COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: December 5, 2019

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of an After-the-Fact Grading Remediation and Variance to remediate and restore unpermitted earthwork resulting from grading beyond the scope of work necessary to demolish a fire damaged single-family residence. Remediation includes 1,233 cubic yards of earthwork to establish stable slopes. The project is located at 651 Vista Drive in the unincorporated Emerald Lake Hills area of San Mateo County.

County File Number: PLN 2018-00309 (Musante)

PROPOSAL

Grading Remediation and Variance (in response to SWN 2017-00087) to remediate and restore unpermitted earthwork resulting from grading beyond the scope of work necessary to demolish a fire damaged single-family residence. Site remediation includes 1,230 cubic yards (1,200 cubic yards of over excavation to remove undocumented fill, 10 cubic yards of cut, and 23 cubic yards of fill) to establish stable slopes. Staff has assessed that two (2) trees were removed along the roadway on Vista Drive due to the fire and/or to provide safe access for emergency vehicles. The project will be conditioned to require replacement trees at a 3:1 ratio which will be required upon proposal of a new single-family residence.

RECOMMENDATION

That the Zoning Hearing Officer approve the After-the-Fact Grading Permit and Variance, County File Number PLN 2018-00309, by making the required findings and conditions of approval as listed in Attachment A.

BACKGROUND

Report Prepared By: Olivia Boo

Applicant/Owner: Brian Musante

Location: 651 Vista Drive, Redwood City

APN: 057-222-390

Size: 51,400 sq. ft. (1.17 acres)

Existing Zoning: RH/DR (Residential Hillside/Design Review)

General Plan Designation: Low Density Residential

Sphere-of-Influence: Redwood City

Existing Land Use: Vacant (the former house was demolished, due to fire damage, in August 2017; BLD 2017-01391)

Water Supply: The property is supplied by Redwood City Municipal Water Department.

Sewage Disposal: The site is served by Emerald Lakes Sewer District.

Flood Zone: The project site is located in Flood Zone X as defined by FEMA (Community Panel Number 06081C0285E, dated October 16, 2012), which is an area with minimal potential for flooding.

Environmental Evaluation: An Initial Study and Mitigated Negative Declaration were prepared for this project and circulated from November 7, 2019 to November 27, 2019. As of the publication of this report, no comments were received.

Setting: The 1.17-acre now vacant parcel is located in the unincorporated community of Emerald Lake Hills in Redwood City. The parcel abuts and takes access from Vista Drive but also fronts the unimproved Canyon Lane Road. The project parcel is surrounded by single-family residences and dense vegetation. The project parcel has a steep 2.5:1 (68%) slope within the first 40 feet of the property. A drainage swale is located to the rear (northeast) of the property.

Chronology:

Date		Action
December 5, 2016	-	The house was red-tagged due to fire damage, BLD 2016-02378.
June 30, 2017	-	Demolition permit issued to demolish the fire damaged house, BLD 2017-00391.
September 5, 2017	-	Stop Work Notice issued in response to site work exceeding the scope of the demolition permit for non-permitted grading, SWN 2017-00087.
December 21, 2017	-	Response to Stop Work Notice, erosion control measures installed and tree protection restricted in order to stabilize and protect the site and exposed hillside, BLD 2017-02675.

August 8, 2018 - Received After-the-Fact Grading Remediation Permit application to restore undocumented fill.

November 7, 2019 - Mitigated Negative Declaration published. Comment period ended November 27, 2019.

December 5, 2019 - Zoning Hearing Officer public hearing.

DISCUSSION

A. KEY ISSUES

1. Conformance with the General Plan

Upon review of the applicable provisions of the General Plan, staff has determined that the project complies with all applicable policies, including the following;

Vegetative, Water, Fish, and Wildlife Resources

Policy 1.28 (*Regulate Development to Protect Sensitive Habitats*) aims to regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish, and wildlife resources, protect rare, endangered, and unique plants and animals from reduction in their range or degradation of their environment, and protect and maintain the biological productivity of important plant and animal habitats.

An unnamed intermittent stream and coast live oak forest are located on the northerly side of Canyon Land (across from the unimproved roadway) toward the north end of the parcel approximately 250 feet from the project site. This stream was identified in a biologist report, prepared by SWCA Environmental Consultants, prepared for a different project located along Canyon Lane. No watercourses are present in the area of the demolished residence or within the grading project area. In evaluating the Canyon Lane project, the biological report included portions of the parcel at 651 Vista Drive, namely, the forest of coast live oak existing on the subject parcel and the ephemeral drainage swale that crosses north to south along the center portion of the property. Both areas are located on the subject property behind where the home previously existed. The ephemeral drainage does not provide suitable habitat for fish and most aquatic wildlife species because the drainage is narrow and relatively shallow and the water in the drainage is the result of storm events. The drainages may provide a seasonally present water source for wildlife species in adjacent habitats, for drinking or bathing. To protect the ephemeral drainage swale from disturbance and maintain the drainage for drinking and bathing, Conditions 5 through 16 are recommended. Further, no additional tree removal, other than the two (2) trees removed along Vista Drive are proposed for removal.

Implementation of the conditions of approval will ensure potential sensitive habitats are protected

Soil Resource Policies

Policies 2.17 (*Regulate Development to Minimize Soil Erosion and Sedimentation*) and 2.23 (*Regulation Excavation, Grading, Filling, and Land Clearing Activities Against Accelerated Soil Erosion*) discuss ensuring minimizing soil erosion and sedimentation, stabilization of disturbed areas, and protection of natural plant communities and areas of fish and wildlife.

The submitted Geotechnical Investigation, prepared by Romig Engineers, evaluated the unpermitted grading and remediation to ensure stable slopes within the project area. Due to the placement of undocumented expansive fill placed at the site, up to 4 feet in some areas, remediation work requires 1,200 cubic yards of over excavation to create stabilized compacted benches and keyways. Erosion control measures are currently in place and will be required to be maintained throughout the grading remediation. The report recommends that a member of their staff observe and test on nearly a full-time basis during over excavation of the man-made fill slopes, backfill and compaction of the proposed fill slopes. If remediation is anticipated during the wet season, Romig Engineers will be required to address whether grading remediation activity can continue through the wet season (October 1 - April 30) and apply for a winter grading request if necessary. Continued implementation of the erosion control measures currently in place along with geotechnical oversite during remediation will ensure erosion and sedimentation are minimized and adverse impacts to sensitive habitats are avoided

Visual Quality Policies

Policy 4.26 (*Earthwork Operations*) discusses keeping grading or earth-moving operations to a minimum and, where grading is necessary, to make graded areas blend with adjacent landforms through the use of contour grading rather than harsh cutting or terracing of the site. Policy 4.29 (*Trees and Vegetation*) discusses preserving trees and natural vegetation except where removal is required for approved development and to replace vegetation and trees removed during construction wherever possible.

During the demolition of the fire damaged residence, expansive fill was brought on-site resulting in benched topography. In order to minimize the additional earthwork and stabilize the site, over excavation, backfill, and compaction of the benched slopes is proposed until such time the building permit is submitted for a new residence. A future residence is subject to Design Review permit processing that will incorporate landscaping to soften the appearance of the benched slopes. Tree replacement will also be required as part of the Design Review permit for the new residence.

2. Conformance with the Grading Regulations

In order to approve this After-the-Fact Grading Remediation Permit, the Zoning Hearing Officer must make the required findings as specified in Section 9290 (*Findings, Conditions, and Actions*) of the County Building Regulations. The findings and supporting evidence are outlined below:

a. **That the project will not have a significant adverse effect on the environment.**

A Mitigated Negative Declaration was published November 7, 2019 to November 27, 2019. Upon implementation of the mitigation measures (Conditions of Approval Nos. 5 through 16), the grading remediation project will not have a significant impact. The project has been conditioned to minimize potential significant adverse effects that may occur during earthwork operations by requiring the ongoing maintenance of installed erosion and sediment control measures, dust control plan, and adherence with the San Mateo Countywide Stormwater Pollution Prevention Program which requires Watershed Protection Maintenance Standards instruction to construction employees during the building permit stage.

b. **That the project conforms to the criteria of Chapter 5 (*Regulations for Excavating, Grading, Filling, and Clearing on Lands in Unincorporated San Mateo County*) of the San Mateo County Building Regulations including the standards referenced in Section 9296.**

Erosion control measures are currently in place and will be required to be maintained throughout the grading remediation. The Geotechnical Investigation by Romig Engineers report recommends that a member of their staff observe and test on nearly a full-time basis during over excavation of the man-made fill slopes, backfill and compaction of the proposed fill slopes. If remediation is anticipated during the wet season, Romig Engineers will be required to address whether grading remediation activity can continue through the wet season (October 1 - April 30) and apply for a winter grading request if necessary. Conditions of Approval Nos. 5 through 16, will reduce potential significant impacts to less than significant levels.

c. **That the project is consistent with the General Plan.**

The Project, as conditioned, conformed to the standards in Chapter 5 of the San Mateo County Building regulations, including timing of grading activity, erosion and sediment control. The installed erosion control measures shall be maintained through the duration of the grading remediation project and continue through the future development. In addition, the project has ben reviewed and

conditionally approved by the Geotechnical Section. The project included conditions of approval requiring the implementation of dust control measures and timing restrictions for grading activities.

d. **Variance to Exceed allowable Grading Quantity for the Residential Hillside/Design Review Zoning District Grading.**

The RH/DR Zoning District limits grading quantities to 1,000 cubic yards, thus staff is required to make the findings for a Variance for this after-the-fact grading remediation project.

e. **The parcel's location, size, shape, topography and/or other physical conditions vary substantially from those of other parcels in the same zoning district.**

The parcel's steep topography, a downslope of 68% within the first 40 feet of the parcel, is not uncommon in the RH Zoning District. However, in order to remove the expansive fill and stabilize the site (other physical conditions), a variance is required to exceed the 1,000 cubic yard limit. The grading remediation is necessary for geotechnical purposes and for future development

f. **Without the variance, the landowner would be denied the rights and privileges that are enjoyed by other landowners in the same zoning district or vicinity.**

Without the variance, the landowner would be denied the right to remediate the unpermitted earthwork resulting in potential erosion hazards and sedimentation impacts on downslope properties and sensitive habitats.

g. **The variance does not grant the landowner a special privilege which is inconsistent with the restrictions placed on other parcels in the same zoning district or vicinity.**

The variance is required to stabilize the unpermitted fill and is not granting a special privilege that would not be considered for other parcels within the RH/DR Zoning District. The property, like others in the vicinity, have the same RH/DR zoning and allows for the construction of a single-family residence. The area is known to have varying topography thus upon permission by a geotechnical consultant, compliance with RH/DR zoning, and permission of utilities and applicable county agencies, development is possible.

h. **The variance authorizes only uses or activities which are permitted by the zoning district.**

The variance is necessary to allow for grading quantities that exceed 1,000 cubic yards. Unauthorized fill was added to the site and per the Romig Engineers geotechnical report, the fill requires remediation to stabilize. Not allowing grading remediation of the undocumented fill would leave the soil unsafe and unstable. Grading is an allowed use subject to permit approval.

i. **The variance is consistent with the objectives of the General Plan, the Local Coastal Program and the Zoning Regulations.**

The project, as discussed in the report, is consistent with the General Plan polices objectives regarding Vegetative, Water, Fish, and Wildlife Resources, Soil Resources, and Visual Quality, as conditioned. The parcel is not located within the Coastal Zone.

B. ENVIRONMENTAL REVIEW

An Initial Study and Mitigated Negative Declaration were prepared for this project and circulated from November 7, 2019 to November 27, 2019. As of the Publication of this report, no comments were received as of preparation of this report.

C. REVIEWING AGENCIES

Building Inspection Section
Geotechnical Section

ATTACHMENTS

A. Conditions of Approval
B. Site Plan
C. Engineering Investigation Report prepared by Romig Engineers, dated March 2018
D. SWRA biologist report prepared for Canyon Lane Road
E. Mitigated Negative Declaration

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Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2018-00309 Hearing Date: December 5, 2019

Prepared By: Olivia Boo, Project Planner For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

For the Environmental Review, Find:

1. That the Initial Study and Mitigated Negative Declaration are complete, correct, adequate, and prepared in accordance with the California Environmental Quality Act (CEQA) and the applicable State and County Guidelines. An Initial Study and a Mitigated Negative Declaration were prepared and issued with a public review period from November 7, 2019 to November 27, 2019.

2. That, on the basis of the Initial Study, there is no substantial evidence that the project, if subject to the mitigation measures contained in the Mitigated Negative Declaration, will have a significant effect on the environment. The Initial Study and Mitigated Negative Declaration identify potentially significant impacts to air qualify, biological resources, cultural resources, geology and soils, hydrology, noise, water quality, and tribal cultural resources. The mitigation measures contained in the Mitigated Negative Declaration have been included as conditions of approval in this attachment. As proposed and mitigated, the project will not result in any significant environmental impacts.

3. That the mitigation measures identified in the Mitigated Negative Declaration, agreed to by the applicant, and identified as part of this public hearing, have been incorporated as conditions of project approval.

4. That the Initial Study and Mitigated Negative Declaration reflect the independent judgment of the County.

For the Grading Permit, Find:

5. That this project, as conditioned, will not have a significant adverse effect on the environment. The project has been reviewed by Planning staff, the Geotechnical Section, and the Building Inspection Section, which found that the project can be completed without significant harm to the environment provided all conditions are met.

6. That the project conforms to the criteria of Chapter 5 of the San Mateo County Building Regulations, including the standards referenced in Section 9296. The project, as proposed and conditioned, conformed to the standards in the Building Regulations, including timing of grading activity, erosion and sediment control, and dust control. The project has been reviewed and conditionally approved by the Geotechnical Section.

7. That the project is consistent with the General Plan, specifically vegetation vegetative, water, fish, and wildlife resources and soil resources. The project will be in an urban residentially zoned area. The project, as proposed and conditioned, complies with applicable design review standards and will connect to local public utilities. Conditions of approval have been provided to ensure that grading operations minimize erosion and sedimentation resulting from the project.

For the Variance, Find:

8. The parcel's location, size, shape, topography and/or other physical conditions vary substantially from those of other parcels in the same zoning district. Expansive fill was brought on-site resulting in benched topography. In order to minimize the additional earthwork and stabilize the site, over excavation and backfill remediation is required.

9. Without the variance, the landowner would be denied the rights and privileges that are enjoyed by other landowners in the same zoning district or vicinity. The variance allows the landowner the right to remediate the site for stability and future development.

10. The variance does not grant the landowner a special privilege which is inconsistent with the restrictions placed on other parcels in the same zoning district or vicinity. The grading will stabilize the unpermitted fill, allow for future development and is not granting a special privilege not allowed for other parcels in the same zoning district.

11. The variance authorizes only uses or activities which are permitted by the zoning district. Grading is an allowed activity use in the RH/DR Zoning District subject to permit approval.

12. The variance is consistent with the objectives of the General Plan, the Local Coastal Program and the Zoning Regulations. The project, as discussed in the report, is consistent with the General Plan polices objectives regarding Vegetative, Water, Fish, and Wildlife Resources, Soil Resources, and Visual Quality, as conditioned. The parcel is not located within the Coastal Zone.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. The approval applies only to the proposal as described in this report and materials submitted for review and approval by the Zoning Hearing Officer on December 5, 2019. The Community Development Director may approve minor revisions or modifications to the project if they are found to be consistent with the intent of and in substantial conformance with this approval.

2. This permit shall be valid for one (1) year from the date of approval by which the associated building permit (BLD 2017-02675) shall have been completed. Any extension of this permit shall require submittal of an application for permit extension and payment of applicable extension fees sixty (60) days prior to the expiration date.

3. The applicant shall schedule and pass the final building inspection for the associated building permit (Building Case No. BLD 2017-02675) for the remediation grading work. Prior to Planning's final approval of the building permit, the project engineering geologist and biologist shall assess and confirm that the bank repair and remediation are stable and satisfactory. Any recommendations for any additional work shall occur, to the satisfaction of the Community Development Director, prior to this final approval.

4. This permit does not allow for the removal of any additional trees. Any tree removal will require a separate permit.

5. Prior to the final approval of a new residence, the applicant shall have planted six (6) 15-gallon trees, using species indigenous to San Mateo County.

The following conditions are mitigation measures from the Negative Declaration

6. **Mitigation Measure 1:** The applicant shall require construction contractors to implement all the Bay Area Air Quality Management District's Basic Construction Mitigation Measures, listed below:

    a. Water all active construction areas at least twice daily.

    b. Apply water two times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

    c. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

    d. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour.

e. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. **Mitigation Measure 2:** Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

8. **Mitigation Measure 3:** Prior to the issuance of the building permit for the property, the applicant shall submit to the Planning Department for review and approval an erosion and drainage control plan that shows how the transport and discharge of soil and pollutants from and within the project site shall be minimized. The plan shall be designed to minimize potential sources of sediment, control the amount of runoff and its ability to carry sediment by diverting incoming flows and impeding internally generated flows, and retain sediment that is picked up on the project site through the use of sediment-capturing devices. The plan shall also limit application, generation, and migration of toxic substances, ensure the proper storage and disposal of toxic materials, and apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters. Said plan shall adhere to the San Mateo Countywide Stormwater Pollution Prevention Program "General Construction and Site Supervision Guidelines," including:

a. Sequence construction to install sediment-capturing devices first, followed by runoff control measures and runoff conveyances. No construction activities shall begin until after all proposed measures are in place.

b. Minimize the area of bare soil exposed at one time (phased grading).

c. Clear only areas essential for construction.

d. Within five (5) days of clearing or inactivity in construction, stabilize bare soils through either non-vegetative best management practices Best Management Practices (BMPs), such as mulching, or vegetative erosion control methods, such as seeding. Vegetative erosion control shall be established within two (2) weeks of seeding/planting.

e. Construction entrances shall be stabilized immediately after grading and frequently maintained to prevent erosion and to control dust.

f. Control wind-born dust through the installation of wind barriers such as hay bales and/or sprinkling.

g. Soil and/or other construction-related material stockpiled on-site shall be placed a minimum of 200 feet from all wetlands and drain courses. Stockpiled soils shall be covered with tarps at all times of the year.

h. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drains by using earth dikes, perimeter dikes or swales, or diversions. Use check dams where appropriate.

i. Provide protection for runoff conveyance outlets by reducing flow velocity and dissipating flow energy.

j. Use silt fence and/or vegetated filter strips to trap sediment contained in sheet flow. The maximum drainage area to the fence should be 0.5 acres or less per 100 feet of fence. Silt fences shall be inspected regularly, and sediment removed when it reaches 1/3 the fence height. Vegetated filter strips should have relatively flat slopes and be vegetated with erosion-resistant species.

k. Throughout the construction period, the applicant shall conduct regular inspections of the condition and operational status of all structural BMPs required by the approved erosion control plan.

l. No erosion or sediment control measures will be placed in vegetated areas.

m. Environmentally sensitive areas shall be delineated and protected to prevent construction impacts.

n. Control of fuels and other hazardous materials, spills, and litter during construction.

o. Preserve existing vegetation whenever feasible.

