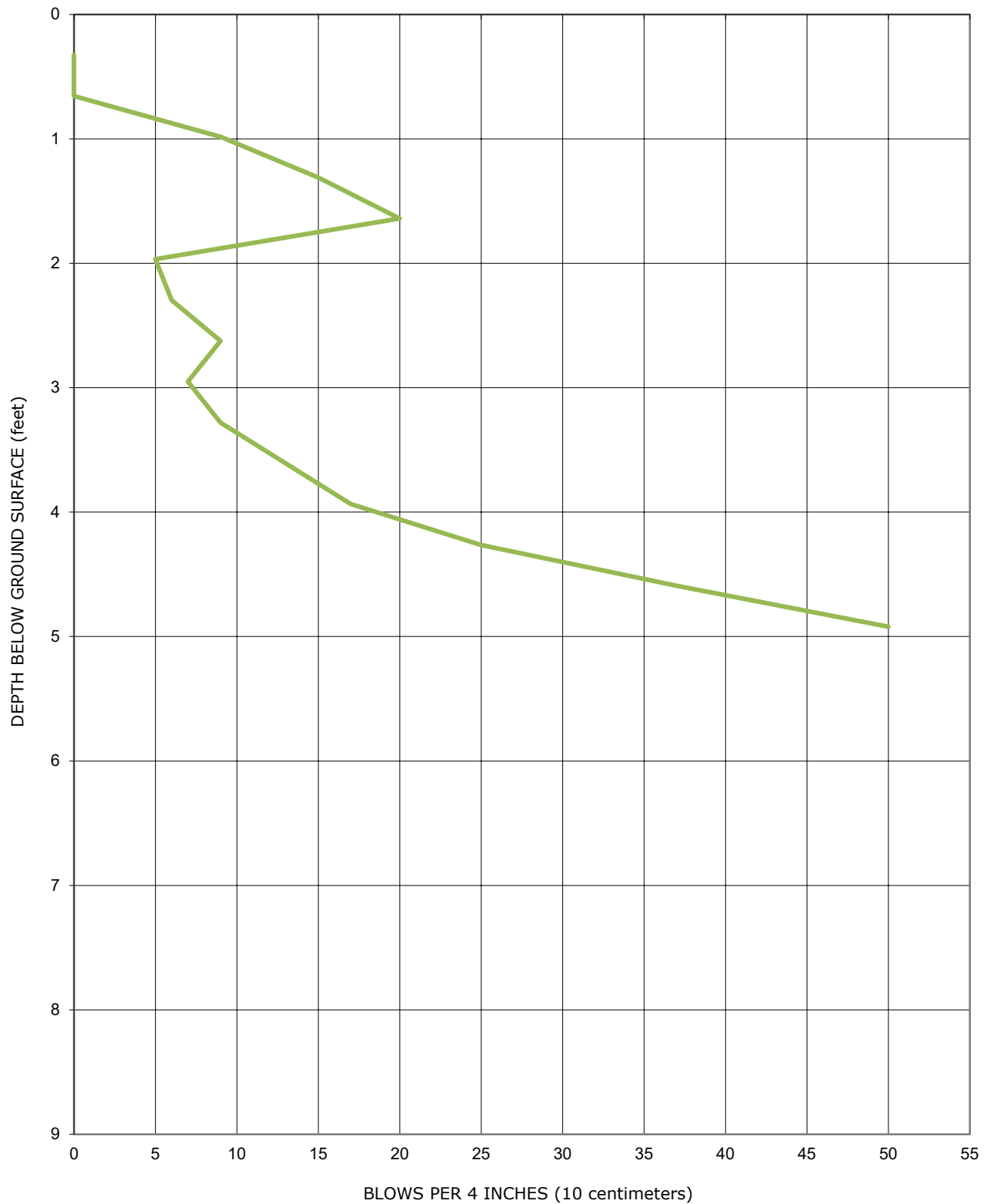


**DYNAMIC PENETROMETER  
TEST AND BORING RESULTS  
DPT-3/ HA-3**

Date 03/11/26

Project No. 24-2639

Figure A-3



**WHITE COTTON COTTAGE**  
San Leandro, California

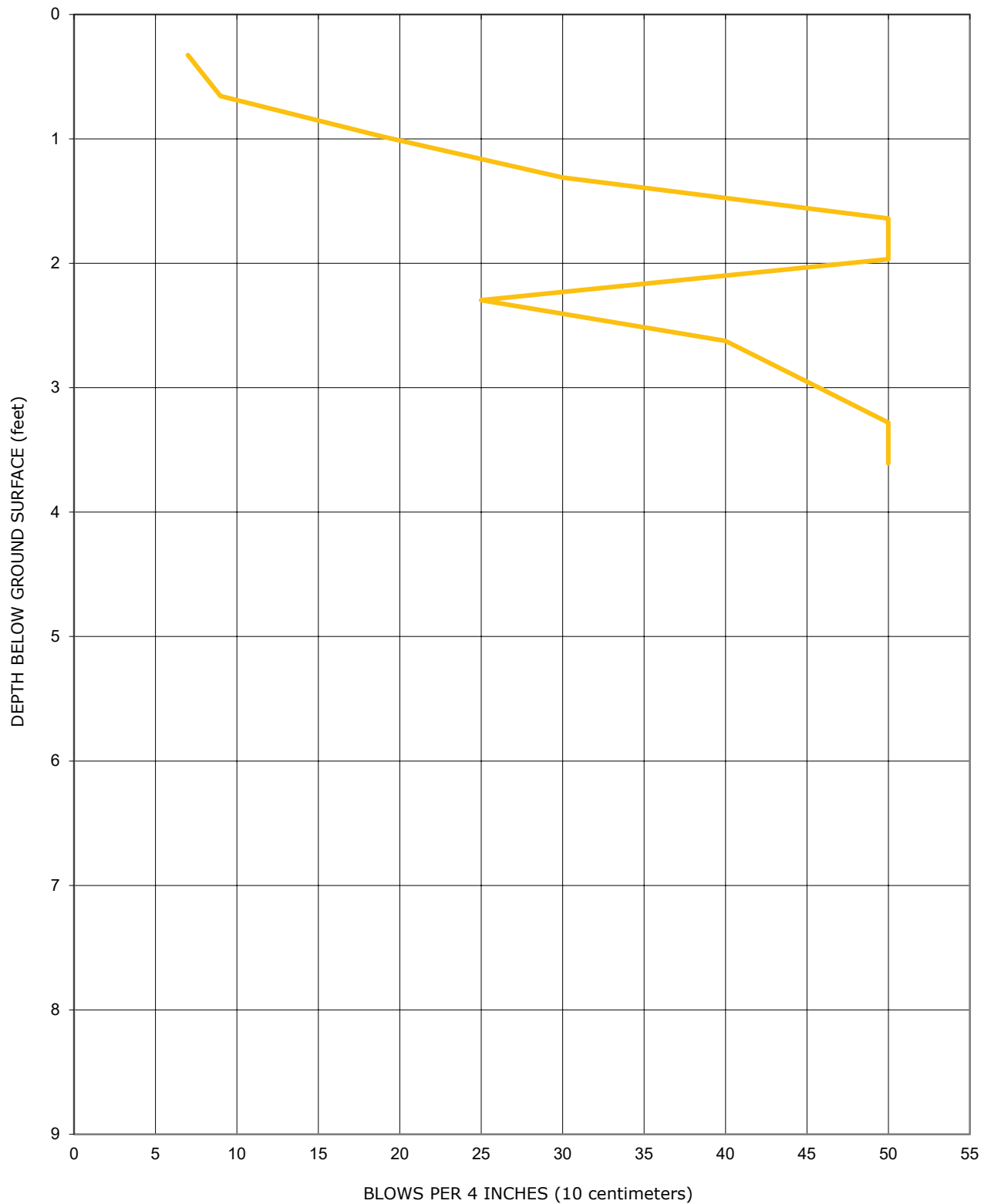


**DYNAMIC PENETROMETER  
TEST RESULTS  
DPT-4**

Date 03/11/26

Project No. 24-2639

Figure A-4



**WHITE COTTON COTTAGE**  
San Leandro, California



**DYNAMIC PENETROMETER  
TEST RESULTS  
DPT-5**

Date 03/11/26

Project No. 24-2639

Figure A-5

| UNIFIED SOIL CLASSIFICATION SYSTEM <sup>1</sup> (ASTM D2487)          |                                                                   |                                             |         |                                                                                      |  |
|-----------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------|---------|--------------------------------------------------------------------------------------|--|
| Major Divisions                                                       |                                                                   |                                             | Symbols | Typical Names                                                                        |  |
| Coarse-Grained Soils<br>(more than half of soil > No. 200 sieve size) | Gravels<br>(More than half of coarse fraction > No. 4 sieve size) | Clean Gravels<br>(less than 5% fines)       | GW      | Well-graded gravels or gravel-sand mixtures, little or no fines                      |  |
|                                                                       |                                                                   |                                             | GP      | Poorly-graded gravels or gravel-sand mixtures, little or no fines                    |  |
|                                                                       |                                                                   | Gravels with fines<br>(more than 12% fines) | GM      | Silty gravels, gravel-sand-silt mixtures                                             |  |
|                                                                       |                                                                   |                                             | GC      | Clayey gravels, gravel-sand-clay mixtures                                            |  |
|                                                                       | Sands<br>(More than half of coarse fraction < No. 4 sieve size)   | Clean sands<br>(less than 5% fines)         | SW      | Well-graded sands or gravelly sands, little or no fines                              |  |
|                                                                       |                                                                   |                                             | SP      | Poorly-graded sands or gravelly sands, little or no fines                            |  |
|                                                                       |                                                                   | Sands with fines<br>(more than 12% fines)   | SM      | Silty sands, sand-silt mixtures                                                      |  |
|                                                                       |                                                                   |                                             | SC      | Clayey sands, sand-clay mixtures                                                     |  |
| Fine -Grained Soils<br>(more than half of soil < No. 200 sieve size)  | Sils and Clays<br>LL = < 50                                       | Inorganic                                   | ML      | Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts      |  |
|                                                                       |                                                                   |                                             | CL      | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays |  |
|                                                                       |                                                                   | Organic                                     | OL      | Organic silts and organic silt-clays of low plasticity                               |  |
|                                                                       | Sils and Clays<br>LL = > 50                                       | Inorganic                                   | MH      | Inorganic silts of high plasticity                                                   |  |
|                                                                       |                                                                   |                                             | CH      | Inorganic clays of high plasticity, fat clays                                        |  |
|                                                                       |                                                                   | Organic                                     | OH      | Organic silts and clays of high plasticity                                           |  |
| Highly Organic Soils                                                  |                                                                   |                                             | PT      | Peat and other highly organic soils                                                  |  |

Observed groundwater level

Lithology contact slanted where estimated

Lithology contact straight where observed

| PENETRATION RESISTANCE (RECORDED AS SPT N-VALUES) |          |              |          |                 |
|---------------------------------------------------|----------|--------------|----------|-----------------|
| SAND & GRAVEL                                     |          | SILT & CLAY  |          |                 |
| RELATIVE DENSITY                                  | N-VALUE* | CONSISTENCY  | N-VALUE* | STRENGTH**(KSF) |
| Very Loose                                        | 0 - 4    | Very Soft    | 0 - 2    | 0 - 0.25        |
| Loose                                             | 4 - 10   | Soft         | 2 - 4    | 0.25 - 0.5      |
| Medium Dense                                      | 10 - 30  | Medium Stiff | 4 - 8    | 0.5 - 1.0       |
| Dense                                             | 30 - 50  | Stiff        | 8 - 15   | 1.0 - 2.0       |
| Very Dense                                        | Over 50  | Very Stiff   | 15 - 30  | 2.0 - 4.0       |
|                                                   |          | Hard         | Over 30  | Over 4.0        |

\*

Number of blows of 140 lb hammer falling 30 inches to drive a 2 inch O.D. (1-3/8) inch I.D. Split-barrel sampler the last 12 inches of an 18-inch drive (ASTM-1586 Standard Penetration Test). N-values estimated from recorded blowcounts using hammer energy and sampler corrections noted on boring logs.