9. **Mitigation Measure 4:** In the event that cultural, paleontological, or archaeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery and the project sponsor shall immediately notify the Community Development Director of the discovery. The applicant shall be required to retain the services of a qualified archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. The cost of the qualified archaeologist and of any recording, protecting, or curating shall be borne solely by the project sponsor. The archaeologist shall be required to submit to the Community Development Director for review and approval a report of the findings and methods of curation or protection of the resources. In addition, an archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be

submitted to the Northwest Information Center after monitoring has ceased. No further grading or site work within the area of discovery shall be allowed until the preceding has occurred.

Geotechnical Section

10. **Mitigation Measure 5:** If a newly discovered resource is, or is suspected to be, Native American in origin, the resource shall be treated as a significant Tribal Cultural Resource, pursuant to Public Resources Code 21074, until the County has determined otherwise with the consultation of a qualified archaeologist and local tribal representative.

11. **Mitigation Measure 6:** In the event of discovery or recognition of any human remains during project construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The applicant shall then immediately notify the County Coroner's Office and possibly the State Native American Heritage Commission to seek recommendations from a Most Likely Descendant (Tribal Contact) before any further action at the location of the find can proceed. All contractors and sub-contractors shall be made aware of these requirements and shall adhere to all applicable laws including State Cultural Preservation laws. Disposition of Native American remains shall comply with CEQA Guidelines Section 15064.5(e).

12. **Mitigation Measure 7:** A qualified engineer shall be on site to observe and test over excavation of the man-made fill slopes and backfill and compaction of the proposed fill slopes as recommended in the Romig Engineers Geotechnical Investigation.

13. **Mitigation Measure 8:** The applicant shall implement dust control measures, as listed below. Measures shall be included on plans submitted for the building permit and encroachment permit applications. The measures shall be implemented for the duration of any grading, demolition, and construction activities that generate dust and other airborne particles. The measures shall include the following:

    a. Water all active construction areas at least twice daily.

    b. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

    c. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

    d. Apply water three times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

e. Sweep daily (preferably with water sweepers) all paved access roads, parking, and staging areas at the construction sites.

f. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour (mph).

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

14. **Mitigation Measure 9:** The applicant shall implement the following basic construction measures at all times.

    a. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measure, Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

    b. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be check by a certified visible emissions evaluator.

    c. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person, or his/her designee, shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

15. **Mitigation Measure 10:** The applicant shall keep on-site soils in a moist condition throughout the construction period to help mitigate the potential effects of the expansive on-site soils.

16. **Mitigation Measure 11:** Should any traditionally or culturally affiliated Native American Tribe respond to the County's issued notification for consultation, such process shall be completed and any resulting agreed upon measures for avoidance and preservation of identified resources be taken prior to implementation.

17. **Mitigation Measure 12:** In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall cease until a

qualified professional can evaluate the find and recommend appropriate measures to avoid and preserve the resources in place or minimize adverse impacts to the resource. Those measures shall be approved by the County Planning Department prior to implementation and prior to continuing any work associated with the project.

18. **Mitigation Measure 13:** Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

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COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT B

MAINTENANCE NOTES

1. MAINTENANCE IS TO BE PERFORMED AS FOLLOWS:
   A. REPAIR DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION AT THE END OF EACH WORKING DAY.
   B. SWALES SHALL BE INSPECTED PERIODICALLY AND MAINTAINED AS NEEDED.
   C. SEDIMENT TRAPS, BERMS, AND SWALES ARE TO BE INSPECTED AFTER EACH STORM AND REPAIRS MADE AS NEEDED.
   D. SEDIMENT SHALL BE REMOVED AND SEDIMENT TRAPS RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF ONE FOOT.
   E. SEDIMENT REMOVED FROM TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
   F. RILLS AND GULLIES MUST BE REPAIRED.

EXISTING UTILITIES NOTES:

1. LOCATE AND MARK ALL UNDERGROUND UTILITIES. THE UTILITIES SHALL BE TREATED AS FOLLOWS:

WATER SERVICE

A. EXISTING WATER SHALL BE CAPPED AND REMOVED IF NECESSARY FOR NEW CONSTRUCTION.

ELECTRICAL SERVICE

A. ELECTRICAL LINE SHALL BE PROTECTED IN PLACE.

GAS SERVICE

A. GAS LINE SHALL BE PROTECTED IN PLACE.

ANTICIPATED CONSTRUCTION SCHEDULE:
START OF CONSTRUCTION: N/A
END OF CONSTRUCTION: N/A

EROSION CONTROL POINT OF CONTACT:
NAME: CHIN HANG WONG
TITLE/QUALIFICATION: P.E. & QSD
PHONE: 510-368-8863
PHONE:
E-MAIL: cwong@green-ce.com

LEGEND

= FLOW DIRECTION
SR = SILT FENCE
= TREE PROTECTION

ABBREVIATIONS:
E = EXISTING
SR = STRAW ROLL

EROSION CONTROL NOTES

1. REFUSE PILES AND DEBRIS TO BE CONTAINED IN A 10 YARD CONSTRUCTION BIN. COVER BIN AFTER EACH WORK DAY.
2. DESIGNATED LUMBER AND MATERIALS TO BE STORED IN A CONTAINER.
3. TEMPORARY SANITARY FACILITY: COLOR TO BE BROWN OR GREEN. CONTRACTOR SHALL LOCATE PORTABLE TOILETS AWAY FROM SURFACE
4. TEMPORARY STAGING AREA. CONTRACTOR SHALL PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER SEDIMENT BARRIER SUCH AS FIBER ROLL.
5. CONSTRUCTION VEHICLE PARKING

THIS INTERIM EROSION CONTROL PLAN IS PREPARED TO STABILIZE POST DEMOLITION SITE CONDITION. A SEPARATE EROSION CONTROL IS REQUIRED IF A NEW BUILDING OR SITE DEVELOPMENT IS TAKEN PLACE IN THE FUTURE. IT IS THE OWNER'S RESPONSIBILITY TO COMPLY WITH COUNTY OF SAN MATEO EROSION CONTROL GUIDELINES. GREEN CIVIL ENGINEERING SHALL BE HELD HARMLESS FOR ANY FAILURE TO COMPLY WITH COUNTY OF SAN MATEO EROSION CONTROL GUIDELINES.

EARTHWORK, GRADING, OVEREXCAVATION OF EXISTING MAN-MADE FILL SLOPES, KEYWAY AND UPSLOPE BENCH EXCAVATIONS, SUBDRAIN INSTALLATION, BACKFILLING AND COMPACTION OF PROPOSED FILL SLOPES, AND SITE DRAINAGE SHOULD BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY ROMIG ENGINEERS, INC., DATED MARCH 21, 2018. ROMIG ENGINEERS SHOULD BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY EARTHWORK AND SHOULD OBSERVE AND TEST DURING EARTHWORK AND FOUNDATION CONSTRUCTION AS RECOMMENDED IN THE GEOTECHNICAL REPORT."

TRAFFIC CONTROL NOTES

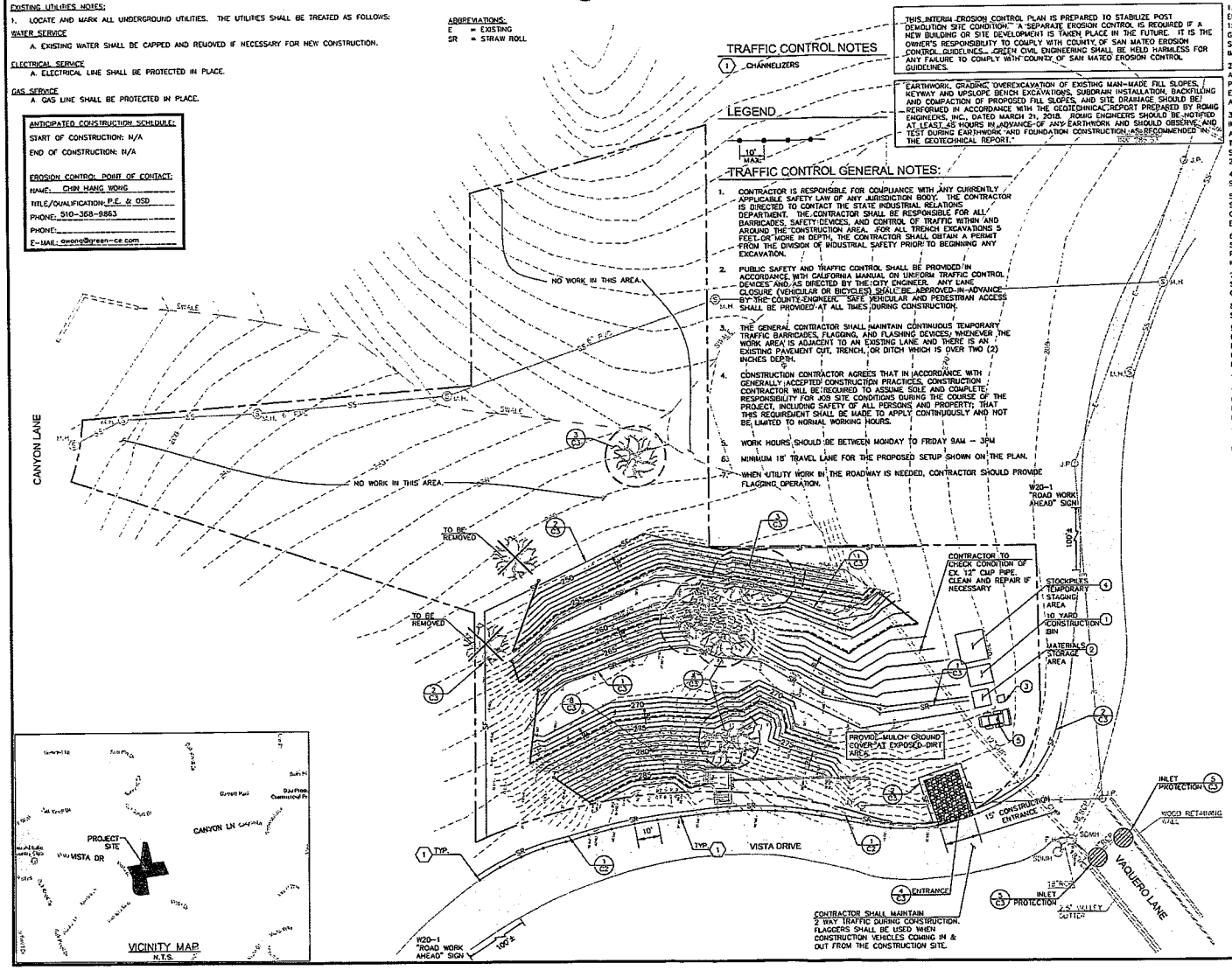
1. CHANNELIZERS

LEGEND

10' MAX.

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ANY CURRENTLY APPLICABLE SAFETY LAW OF ANY JURISDICTION BODY. THE CONTRACTOR IS DIRECTED TO CONTACT THE STATE INDUSTRIAL RELATIONS DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES, AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA. FOR ALL TRENCH EXCAVATIONS 5 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DIVISION OF INDUSTRIAL SAFETY PRIOR TO BEGINNING ANY EXCAVATION.
2. PUBLIC SAFETY AND TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS DIRECTED BY THE CITY ENGINEER. ANY LANE CLOSURE (VEHICULAR OR BICYCLES) SHALL BE APPROVED IN ADVANCE BY THE COUNTY ENGINEER. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL MAINTAIN CONTINUOUS TEMPORARY TRAFFIC BARRICADES, FLAGGING, AND FLASHING DEVICES, WHENEVER THE WORK AREA IS ADJACENT TO AN EXISTING LANE AND THERE IS AN EXISTING PAVEMENT CUT, TRENCH, OR DITCH WHICH IS OVER TWO (2) INCHES DEPTH.
4. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
5. WORK HOURS SHOULD BE BETWEEN MONDAY TO FRIDAY 9AM – 3PM
6. MINIMUM 18' TRAVEL LANE FOR THE PROPOSED SETUP SHOWN ON THE PLAN.
7. WHEN UTILITY WORK IN THE ROADWAY IS NEEDED, CONTRACTOR SHOULD PROVIDE FLAGGING OPERATION.



GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

EROSION AND SEDIMENT CONTROL NOTES AND MEASURES

1. THE FACILITIES SHOWN ON THIS PLAN ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, OCTOBER 15 TO APRIL 15. FACILITIES ARE TO BE OPERABLE PRIOR TO OCTOBER 1 OF ANY YEAR. GRADING OPERATIONS DURING THE RAINY SEASON, WHICH LEAVE DENUDED SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES IMMEDIATELY FOLLOWING GRADING ON THE SLOPES.
2. THIS PLAN COVERS ONLY THE FIRST WINTER FOLLOWING GRADING WITH ASSUMED SITE CONDITIONS AS SHOWN ON THE EROSION CONTROL PLAN. PRIOR TO SEPTEMBER 15, THE COMPLETION OF SITE IMPROVEMENT SHALL BE EVALUATED AND REVISIONS MADE TO THIS PLAN AS NECESSARY WITH THE APPROVAL OF THE CITY ENGINEER.
3. IF HYDROSEEDING IS NOT USED, THEN OTHER METHODS SHALL BE IMPLEMENTED, SUCH AS EROSION CONTROL BLANKETS, OR A THREE-STEP APPLICATION OF: 1) SEED, MULCH, FERTILIZER 2) BLOWN STRAW 3) TACKIFIER AND MULCH. CONTACT TOWN OF PORTOLA VALLEY FOR APPROVED SEED MIX. UTILIZE EROSION FABRIC ON DISTURBED SLOPES GREATER THAN 2:1.
4. DURING WINTER MONTHS, ALL DISTURBED SLOPES GREATER THAN 2:1 SHALL HAVE MANDATORY EROSION CONTROL FABRIC.
5. INLET PROTECTION SHALL BE INSTALLED AT OPEN INLETS TO PREVENT SEDIMENT FORM ENTERING THE STORM DRAIN SYSTEM. INLETS NOT USED IN CONJUNCTION WITH EROSION CONTROL ARE TO BE BLOCKED TO PREVENT ENTRY OF SEDIMENT.
6. THIS EROSION AND SEDIMENT CONTROL PLAN MAY NOT COVER ALL THE SITUATIONS THAT MAY ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS AND ADDITIONS MAY BE MADE TO THIS PLAN IN THE FIELD. NOTIFY THE CITY REPRESENTATIVE OF ANY FIELD CHANGES.
7. THIS PLAN IS INTENDED TO BE USED FOR INTERIM EROSION AND SEDIMENT CONTROL ONLY AND IS NOT TO BE USED FOR FINAL ELEVATIONS OR PERMANENT IMPROVEMENTS OF FUTURE CONSTRUCTION.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL PRIOR, DURING, AND AFTER STORM EVENTS.
9. REASONABLE CARE SHALL BE TAKEN WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS, PAPER OR ANY OTHER SUBSTANCE OVER ANY PUBLIC STREET, ALLEY OR OTHER PUBLIC PLACE, SHOULD ANY BLOW, SPILL, OR TRACK OVER AND UPON SAID PUBLIC OR ADJACENT PRIVATE PROPERTY, IMMEDIATELY REMEDY SHALL OCCUR.
10. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE.
11. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEMS, INCLUDING EXISTING DRAINAGE SWALES AND WATER COURSES.
12. DEMOLITION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT SHALL BE COMPLIED WITH.
13. CONTRACTORS SHALL PROVIDE DUST CONTROL AS REQUIRED BY THE APPROPRIATE FEDERAL, STATE, AND LOCAL AGENCY REQUIREMENTS.
14. WITH THE APPROVAL OF THE CITY INSPECTOR, EROSION AND SEDIMENT CONTROLS MAYBE REMOVED AFTER AREAS ABOVE THEM HAVE BEEN STABILIZED.
15. PERFORM CLEARING AND EARTH-MOVING ACTIVITIES ONLY DURING DRY WEATHER. MEASURES TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO EARTH MOVING ACTIVITIES AND CONSTRUCTION.
16. MEASURES TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL ARE REQUIRED YEAR ROUND. STABILIZE ALL DENUDED AREAS AND MAINTAIN EROSION CONTROL MEASURES CONTINUOUSLY BETWEEN OCTOBER 1 AND APRIL 30.
17. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.
18. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING PAVEMENT CUTTING WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENTS, AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATERCOURSES.
19. USE SEDIMENT CONTROLS OR FILTRATION TO REMOVE SEDIMENT WHEN DEWATERING SITE AND OBTAIN REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) PERMIT(S) AS NECESSARY.
20. AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON-SITE, EXCEPT IN A DESIGNATED AREA WHERE WAS WATER IS CONTAINED AND TREATED.
21. LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.
22. LIMIT CONSTRUCTION ACCESS ROUTES TO STABILIZED, DESIGNATED ACCESS POINT.
23. AVOID TRACKING DIRT OR OTHER MATERIALS OFF-SITE; CLEAN OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS.
24. TRAIN AND PROVIDE INSTRUCTION TO ALL EMPLOYEES AND SUBCONTRACTORS REGARDING THE WATERSHED PROTECTION MAINTENANCE STANDARDS AND CONSTRUCTION BEST MANAGEMENT PRACTICES.
25. THE AREAS DELINEATED ON THE PLANS FOR PARKING, GRUBBING, STORAGE ETC., SHALL NOT BE ENLARGED OR "RUN OVER."
26. CONSTRUCTION SITES ARE REQUIRED TO HAVE EROSION CONTROL MATERIALS ON-SITE DURING THE "OFF-SEASON."
27. DUST CONTROL IS REQUIRED YEAR-ROUND.
28. EROSION CONTROL MATERIALS SHALL BE STORED ON-SITE.
29. PLACEMENT OF EROSION MATERIALS IS REQUIRED ON WEEKENDS DURING THE WET SEASON AND DURING RAIN EVENTS.
30. USE OF PLASTIC SHEETING BETWEEN OCTOBER 1ST AND APRIL 30TH IS NOT ACCEPTABLE, UNLESS FOR USE ON STOCKPILES WHERE THE STOCKPILE IS ALSO PROTECTED WITH FIBER ROLLS CONTAINING THE BASE OF THE STOCKPILE.
31. THE TREE PROTECTION SHALL BE IN PLACE BEFORE ANY GRADING, EXCAVATING OR GRUBBING IS STARTED.

NO.	DESCRIPTION	DATE	BY

TRAFFIC & EROSION CONTROL PLAN
651 VISTA DRIVE
EMERALD LAKE HILLS,
COUNTY OF SAN MATEO, CA

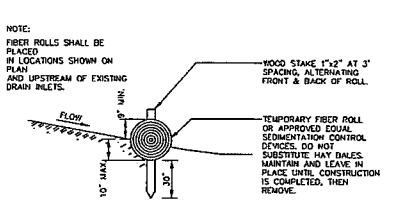
GREEN
CIVIL ENGINEERING INC
GREEN.ENG@HOTMAIL.COM
204 E 2ND AVE #830
SAN MATEO, CA 94401

REGISTERED PROFESSIONAL ENGINEER CHIN HANG WONG No. C85135 CIVIL STATE OF CALIFORNIA 3/31/2020

SCALE
VERTICAL: 1"= AS SHOWN
HORIZONTAL: 1"= AS SHOWN

DATE:	11/13/17
DESIGNED:	HCL
DRAWN:	HCL
REVIEWED:	HCL
JOB NO.:	-

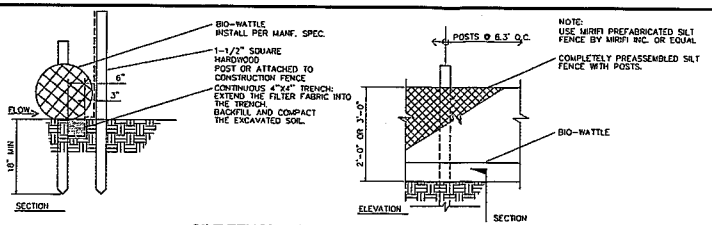
SHEET
C2
2 OF 4 SHEET



STRAW ROLL

N.T.S.

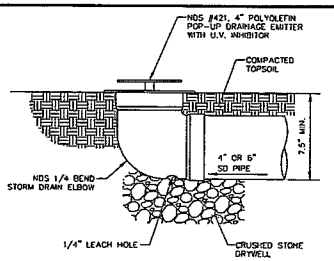
1 C3



SILT FENCE W/ STRAW ROLL

N.T.S.

2 C3



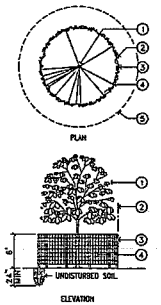
POP UP DRAIN

N.T.S.

7 C3

LEGEND

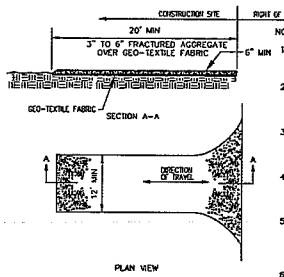
1. ALL TREES THAT ARE NOT REMOVED SHALL BE PROTECTED.
2. TREE DRIP LINE.
3. STEEL T-POST, 6' O.C. MAX. DRIVE POST INTO UNDISTURBED SOIL, AVOIDING MAJOR ROOTS AS MUCH AS POSSIBLE.
4. CHAIN LINK FENCING, 6' TALL.
5. EXTEND FENCING 50% BEYOND DRIPLINE OF SIGNIFICANT MATURE SPECIMEN TREES WHERE POSSIBLE, UNLESS OTHERWISE SHOWN ON PLAN.



TREE PROTECTION FENCING

N.T.S.

3 C3



NOTES:

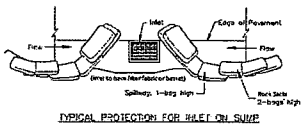
1. STABILIZED CONSTRUCTION SITE ACCESS SHALL BE CONSTRUCTED OF 3" TO 6" FRACTURED AGGREGATE
2. MATERIAL SHALL BE PLACED TO A MINIMUM THICKNESS OF 6 INCHES (150 MM). LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 20 FEET.
3. WIDTH SHALL BE A MIN. OF 15 FT OR GREATER IF NECESSARY TO COVER ALL VEHICULAR INGRESS AND EGRESS. PROVIDE AMPLE TURNING RADII.
4. THE ENTRANCE SHALL BE KEPT IN GOOD CONDITION BY OCCASIONAL TOP DRESSING WITH MATERIAL AS SPECIFIED IN ABOVE NOTE.
5. ACCESSES SHALL BE INSPECTED WEEKLY DURING PERIODS OF HEAVY USAGE, MONTHLY, DURING NORMAL USAGE, AND AFTER EACH RAINFALL, WITH MAINTENANCE PROVIDED AS NECESSARY.
6. PERIODIC TOP DRESSING SHALL BE DONE AS NEEDED.

STABILIZED ENTRANCE

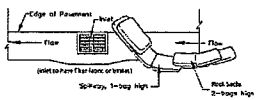
N.T.S.

4 C3

Storm Drain Inlet Protection SE-10



TYPICAL PROTECTION FOR INLET ON SUMP



TYPICAL PROTECTION FOR INLET ON GRADE

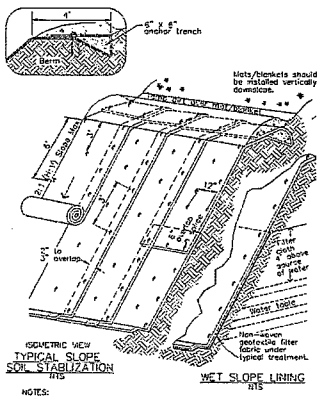
NOTES:
1. Intended for short-term use.
2. Use to install non-storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed.
5. Not applicable in areas with high silts and clays without filter fabric.
6. Protection can be effective even if 2 bags are removed to allow inlet to provided that the inlet is protected from potential sources of pollution.

INLET PROTECTION

N.T.S.

5 C3

Geotextiles and Mats EC-7



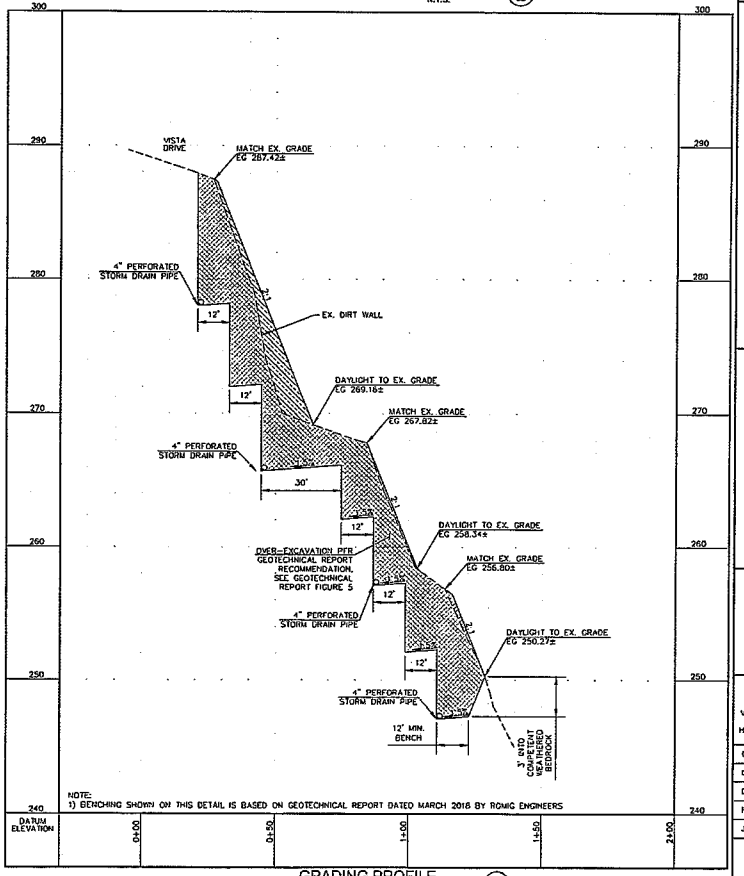
NOTES:
1. Slope surface shall be free of rocks, clods, sticks and grass. Mats/blankets shall have good soil contact.
2. Lay blankets loosely and stake or staple to maintain direct contact with the soil. Do not stretch.
3. Install per manufacturer's recommendations

TYPICAL INSTALLATION DETAIL

GEOTEXTILES AND MATS

N.T.S.

8 C3



NOTE:
1) BENCHING SHOWN ON THIS DETAIL IS BASED ON GEOTECHNICAL REPORT DATED MARCH 2018 BY ROMIG ENGINEERS

GRADING PROFILE

N.T.S.

6 C3

REV.	DATE	DESCRIPTION

DETAIL SHEET
651 VISTA DRIVE
EMERALD LAKE HILLS,
COUNTY OF SAN MATEO, CA

GREEN
CIVIL ENGINEERING INC
GREEN.ENG@HOTMAIL.COM
204 E 2ND AVE #620
SAN MATEO, CA 94401

REGISTERED PROFESSIONAL ENGINEER HANS C. LARSEN No. 68838 CIVIL STATE OF CALIFORNIA

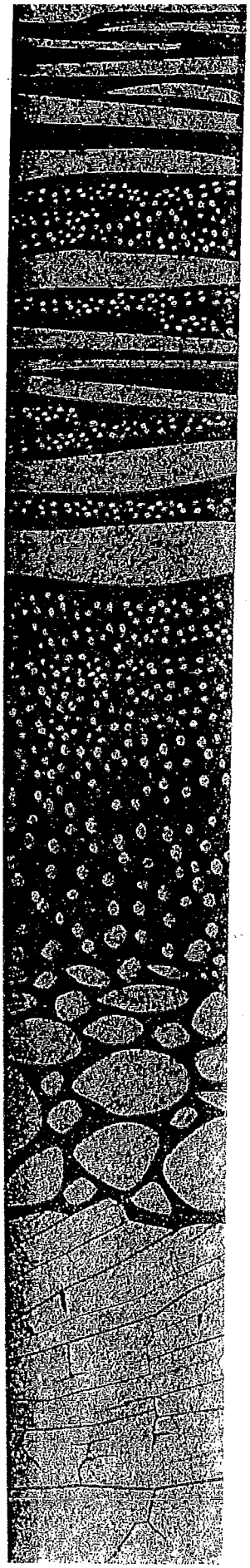
SCALE
VERTICAL: 1"= AS SHOWN
HORIZONTAL: 1"= AS SHOWN

DATE:	11/13/17
DESIGNED:	HCL
DRAWN:	HCL
REVIEWED:	HCL
JOB NO:	-

SHEET
C3
3 OF 4 SHEET

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT C



ENGINEERS

GEOTECHNICAL INVESTIGATION

MUSANTE PROPERTY IMPROVEMENTS
651 VISTA DRIVE
EMERALD, CALIFORNIA 94062

Prepared for
Mr. Brian Musante
651 Vista Drive
Emerald Hills, California 94062

March 2018
Project No. 4351-1

PLN 2018-00309

ROMIG ENGINEERS

March 21, 2018
4351-1

Mr. Brian Musante
651 Vista Drive
Emerald Hills, California 94062

RE: GEOTECHNICAL INVESTIGATION
PROPERTY IMPROVEMENTS
651 VISTA DRIVE
EMERALD HILLS, CALIFORNIA

Dear Mr. Musante:

In accordance with your request, we have performed a geotechnical investigation for the proposed property improvements to be constructed at 651 Vista Drive in an unincorporated area of San Mateo County in Emerald Hills, California. The accompanying report summarizes the results of our subsurface exploration, laboratory testing, and engineering analysis, and presents our geotechnical recommendations for the proposed property improvements.

We refer you to the text of our report for specific recommendations.

Thank you for the opportunity to work with you on this project. Please call if you have questions or comments about site conditions or the findings and recommendations from our site investigation.

Very truly yours,

ROMIG ENGINEERS, INC.

Jonathan J. Fone, P.E.

REGISTERED PROFESSIONAL ENGINEER
JONATHAN J. FONE
80875
CIVIL
STATE OF CALIFORNIA

Glenn A. Romig, P.E., G.E.

REGISTERED PROFESSIONAL ENGINEER
GLENN A. ROMIG
002157
GEOTECHNICAL
STATE OF CALIFORNIA

Copies: Addressee (2)
Peninsula Hauling (4)
Attn: Ms. Jessica Govea
Green Civil Engineering (email)
Attn: Mr. Hon-Cheong Lee

GAR:JJF:dd:pf

GEOTECHNICAL INVESTIGATION
MUSANTE PROPERTY IMPROVEMENTS
651 VISTA DRIVE
EMERALD HILLS, CALIFORNIA 94062

PREPARED FOR:
MR. BRIAN MUSANTE
651 VISTA DRIVE
EMERALD HILLS, CALIFORNIA 94062

PREPARED BY:
ROMIG ENGINEERS, INC.
1390 EL CAMINO REAL, SECOND FLOOR
SAN CARLOS, CALIFORNIA 94070

MARCH 2018

ROMIG ENGINEERS

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(Continued)

GEOTECHNICAL INVESTIGATION
FOR
MUSANTE PROPERTY IMPROVEMENTS
651 VISTA DRIVE
EMERLAD HILLS, CALIFORNIA

INTRODUCTION

This report presents the results of our geotechnical investigation for the proposed property improvements to be constructed at 651 Vista Drive in an unincorporated area of San Mateo County in Emerald Hills, California. The location of the site is shown on the Vicinity Map, Figure 1. The purpose of this investigation was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for the proposed improvements.

Project Description

The project consists of winterization and stabilization of the existing and proposed grading at your property in Emerald Hills. We understand the former residence was destroyed by a fire and the debris has been removed from the property. The property generally slopes steeply toward the northeast to a drainage swale. We observed a near vertical cut that was up to about 6 feet high near the top of the hillside and two benches with man-made fill slopes constructed downslope of the cut. We observed tension cracks at the top of the upper man-made fill slope and shallow landsliding, indicating the fill slope is unstable. We understand the man-made cuts and fills at the property need to be restored for long term stability. This work is expected to include overexcavation of the man-made fill slopes, creating a keyway and level benches cut into weathered bedrock, and backfilling and compacting on-site soil to finished slopes no steeper than 2:1 (horizontal:vertical). No proposed structures are currently planned for the property.

Scope of Work

The scope of our work for this investigation was presented in our agreement with Mr. Brian Musante dated February 21, 2018. In order to accomplish our investigation, we performed the following work.

- Review of geologic, geotechnical, and seismic conditions in the vicinity of the site.
- Subsurface exploration consisting of drilling, sampling, and logging of two exploratory borings near the top of the man-made fill slopes.
- Laboratory testing of selected samples to aid in soil classification and to help evaluate the engineering properties of the soil and bedrock encountered at the site.
- Engineering analysis and evaluation of the subsurface data to develop geotechnical design criteria.
- Preparation of this report presenting our findings and geotechnical recommendations for the proposed property improvements.

Limitations

This report has been prepared for the exclusive use of Mr. Brian Musante for specific application to developing geotechnical design criteria for the proposed property improvements to be constructed at 651 Vista Drive in an unincorporated area of San Mateo County in Emerald Hills, California. We make no warranty, expressed or implied, for the services performed for this project. Our services have been performed in accordance with the geotechnical engineering principles generally accepted at this time and location. This report was prepared to provide engineering opinions and recommendations only. In the event there are any changes in the nature, design or location of the project, or if any future improvements are planned, the conclusions and recommendations contained in this report should not be considered valid unless 1) the project changes are reviewed by us, and 2) the conclusions and recommendations presented in this report are modified or verified in writing.

The analysis, conclusions, and recommendations presented in this report are based on site conditions as they existed at the time of our investigation; the currently planned improvements; review of readily available reports relevant to the site conditions; and laboratory test results. In addition, it should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes occur, we should be advised so that we can review our report in light of those changes.

REVIEW OF PREVIOUS SITE INVESTIGATION

Michelucci & Associates prepared a previous geotechnical report, dated December 9, 1996 and an updated supplemental letter, dated May 26, 2015 for underpinning and/or replacing existing foundations of the former residence at the subject site. This previous investigation included five exploratory borings ranging in depth from 5.5 to 12.5 feet, where they encountered up to 2.5 feet of fill consisting of fat clay. Below the fill or at the surface, they encountered up to 3.5 feet of native soil consisting of fat clay underlain by weathered Franciscan Formation bedrock which extended to the maximum depth explored. A Liquid Limit of 54 and a Plasticity Index of 29 were measured on a sample of surface soil recovered from the Boring No.1. These test results indicate the surface soil has high plasticity and a high potential for expansion. The locations of the borings are shown on the site plan and the boring logs are attached in Appendix B. Michelucci & Associates concluded the former residence had been affected by significant differential foundation settlement associated with a very shallow building foundation that bears on weak compressible and expansive surface soil. They recommended that the residence be underpinned or replaced with drilled or hand-excavated piers embedded into bedrock below any fill or soft surface soils.