\*\*

Undrained shear strength in kips per square foot (ksf) as determined by laboratory testing or approximated by the N-value, pocket penetrometer, torvane, or visual-manual observation.

| GRAIN SIZE CHART |                          |                           |
|------------------|--------------------------|---------------------------|
| Classification   | Range of Grain Sizes     |                           |
|                  | U.S. Standard Sieve Size | Grain Size in Millimeters |
| Boulders         | Above 12"                | Above 305                 |
| Cobbles          | 12" to 3"                | 305 to 76.2               |
| Gravel           | 3" to No. 4              | 76.2 to 4.76              |
|                  | 3" to 3/4"               | 76.2 to 19.1              |
| coarse           | 3/4" to No. 4            | 19.1 to 4.76              |
| Sand             | No. 4 to No. 200         | 4.76 to 0.075             |
|                  | No. 4 to No. 10          | 4.76 to 2.00              |
|                  | No. 10 to No. 40         | 2.00 to 0.420             |
|                  | No. 40 to No. 200        | 0.420 to 0.075            |
| Silt and Clay    | Below No. 200            | Below 0.075               |

Sample taken with California or Modified California split-barrel sampler. Darkened area indicates soil recovered, typical

Sample taken with Standard Penetration Test sampler

Sample taken with thin-walled tube

Disturbed sample

Sampling attempted with no recovery

| SAMPLER TYPE |                                                                                                                                               |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| CA           | California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter                                                |
| D&M          | Dames & Moore piston sampler using 2.5-inch outside diameter, thin-walled tube                                                                |
| PT           | Pitcher Tube sampler using 3.0-inch outside diameter, thin-walled Shelby Tube                                                                 |
| MC           | Modified California split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter                                     |
| SPT          | Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.38- or 1.5-inch inside diameter (refer to text) |
| ST           | Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure                                                    |

|                                                                                   |                     |                      |  |
|-----------------------------------------------------------------------------------|---------------------|----------------------|--|
| WHITE COTTON COTTAGE<br>San Leandro, California                                   |                     | CLASSIFICATION CHART |  |
| <div><div><div></div><div></div></div><div>ROCKRIDGE<br/>GEOTECHNICAL</div></div> |                     |                      |  |
| Date 03/11/26                                                                     | Project No. 24-2639 | Figure A-6           |  |

**APPENDIX B**  
**Laboratory Test Results**

### Moisture Measurements

Test Methods: ASTM D2488, D2216 (Method B)

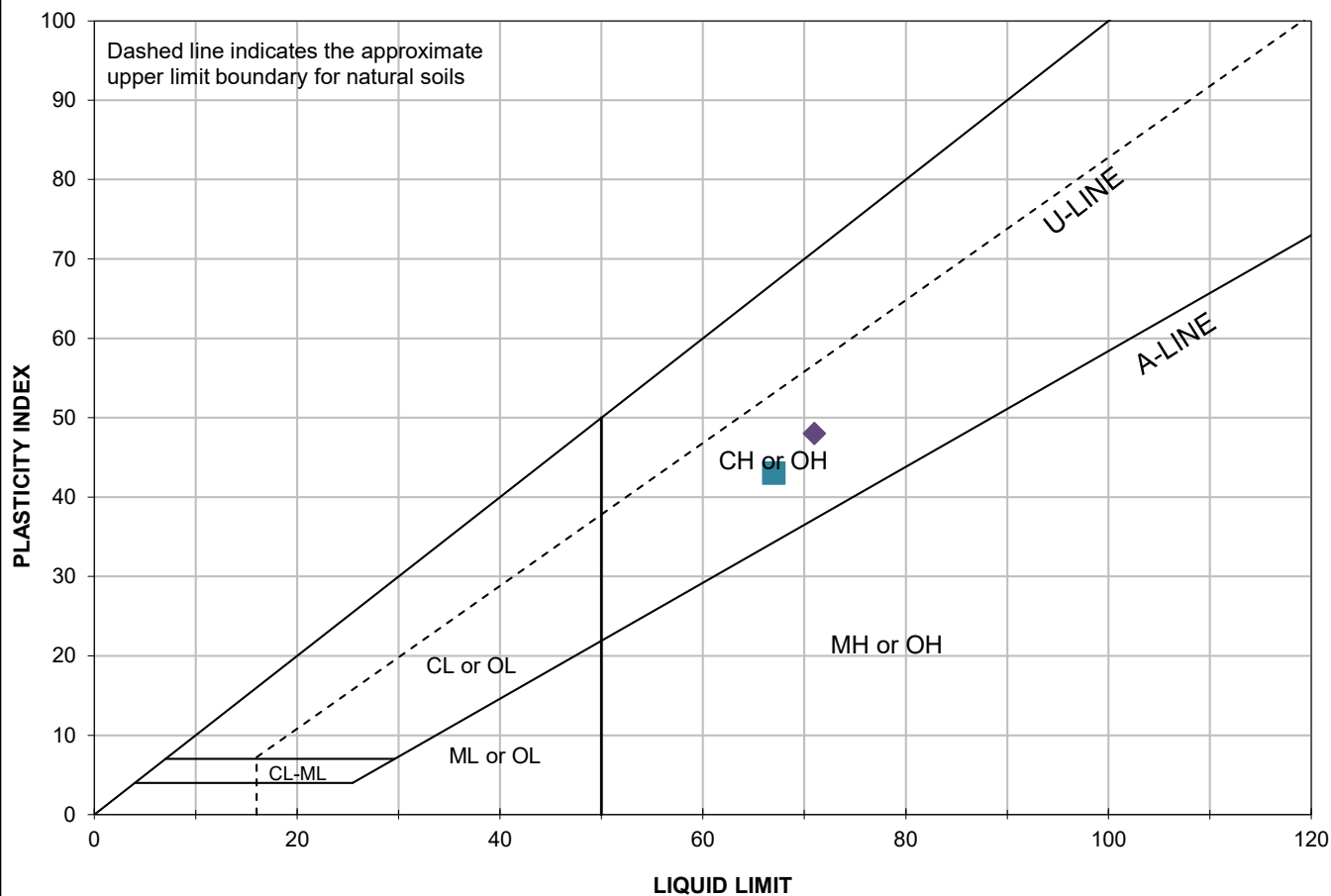
|                     |                     |                        |     |                     |           |
|---------------------|---------------------|------------------------|-----|---------------------|-----------|
| <b>Project Name</b> | Whitecotton Cottage |                        |     |                     |           |
| <b>Project No.</b>  | 24-2639             | <b>Project Manager</b> | LHL |                     |           |
| <b>Tested By</b>    | AN                  | <b>Checked By</b>      | ADL | <b>Testing Date</b> | 2/20/2026 |

| SPECIMEN ID AND CLASSIFICATION |                                        |  |  |  |  |
|--------------------------------|----------------------------------------|--|--|--|--|
| <b>Boring No.</b>              | HA-1                                   |  |  |  |  |
| <b>Sample No.</b>              | 1                                      |  |  |  |  |
| <b>Sample Depth (ft)</b>       | 0.5                                    |  |  |  |  |
| <b>Soil Description:</b>       | CLAY with<br>SAND, dark<br>olive-brown |  |  |  |  |

| WATER CONTENT                        |        |  |  |  |  |
|--------------------------------------|--------|--|--|--|--|
| <b>Dish ID</b>                       | 35     |  |  |  |  |
| <b>Mass of Dish (g)</b>              | 79.42  |  |  |  |  |
| <b>Mass of Moist Soil + Dish (g)</b> | 324.21 |  |  |  |  |
| <b>Mass of Dry Soil + Dish (g)</b>   | 265.92 |  |  |  |  |

| RESULTS              |       |  |  |  |  |
|----------------------|-------|--|--|--|--|
| <b>Water Content</b> | 31.3% |  |  |  |  |

| NOTES                                                                                                                        |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Deviations from standard (i.e., lower mass, layered material type, different drying temperature) + test method (if method A) |  |  |  |  |  |



| Symbol | Source       | Material Description                  | Moisture Content (%) | Liquid Limit (%) | Plasticity Index (%) |
|--------|--------------|---------------------------------------|----------------------|------------------|----------------------|
| ■      | HA-1 at 4.5' | CLAY (CH), dark brown                 | 22.2                 | 67               | 43                   |
| ◆      | HA-2 at 2.5' | CLAY with SAND (CH), dark olive-brown | 27.0                 | 71               | 48                   |
|        |              |                                       |                      |                  |                      |
|        |              |                                       |                      |                  |                      |
|        |              |                                       |                      |                  |                      |
|        |              |                                       |                      |                  |                      |
|        |              |                                       |                      |                  |                      |
|        |              |                                       |                      |                  |                      |
|        |              |                                       |                      |                  |                      |

**WHITECOTTON COTTAGE**  
**15400 FOOTHILL BOULEVARD**  
 San Leandro, California



## Plasticity Chart

Date 3/2/2026 Project No. 24-2639 Figure B-1

**Atterberg Limits**  
Test Method: ASTM D4318

|                     |                     |                     |          |
|---------------------|---------------------|---------------------|----------|
| <b>Project Name</b> | Whitecotton Cottage | <b>Project No.</b>  | 24-2639  |
| <b>Tested By</b>    | AN                  | <b>Checked By</b>   | ADL      |
|                     |                     | <b>Testing Date</b> | 3/2/2026 |