SITE EXPLORATION AND RECONNAISSANCE

Site reconnaissance and subsurface exploration were performed on March 2, 2018. Subsurface exploration was performed using portable Minuteman drilling and sampling equipment. Two exploratory borings were advanced to depths of 7.3 and 16 feet. The locations of the borings are shown on the Site Plan, Figure 2. The boring logs and the results of our laboratory tests performed on samples of soil collected during our investigation are attached in Appendices A and B, respectively.

Surface Conditions

The site is located in a residential area northeast of Vista Drive. At the time of our investigation, the site was vacant. We understand the former residence was destroyed by a fire and the debris has been removed from the property. The site was landscaped with native grasses, small to medium shrubs and trees.

The property generally slopes steeply with an average inclination of about 2.5:1 (horizontal:vertical) toward the northeast to a drainage swale. We observed a near vertical cut of up to about 6 feet high near the top of the hillside at the northwest portion of the property. Additional fill had been placed above the near vertical cut, which sloped steeply towards the northeast. Two benches with man-made fill slopes were constructed

downslope of the cut and extended along the west portion of the property. We observed tension cracks at the top of the upper man-made fill slope and shallow landsliding, indicating the upper fill slope is unstable. We understand the man-made cuts and fills at the property need to be restored for long term stability.

Subsurface Conditions

At the locations of our exploratory borings, which were advanced near the top of the man-made fill slopes, we generally encountered about 4 feet of fill consisting of fat clay of high plasticity. Below the fill, we encountered about 2 feet of residual soil consisting of fat clay of high plasticity underlain by very severely weathered siltstone, sandstone, and serpentinite bedrock of the Franciscan Complex which extended to the maximum depth explored of 16 feet.

A Liquid Limit of 63 and a Plasticity Index of 33 were measured on a sample of near-surface soil recovered from Boring EB-1. These test results indicate the near-surface soil at the site has high plasticity and a high potential for expansion.

Ground Water

Free ground water was not encountered in the borings during our investigation. The borings were backfilled with grout after sampling was completed; therefore, a stabilized ground water level was not obtained. Please be cautioned that fluctuations in the level of ground water can occur due to variations in rainfall, landscaping, underground drainage patterns, and other factors. It is also possible and perhaps even likely that perched ground water conditions could develop in the soils and near the surface of the bedrock during and after significant rainfall or due to landscape watering at your property and the upslope areas.

GEOLOGIC SETTING

As part of our investigation, we briefly reviewed our local experience and geologic information in our files pertinent to the general area of the site. The information reviewed indicates a majority of the site is mapped as being underlain by middle and lower Eocene age bedrock (Tw) of the Whiskey Hill Formation, with a small north portion of the site mapped as being underlain by Cretaceous and Jurassic-age sandstone bedrock (fs) of the Franciscan Complex(Brabb, Graymer and Jones, 2000). The Whiskey Hill formation is expected to consist primarily of light-gray to buff coarse-grained arkosic sandstone, with light-gray to buff silty claystone, glauconitic sandstone, and tuffaceous siltstone. The Franciscan Complex, which was encountered in our borings and the Michelucci borings, is generally found to consist of predominantly hard and well

indurated, yellowish-gray, graywacke sandstone interbedded with shale. The sandstone formation weathers to grayish-yellow sandy clay and clayey and silty sand. The geology of the site vicinity is shown on the Vicinity Geologic Map, Figure 3.

The lot and immediate site vicinity are located in a gently to steeply sloping hillside area. The site is located at an elevation of approximately 260 feet above sea level.

Faulting and Seismicity

There are no mapped through-going faults within or adjacent to the site and the site is not located within a State of California Earthquake Fault Zone (formerly known as a Special Studies Zone), an area where the potential for fault rupture is considered probable. The closest active fault is the San Andreas Fault, which is located approximately 2.0 miles southwest of the property. Thus, the likelihood of surface rupture occurring from active faulting at the site is low.

The San Francisco Bay Area is an active seismic region. Earthquakes in the region result from strain energy constantly accumulating because of the northwestward movement of the Pacific Plate relative to the North American Plate. On average about 1.6-inches of movement occur per year. Historically, the Bay Area has experienced large, destructive earthquakes in 1838, 1868, 1906, and 1989. The faults considered most likely to produce large earthquakes in the area include the San Andreas, San Gregorio, Hayward, and Calaveras faults. The San Gregorio fault is located approximately 11 miles southwest of the site. The Hayward and Calaveras faults are located approximately 17 and 23 miles northeast of the site, respectively. These faults and significant earthquakes that have been documented in the Bay Area are listed in Table 1, and are shown on the Regional Fault and Seismicity Map, Figure 4.

In the future, the subject property will undoubtedly experience severe ground shaking during moderate and large magnitude earthquakes produced along the San Andreas fault or other active Bay Area fault zones. The Working Group On California Earthquake Probabilities, a panel of experts that are periodically convened to estimate the likelihood of future earthquakes based on the latest science and ground motion prediction modeling, concluded there is a 72 percent chance for at least one earthquake of Magnitude 6.7 or larger in the Bay Area before 2045. The Hayward fault has the highest likelihood of an earthquake greater than or equal to magnitude 6.7 in the Bay Area, estimated at 14 percent, while the likelihood on the San Andreas and Calaveras faults is estimated at approximately 6 and 7 percent, respectively (Working Group, 2015).

Table 1. Earthquake Magnitudes and Historical Earthquakes
Musante Property Improvements
Emerald Hills, California

Fault	Maximum Magnitude (Mw)	Historical Earthquakes	Estimated Magnitude
San Andreas	7.9	1989 Loma Prieta	6.9
		1906 San Francisco	7.9
		1865 N. of 1989 Loma Prieta Earthquake	6.5
		1838 San Francisco-Peninsula Segment	6.8
		1836 East of Monterey	6.5
Hayward	7.1	1868 Hayward	6.8
		1858 Hayward	6.8
Calaveras	6.8	1984 Morgan Hill	6.2
		1911 Morgan Hill	6.2
		1897 Gilroy	6.3
San Gregorio	7.3	1926 Monterey Bay	6.1

Earthquake Design Parameters

The State of California currently requires that buildings and structures be designed in accordance with the seismic design provisions presented in the 2016 California Building Code and in ASCE 7-10, "Minimum Design Loads for Buildings and Other Structures." Based on site geologic conditions and on information from our subsurface exploration at the site, the site may be classified as Site Class C, very dense soil and soft rock, in accordance with Chapter 20 of ASCE 7-10. Spectral Response Acceleration parameters and site coefficients may be taken directly from the U.S.G.S. website based on the longitude and latitude of the site. For site latitude (37.4668), longitude (-122.2601) and Site Class C, design parameters are presented on Table 2.

Table 2. 2016 CBC Seismic Design Criteria
Musante Property Improvements
Emerald Hills, California

Spectral Response Acceleration Parameters		Design Value
Mapped Value for Short Period -	S_S	2.131
Mapped Value for 1-sec Period -	S_1	1.012
Site Coefficient -	F_a	1.0
Site Coefficient -	F_v	1.3
Adjusted for Site Class -	S_{MS}	2.131
Adjusted for Site Class -	S_{M1}	1.315
Value for Design Earthquake -	S_{DS}	1.420
Value for Design Earthquake -	S_{D1}	0.877

CONCLUSIONS

From a geotechnical viewpoint, the site is suitable for the proposed property improvements provided the recommendations presented in this report are followed during design and construction. Specific geotechnical recommendations for the project are presented in the following sections of this report.

The primary geotechnical concerns for the project are the expansive nature of the fill and native soil across the site; the presence of up to about 4 feet of undocumented fill near the top of the man-made fill slopes; the presence of up to about 6 feet high near vertical cuts near the top of the slope; the steeply sloping terrain on the property; the potential for erosion and downslope soil creep of the surface and near-surface soil, and the potential for severe ground shaking at the site during a major earthquake. In order to winterize and stabilize the undocumented man-made fills on the property, in our opinion the existing fill slopes should be over excavated and properly compacted to current earthwork standards on a series of level benches and keyways cut into weathered bedrock. The lateral extent of the repair is expected to include the limits of the fill as depicted approximately in Figure 2 of our report. The actual extent of the fill and overexcavating may need to be adjusted in the field as the extent of the fill and underlying soil are established during grading. The earthwork for the proposed grading should also follow the general criteria presented in "Earthwork" section of our report. We also recommend oversteepened cut slopes near the top of the hillside be modified to an inclination no steeper than 2:1 (horizontal:vertical).

A member of our staff should observe and test on nearly a full time basis during the overexcavation of the man-made fill slopes, and backfilling and compaction of the proposed fill slopes on the property.

Because subsurface conditions may vary from those encountered at the locations of our exploratory borings, and to confirm that our recommendations are properly implemented, we recommend that we be retained to: 1) review the grading and improvement plans for conformance with our recommendations; and 2) observe and test during all phases of earthwork and drainage construction.

EARTHWORK

Clearing and Subgrade Preparation

All deleterious materials, such as existing foundations, slabs and utilities to be abandoned, existing fill, pavement, concrete, vegetation, roots, topsoil, etc., should be cleared from areas to be built on or paved. The actual stripping depth should be determined by a member of our staff at the time of construction. Excavations that extend below finish grade should be backfilled with structural fill that is water-conditioned, placed, and compacted as recommended in the section titled "Compaction."

After the site has been properly cleared, stripped, and excavated to the required grades, exposed soil surfaces in areas to receive structural fill should be scarified to a depth of 6 inches, moisture conditioned, and compacted as recommended for structural fill in the section titled "Compaction."

On-site soils should be kept in a moist condition throughout the construction period to help mitigate the potential effects of the expansive on-site soils on the proposed improvements.

Large fills are generally not desirable on a hillside site like this. Where fills are to be constructed on slopes having an inclination steeper than 6 horizontal to 1 vertical, the fill should be benched, and a key excavated into the underlying bedrock with subdrains installed, as shown in the attached Figure 5, and discussed further below.

Proposed Fill Slope Recommendations

After existing man-made fills slopes have been overexcavated, the keyway or upslope benches should be excavated down to competent weathered bedrock and compacted under our direction as shown in the attached Figure 5. The new fill slope construction should begin with a base keyway excavated at the base of the fill slope. The key should have a width of at least 12 feet and extend at least 2 to 3 feet into weathered bedrock. The base key and benches should be inclined into the back of the benches at an inclination of at least 1.5 percent. Subdrains should be included at the back of the keyways and probably within at least the two benches higher up within the fill slope area as directed by our representative in the field.

The resulting excavation bottom and sidewalls should be benched prior to and as the structural backfill is being placed and compacted as discussed in the "Earthwork" section. Imported backfill materials such as Class 2 aggregate base or quarry fines should be

approved by a member of our staff prior to delivery to the site. The backfill should be moisture conditioned, and compacted as recommended in the section of this report titled "Compaction." A member of our staff should observe and test on nearly a full time basis during excavation and backfilling of the proposed fill slopes on the property.

Subsurface Drainage

Subdrains should be included at the back of the keyways and at least two to three of the benches as discussed above and/or as directed by our field representative during construction. The subdrains should consist of an 18-inch width of Caltrans Class 2 permeable material. Four-inch diameter rigid plastic pipe (Schedule 40 PVC, SDR35 or equal) should be placed with perforations down on a 4-inch thick bed of Class 2 permeable material. The Class 2 permeable material should be continued up to within 12-inches of the elevation of the next bench. The pipe should slope at a minimum inclination of 1.5 percent and should drain to a low point or points and then be connected to a suitable discharge location. We recommend the project surveyor locate all subsurface drains, solid pipes and cleanouts on an as built drawing of the repair. This plan will assist should any future maintenance or repair work be needed.

Material for Fill

All on-site soil containing less than 3 percent organic material by weight (ASTM D2974) is suitable for use as structural fill. However, structural fill placed at the site, should not contain rocks or pieces larger than 6 inches in greatest dimension, and contain no more than 15 percent larger than 2.5 inches. Imported fill should have a plasticity index of less than 15 percent or be predominately granular, and should have sufficient binder so as not to slough or cave into foundation excavations and utility trenches. Our representative should approve import materials prior to their use on-site.

For better performance, if the on-site highly expansive fill and native soil is utilized for structural fill, to reduce the plasticity and moisture content of the highly expansive material it may be treated with a lime/cement treatment. Please note soils treated with lime do not promote healthy growth of vegetation at the surface. Please contact us if you would like to proceed with this increased stability performance option.

Compaction

Scarified soil surfaces and all structural fill should be compacted in uniform lifts no thicker than 8 inches in pre-compacted thickness, conditioned to the appropriate moisture content, and compacted as recommended for structural fill in Table 3. The relative compaction and moisture content recommended in Table 3 is relative to ASTM Test D1557, latest edition.

Table 3. Compaction Recommendations
Musante Property Improvements
Emerald Hills, California

General	Relative Compaction*	Moisture Content*
• Scarified subgrade in areas to receive structural fill.	90 percent	At least 3 percent above optimum
• Structural fill composed of native soil.	90 percent	At least 3 percent above optimum
• Structural fill composed of non-expansive fill.	90 percent	Above optimum
• Structural fill below a depth of 4 feet.	93 percent	At least 3 percent above optimum
Pavement Subgrade		
• On-site soil.	95 percent	At least 3 percent above optimum
• Aggregate base.	95 percent	Near optimum
Utility Trench Backfill		
• On-site soil.	90 percent	At least 3 percent above optimum
• Imported sand.	95 percent	Near optimum

* Relative to ASTM Test D1557, latest edition.

Temporary Slopes and Excavations

The contractor should be responsible for the design and construction of all temporary slopes and any required shoring. Shoring and bracing should be provided in accordance with all applicable local, state and federal safety regulations, including the current OSHA excavation and trench safety standards.

Because of the potential for variation of the on-site soils, field modification of temporary cut slopes and shoring may be required. Unstable materials encountered on slopes during and after excavation should be trimmed off even if this requires cutting the slopes back to a flatter inclination.

Protection of structures or improvements near excavations and trenches will also be the responsibility of the contractor.

Finished Slopes

We recommend that new finished slopes be cut or filled to an inclination preferably no steeper than 2:1 (horizontal:vertical). Exposed slopes may be subject to minor sloughing and erosion that could require periodic maintenance. We recommend that all slopes and soil surfaces disturbed during construction be planted to with erosion-resistant vegetation.

Surface Drainage

Finished grades should be designed to prevent ponding of water and to direct surface water runoff to the existing drainage swale. A v-ditch should be installed at the top of the fill slopes to divert water away.

FUTURE SERVICES

Plan Review

Romig Engineers should review the completed grading and drainage plans for conformance with the recommendations presented in this report. We should be provided with these plans as soon as possible upon their completion in order to limit the potential for delays in the permitting process that might otherwise be attributed to our review process. The County will likely require a "clean" geotechnical plan review letter prior to approval of the plans. Since our plan reviews often result in recommendations for modification of the plans, our generation of a "clean" review letter often requires two iterations.

At a minimum, we recommend that the following note be added to the plans. "Earthwork, grading, overexcavation of existing man-made fill slopes, keyway and upslope bench excavations, subdrain installation, backfilling and compaction of proposed fill slopes, and site drainage should be performed in accordance with the geotechnical report prepared by Romig Engineers, Inc., dated March 21, 2018. Romig Engineers should be notified at least 48 hours in advance of any earthwork and should observe and test during earthwork and foundation construction as recommended in the geotechnical report."

Construction Observation and Testing

Earthwork construction should be observed and tested by us to: 1) confirm that subsurface conditions are compatible with those used in the analysis and design; 2) observe compliance with the design concepts, specifications, and recommendations, and; 3) allow design changes in the event that subsurface conditions differ from those

anticipated. The recommendations presented in this report are based on a limited number of borings. The nature and extent of variation across the site may not become evident until construction. If variations are exposed during construction, it will be necessary to reevaluate our recommendations.

REFERENCES

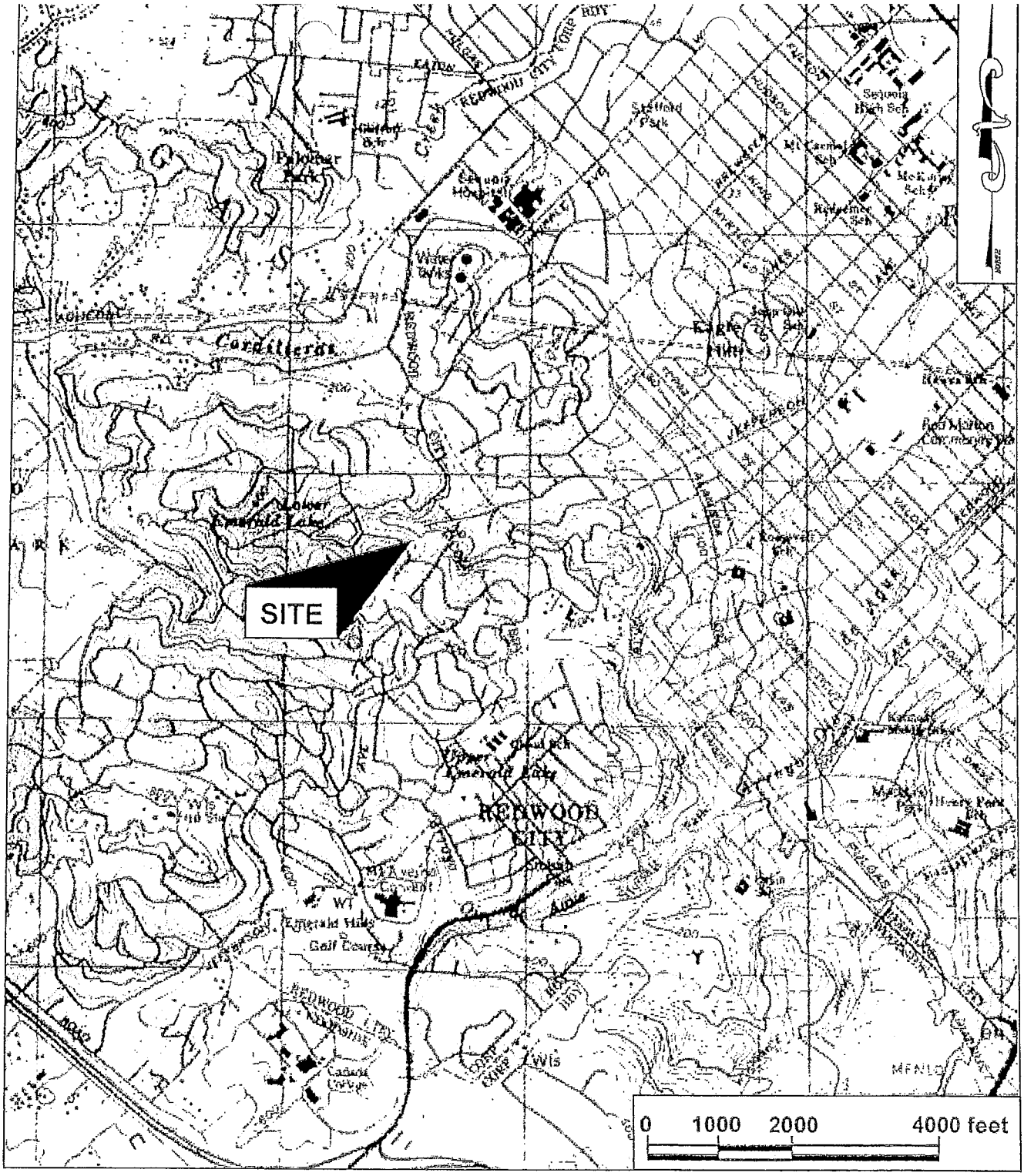
American Society of Civil Engineers, 2010, Minimum Design Loads for Buildings and Other Structures, ASCE Standard 7-10.

Brabb, E.E. Graymer, R.W., and Jones, D.L., 2000, Geologic Map of the Palo Alto 30' x 60' Quadrangle, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-2332, U.S. Geological Survey, Menlo Park, CA.

California Building Standards Commission, and International Code Council, 2016 California Building Code, California Code of Regulations, Title 24, Part 2.

U.S.G.S., 2018, U.S. Seismic Design Maps, Earthquake Hazards Program, http://earthquake.usgs.gov/designmaps/us/application.php

Working Group on California Earthquake Probabilities (WGCEP), 2015, Long-Term Time-Dependent Probabilities for the Third Uniform California Earthquake Rupture Forecast, Version 3 (UCERF 3), U.S. Geological Survey Open File Report 2013-1165.



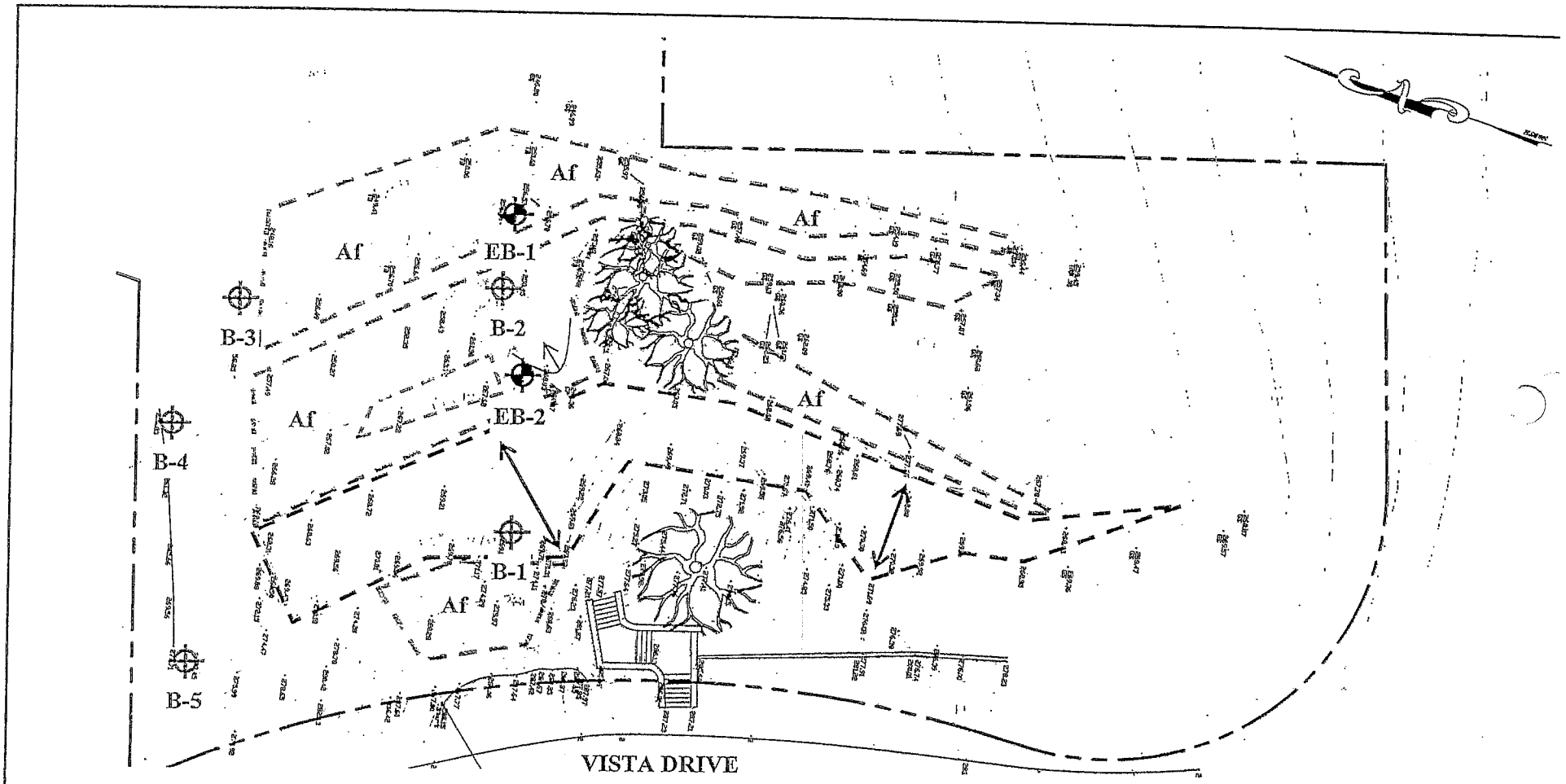
Scale: 1 inch = 2000 feet

Base is United States Geological Survey Woodside and Palo Alto 7.5 Minute Quadrangle, dated 1997.

VICINITY MAP
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

FIGURE 1
MARCH 2018
PROJECT NO. 4351-1

ROMIG ENGINEERS



LEGEND

EB-2 Approximate Locations of Exploratory Borings.

B-5 Approximate Locations of Exploratory Borings (Michelucci & Associates, 1996.)

Af Artificial fill

Fill

Cut

Approximate Scale: 1 inch = 30 feet.

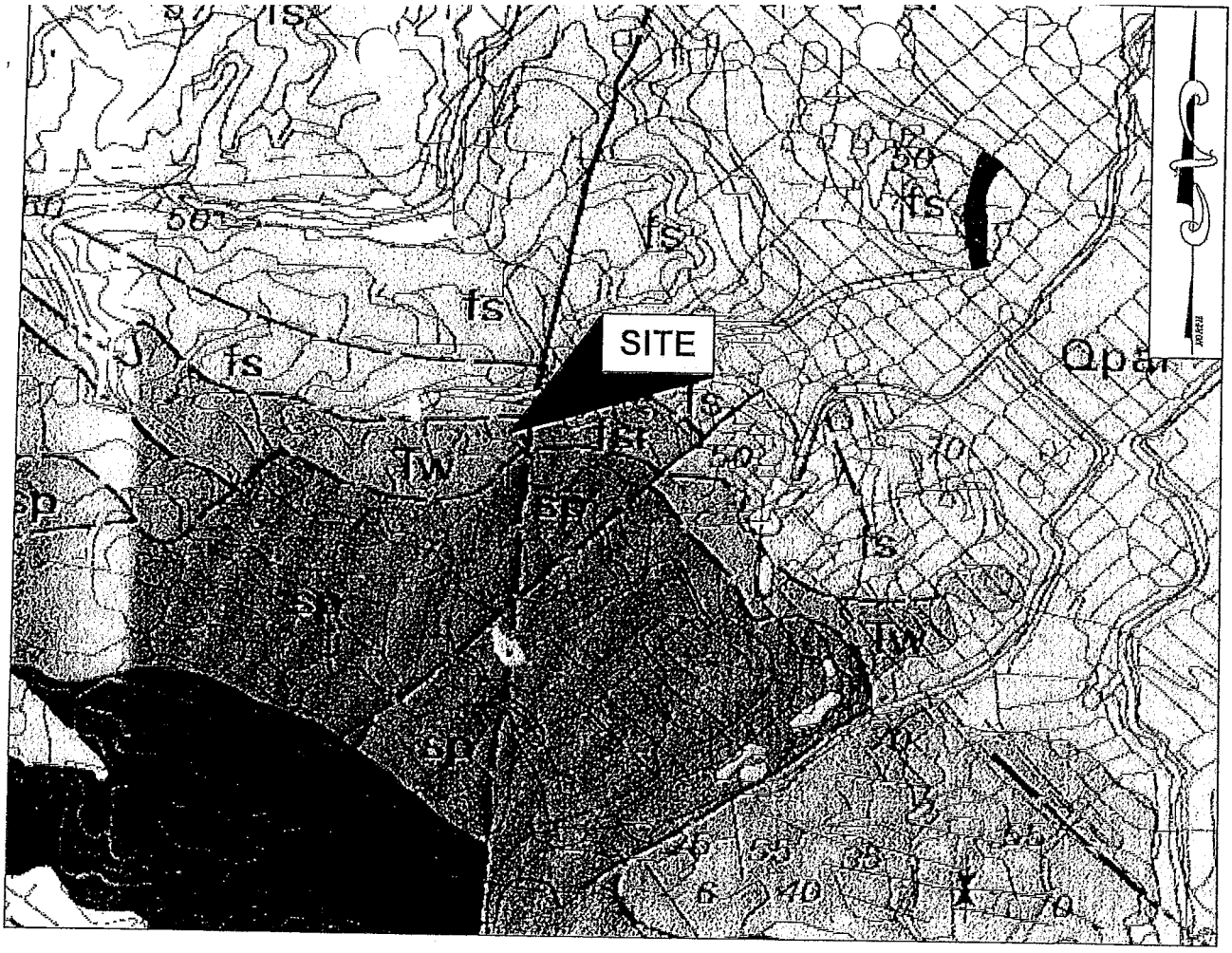
Base is topographic survey prepared by GREEN Civil Engineering, undated.

Tension Cracks
Shallow Landsliding

SITE PLAN
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

ROMIG ENGINEERS

FIGURE 2
MARCH 2018
PROJECT NO. 4351-1



LEGEND

Qpaf	Alluvial fan and fluvial deposits
Tw	Whiskey Hill Formation
fs	Sandstone
	Greenstone
fsr	Sheared Rock
sp	Serpentinite

Geologic Contact - dashed where approximate, dotted where inferred.

Fault - dashed where approximate, dotted where inferred.

Anticline

Syncline

0 1000 2000 4000 feet

Scale: 1 inch = 2000 feet

Base is Geologic Map of San Mateo County, Brabb, Graymer, and Jones, dated 1998.

VICINITY GEOLOGIC MAP
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

FIGURE 3
MARCH 2018
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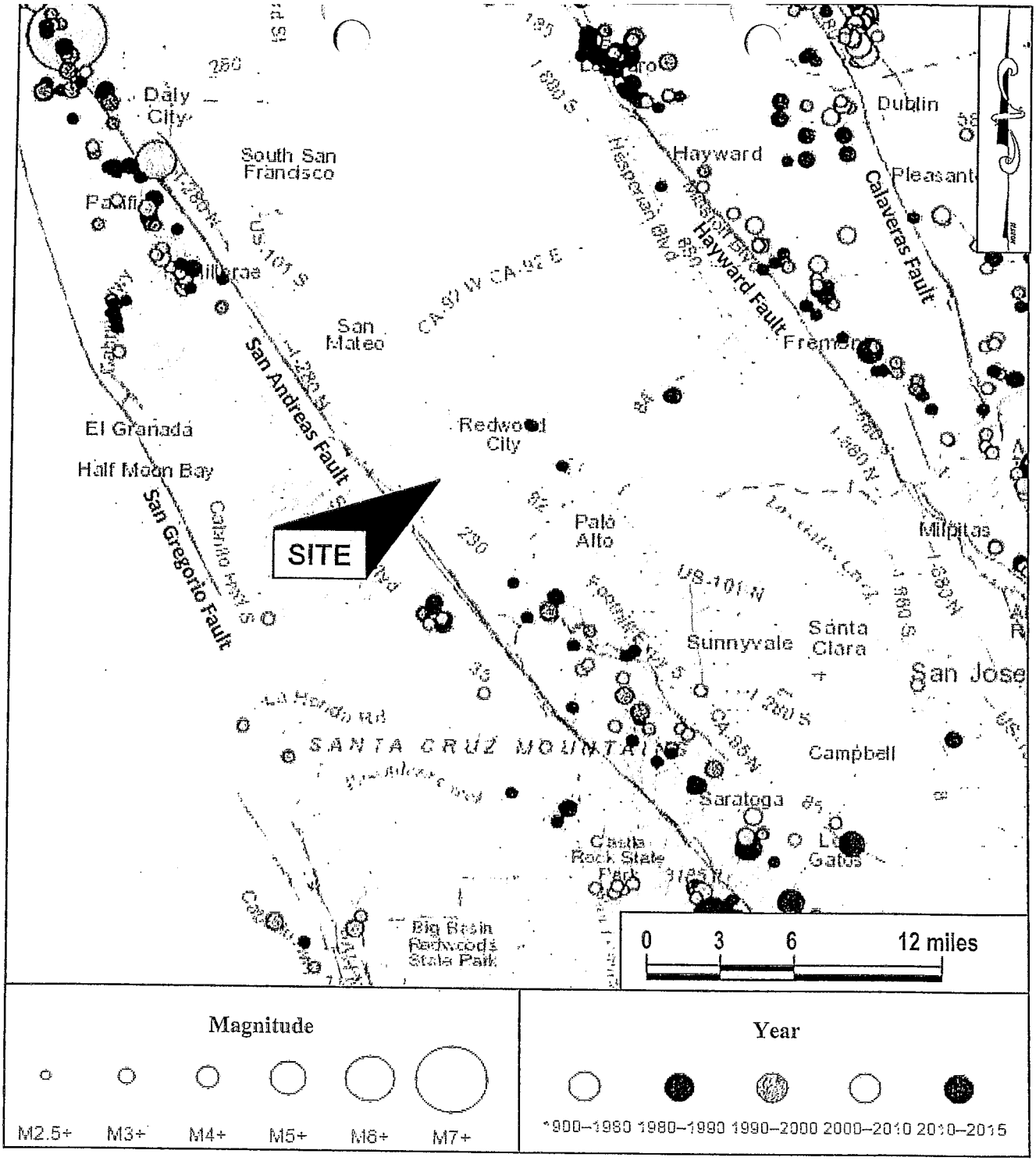
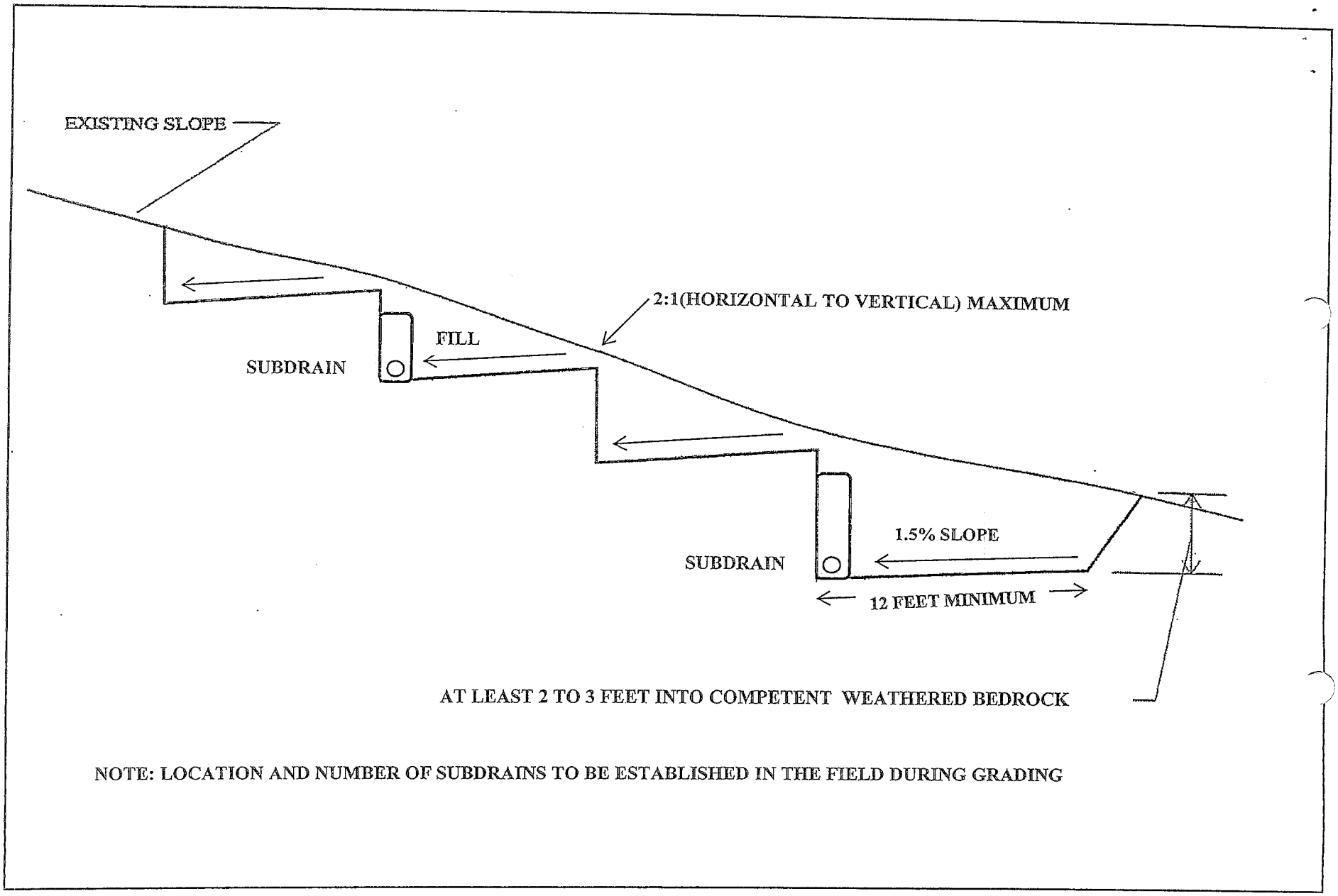


Earthquakes with M5+ from 1900 to 1980, M2.5+ from 1980 to January 2015. Faults with activity in last 15,000 years. Based on data sources from Northern California Earthquake Data Center and USGS Quaternary Fault and Fold Database, accessed May 2015.