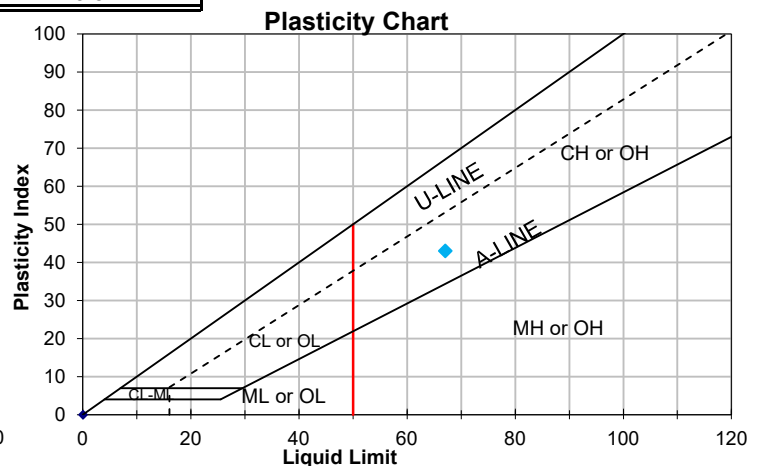
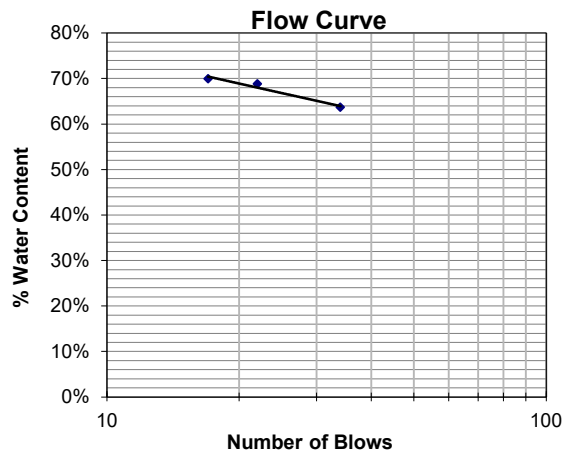
| SPECIMEN ID AND CLASSIFICATION                    |                       |                   |   |                   |     |
|---------------------------------------------------|-----------------------|-------------------|---|-------------------|-----|
| <b>Boring No.</b>                                 | HA-1                  | <b>Sample No.</b> | 5 | <b>Depth (ft)</b> | 4.5 |
| <b>USCS Classification &amp; Soil Description</b> | CLAY (CH), dark brown |                   |   |                   |     |

| MOISTURE CONTENT     |       |                              |        |                      |       |
|----------------------|-------|------------------------------|--------|----------------------|-------|
| <b>Dish ID</b>       | 49    | <b>Moist Soil + Dish (g)</b> | 243.36 | <b>Water Content</b> | 22.2% |
| <b>Dish Mass (g)</b> | 80.87 | <b>Dry Soil + Dish (g)</b>   | 213.89 |                      |       |

| LIQUID LIMIT                         |                    |       |       |       |
|--------------------------------------|--------------------|-------|-------|-------|
| <b>Target Range of Blows</b>         | 40-30 (not needed) | 25-35 | 20-30 | 15-25 |
| <b>Actual Number of Blows</b>        |                    | 34    | 22    | 17    |
| <b>Dish ID</b>                       |                    | 45    | 33    | 29    |
| <b>Mass of Dish (g)</b>              |                    | 13.96 | 13.93 | 14.03 |
| <b>Mass of Moist Soil + Dish (g)</b> |                    | 24.76 | 24.55 | 24.19 |
| <b>Mass of Dry Soil + Dish (g)</b>   |                    | 20.56 | 20.22 | 20.01 |
| <b>Water Content</b>                 | #DIV/0!            | 63.6% | 68.8% | 69.9% |

| PLASTIC LIMIT                        |       |       |
|--------------------------------------|-------|-------|
| <b>Dish ID</b>                       | 15    | 34    |
| <b>Mass of Dish (g)</b>              | 14.04 | 13.99 |
| <b>Mass of Moist Soil + Dish (g)</b> | 20.06 | 20.18 |
| <b>Mass of Dry Soil + Dish (g)</b>   | 18.88 | 18.99 |
| <b>Water Content</b>                 | 24.4% | 23.8% |

| SUMMARY                |    |
|------------------------|----|
| <b>Liquid Limit</b>    | 67 |
| <b>Plastic Limit</b>   | 24 |
| <b>Plasticity Ind.</b> | 43 |



**Atterberg Limits**  
Test Method: ASTM D4318

|                     |                    |                    |         |
|---------------------|--------------------|--------------------|---------|
| <b>Project Name</b> | Whitcotton Cottage | <b>Project No.</b> | 24-2639 |
| <b>Tested By</b>    | AN                 | <b>Checked By</b>  | ADL     |
| <b>Testing Date</b> | 3/2/2026           |                    |         |

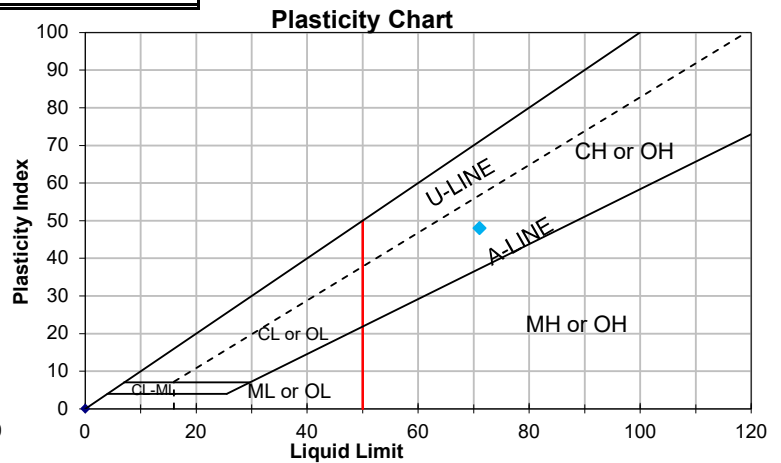
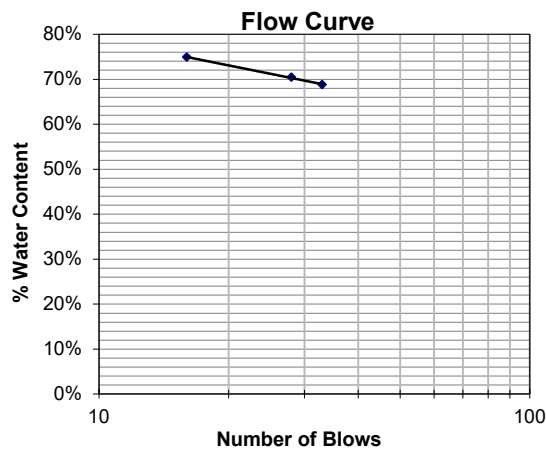
| SPECIMEN ID AND CLASSIFICATION                    |                                       |                   |   |                   |     |
|---------------------------------------------------|---------------------------------------|-------------------|---|-------------------|-----|
| <b>Boring No.</b>                                 | HA-2                                  | <b>Sample No.</b> | 3 | <b>Depth (ft)</b> | 2.5 |
| <b>USCS Classification &amp; Soil Description</b> | CLAY with SAND (CH), dark olive-brown |                   |   |                   |     |

| MOISTURE CONTENT     |       |                              |        |                      |       |
|----------------------|-------|------------------------------|--------|----------------------|-------|
| <b>Dish ID</b>       | 66    | <b>Moist Soil + Dish (g)</b> | 308.16 | <b>Water Content</b> | 27.0% |
| <b>Dish Mass (g)</b> | 81.84 | <b>Dry Soil + Dish (g)</b>   | 259.98 |                      |       |

| LIQUID LIMIT                         |                    |       |       |       |  |
|--------------------------------------|--------------------|-------|-------|-------|--|
| <b>Target Range of Blows</b>         | 40-30 (not needed) | 25-35 | 20-30 | 15-25 |  |
| <b>Actual Number of Blows</b>        |                    | 33    | 28    | 16    |  |
| <b>Dish ID</b>                       |                    | 90    | 9     | 11    |  |
| <b>Mass of Dish (g)</b>              |                    | 13.96 | 14.02 | 14.02 |  |
| <b>Mass of Moist Soil + Dish (g)</b> |                    | 24.78 | 24.33 | 24.20 |  |
| <b>Mass of Dry Soil + Dish (g)</b>   |                    | 20.37 | 20.07 | 19.84 |  |
| <b>Water Content</b>                 | #DIV/0!            | 68.8% | 70.4% | 74.9% |  |

| PLASTIC LIMIT                        |       |       |
|--------------------------------------|-------|-------|
| <b>Dish ID</b>                       | 23A   | 26    |
| <b>Mass of Dish (g)</b>              | 13.98 | 14.00 |
| <b>Mass of Moist Soil + Dish (g)</b> | 20.17 | 20.40 |
| <b>Mass of Dry Soil + Dish (g)</b>   | 18.98 | 19.21 |
| <b>Water Content</b>                 | 23.8% | 22.8% |

| SUMMARY                |    |
|------------------------|----|
| <b>Liquid Limit</b>    | 71 |
| <b>Plastic Limit</b>   | 23 |
| <b>Plasticity Ind.</b> | 48 |