REGIONAL FAULT AND SEISMICITY MAP
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

FIGURE 4
MARCH 2018
PROJECT NO. 4351-1

ROMIG ENGINEERS



CONCEPTUAL BENCHING DETAIL
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

ROMIG ENGINEERS

FIGURE 5
MARCH 2018
PROJECT NO. 4351-1

APPENDIX A

FIELD INVESTIGATION

The soils encountered during drilling were logged by our representative and samples were obtained at depths appropriate to the investigation. The samples were taken to our laboratory where they were examined and classified in accordance with the Unified Soil Classification System. The logs of our borings, as well as a summary of the soil classification system (Figure A-1) and bedrock descriptions (Figure A-2) used on the logs, are attached.

Several tests were performed in the field during drilling. The standard penetration test resistance was determined by dropping a 140-pound hammer through a 30-inch free fall, and recording the blows required to drive the 2-inch (outside diameter) sampler 18 inches. The standard penetration test (SPT) resistance is the number of blows required to drive the sampler the last 12 inches, and is recorded on the borings logs at the appropriate depths. The results of these field tests are also presented on the boring logs. Soil samples were also collected using 2.5-inch and 3-inch O.D. drive samplers. The blow counts shown on the logs for these larger diameter samplers do not represent SPT values and have not been corrected in any way.

The locations and elevations of the exploratory borings were determined by pacing using the topographic survey prepared by Green Civil Engineering, undated. The locations and elevations of the borings should be considered accurate only to the degree implied by the method used.

The boring logs and related information depict our interpretation of subsurface conditions only at the specific location and time indicated. Subsurface conditions and ground water levels at other locations may differ from conditions at the locations where sampling was conducted. The passage of time may also result in changes in the subsurface conditions.

HAMMER WEIGHT	140 #, 30" Drop		TYPE OF BORING 3.5" Auger (Minute)						DATE OF BORING 10-11-96		
SURFACE ELEVATION	---										
GROUNDWATER DEPTH	10-11-96	Dry									
DESCRIPTION OF MATERIALS			DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS	
Medium stiff, dark greyish brown, fine sandy silty clay with small pieces of brick, glass, etc., damp (Fill)					1) 2.5"	26	98	20	9870		
Medium stiff, dark greyish brown, fine sandy silty clay with clear to white quartz fragments, damp (Buried Topsoil)			5		2) 2"	27	107	12	8060		
Stiff, olive brown, fine sandy silty clay with rock fragments, slightly damp to damp (Residual)					3) spt	28	---	--	---		
Hard, reddish brown chert, dry, moderately weathered (Franciscan Assemblage)			10		4) 2"	23	111	8	---		
Hard, olive and greyish brown, fine sandy and silty serpentinite, slightly damp, moderately weathered (Franciscan Assemblage)					5) 2"	50	116	8	5640		
Boring terminated at 12 feet 6 inches			15		6) 2"	46	108	16	5650		
					7) spt*	80/6"	---	--	---		
			20								
* spt denotes Standard Penetration Test			25								
			30								
			35								

Job No. 96-2448

Michelucci & Associates

Figure 5

HAMMER WEIGHT	140 lbs., 30" Drop			3.5" Auger (Minut[illegible])					DATE OF BORING 10-11-96	
SURFACE ELEVATION	---									
GROUNDWATER DEPTH	10-11-96	Dry								
DESCRIPTION OF MATERIALS				DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS
Stiff, dark brown, fine sandy silty clay with minor rootlets and rock fragments, damp (Topsoil)						1) 2.5"	56	114	14	16340	
Hard, olive and greyish brown, fine sandy silty shale/mudstone with minor rootlets, slightly damp (Franciscan Assemblage)				5		2) 2"	60	111	12	9170	
Hard, greyish brown, serpentinite with seams of greywacke sandstone, dry, deeply weathered (Franciscan Assemblage)						3) spt*	90	---	--	----	
Hard, olive and greyish brown, fine sandy silty shale/mudstone, slightly damp, deeply weathered (Franciscan Assemblage)				10							
Boring terminated at 5 feet 6 inches				15							
				20							
* spt denotes Standard Penetration Test				25							
				30							
				35							

Job No. 96-2448

Michelucci & Associates

Figure 4

BORING SUPERVISOR		TYPE OF BORING 3.5" Auger (Minuteman)	DATE OF BORING 10-11-96
HAMMER WEIGHT	140 #, 30" Drop		
SURFACE ELEVATION	---		
GROUNDWATER DEPTH	10-11-96: Dry		

DESCRIPTION OF MATERIALS

Stiff, medium and greyish brown, fine sandy silty clay with minor pebbles, damp
(Topsoil)

Hard, olive and greyish brown, silty shale/mudstone, slightly damp, deeply weathered
(Franciscan Assemblage)

Hard, greyish brown, serpentinite and greywacke sandstone, dry
(Franciscan Assemblage)

Boring terminated at 5 feet 6 inches

* spt denotes Standard Penetration Test

DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS
		1) 2.5"	52	107	7	----	PI
		2) 2"	58	107	8	----	
5		3) spt*	82	--	--	----	
10							
15							
20							
25							
30							
35							

Job No. 96-2448

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Figure 3

APPENDIX B

PREVIOUS EXPLORATION LOGS

Boring Logs B-1 through B-5
(Michelucci & Associates, 1996)

DEPTH TO GROUND WATER: Not Encountered **SURFACE ELEVATION:** NA **DATE DRILLED:** 3/2/18

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Fill: Grayish Brown, Fat Clay, moist to very moist, fine to coarse grained sand, fine sub-angular gravel, high plasticity.	Soft to Firm	CH		0		3	17		0.8
						7	29		
Residual Soil: Olive Brown, Fat Clay, moist, fine to coarse grained sand, high plasticity.	Very Stiff	CH		5		20	23		
Franciscan Complex: Green to Grayish Brown, Siltstone, sandstone, serpentinite, moist, very severely weathered, friable.	Soft to Medium	BR				50/5"	13		
						50/4"	4		
Bottom of Boring at 7.3 feet.				10					
				15					
				20					

Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.

*Measured using Torvane and Pocket Penetrometer devices.

EXPLORATORY BORING LOG EB-2
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

BORING EB-2
MARCH 2018
PROJECT NO. 4351-1

ROMIG ENGINEERS

DEPTH TO GROUND WATER: Not Encountered **SURFACE ELEVATION:** NA **DATE DRILLED:** 3/2/18

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Fill: Brown, Fat Clay, very moist, fine to coarse grained sand high plasticity.	Soft to Stiff	CH		0					
						2	25		1.5
Color transition to dark brown.									
■ Liquid Limit = 63, Plasticity Index = 33.						11	23		2.5
Residual Soil: Olive Brown, Fat Clay, moist, fine to coarse grained sand, high plasticity.	Very Stiff	CH		5					
						27	19		3.0
Franciscan Complex: Green to Grayish Brown, Siltstone, sandstone, serpentinite, moist, very severely weathered, friable.	Soft	BR							
						40	13		1.8
						47	12		>4.5
				10					
Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.						31	16		3.3
*Measured using Torvane and Pocket Penetrometer devices.						41	27		3.0
				15					
						48	12		4.3
Bottom of Boring at 16 feet.									
				20					

EXPLORATORY BORING LOG EB-1
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

BORING EB-1
MARCH 2018
PROJECT NO. 4351-1

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WEATHERING

Fresh
Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.

Very Slight
Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.

Slight
Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.

Moderate
Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.

Moderately Severe
All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.

Severe
All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.

Very Severe
All rock except quartz discolored and stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.

Complete
Rock reduced to "soil". Rock fabric not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

HARDNESS

Very hard
Cannot be scratched with knife or sharp pick. Hand specimens requires several hard blows of geologist's.

Hard
Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.

Moderately Hard
Can be scratched with knife or pick. Gouges or grooves to 1/4 inch deep can be excavated by hard blow of point of a geologist's pick. Hard specimen can be detached by moderate blow.

Medium
Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of a geologist's pick.

Soft
Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be brocken by finger pressure.

Very Soft
Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

JOINT BEDDING AND FOLIATION SPACING

Spacing	Joints	Bedding and Foliation
Less than 2 in.	Very Close	Very Thin
2 in. to 1 ft.	Close	Thin
1 ft. to 3 ft.	Moderately Close	Medium
3 ft. to 10 ft.	Wide	Thick
More than 10 ft.	Very Wide	Very Thick

ROCK QUALITY DESIGNATOR (RQD)

RQD, as a percentage	Descriptor
Exceeding 90	Excellent
90 to 75	Good
75 to 50	Fair
50 to 25	Poor
Less than 25	Very Poor

KEY TO BEDROCK DESCRIPTIONS
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

FIGURE A-2
MARCH 2018
PROJECT NO. 4351-1

ROMIG ENGINEERS

USCS SOIL CLASSIFICATION

PRIMARY DIVISIONS			SOIL TYPE	SECONDARY DIVISIONS
COARSE GRAINED SOILS (< 50 % Fines)	GRAVEL	CLEAN GRAVEL (< 5% Fines)	GW	Well graded gravel, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.
		GRAVEL with FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SAND	CLEAN SAND (< 5% Fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SAND WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS (> 50 % Fines)	SILT AND CLAY Liquid limit < 50%		ML	Inorganic silts and very fine sands, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, lean clays.
			OL	Organic silts and organic clays of low plasticity.
	SILT AND CLAY Liquid limit > 50%		MH	Inorganic silt, micaceous or diatomaceous fine sandy or silty soil.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.
BEDROCK			BR	Weathered bedrock.

RELATIVE DENSITY

SAND & GRAVEL	BLOWS/FOOT*
VERY LOOSE	0 to 4
LOOSE	4 to 10
MEDIUM DENSE	10 to 30
DENSE	30 to 50
VERY DENSE	OVER 50

CONSISTENCY

SILT & CLAY	STRENGTH^	BLOWS/FOOT*
VERY SOFT	0 to 0.25	0 to 2
SOFT	0.25 to 0.5	2 to 4
FIRM	0.5 to 1	4 to 8
STIFF	1 to 2	8 to 16
VERY STIFF	2 to 4	16 to 32
HARD	OVER 4	OVER 32

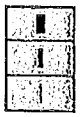
GRAIN SIZES

BOULDERS	COBBLES	GRAVEL		SAND			SILT & CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	
12 "		3"	0.75"	4	10	40	200
SIEVE OPENINGS				U.S. STANDARD SERIES SIEVE			

Classification is based on the Unified Soil Classification System; fines refer to soil passing a No. 200 sieve.

* Standard Penetration Test (SPT) resistance, using a 140 pound hammer falling 30 inches on a 2 inch O.D. split spoon sampler; blow counts not corrected for larger diameter samplers.

^ Unconfined Compressive strength in tons/sq. ft. as estimated by SPT resistance, field and laboratory tests, and/or visual observation.



KEY TO SAMPLERS

Modified California Sampler (3-inch O.D.)

Mid-size Sampler (2.5-inch O.D.)

Standard Penetration Test Sampler (2-inch O.D.)

KEY TO EXPLORATORY BORING LOGS
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

FIGURE A-1
MARCH 2018
PROJECT NO. 4351-1

ROMIG ENGINEERS

HAMMER WEIGHT	140 #, 30" Drop			3.5" Auger (Minut[illegible])					DATE OF BORING 10-11-96	
SURFACE ELEVATION	---									
GROUNDWATER DEPTH	10-11-96	Dry								
DESCRIPTION OF MATERIALS			DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS
Stiff, dark brown, fine sandy silty clay with abundant small rootlets, slightly damp (Topsoil)					1) 2.5"	34	118	6	---	
					2) 2"	66	99	20	25660	
Hard, olive and greyish brown, silty fine sandstone, slightly damp, moderately weathered (Franciscan Assemblage)			5		3) spt*	45	---	---	---	
					4) 2"	50/4"	109	9	---	
Boring terminated at 6 feet 10 inches			10							
			15							
			20							
* spt denotes Standard Penetration Test			25							
			30							
			35							

Job No. 96-2448

Michelucci & Associates

Figure 6

HAMMER WEIGHT	140 #, 30" Drop			TYPE OF BORING 3.5" Auger (Minuten						DATE OF BORING 10-11-96	
SURFACE ELEVATION	---										
GROUNDWATER DEPTH	10-11-96	Dry									
DESCRIPTION OF MATERIALS			DEPTH IN FT.	SAMPLE	SAMPLE NUMBER-SAMPLE DIAMETER	DRIVING RESISTANCE BLOWS PER FT.	DRY DENSITY P.C.F.	MOISTURE CONTENT %	UNCONFINED COMPRESSIVE STRENGTH P.S.F.	OTHER TESTS	
Loose, leaves and debris (from garage demolition) (Fill)					1) 2.5"	31	99	17	8640		
Stiff, dark brown, fine sandy silty clay with rootlets, damp (Topsoil)			5		2) 2"	35	102	14	5890		
Hard, olive and greyish brown, serpentinite, minor rootlets, slightly damp to damp, moderately to deeply weathered (Franciscan Assemblage)					3) spt*	32	--	--	----		
					4) 2"	61	106	18	9440		
Boring terminated at 7 feet 6 inches			10								
			15								
			20								
* spt denotes Standard Penetration Test			25								
			30								
			35								

Job No. 96-2448

Michelucci & Associates

Figure 7

APPENDIX C

LABORATORY TESTS

Samples from subsurface exploration were selected for tests to help evaluate the physical and engineering properties of the soils encountered at the site. The tests that were performed are briefly described below.

The natural moisture content was determined in accordance with ASTM D2216 on nearly all of the soil samples recovered from the borings. This test determines the moisture content, representative of field conditions at the time the samples were collected. The results are presented on the boring logs at the appropriate sample depths.

The Atterberg Limits were determined on one sample in accordance with ASTM D4318. The Atterberg limits are the moisture content within which the soil is workable or plastic. The results of this test are presented in Figure B-1 and on the log of Boring EB-1 at the appropriate sample depth.

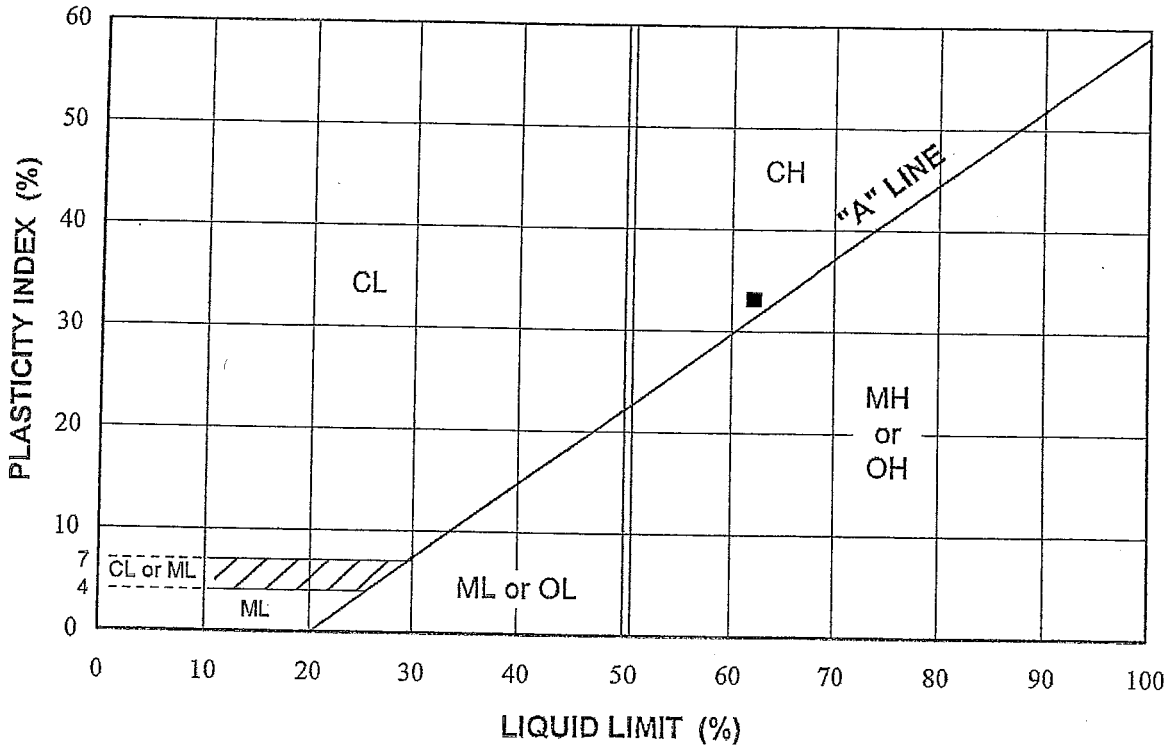


Chart Symbol	Boring Number	Sample Depth (feet)	Water Content (percent)	Liquid Limit (percent)	Plasticity Index (percent)	Liquidity Index (percent)	Passing No. 200 Sieve (percent)	USCS Soil Classification
■	EB-1	2-4	23	63	33			CH

PLASTICITY CHART
MUSANTE PROPERTY IMPROVEMENTS
EMERALD HILLS, CALIFORNIA

FIGURE B-1
MARCH 2018
PROJECT NO. 4351-1

ROMIG ENGINEERS

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT D

SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®
2136

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Half Moon Bay, California 94019
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TECHNICAL MEMORANDUM

To: Summer Burlison, Project Planner
County of San Mateo Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Date: March 12, 2019

Re: **Biological Resources Analysis and Peer Review of the Biological Resources Report and Arborist Reports for the Canyon Lane Roadway Improvements Development Project, San Mateo County, California.**

Dear Ms. Burlison:

SWCA Environmental Consultants (SWCA) has prepared this memorandum for San Mateo County (County) in support of the Canyon Lane Roadway Improvements Development Project (project) located in San Mateo County, California. At the request of the County, SWCA conducted a third-party review of the Canyon Lane Project Biological Resources Report (H.T. Harvey & Associates 2016) and Arborist Reports (Mayne Tree Expert Company, Inc. 2016 and 2012) to provide comment on these reports in the context of technical adequacy for assessing impacts under the California Environmental Quality Act. SWCA also conducted a biological resources analysis for portions of the project site that were not covered under the Biological Resources Report and Arborist Reports. The purpose of this memorandum is to summarize the findings of the peer review and biological resources analysis conducted by SWCA.

The project includes improvements to the existing Canyon Lane, including the construction of a retaining wall, a turnaround for emergency vehicles, and a single-span bridge that crosses an unnamed ephemeral creek. The project also includes the development of a single-family residence on a merged parcel (Assessor Parcel Numbers [APNs] 057-222-290 & 300), potential future development of 11 additional parcels (APNs 057-221-070, 057-221-090, 057-221-100, 057-221-110, 057-222-210, 057-222-220 & 230, 057-222-240 & 250, 057-222-260, 057-222-270, 057-222-280, and 057-221-060), and the construction of new utilities, including a waterline that would loop in with an existing waterline within the City of Redwood City (City) and an underground electrical distribution line.

ARBORIST REPORTS (MAYNE TREE EXPERT COMPANY, INC.)

Mayne Tree Expert Company, Inc. prepared an Arborist Report for the project in November 2016 (revised March 2017) and an Arborist Report in April 2012 (revised January 2019).

APPENDIX D

Biological Resources Analysis and Peer Review of the Biological Resources Report and Arborist Reports

Arborist Report November 2016 (Revised March 2017)

The Arborist Report prepared in November 2016 (revised March 2017) included an assessment of trees that could be impacted by the expansion and paving of Canyon Lane. The following list contains SWCA's comments and recommendations based on a review of the report.

- Trees within the City were not measured in accordance with the City Tree Preservation Ordinance standards. The ordinance requires that measurements are taken at the widest section of the trunk between 6 and 36 inches above ground. According to the report, all tree measurements were taken at 4.5 feet above ground, regardless of whether the trees were located within City limits. This may result in the exclusion of trees could otherwise be considered "protected trees" under the ordinance. Trees within City limits must be measured in accordance with the City Tree Preservation Ordinance No. 1536 § 1, Ch. 35 §§ 35.1-35.9.

- In accordance with the City Tree Preservation Ordinance No. 1536 § 1, Ch. 35 §§ 35.1-35.9, all City-owned street trees and park trees with a diameter at breast height (DBH) of 12 inches or greater are protected. It is recommended that the Arborist Report explicitly indicate which trees fall within City jurisdiction. Additionally, the City Street Tree Ordinance No. 1010 protects all City-owned street trees, regardless of size, that are growing within the public right-of-way. It is recommended that the Arborist Report include language regarding suggested coordination with the City Public Works Department if there are any potential impacts to City-owned street trees, and coordination with the Parks, Recreation and Community Services Department if there are any potential impacts to Park Trees.

- It is recommended that the resolution of attached maps, illustrating tree locations, be higher to illustrate the relationship between trees and their surroundings.

- For Trees 24, 25, and 54, only one diameter measurement is provided for each tree. Given that the split of the codominant stems is below the standard measuring point for diameter, it is recommended that the diameter section have two measurements provided for each tree.

- For Trees 44 and 51, a single diameter value was provided for multiple trees. It is recommended that the diameter measurement of each tree be provided.

- The Arborist Report states that Tree 52 is dead and will be partially impacted by the trench for the new waterline. Therefore, it is recommended that this tree be proposed for removal.

Arborist Report April 2012 (Revised January 2019)

The Arborist Report prepared in April 2012 (revised January 2019) included an assessment of trees that could be impacted by the construction and development of a single-family residence on merged parcel APN 057-222-290 & 300. The following list contains SWCA's comments and recommendations based on a review of the report.

- Tree 11 is recommended for retention in the summary on page 1 of the report, with the stipulation that the retaining wall height should be shortened. However, throughout the remainder of the report, this tree is labeled with a blue "X" on the map and is slated for removal. It is recommended that additional clarification be included regarding project design and coordination with a certified arborist on the exact recommendations for Tree 11.

- The April 3, 2012 report states that four trees are of significant size to warrant heritage tree status. However, none of the trees listed in the table on page 3 have a DBH measurement that warrants heritage tree status under the San Mateo County Heritage Tree Ordinance. No trees in the January

2019 report update are reported as having heritage tree status. Based on the data in the 2012 report and January 2019 report update, it is understood that the heritage tree language within the report update is correct.

Additional arborist inspections and reporting will be required as part of the potential future development of the 11 additional parcels in order to assess the potential impacts to trees within these parcels. Trees within these parcels will need to be assessed for heritage tree status, and protection under the San Mateo County Heritage Tree Ordinance and the City of Redwood City Tree Preservation Ordinance. It is recommended that additional arborist reports be prepared prior to construction within the 11 future developable parcels.

CANYON LANE PROJECT BIOLOGICAL RESOURCES REPORT (H.T. HARVEY AND ASSOCIATES 2016)

SWCA reviewed the Canyon Lane Project Biological Resources Report, prepared by H.T. Harvey and Associates (H.T. Harvey) in December 2016, (2016 report) for the expansion of Canyon Lane and the installation of utilities. SWCA also edited the project description to include the development of a single-family residence on a merged parcel (057-222-290 & 300) and the potential future development of 11 parcels. The 2016 report did not analyze biological resources for the afore mentioned, expanded project description. Therefore, SWCA conducted a follow-up biological resources analysis to include areas within the expanded project description and evaluate biological resources within those areas that have potential to be impacted by the project.

Biological Resources Analysis (SWCA 2019)

SWCA Biologist Jessie Henderson-McBean conducted a desktop review and field investigation to evaluate biological resources that have potential to be impacted by the development of the single-family residence and potential future development of the 11 parcels. This section generally follows the format of the 2016 report and provides supplemental data to adequately address potential impacts associated with the expanded project description.

Methods

LITERATURE REVIEW

SWCA biologists reviewed the 2016 report to determine a baseline for surveys and literature review, and to provide comment on the report in the context of technical adequacy for assessing impacts under the California Environmental Quality Act.

Consistent with the 2016 report, SWCA reviewed all pertinent literature and databases to ensure that all data was current. SWCA's literature review was initiated with a query of the most recent version of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) to identify reported occurrences of sensitive resources within the following USGS 7.5-minute quadrangle maps: Woodside, Palo Alto, Mindego Hill, La Honda, San Gregorio, Half Moon Bay, Montara Mountain, San Mateo, and Redwood Point. An Information for Planning and Consultation (IPaC) Resource List was obtained from the United States Fish and Wildlife Service (USFWS) to determine what federally listed and protected resources may occur in the area.

In addition to the CNDDB and IPaC queries, the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants of California (CNPS 2018) was reviewed to provide additional information on rare plants known to occur in the area. As CNPS does not maintain quadrangle-level

records for California Rare Plant Rank (CRPR) 4 species, the CNPS plant list for San Mateo County was also reviewed to determine if new rare plant occurrences had been recorded since the 2016 report was prepared.

FIELD STUDY

A reconnaissance-level field survey was conducted by SWCA Biologist Jessica Henderson-McBean on January 22, 2019, and a follow-up survey was conducted on February 6, 2019. The biological survey area included areas identified as the proposed Canyon Lane road expansion area, the proposed utility installation area, the single-family residence development, and 11 future development parcels. The biological survey area was surveyed by walking meandering transects throughout the survey area to document habitat conditions and to determine the potential for the presence of sensitive species. Potentially jurisdictional waters and wetlands were preliminarily mapped as part of the field study; however, no formal wetland delineation was conducted. In addition, no focused field surveys were performed as part of the reconnaissance-level surveys.

Regulatory Setting

As stated in the 2016 report, biological resources are regulated by a number of federal, state, and local laws and ordinances. SWCA did not have comment on the relevant laws and ordinances listed in the 2016 report. Therefore, the regulatory setting described in the 2016 report is consistent with that used for the 2019 biological resource evaluation.

Existing Biological Conditions

Consistent with the 2016 report, the project site is located within a forested canyon and is surrounded by residential development (Figure 1). The size of the project site has been expanded from 1.33 acres to 3.801 acres, as the project now encompasses a single-family residence and 11 potentially developable parcels situated north and south of the existing dirt road.

Site elevation ranges from approximately 130 feet at Glenwood Avenue to approximately 300 feet at Vista Lane. Although the project site has been expanded, soils within the expanded project site remain consistent with those described in the 2016 report. Soils in the project site are Urban land-orthents, cut and fill complex, 5 to 75 percent slopes, and Orthents, cut and fill-urban land complex, 5 to 75 percent slopes (NRCS 2019).

General Habitat Conditions and Wildlife Use

The 2019 reconnaissance-level field survey identified five general biotic habitats/features on the project site: coast live oak forest, developed, California annual grassland, riparian coast live oak forest, and disturbed. The 2016 report identified coast live oak forest, developed, California annual grassland, and riparian coast live oak forest habitat within the project site. Disturbed was added to this analysis to acknowledge a highly disturbed area on the southwestern side of the watermain installation area and is further described below. The 2016 report identified “drainage swales,” which have been renamed for the purposes of this report to reflect the hydrology of the features (intermittent drainage feature and ephemeral drainage feature). In addition, SWCA biologists identified one additional drainage feature as part of the expanded project description and identified disturbed habitat areas in the southwestern corner of the project site. These additional biotic features have been added to this analysis and are described in more detail below. The distribution of habitat acreages within the project site is depicted in Figure 2, and a summary of all habitat acreages on the site is presented in Table 1.