### Amount of Material Finer than No. 200 Sieve by Washing

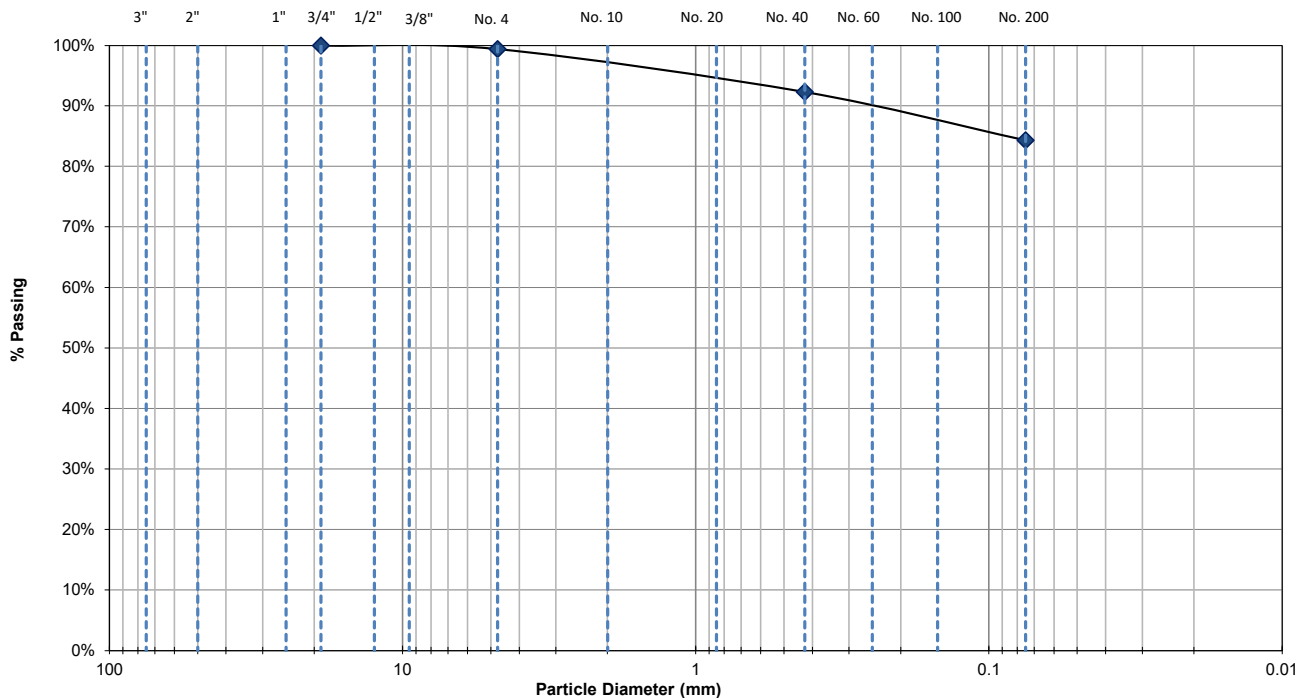
Test Method: ASTM D1140

|                     |                     |                     |           |
|---------------------|---------------------|---------------------|-----------|
| <b>Project Name</b> | Whitecotton Cottage | <b>Project No.</b>  | 24-2639   |
| <b>Tested By</b>    | AN                  | <b>Testing Date</b> | 2/24/2026 |

| SPECIMEN ID AND CLASSIFICATION |                                  |                   |   |                               |
|--------------------------------|----------------------------------|-------------------|---|-------------------------------|
| <b>Boring No.</b>              | HA-2                             | <b>Sample No.</b> | 3 | <b>Depth (ft)</b> 2.5         |
| <b>Material Description</b>    | CLAY with SAND, dark olive-brown |                   |   | <b>USCS Classification</b> CH |

| Moisture Measurements |               |                       |                     |                     |                              |                       |                      |
|-----------------------|---------------|-----------------------|---------------------|---------------------|------------------------------|-----------------------|----------------------|
| Dish ID               | Dish Mass (g) | Moist Soil + Dish (g) | Dry Soil + Dish (g) | Water Content       | Mass of Dry Soil (g)         |                       |                      |
| 66                    | 81.84         | 308.16                | 259.98              | 27.0%               | 178.14                       |                       |                      |
| Passing No. 200 Wash  |               |                       |                     |                     |                              |                       |                      |
| Sieve No.             | Size, mm      | Dish ID               | Dish Mass (g)       | Dry Soil + Dish (g) | Cumulative Mass Retained (g) | Cumulative % Retained | Cumulative % Passing |
| 3/4-in                | 19            | 0                     | 0.00                | 0.00                | 0.00                         | 0.0%                  | 100.0%               |
| No. 4                 | 4.75          | 58                    | 81.35               | 82.49               | 1.14                         | 0.6%                  | 99.4%                |
| No. 40                | 0.425         | 36                    | 81.26               | 93.90               | 13.78                        | 7.7%                  | 92.3%                |
| No. 200               | 0.075         | 66                    | 81.84               | 95.98               | 27.92                        | 15.7%                 | 84.3%                |

| Results        |              |               |
|----------------|--------------|---------------|
| Percent Gravel | Percent Sand | Percent Fines |
| 0.6%           | 15.1%        | 84.3%         |



### Amount of Material Finer than No. 200 Sieve by Washing

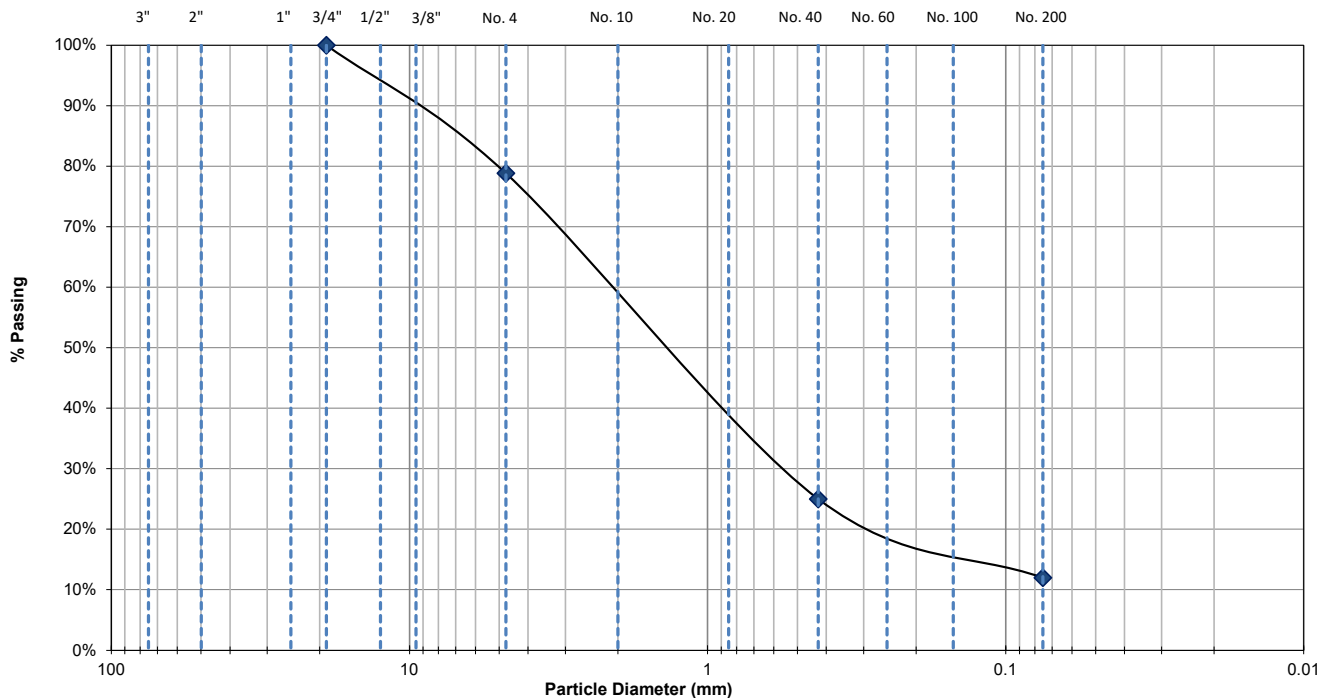
Test Method: ASTM D1140

|                     |                     |                     |           |
|---------------------|---------------------|---------------------|-----------|
| <b>Project Name</b> | Whitecotton Cottage | <b>Project No.</b>  | 24-2639   |
| <b>Tested By</b>    | AN                  | <b>Testing Date</b> | 2/24/2026 |

| SPECIMEN ID AND CLASSIFICATION |                                        |                            |       |
|--------------------------------|----------------------------------------|----------------------------|-------|
| <b>Boring No.</b>              | HA-3                                   | <b>Sample No.</b>          | 3     |
| <b>Material Description</b>    | SAND with CLAY and GRAVEL, olive-brown | <b>USCS Classification</b> | SP-SC |

| Moisture Measurements |               |                       |                     |                     |                              |                       |                      |
|-----------------------|---------------|-----------------------|---------------------|---------------------|------------------------------|-----------------------|----------------------|
| Dish ID               | Dish Mass (g) | Moist Soil + Dish (g) | Dry Soil + Dish (g) | Water Content       | Mass of Dry Soil (g)         |                       |                      |
| 53                    | 81.60         | 341.27                | 310.38              | 13.5%               | 228.78                       |                       |                      |
| Passing No. 200 Wash  |               |                       |                     |                     |                              |                       |                      |
| Sieve No.             | Size, mm      | Dish ID               | Dish Mass (g)       | Dry Soil + Dish (g) | Cumulative Mass Retained (g) | Cumulative % Retained | Cumulative % Passing |
| 3/4-in                | 19            | 0                     | 0.00                | 0.00                | 0.00                         | 0.0%                  | 100.0%               |
| No. 4                 | 4.75          | 53                    | 81.60               | 130.05              | 48.45                        | 21.2%                 | 78.8%                |
| No. 40                | 0.425         | 50                    | 80.99               | 204.22              | 171.68                       | 75.0%                 | 25.0%                |
| No. 200               | 0.075         | 31                    | 80.05               | 109.59              | 201.22                       | 88.0%                 | 12.0%                |

| Results        |              |               |
|----------------|--------------|---------------|
| Percent Gravel | Percent Sand | Percent Fines |
| 21.2%          | 66.8%        | 12.0%         |





# LEEDv4 BD+C MAJOR RENOVATION

## Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

## SUMMARY SCORECARD

LEED Project ID: 1000232461

6/16/2026



70%DD issued 9/17/25

CD phase starts 5/15/26. Construction completion TBD

|   |    |    |   |  |   |          |                                            |                     |
|---|----|----|---|--|---|----------|--------------------------------------------|---------------------|
| 1 |    |    |   |  | D | Credit 1 | Integrative Process                        | 1                   |
| Y | Y? | N? | N |  |   |          |                                            |                     |
| 6 | 1  |    | 9 |  |   |          | <b>Location and Transportation</b>         | Possible Points: 16 |
| - | -  | -  | - |  | D | Credit 1 | LEED for Neighborhood Development Location | 16                  |
| 1 |    |    |   |  | D | Credit 2 | Sensitive Land Protection                  | 1                   |
| 2 |    |    |   |  | D | Credit 3 | High Priority Site                         | 2                   |
| 1 | 1  |    | 3 |  | D | Credit 4 | Surrounding Density and Diverse Uses       | 5                   |
|   |    |    | 5 |  | D | Credit 5 | Access to Quality Transit                  | 5                   |
|   |    |    | 1 |  | D | Credit 6 | Bicycle Facilities                         | 1                   |
| 1 |    |    |   |  | D | Credit 7 | Reduced Parking Footprint                  | 1                   |
| 1 |    |    |   |  | D | Credit 8 | Green Vehicles                             | 1                   |

|   |    |    |   |  |   |           |                                               |                     |
|---|----|----|---|--|---|-----------|-----------------------------------------------|---------------------|
| Y | Y? | N? | N |  |   |           |                                               |                     |
| 5 |    | 2  | 3 |  |   |           | <b>Sustainable Sites</b>                      | Possible Points: 10 |
| Y |    |    |   |  | C | Prereq 1* | Construction Activity Pollution Prevention    | Required            |
| 1 |    |    |   |  | D | Credit 1  | Site Assessment                               | 1                   |
| 2 |    |    |   |  | D | Credit 2  | Site Development - Protect or Restore Habitat | 2                   |
| 1 |    |    |   |  | D | Credit 3  | Open Space                                    | 1                   |
|   |    |    | 3 |  | D | Credit 4  | Rainwater Management                          | 3                   |
|   |    | 2  |   |  | D | Credit 5  | Heat Island Reduction                         | 2                   |
| 1 |    |    |   |  | D | Credit 6* | Light Pollution Reduction                     | 1                   |

|   |    |    |   |  |   |           |                               |                     |
|---|----|----|---|--|---|-----------|-------------------------------|---------------------|
| Y | Y? | N? | N |  |   |           |                               |                     |
| 5 | 2  |    | 4 |  |   |           | <b>Water Efficiency</b>       | Possible Points: 11 |
| Y |    |    |   |  | D | Prereq 1* | Outdoor Water Use Reduction   | Required            |
| Y |    |    |   |  | D | Prereq 2* | Indoor Water Use Reduction    | Required            |
| Y |    |    |   |  | D | Prereq 3* | Building-Level Water Metering | Required            |
| 2 |    |    |   |  | D | Credit 1* | Outdoor Water Use Reduction   | 2                   |
| 2 | 2  |    | 2 |  | D | Credit 2* | Indoor Water Use Reduction    | 6                   |
|   |    |    | 2 |  | D | Credit 3  | Cooling Tower Water Use       | 2                   |
| 1 |    |    |   |  | D | Credit 4  | Water Metering                | 1                   |

|   |    |    |    |  |   |           |                                            |                     |
|---|----|----|----|--|---|-----------|--------------------------------------------|---------------------|
| Y | Y? | N? | N  |  |   |           |                                            |                     |
| 6 | 4  | 5  | 18 |  |   |           | <b>Energy &amp; Atmosphere</b>             | Possible Points: 33 |
| Y |    |    |    |  | C | Prereq 1* | Fundamental Commissioning and Verification | Required            |
| Y |    |    |    |  | D | Prereq 2* | Minimum Energy Performance                 | Required            |
| Y |    |    |    |  | D | Prereq 3* | Building-Level Energy Metering             | Required            |
| Y |    |    |    |  | D | Prereq 4* | Fundamental Refrigerant Management         | Required            |
|   |    |    | 6  |  | C | Credit 1  | Enhanced Commissioning                     | 6                   |
| 6 | 2  |    | 10 |  | D | Credit 2* | Optimize Energy Performance                | 18                  |
|   |    | 1  |    |  | D | Credit 3  | Advanced Energy Metering                   | 1                   |
|   |    | 2  |    |  | C | Credit 4  | Demand Response                            | 2                   |
| 1 | 2  |    |    |  | D | Credit 5  | Renewable Energy Production                | 3                   |
| 1 |    |    |    |  | D | Credit 6  | Enhanced Refrigerant Management            | 1                   |
|   | 2  |    |    |  | C | Credit 7  | Green Power and Carbon Offsets             | 2                   |

|   |    |    |   |  |   |           |                                                                      |                     |
|---|----|----|---|--|---|-----------|----------------------------------------------------------------------|---------------------|
| Y | Y? | N? | N |  |   |           |                                                                      |                     |
| 9 | 2  | 2  |   |  |   |           | <b>Materials &amp; Resources</b>                                     | Possible Points: 13 |
| Y |    |    |   |  | D | Prereq 1* | Storage & Collection of Recyclables                                  | Required            |
| Y |    |    |   |  | C | Prereq 2* | Construction and Demolition Waste Management Planning                | Required            |
| 5 |    |    |   |  | D | Credit 1  | Building Life-Cycle Impact Reduction                                 | 5                   |
| 1 | 1  |    |   |  | C | Credit 2  | Building Product Disclosure and Optimization - EPDs                  | 2                   |
|   |    | 2  |   |  | C | Credit 3  | Building Product Disclosure and Optimization - Sourcing of Raw Mater | 2                   |
| 1 | 1  |    |   |  | C | Credit 4  | Building Product Disclosure and Optimization - Material Ingredients  | 2                   |
| 2 |    |    |   |  | C | Credit 5* | Construction and Demolition Waste Management                         | 2                   |

|   |    |    |   |  |   |           |                                                 |                     |
|---|----|----|---|--|---|-----------|-------------------------------------------------|---------------------|
| Y | Y? | N? | N |  |   |           |                                                 |                     |
| 8 |    | 3  | 5 |  |   |           | <b>Indoor Environmental Quality</b>             | Possible Points: 16 |
| Y |    |    |   |  | D | Prereq 1* | Minimum Indoor Air Quality Performance          | Required            |
| Y |    |    |   |  | D | Prereq 2* | Environmental Tobacco Smoke (ETS) Control       | Required            |
| 1 |    | 1  |   |  | D | Credit 1  | Enhanced Indoor Air Quality Strategies          | 2                   |
| 3 |    |    |   |  | C | Credit 2  | Low-Emitting Materials                          | 3                   |
| 1 |    |    |   |  | C | Credit 3* | Construction Indoor Air Quality Management Plan | 1                   |
|   |    | 1  | 1 |  | C | Credit 4  | Indoor Air Quality Assessment                   | 2                   |
| 1 |    |    |   |  | D | Credit 5  | Thermal Comfort                                 | 1                   |
| 1 |    | 1  |   |  | D | Credit 6  | Interior Lighting: controls and quality         | 2                   |
|   |    |    | 3 |  | D | Credit 7  | Daylight                                        | 3                   |
| 1 |    |    |   |  | D | Credit 8  | Quality Views                                   | 1                   |
|   |    |    | 1 |  | D | Credit 9  | Acoustic Performance                            | 1                   |

|   |    |    |   |  |   |            |                                              |                    |
|---|----|----|---|--|---|------------|----------------------------------------------|--------------------|
| Y | Y? | N? | N |  |   |            |                                              |                    |
| 6 |    |    |   |  |   |            | <b>Innovation &amp; Design Process</b>       | Possible Points: 6 |
| 1 |    |    |   |  | D | Credit 1.1 | Exemplary Performance in LTc Reduced Parking | 1                  |
| 1 |    |    |   |  | D | Credit 1.2 | Exemplary Performance in LTc Quality Transit | 1                  |
| 1 |    |    |   |  | D | Credit 1.3 | Innovation- Purchasing lamps (no mercury)    | 1                  |
| 1 |    |    |   |  | D | Credit 1.4 | Green cleaning + IPM                         | 1                  |
| 1 |    |    |   |  | D | Credit 1.5 | SSpc129 Pilot- Comprehensive Composting      | 1                  |
| 1 |    |    |   |  | C | Credit 2   | LEED™ Accredited Professional                | 1                  |

| Y | Y? | N? | N |  |            |                                                                        |                          |                    |
|---|----|----|---|--|------------|------------------------------------------------------------------------|--------------------------|--------------------|
| 2 | 1  | 2  |   |  |            |                                                                        | <b>Regional Priority</b> | Possible Points: 4 |
|   |    | 1  |   |  | Credit 1.1 | MRC Building products disclosure - sourcing of raw materials (min 1 pt |                          | 1                  |
|   |    | 1  |   |  | Credit 1.2 | SSc Rainwater Mgmt (min 3 pts)                                         |                          | 1                  |
|   | 1  |    |   |  | Credit 1.3 | WEc2 Indoor water use reduction (min 4 pts)                            |                          | 1                  |
| 1 |    |    |   |  | Credit 1.4 | LTC Access to Quality Transit (min 5 pts)                              |                          | 1                  |
|   |    |    |   |  |            | EAc2 Optimized energy performance (min 10 points)                      |                          |                    |
| 1 |    |    |   |  |            | MRC Building LCA (min 3 pts)                                           |                          |                    |

|    |    |    |    |  |  |  |                                 |                      |
|----|----|----|----|--|--|--|---------------------------------|----------------------|
| Y  | Y? | N? | N  |  |  |  |                                 |                      |
| 48 | 10 | 14 | 39 |  |  |  | <b>TOTAL (required: Silver)</b> | Possible Points: 110 |
| 58 |    |    |    |  |  |  |                                 |                      |

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110 points

D= Design or C= Construction Credit

\* Eligible for CA-LEED ACP



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

| - | -  | -  | - | Project Information Form    |                     | N/A                                     | Action by | Notes     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---|----|----|---|-----------------------------|---------------------|-----------------------------------------|-----------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |    |    |   | PI Form 1                   | PROJECT INFORMATION |                                         | AR        |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Y | Y? | N? | N |                             |                     |                                         |           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1 |    |    |   | Integrative Design          |                     | N/A                                     | Action by | Notes     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1 |    |    |   | D                           | Credit 1            | Integrative Design                      | 1         | MEP       | Perform early analysis of the interrelationships among systems. Document using the "Integrative Process Worksheet" (survey of the process and considerations). <a href="https://www.usgbc.org/resources/integrative-process-worksheet">https://www.usgbc.org/resources/integrative-process-worksheet</a> . Details at <a href="https://www.usgbc.org/node/2613097?return=/credits/new-construction/v4">https://www.usgbc.org/node/2613097?return=/credits/new-construction/v4</a> . MEP team to fill out energy and water sections of the worksheet. 5/5/26: Interface (Steve Gross) will work on it. 5/14/26: Jason Lau <JasonL@InterfaceEng.Com> sent worksheet with some notes. Missing water input and some details on existing conditions. |
| Y | Y? | N? | N |                             |                     |                                         |           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6 | 1  |    | 9 | Location and Transportation |                     | Possible Points                         | 16        | Action by | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| - | -  | -  | - | D                           | Credit 1            | LEED for Neighborhood Development       | 16        | -         | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1 |    |    |   | D                           | Credit 2            | Sensitive Land Protection               | 1         | AR        | Compliant, previously developed. Not sensitive land (Prime farmland , floodplains, habitat for threatened species, wetlands, public parkland...).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2 |    |    |   | D                           | Credit 3*           | High Priority Site                      | 2         | GSA       | Option 1 (1 pt): Historic District. Not compliant.<br>Option 2 (1 pt): Federal priority. Not compliant<br>Option 3 (2 pts): Brownfield. Would require a report of soil contamination and environmental remediation. 5/5/26: Compliant. Sarah Brummett shared hazmat report showing soil contamination. Pending environmental remediation plan.                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1 | 1  |    | 3 | D                           | Credit 4            | Surrounding Density and Diverse Uses    | 5         | AR        | Surrounding density over 35,000 built square feet per acre (3 points).<br>4 to 8 diverse uses within ½ mile (1-2 points). Likely compliant of 4 uses for 1 pt<br>LEEDv4.1 Walk Score: 50-59=1pt, 60-69=2 pts, 70-79=3pts, 80-89=4pts, 90-100=5pts.<br>LEEDv4.1: Walk Score 42, car dependent                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|   |    |    | 5 | D                           | Credit 5*           | Access to Quality Transit               | 5         | -         | Count buses within 0.25 mile walking distance + rail/ferry within 0.5 miles. LEEDv4.1 daily rides requirements for week/weekend: LEEDv4.1: 72/30 (1pt), 100/70 (2pts), 144/108 (3pts), 250/160 (4pts), 360/216 (5pts); 720/436 (EP).<br>BART Bay Fair station too far (1.1 miles).<br>Bus 35: 26 daily rides in weekdays + 17 on weekends. Not enough for LEED points. 5/5/26: SKA looked into shuttles, but they only work on weekdays                                                                                                                                                                                                                                                                                                         |
|   |    |    | 1 | D                           | Credit 6            | Bicycle Facilities, Lockers and Showers | 1         | -         | a) Short-term bike storage (racks) for 2.5% of peak visitors (min 4). Need occupancy to clarify amount needed. No bike racks in drawing. No bike racks being planned for. Not compliant<br>b) Long-term bike storage (lockable) for 5% of regular building occupants (min 4). Need occupancy to clarify amount needed. Would need indoor bike storage or outside locker, none in drawings. Not compliant<br>c) One on-site shower with changing facility for the first 100 regular building occupants and one additional shower for every 150 regular building occupants thereafter. Would need 1 shower, none in drawings. 5/5/26: Arch confirmed no shower, not compliant<br>d) A bicycle network that connects to services. Compliant        |

|   |  |  |  |   |           |                                                   |   |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---|--|--|--|---|-----------|---------------------------------------------------|---|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 |  |  |  | D | Credit 7* | Reduced Parking Footprint                         | 1 | AR | <p>LEEDv4.1</p> <p>Option 1: 30% reduction below baseline from Institute of Transportation Engineers (ITE). <a href="#">Baseline number of parking spaces for an office under 25K sf is 3.8 spaces/1000sf. For 3,544 sf baseline is 14 spaces. Parking count is 9 = 35% reduction.</a></p> <p>Option 2: Carshare for at least 1% of total parking spaces</p> <p>Option 3: Unbundling parking. Do not provide subsidized parking for employees. Cost to be equal or greater than public transit</p> |
| 1 |  |  |  | D | Credit 8  | Green Vehicles Designated Parking and EV Charging | 1 | AR | <p>LEEDv4.1</p> <p>Option 1: 5% of parking spaces with EV chargers (min 2). <a href="#">Site electrical plan shows 2 EV chargers. Pending cutsheet. 6/16/26: Team considering a PV-integrated charger.</a></p> <p>Option 2: 10% of parking spaces EV ready (min 6).</p>                                                                                                                                                                                                                            |

| Y | Y? | N? | N |                          |           |                                               |    |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---|----|----|---|--------------------------|-----------|-----------------------------------------------|----|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 |    | 2  | 3 | <b>Sustainable Sites</b> |           | Possible Points                               | 10 | Action by          | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Y |    |    |   | <b>C</b>                 | Prereq 1  | Construction Activity Pollution Prevention    | 0  | Can use CA-ACP     | Develop and implement an Erosion & Sedimentation Control (ESC) Plan per 2012 EPA Construction General Permit (CGP); or local control standards/codes, whichever is more stringent. <a href="#">GC to comply, it is required by code</a>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1 |    |    |   | <b>D</b>                 | Credit 1  | Site Assessment                               | 1  | Team               | Complete a site survey including: topography, hydrology, flood hazard areas, climate, vegetation, soils, human use (views, transportation, etc.), and any potential human health effects hazards.<br>LEED documentation requires a worksheet to fill out and backup documentation: <a href="https://www.usgbc.org/resources/site-assessment-worksheet">https://www.usgbc.org/resources/site-assessment-worksheet</a> .<br><a href="#">Civil, Landscape, Arch and HVAC teams to fill out their scope sections of the worksheet. 5/14/26: Jason Lau &lt;JasonL@InterfaceEng.Com&gt; sent worksheet with input in climate. Pending all other sections.</a>                     |
| 2 |    |    |   | <b>D</b>                 | Credit 2* | Site Development - Protect or Restore Habitat | 2  | Civil/ Landscaping | LEEDv4.1: Protect 40% of greenfield (if any), AND<br>Option 1 (2 pts): Restore 15% (1pts), 30% (2pts) of site (including building footprint) with native or adapted vegetation.<br>OR Option 2 (1 pt): donate \$0.40/sf of the site area to a land trust<br><a href="#">Civil and landscape to provide site and landscaped areas. 6/16/26: Sarah suggested John hydroseeding. John Roberts confirmed it is possible</a>                                                                                                                                                                                                                                                     |
| 1 |    |    |   | <b>D</b>                 | Credit 3  | Open Space                                    | 1  | Civil/ Landscaping | Provide outdoor space greater than 30% of the total site area (including building footprint). A minimum of 25% of that outdoor space must be vegetated (turf grass does not count as vegetated). Needs at least 30 sf pollinator garden.<br><a href="#">Civil and landscape to provide site and landscaped areas.</a>                                                                                                                                                                                                                                                                                                                                                       |
|   |    |    | 3 | <b>D</b>                 | Credit 4* | Rainwater Management                          | 3  | -                  | LEEDv4.1: Manage on site storm water runoff using low-impact development (LID) and green infrastructure. 80th (1 pt), 85th (2 pts), or 90th (3 pts) percentile of regional or local rainfall events. Details: <a href="https://www.usgbc.org/node/11963291?return=credits/new-construction/v4.1/sustainable-sites">https://www.usgbc.org/node/11963291?return=credits/new-construction/v4.1/sustainable-sites</a><br><a href="#">Civil to confirm compliance. 5/5/26: Lorelyn Carlos said planning bioretention but portions of parking lot or driveway might leave the site or need to be directed to the bioretention area. 6/16/26: Lorelyn confirmed not compliant.</a> |



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

|   |  |   |  |   |           |                           |   |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---|--|---|--|---|-----------|---------------------------|---|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |  | 2 |  | D | Credit 5* | Heat Island Reduction     | 2 | Arch/ Civil/ Landscape | Option 1 (2 pts): Address roof and non-roof surfaces to have either plants, shade, or materials with high-reflectivity<br>Roof: min SRI (Solar Reflectance Index) in roof 82; 39 for steep-sloped (> 2:12). Arch to confirm. 5/5/26: Sarah said asphalt shingles won't do but might have a reflectivity coating option, will explore. 6/16/26: AR sent Sarah an option w high SRI: Envirosake. Sarah confirmed compliant colors would not meet historic requirements. Not compliant.<br>Non-roof: Shaded or with SR>0.33 at installation, or 3-yr aged SR>0.28. 9/2/21: team proposes light concrete + permeable pavers vs. asphalt, but will be determined by cost. Civil/landscape to confirm<br>Option 2 (1 pt only): Min 75% of parking under cover. Not compliant |
| 1 |  |   |  | D | Credit 6  | Light Pollution Reduction | 1 | Can use CA-ACP         | Meet uplight and light trespass requirements using either the backlight-uplight-glare (BUG) method (Option 1) or the calculation method (Option 2) for all exterior luminaires within LEED boundary. Credits detail at: <a href="https://www.usgbc.org/node/2600382?return=/credits/new-construction/v4">https://www.usgbc.org/node/2600382?return=/credits/new-construction/v4</a><br>Required by code                                                                                                                                                                                                                                                                                                                                                                |

| Y | Y? | N? | N |   |                         |                               |    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---|----|----|---|---|-------------------------|-------------------------------|----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | 2  |    | 4 |   | <b>Water Efficiency</b> | Possible Points               | 11 | Action by      | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Y |    |    |   | D | Prereq 1                | Outdoor Water Use Reduction   | 0  | Landscape      | Option 1: No irrigation.<br>Option 2: Reduced at least 30% water use for irrigation.<br>Consider high efficiency irrigation, alternative water sources, and smart scheduling technologies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Y |    |    |   | D | Prereq 2                | Indoor Water Use Reduction    | 0  | Plumbing Eng   | Reduce min 20% building water use (toilets, urinals, lavs, kitchen faucets, showerheads), AND<br>Appliances must meet LEED requirements: <b>Clothes washers, Dishwashers and Ice machines must be Energy Star.</b> Pre-rinse spray valves ≤ 1.3 gpm (4.9 lpm)<br>Process Water must meet requirements in terms of makeup water, recirculation, controllers, overflow alarms, etc...<br><b>Recommended flows: 1.1gpf or 1.0 gpf toilets, 0.125 gpf urinals, 0.35 gpm lavs, 1.5 or 1.0 gpm kitchen faucets and showers.</b><br>5/5/26: One dishwasher in breakroom, no other water appliances anticipated, must be Energy Star.<br>5/14/26: Jason Lau <JasonL@InterfaceEng.Com> asked if toilets could be 1.28gpf (1.1 gpf is low flow to move solid waste inside the pipe). AR: need occupancy data to confirm calcs.<br>6/16/26: Team reviewed calculator during mtg. with a random number of visitors. Options:<br>A: no urinals, 1.128gpf toilets, 20% (0 pts).<br>B: no urinals, 1.1gpf toilets, 30% (2 pts).<br>C: urinals, 1.28gpf toilets, 35% (3 pts)<br>D: urinals, 1.1gpf toilets, 41% (5 pts)<br><b>Team to clarify selection and provide dishwasher cutsheet (must be Energy Star)</b> |
| Y |    |    |   | D | Prereq 3                | Building-Level Water Metering | 0  | Can use CA-ACP | Install permanent water meters for potable water in bldg. and grounds. Compile monthly and annual summaries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2 |    |    |   | D | Credit 1                | Outdoor Water Use Reduction   | 2  | Landscape      | 50% reduction 1 point. 100% reduction 2 points. 50% reduction is required by code. 100% reduction requires either no landscaping, or gray-water irrigation, or no permanent irrigation (OK for 2 years max for plants establishment). 5/5/26: John Roberts confirmed seeded (grassland) vs. garden would work for no permanent irrigation, but it is unlikely the client would like this or hand-watered plants. 6/16/26: John confirmed that selected native plants can thrive without permanent irrigation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 | 2  |    | 2 | D | Credit 2                | Indoor Water Use Reduction    | 6  | Plumbing Eng   | 25% (1 point), 30% (2pts), 35% (3pts), <b>40% (4pts)</b> , 45% (5pts), 50% (6pts).<br><a href="#">See notes above in EA2</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

|   |  |  |   |   |          |                         |   |     |                                                                                                                                                                                                                         |
|---|--|--|---|---|----------|-------------------------|---|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |  |  | 2 | D | Credit 3 | Cooling Tower Water Use | 2 | -   | Conduct a 1-time water analysis to prove it meets max concentrations of requested chemicals, and minimize number of cycles without affecting operation for 1 to 2 points.<br>No cooling tower in project.               |
| 1 |  |  |   | D | Credit 4 | Water Metering          | 1 | MEP | Meter in at least 2 of these: <b>irrigation, indoor plumbing, domestic hot water</b> , boiler, reclaimed water, other processed water.<br>MEP to confirm. Required to have irrigation meter in CALGreen in certain size |

| Y | Y? | N? | N  |   |                                |                                                                                                                                                                                                                                                                                                                                                                                             |    |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|----|----|----|---|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 | 4  | 5  | 18 |   | <b>Energy &amp; Atmosphere</b> | Possible Points                                                                                                                                                                                                                                                                                                                                                                             | 33 | Action by              | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Y |    |    |    | C | Prereq 1                       | Fundamental Commissioning and Verification                                                                                                                                                                                                                                                                                                                                                  | 0  | CxA.<br>Can use CA-ACP | Commissioning (Cx) of MEP systems per ASHRAE Guidelines.<br>6/8/26: Sarah Brummett <Brummett@page-tumbull.com> shared Cx Plan and Cx specs from CxA David Chiu <david.chiu@p2sinc.com>. AR asked David if his scope includes fundamental or also enhanced Cx. 6/11/26: David confirmed only Fundamental Cx.                                                                                                                                                             |
| Y |    |    |    | D | Prereq 2                       | Minimum Energy Performance                                                                                                                                                                                                                                                                                                                                                                  | 0  | MEP                    | Minimum 10% better than ANSI/ASHRAE/IESNA Standard 90.1-2010 (2024 LEED update). 1/14/26: Complete by Vincent.                                                                                                                                                                                                                                                                                                                                                          |
| Y |    |    |    | D | Prereq 3                       | Building-Level Energy Metering                                                                                                                                                                                                                                                                                                                                                              | 0  | Can use CA-ACP         | Install building-level energy meters                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Y |    |    |    | D | Prereq 4                       | Fundamental Refrigerant Management                                                                                                                                                                                                                                                                                                                                                          | 0  | Can use CA-ACP         | Zero CFC refrigerants in HVAC&R                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |    |    | 6  | C | Credit 1                       | Enhanced Commissioning                                                                                                                                                                                                                                                                                                                                                                      | 6  | -                      | Option 1: Path 1 Enhanced Cx (3 pts), Path 2 Monitoring-based Cx (4pts). CxA would need to be involved before commencement of CD phase<br>Option 2: Envelope Cx (2pts)                                                                                                                                                                                                                                                                                                  |
| 6 | 2  |    | 10 | D | Credit 2*                      | Optimize Energy Performance<br>New 2024 thresholds for NC or Major Renovation:<br>Improvement in energy performance by cost :<br>20%=1pt, 25%=2pts, <b>30%=3pts</b> , 35%=4pts,<br>40%=5pts, 45%=6pts, 50%=7pts, 55%=8pts,<br>60%=9pts, 100% EP.<br><br>Improvement in GHG: 20%=1pt, 25%=2pts,<br><b>30%=3pts</b> , 35%=4pts, 42%=5pts, 50%=6pts,<br>60%=7pts, 70%=8pts, 85%=9pts, 100% EP. | 18 | MEP                    | Demonstrate improvement over ASHRAE 90.1-2010 Appendix G<br>MEP to advise. 5/5/26: Interface (Steve Gross) has not yet started energy modeling.<br>6/16/26: Matt Larson will explore several window options. HVAC changes are limited and envelope is existing. User would like operable windows but it is not required. Currently around 32%                                                                                                                           |
|   |    | 1  |    | D | Credit 3                       | Advanced Energy Metering                                                                                                                                                                                                                                                                                                                                                                    | 1  | MEP                    | Install metering for all whole-building energy sources used by the building; and any individual energy end uses that represent 10% or more of the total annual consumption of the building.<br>Energy modeler to advise on how many meters would be needed. The additional meters could be add alternates in the budget. 6/16/26: Interface confirmed we would need dedicated meters for Lighting, cooling, fans, and plugs. Interface will study circuit break options |
|   |    |    | 2  | C | Credit 4                       | Demand Response                                                                                                                                                                                                                                                                                                                                                                             | 2  | -                      | Participate in local utility Demand Response Program.<br>1 point available for demand-response ready building if the region does not have demand response program. Consider LEEDv4.1 if needed, more flexibility with Grid Optimization<br>Owner to consider: <a href="https://pge-adr.com">https://pge-adr.com</a> . 5/5/26: Steve Gross said they will know more after electrical study. 6/16/26: Bldg to connected to campus switchboard, not PG&E direct.           |



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

|  |   |   |  |   |          |                                                                                   |   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|---|---|--|---|----------|-----------------------------------------------------------------------------------|---|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 1 | 2 |  | D | Credit 5 | Renewable Energy Production<br>Offset 1% (1 point), 5% (2 points), 10% (3 points) | 3 | MEP       | Install onsite renewable energy systems to offset building energy costs.<br>Team to advise if any PVs are planned. Alternatively, we could buy up to 5 points of Green Power using LEEDv4.1 (combined with EAc5).<br>5/5/26: Interface needs to finish the electric study to assess the feasibility of having PVs carports. Current electric panels capacity might not allow for it.<br>5/14/26: Jason Lau <JasonL@InterfaceEng.Com> said PVs and Battery Energy Storage System (BESS) are only required for new construction, so not on the scope for this project. 6/16/26: Youngchae said team considered PV integrated EV charger. |
|  | 1 |   |  | D | Credit 6 | Enhanced Refrigerant Management                                                   | 1 | MEP       | Option 1. No Refrigerants or Low-Impact Refrigerants (1 point)<br>MEP Engs to advise. 6/16/26: Interface to advise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|  |   | 2 |  | C | Credit 7 | Green Power and Carbon Offsets                                                    | 2 | MEP/Owner | Contract with qualified resources for a minimum of 5 years for 50% (1 pt) or 100% (2pts) of the project's energy. Green power, renewable energy certificates (RECs) & carbon off-sets must be Green-e Energy certified or equivalent. Consider LEEDv4.1 for added flexibility with this and EAc5<br>Using LEEDv4.1 alongside EAc5                                                                                                                                                                                                                                                                                                      |

|   |    |    |   |   |                                  |                                                                                          |    |                |                                                                                                                                                                                                                                                                                                                                                                     |
|---|----|----|---|---|----------------------------------|------------------------------------------------------------------------------------------|----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Y | Y? | N? | N |   |                                  |                                                                                          |    |                |                                                                                                                                                                                                                                                                                                                                                                     |
| 9 | 2  | 2  |   |   | <b>Materials &amp; Resources</b> | Possible Points                                                                          | 13 | Action by      | Notes                                                                                                                                                                                                                                                                                                                                                               |
| Y |    |    |   | D | Prereq 1                         | Storage & Collection of Recyclables                                                      | 0  | Can use CA-ACP | Provide dedicated areas for the collection and storage of recyclable materials<br>Must include: mixed paper, corrugated cardboard, glass, plastics, and metal. Also choose two of the following: batteries, mercury-containing lamps, and electronic waste                                                                                                          |
| Y |    |    |   | C | Prereq 2                         | Construction and Demolition Waste Management Planning                                    | 0  | Can use CA-ACP | Develop and implement a C&D waste management plan with diversion goals, strategies and recycling facilities                                                                                                                                                                                                                                                         |
| 5 |    |    |   | D | Credit 1*                        | Building Life-Cycle Impact Reduction                                                     | 5  | AR             | Option 1 (5 pts): Historic Bldg reuse. <a href="#">Compliant</a>                                                                                                                                                                                                                                                                                                    |
| 1 | 1  |    |   | C | Credit 2*                        | Building Product Disclosure and Optimization - Environmental Product Declarations (EPDs) | 2  | GC             | LEEDv4.1:<br>Option 1 EPDs (1pt): At least 20 EPDs from at least 5 different manufacturers (40+ for exemplary performance)<br>AND/OR<br>Option 2 Multi-Attribute Optimization (1pt): At least 5 products from 3 different manufacturers (10+ for EP) with LCA reports that plan and/or report reduction in global warming potential (GWP) with comparative analysis |



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitcotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

|   |   |   |  |   |           |                                                                          |   |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|---|---|--|---|-----------|--------------------------------------------------------------------------|---|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |   | 2 |  | C | Credit 3* | Building Product Disclosure and Optimization - Sourcing of Raw Materials | 2 | GC                                   | LEEDv4.1: Use materials with responsible sourcing of raw materials (bio-based, recycled content, reused, FSC, or take-back program...). 15% by cost 1 point. 30% 2 points (45% EP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1 | 1 |   |  | C | Credit 4* | Building Product Disclosure and Optimization - Material Ingredients      | 2 | GC                                   | LEEDv4.1:<br>Option 1 Material Ingredient Reporting (1 pt): Use at least 20 different products from at least 5 manufacturers that disclose chemical inventory with approved system. Most commonly used: HPD, C2C Certified v3 Bronze or higher, C2C Material Health Certificate, Declare label (red list free or declared, and LBC compliant)<br>AND/OR<br>Option 2 Material Ingredient Optimization (1 pt): At least 5 products from 3 different manufacturers that has screened and optimized chemical inventory. Common documentation: GreenScreen verified, Third-Party HPD, C2C Certified v3 Silver or higher, C2C Material Health Certificate Silver or higher, or Declare label-red list free. 6/16/26: Youngchae will look for 4 to 5 C2C certified materials |
| 2 |   |   |  | C | Credit 5* | Construction and Demolition Waste Management                             | 2 | GC<br>Could use CA-ACP for 1 pt only | Option 1. Document C&D waste diversion. Path 1: 50% (1 pt) or Path 2: 75% (2 pts). GC would need on-site separation of waste to reach the second point. Might be required in Alameda County<br>Option 2. Reduction of Total Waste Material. Do not generate more than 10 pounds/SF (1 pts), 7.5 lbs/sf (2pts) using LEEDv4.1 of the building's floor area                                                                                                                                                                                                                                                                                                                                                                                                             |

| Y | Y? | N? | N |   |                                     |                                           |    |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---|----|----|---|---|-------------------------------------|-------------------------------------------|----|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 |    | 3  | 5 |   | <b>Indoor Environmental Quality</b> | Possible Points                           | 16 | Action by                                  | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Y |    |    |   | D | Prereq 1                            | Minimum Indoor Air Quality Performance    | 0  | MEP<br>Can use CA-ACP if not pursuing EQc1 | VENTILATION: Meet requirements in ASHRAE 62.1 – 2010<br>MONITORING: Monitor outdoor airflow with an alarm to indicate when deviates more than 15% from setpoint. In naturally ventilated spaces also monitor CO2 concentrations<br>MEP to fill out the Min Air Quality calculator: <a href="https://www.usgbc.org/resources/minimum-indoor-air-quality-performance-calculator">https://www.usgbc.org/resources/minimum-indoor-air-quality-performance-calculator</a> and provide drawings with controls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Y |    |    |   | D | Prereq 2                            | Environmental Tobacco Smoke (ETS) Control | 0  | Can use CA-ACP                             | Prohibit smoking inside the building and within 25 feet from all entries, outdoor air intakes, and operable windows. Post signage at all entrances                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1 |    | 1  |   | D | Credit 1*                           | Enhanced Indoor Air Quality Strategies    | 2  | MEP/ Arch                                  | LEEDv4.1: Comply with 3 strategies for 1 point or 6 strategies for 2 points:<br><b>Strategy 1.</b> Entryway Systems (min 10' in direction of travel in all entrances). Arch to advise if planned. Likely not enough space. Roll out mats are acceptable. 6/16/26: Team to confirm<br><b>Strategy 2.</b> Interior Cross-Contamination Prevention. Janitor closets to have full height partitions, self-closing doors, and HVAC exhaust. Exhaust confirmed min 0.5cfm/sf.<br><b>Strategy 3.</b> Filtration of Outdoor Air (MERV 13+). Required by CALGreen code, confirmed.<br><b>Strategy 4.</b> Filtration of Recirculated Air (MERV 13+). Required by CALGreen code, confirmed.<br><b>Strategy 5.</b> Increased Ventilation 15%. MEP to confirm compliance. Might require additional vent equipment in 2nd floor closet or basement. 5/14/26: Jason Lau <JasonL@InterfaceEng.Com> said not currently planned, it would require larger equipment.<br><b>Strategy 6.</b> Increased Ventilation 30%. MEP to confirm compliance.<br><b>Strategy 7.</b> Operable Windows (in at least 75% of the regularly occupied spaces). 5/5/26: windows might get closed<br><b>Strategy 8.</b> Engineered Natural Ventilation<br><b>Strategy 9.</b> Carbon Dioxide Monitoring (in all densely occupied spaces). Required by CALGreen code, team to confirm it is in this design. Training room might qualify. 5/14/26: Jason Lau <JasonL@InterfaceEng.Com> confirmed compliance.<br><b>Strategy 10.</b> Additional Source Control and Monitoring. |



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

|   |  |   |   |   |           |                                                 |   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|--|---|---|---|-----------|-------------------------------------------------|---|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 |  |   |   | C | Credit 2* | Low-Emitting Materials                          | 3 | GC             | LEEDv4.1: Use materials that meet the low-emitting criteria in at least 2 categories for 1 pt; 3 categories = 2pts, 4 cat=3 pt, 5 cat=3 pts. EP = 90% threshold in at least 3 categories or 1 added point if only achieved 1 or 2 pts. CATEGORIES: 1) Paints and coatings, 2) Adhesives and sealants, 3) Flooring, 4) Wall panels, 5) Ceilings, 6) Insulation, 7) Furniture, 8) Composite wood.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1 |  |   |   | C | Credit 3  | Construction Indoor Air Quality Management Plan | 1 | Can use CA-ACP | Develop an implement an IAQ Mgmt. Plan that meet control measures in SMACNA IAQ guideline for occupied bldg. during construction 2007. AND protect on-site materials from moisture, AND do not operate air-handling equipment or use filters (min MERV 8) and replace filters immediately prior occupancy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |  | 1 | 1 | C | Credit 4  | Indoor Air Quality Assessment                   | 2 | GC             | Option 1 (1 pt): Flush out. Path 1: before occupancy; Path 2: during occupancy. GC to confirm if possible to fit in the schedule or budget. Option 2 (2 pts): Air testing. LEEDv4.1 has lower requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1 |  |   |   | D | Credit 5  | Thermal Comfort                                 | 1 | HVAC           | Meet ASHRAE Standard 55-2010, Thermal Comfort Conditions for Human Occupancy, and provide control to 50% of individually occupied spaces. Group thermal control for Multi occupant spaces.<br>5/5/26: 1 Tstat per room currently. 2nd floor open office have 4 desks but we can add desk fans on that room, all others are compliant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 1 |  | 1 |   | D | Credit 6  | Interior Lighting                               | 2 | MEP            | LEEDv4.1: Meet 1 strategy for 1 point. Meet 3 strategies total for 2 points.<br>Strategy 1. Glare Control (luminance less than 7,000 candela/sf or UGR <19). Lighting consultant to advise. 5/14/26: Jason Lau <JasonL@InterfaceEng.Com> wrote that it will comply for exterior lighting (?) N/A in this credit. 6/8/26: PhilipN@interfaceeng.com said they can specify interior lights with shielding such that the luminance of less than 7,000 candela per square meter between 45 and 90 degrees from nadir is met. 6/16/26: Philip advised following strategy 3<br>Strategy 2. Color Rendering (CRI over 90) in regularly occupied spaces. Lighting consultant to advise. 5/14/26: Jason Lau <JasonL@InterfaceEng.Com> confirmed CRI >90.<br>Strategy 3. Lighting Control (dimmable or multilevel to min 90% of occupant spaces). Electrical eng to confirm. 5/14/26: Jason Lau <JasonL@InterfaceEng.Com> all dimmable 0-10V<br>Strategy 4. Surface Reflectivity (90% regularly occupied spaces with surface reflectance over 80% for ceilings, 55% for walls, 45% for work surfaces and 50% for movable partitions). Sarah will send prelim color selection. 6/16/26: ceilings will be, walls are not currently whitefish but could be if needed. |
|   |  |   | 3 | D | Credit 7  | Daylight                                        | 3 | -              | LEEDv4.1: Achieve spacial daylighting autonomy (sDA), or illuminance levels between 300-3,000 lux by either computer simulation or field measurement. Provide glare control devices for all regularly occupied spaces.<br>sDA300/50% value for the regularly occupied floor area: 40%=1pt, 55%=2 pts, 75%=3 pts.<br>Would require daylighting modeling, likely not in budget. Cannot add windows, might not have enough daylight autonomy. Highly unlikely. Reopen for discussion if needed to reach target LEED points.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1 |  |   |   | D | Credit 8* | Quality Views                                   | 1 | Arch           | Direct line of "quality" sight to the outdoors for 75% of all regularly occupied floor area. Exemplary performance: 90%.<br>Arch to advise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |  |   | 1 | D | Credit 9  | Acoustic Performance                            | 1 | -              | LEEDv4.1: For all occupied spaces, meet two of the following: HVAC background noise, Sound Transmission, and/or Reverberation time. Meet all three for exemplary performance.<br>Acoustic consultant to advise. No acoustic consultant in team.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



# LEEDv4 BD+C NC- DETAILED SCORECARD

Whitecotton Cottage Rehabilitation

15400 Foothill Blvd. San Leandro, CA 94578

6/16/26

BUILDING 3,544 SF (+ 602 SF BASEMENT). Site XXXX sf. Vegetated XXX sf

10 regular bldg occupants. XXX average daily visitors (in a 24-hr period). 50 peak visitors (max at any given time).

| Y | Y? | N? | N |  |                                        |                                            |   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---|----|----|---|--|----------------------------------------|--------------------------------------------|---|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 |    |    |   |  | <b>Innovation &amp; Design Process</b> | Possible Points                            | 6 | Action by | Projects may earn up to 5 points through any combination of the following: Innovation (up to 4 points), Pilot credits (up to 4 points), Exemplary performance (up to 2 points)                                                                                                                                                                                                                                                                                  |
| 1 |    |    |   |  | <b>D</b> Credit 1.1                    | Innovation, Pilot or Exemplary Performance | 1 | AR        | Consider gender neutral restrooms pilot credit. Small print: All-Gender Restroom Facilities shall provide free Menstrual Hygiene Materials (e.g., by using sanitary pad and tampon dispensers)                                                                                                                                                                                                                                                                  |
| 1 |    |    |   |  | <b>D</b> Credit 1.2                    | Innovation, Pilot or Exemplary Performance | 1 | AR        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1 |    |    |   |  | <b>D</b> Credit 1.3                    | Innovation- Purchasing lamps (no mercury)  | 1 | AR        | Mercury free lighting, all LED. <a href="https://www.usgbc.org/node/7433230?return=innovationcatalog/new-construction/v4">https://www.usgbc.org/node/7433230?return=innovationcatalog/new-construction/v4</a>                                                                                                                                                                                                                                                   |
| 1 |    |    |   |  | <b>D</b> Credit 1.4                    | Green cleaning + IPM                       | 1 | Owner     | Templates owner consideration:<br>- <a href="https://www.usgbc.org/resources/v4-eqp-green-cleaning-policy-template">https://www.usgbc.org/resources/v4-eqp-green-cleaning-policy-template</a><br>- <a href="https://www.usgbc.org/resources/v4-eqc-integrated-pest-management-plan-template">https://www.usgbc.org/resources/v4-eqc-integrated-pest-management-plan-template</a><br>6/16/26: Team to confirm name and contact of janitorial team (BMD. Kamala?) |
| 1 |    |    |   |  | <b>D</b> Credit 1.5                    | SSpc129 Pilot- Comprehensive Composting    | 1 | AR        | Client to confirm the building will collect compost. 6/16/26: Confirmed                                                                                                                                                                                                                                                                                                                                                                                         |
| 1 |    |    |   |  | <b>C</b> Credit 2                      | LEED™ Accredited Professional              | 1 | AR        | Adhamina Rodriguez                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Y | Y? | N? | N |  |                          |                                                |   |           |                           |
|---|----|----|---|--|--------------------------|------------------------------------------------|---|-----------|---------------------------|
| 1 | 1  | 2  |   |  | <b>Regional Priority</b> | Possible Points                                | 4 | Action by | Based on project location |
|   |    | 1  |   |  | Credit 1.1               | MRc Building products disclosure - sourcing of | 1 | -         |                           |
|   |    | 1  |   |  | Credit 1.2               | SSc Rainwater Mgmt (min 3 pts)                 | 1 | -         |                           |
| 1 |    |    |   |  | Credit 1.3               | WEc2 Indoor water use reduction (min 4 pts)    | 1 | -         |                           |
|   |    |    |   |  | Credit 1.4               | LTc Access to Quality Transit (min 5 pts)      | 1 | -         |                           |
|   |    |    |   |  |                          | EAc2 Optimized energy performance (min 10      |   | -         |                           |
| 1 |    |    |   |  |                          | MRc Building LCA (min 3 pts)                   |   | -         |                           |

|    |    |    |    |                                               |
|----|----|----|----|-----------------------------------------------|
| 47 | 10 | 14 | 39 | <b>Total Project Score (Required: Silver)</b> |
|----|----|----|----|-----------------------------------------------|

Yes Y? N? No Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110 points

57

Yes + Likely

\* Credit eligible for exemplary performance

**D**esign or **C**onstruction credit.