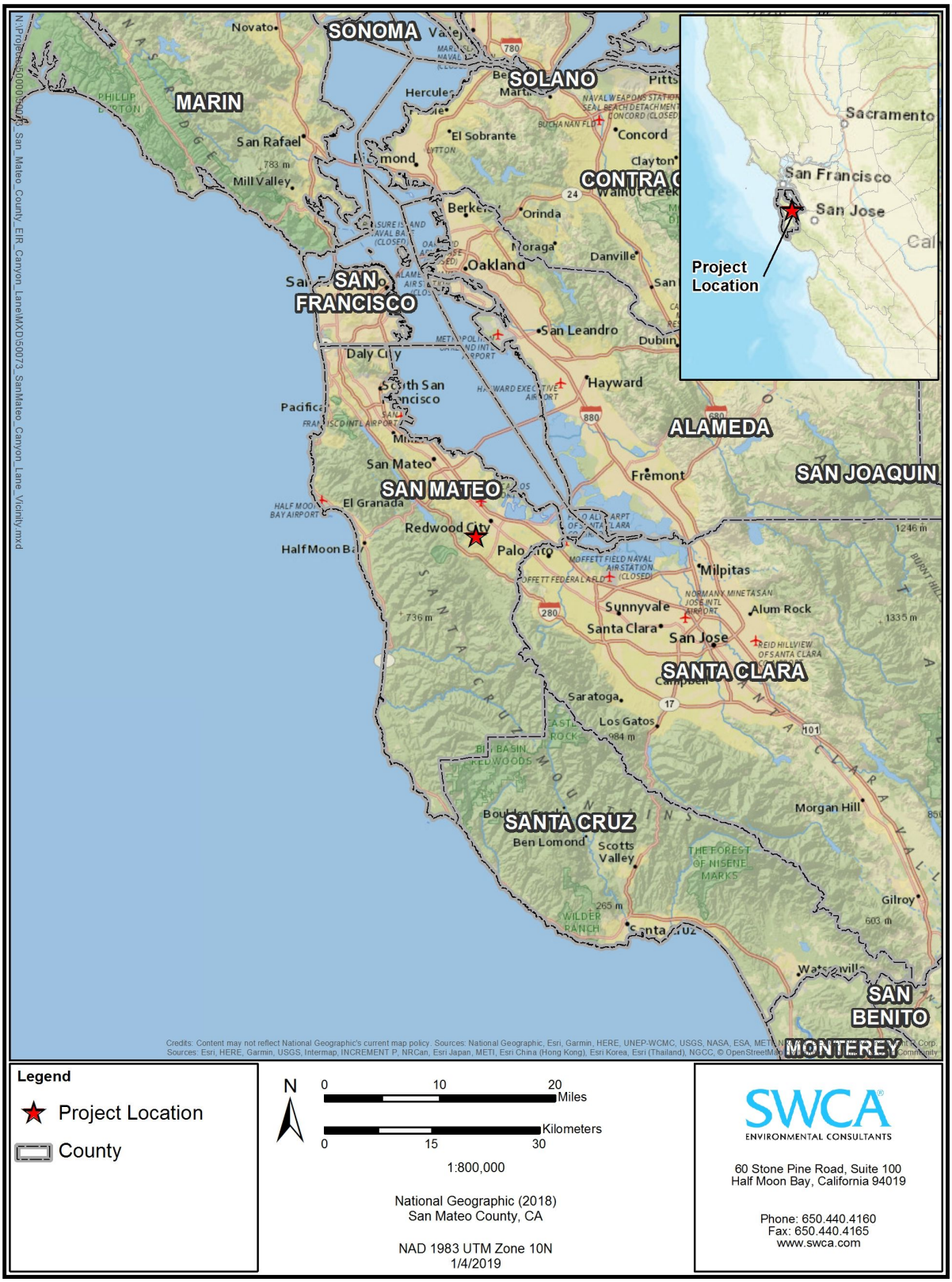

Figure 1. Vicinity Map

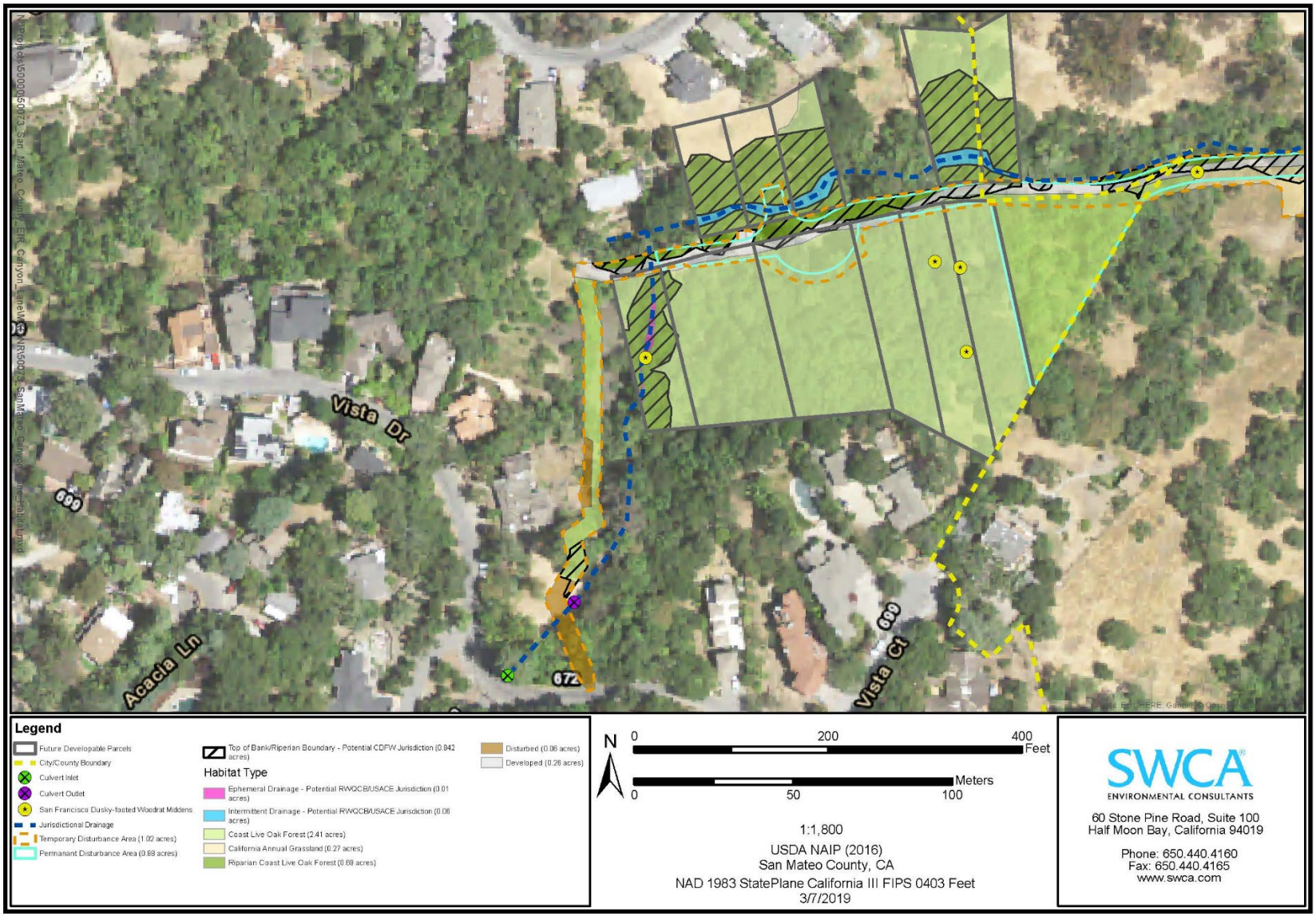

Figure 2a. Habitat and Project Impacts Map 1 of 2

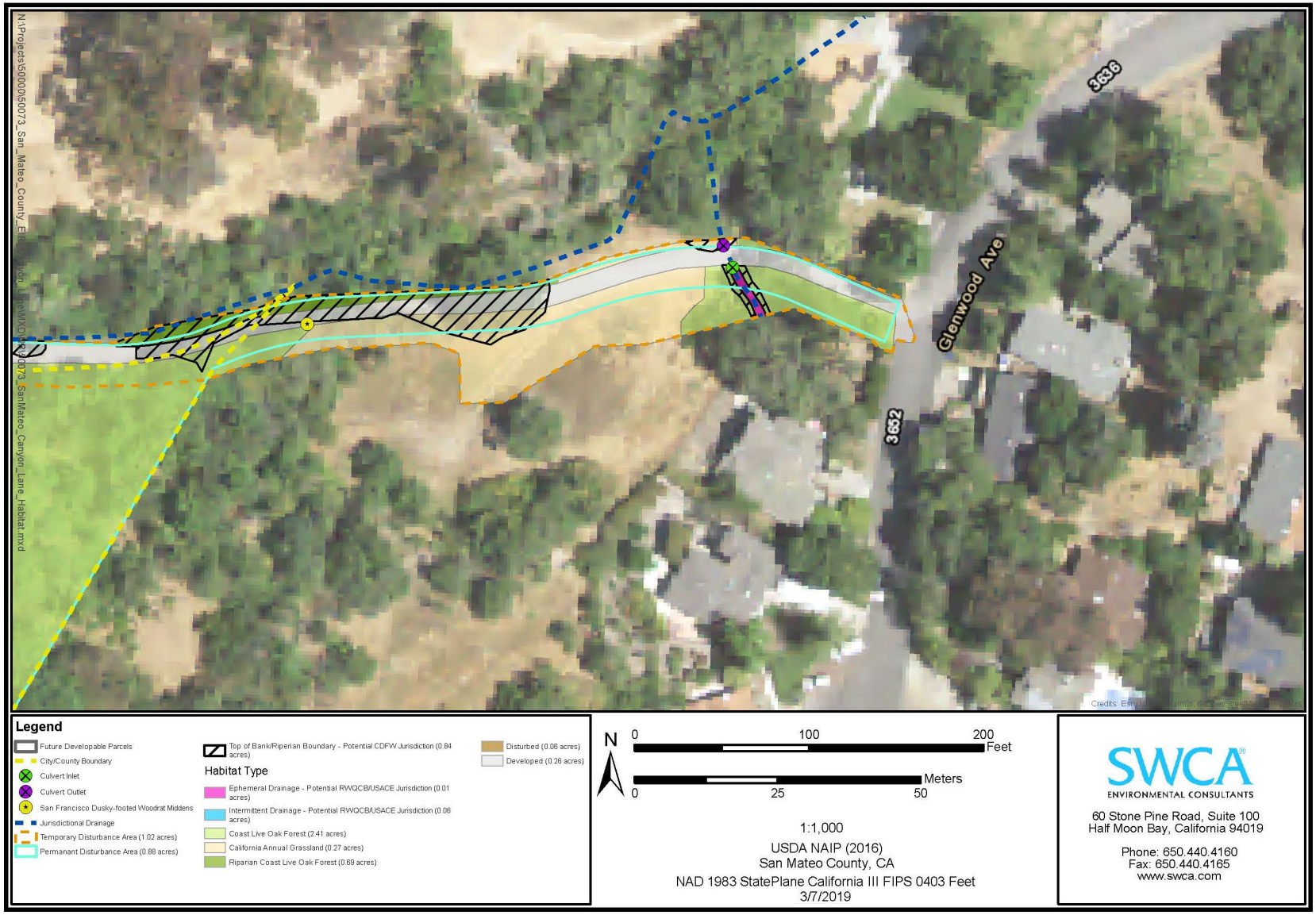

Figure 2b. Habitat and Project Impacts Map 2 of 2

Table 1. Habitat Acreages on the Project Site

Habitat	Area (acres)	Percentage of Site (%)
Coast live oak forest	2.417	63
Developed	0.260	7
California annual grassland	0.278	7
Riparian coast live oak forest	0.697	18
Disturbed	0.066	2
Intermittent drainage	0.067	2
Ephemeral drainage	0.016	1
TOTAL	3.801	100

Vegetation and Wildlife

In addition to the biotic habitat/features identified in the 2016 report, the following vegetation descriptions have been added to the report as a result of the expanded project description, and associated footprint, and changes to the biotic conditions on site.

Discussion and description of the "drainage swale" mentioned in the 2016 report under this heading is discussed in the Sensitive and Regulated Habitats section below as Ephemeral Drainage and Intermittent Drainage.

DISTURBED

Disturbed habitat is typically used to describe areas that have been previously physically disturbed to such an extent that previously existing natural communities are no longer supported. Disturbed areas either do not support any plant species or contain sparse, predominantly nonnative weedy species. This is not a natural community and generally does not provide high-quality habitat for wildlife or sensitive species.

This habitat type has been added to the biological analysis to acknowledge a highly disturbed area on the southwestern side of the watermain installation area. An ongoing landslide is present in this area, which appears to have been re-stabilized by contouring the slope, installing straw wattles to stabilize loose soils, and covering the area with woodchips (Steven F. Connelly 2017). Sparsely scattered annual grasses were observed growing up through the dense layer of woodchips. No other vegetation was observed growing in this area.

In general, disturbed habitat does not provide high-quality wildlife habitat, although reptiles may bask in open areas where sunlight hits the ground. In addition, wildlife may use this area as they pass through the vicinity to access adjacent habitats.

Special-Status Plants and Animal Species

Figures 3a, 3b, 4a and 4b in Appendix A show CNDDB special-status plant and animal species occurrence records within a 5-mile radius of the project. CNDDB maps have been updated to include any new occurrences recorded since the 2016 report was prepared.

SPECIAL-STATUS PLANTS

Eighty-six (86) special-status plants were considered for their potential to occur on the project site based on current CNPS (2019) and CNDDB (2019) records. Based on a review of suitable habitat, soils, elevation, and other environmental factors, SWCA determined that the project site contains suitable habitat for eight of the 86 species that were identified in the records search.

SWCA's determination regarding what plant species are considered absent from the project site was consistent those made in the 2016 report. The following plant species are considered absent from the project site: Franciscan onion (*Allium peninsulare var. franciscanum*), Western leatherwood (*Dirca occidentalis*), fragrant fritillary (*Fritillaria liliacea*), Crystal springs lessingia (*Lessingia arachnoidea*), and white-rayed pentachaeta (*Pentachaeta bellidiflora*).

SWCA's determination regarding what special-status plants have potential to occur at the project site was consistent with the 2016 report. The list of species that have potential to occur and information about where these species may occur within the project site is presented in Table 2.

SPECIAL-STATUS ANIMALS

Fifty-eight (58) special-status animal species were considered for their potential to occur on the project site based on current CNDDB (2019) records and USFWS species records. SWCA determined that the project site may contain suitable habitat for 18 of the 58 species that were identified in the records search. Of these 18 species, SWCA agreed with the 2016 report determination that the following species were absent from the project site due to a lack of suitable habitat or evidence that the species does not occur in the project vicinity: delta smelt (*Hypomesus transpacificus*), tidewater goby (*Eucyclogobius newberryi*), Central California coast steelhead (*Oncorhynchus mykiss irideus*), burrowing owl (*Athene cunicularia*), Bay checkerspot butterfly (*Euphydryas editha bayensis*), peregrine falcon (*Falco peregrinus anatum*), golden eagle *(Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), and ringtail (*Bassariscus astutus*).

SWCA agreed with the 2016 report determination that the following species are not expected to occur on the project site: California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), California tiger salamander (*Ambystoma californiense*), and American badger (*Taxidea taxus*).

SWCA agreed with the 2016 report determination that the project site lacks suitable structures and crevices for large roosting maternity colonies of Townsend's big-eared bat (*Corynorhinus townsendii*). However, SWCA determined that there is potential for pallid bat (*Antrozous pallidus*) and other crevice roosting bats to occur on the project site. Rocky outcrops located to the north of the ephemeral drainage within the proposed 11 development parcels may provide suitable roosting habitat for individual pallid bats and other common crevice roosting bat species. In addition, trees located within the project site may provide suitable roosting habitat for foliage roosting bat species commonly found in the region such as the non-listed hoary bat (*Lasiurus cinereus*) and Western red bat (*Lasiurus blossevillii*), a California species of special concern.

Five special-status animal species were determined to have potential to occur on the project site. These species are described in Table 3.

Table 2. Special-Status Plant Species with Potential to Occur on the Project Site

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
bent-flowered fiddleneck *Amsinckia lunaris*	Annual herb that occurs in coastal bluff scrub, cismontane woodland, and valley and foothill grassland. Elevation 3–500 meters.	May-June	--/--/1B.2	**Limited potential to occur.** Potentially suitable habitat for this species is located within coast live oak forest, and California annual grassland habitat on the project site.
Oakland star tulip *Calochortus umbellatus*	Perennial bulbiferous herb that occurs in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. This species is often found on serpentinite soils. Elevation 100–700 meters.	March-May	--/--/4.2	**Limited potential to occur.** Potentially suitable habitat for this species is located within both the grassland and coast live oak forest habitats on the project site.
California bottle-brush grass *Elymus californicus*	Perennial herb that occurs in broadleafed upland forest, cismontane woodland, North Coast coniferous forest, and riparian woodland habitats. Elevation 15–470 meters.	May-August (November)	--/--/4.3	**Limited potential to occur.** Potentially suitable habitat for this species is located within both the riparian coast live oak forest and coast live oak forest habitats on the project site.
San Mateo woolly sunflower *Eriophyllum latilobum*	Perennial herb that occurs in cismontane woodland (often serpentinite, on roadcuts), coastal scrub, and lower montane coniferous forest. Elevation 45–330 meters.	May-June	FE/CE/1B.1	**Potential to occur.** Potentially suitable habitat for this species is located within the coast live oak forest habitat on the project site.
bristly leptosiphon *Leptosiphon acicularis*	Annual herb that occurs in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland habitats. Elevation 55–1500 meters.	April-June	--/--/4.2	**Limited potential to occur.** Potentially suitable habitat for this species is located within the coast live oak forest and California annual grassland habitats on the project site.
serpentine leptosiphon *Leptosiphon ambiguus*	Annual herb that usually occurs on serpentinite soils, in cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Elevation: 120–1130 meters.	March-June	--/--/4.2	**Potential to occur.** Potentially suitable habitat for this species is located within the coast live oak forest habitat on the project site; however, this species is presumed absent from the California annual grassland habitat due to the fact that the grassland habitat is not on serpentine soils.

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
woodland woollythreads *Monolopia gracilens*	An annual herb associated with serpentine soil. Often found in openings within broadleafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, and valley and foothill grassland. 100–1200 meters.	February - July	--/--/1B.2	**Limited potential to occur.** Potentially suitable habitat for this species is located within the coast live oak forest and California annual grassland habitat on the project site.
Michaels rein orchid *Piperia michaelii*	Perennial herb that occurs in coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest habitats. Elevation 3–915 meters.	April-August	--/--/4.2	**Limited potential to occur**. Potentially suitable habitat for this species is located within the coast live oak forest habitat on the project site.

Notes:

[1]List of plant species based on CNPS and CNDDB searches of USGS 7.5-minute quadrangles— Woodside, Palo Alto, Mindego Hill, La Honda, San Gregorio, Half Moon Bay, Montara Mountain, San Mateo and Redwood Point [2]Listing status based on CNDDB and CNPS data.

[3]Habitat associations and blooming periods based on the Jepson Online Interchange for California Floristics (Queried in February 2019).

*Occurrences recorded within 5 miles of the project.

Status Codes

-- = No status

FE = Federally listed endangered, FT = Federally listed threatened,

FC = Federal candidate for listing

SE = California state-listed endangered

ST = California state-listed threatened

SCE = California candidate endangered

California Rare Plant Ranking:

1A = Plants presumed extirpated in California and either rare or extinct elsewhere

1B = Plants rare, threatened, or endangered in California and elsewhere

2A = Plants presumed extirpated in California, but common elsewhere

2B = Plants rare, threatened, or endangered in California, but more common elsewhere

CRPR Threat Ranks:

0.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 = Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)

0.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat)

Table 3. Special-Status Animal Species with Potential to Occur on the Project Site

Species Name	Habitat and Distribution	Legal Status Federal/ State	Rationale for Expecting Presence or Absence
Western pond turtle *Emys marmorata*	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with abundant vegetation. Prefers aquatic features with exposed banks, rocks, or logs for basking. Typically found in woodland, forest and grassland habitats. Typically between March and June turtles will leave the water and travel overland to search for food, better habitat, a mate, or nesting habitat.	--/SSC	**Limited potential to occur.** SWCA agreed with the assessment made by H.T. Harvey's 2016 report that western pond turtle may occur, although infrequently, within the project site. Although the project site lacks suitable high-quality aquatic habitat and basking sites for this species, the intermittent drainage feature may provide suitable temporary aquatic cover for vagrant individuals.
yellow warbler *Setophaga petechia*	Occurs in bushes, swamp edges, streams, and gardens. Yellow warblers nest in a variety of habitats including woods and thickets along the edges of streams, lakes, swamps, and marshes, particularly in willows, alders, and other moisture-loving plants.	--/SSC	**Potential to Occur. Unlikely to nest.** SWCA agreed with the assessment made by H.T. Harvey's 2016 report that this species is unlikely to nest within the project site, but may occur on the project site as a spring or fall migrant.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	Occurs in grasslands, scrub, and wooded areas throughout the San Francisco Bay area. This species builds large stick houses in trees or tree cavities as well as on the ground against logs or in dense brush.	--/SSC	**Present.** SWCA agreed with the assessment made by H.T. Harvey's 2016 report that suitable habitat for San Francisco dusky-footed woodrat occurs throughout the project site within coast live oak forest and riparian coast live oak forest habitat. SWCA identified four woodrat middens during the reconnaissance-level surveys (Figure 2).
pallid bat *Antrozous pallidus*	Occurs in semi-arid and arid landscapes in western North America, primarily in grasslands, shrub-steppe, and desert environments with rocky outcrops. This species can also be found in dry open oak forest, ponderosa forest, or open farmland. Roosts are most commonly in rock crevices; however, buildings, bridges, live trees and snags may also be suitable roosts for pallid bat.	--/SSC	**Potential to occur.** Although no suitable large crevices are present within the project site for large maternity colonies, rocky outcrops within the future developable parcels located on the north side of the intermittent drainage feature may provide suitable roosting habitat for individual roosting and small groups of maternity roosting pallid bats.

Species Name	Habitat and Distribution	Legal Status Federal/ State	Rationale for Expecting Presence or Absence
Western red bat *Lasiurus blossevillii*	Occurs in forests and woodlands from sea level up through mixed conifer forests, with grasslands, shrublands, open woodlands, forests and croplands nearby for foraging. This species roosts primarily in trees, and sometimes in shrubs. Roost sites are typically located adjacent to streams, fields or urban areas.	--/SSC	**Potential to occur.** Trees and shrubs throughout the project site may provide suitable roosting habitat for individual roosting and small groups of maternity roosting Western red bats.

Notes:

[1]List of animal species based on CNDDB searches of USGS 7.5-minute quadrangles – Woodside, Palo Alto, Mindego Hill, La Honda, San Gregorio, Half Moon Bay, Montara Mountain, San Mateo and Redwood Point

[2]Listing status based on CDFW CNDDB State & Federally Listed Endangered & Threatened Animals of California List, November 2018.

Status Codes

-- = No Status

FE = Federally Listed Endangered

FT = Federally Listed Threatened

FC = Federal Candidate for Listing

SE = California State-Listed Endangered

ST = California State-Listed Threatened

SCE = California Candidate Endangered

DL = Delisted

FP = CDFW Fully Protected

SSC = CDFW Species of Special Concern

Sensitive and Regulated Habitats

CDFW SENSITIVE HABITATS

Consistent with the 2016 report, SWCA identified riparian habitat along the ephemeral drainage and intermittent drainage corridors. This riparian habitat may be considered jurisdictional by CDFW. In addition to the riparian habitat identified along the intermittent drainage tributary to Arroyo Ojo de Agua and the eastern ephemeral drainage feature, riparian habitat, part of the expanded project description, was identified surrounding the western ephemeral drainage feature and south of Canyon Lane.

WATERS OF THE U.S./STATE

Consistent with the 2016 report, no formal wetland delineation was conducted for this report. However, potentially jurisdictional features do occur on the site. These features are described in detail below.

Intermittent Drainage

Intermittent streams and drainages are defined as having periods of flowing water during the wet season (winter-spring). These features are normally dry during the hot summer months and are not considered "relatively permanent waters." (Wetlands Professional Services 2017)

The 2016 report describes the presence of a "drainage swale" running parallel to Canyon Lane, which is an unnamed tributary of Arroyo Ojo de Agua. For the purpose of this analysis SWCA has renamed the "drainage swale" to "intermittent drainage" in order to more accurately reflect the seasonal waters present during the wet season.

During both site visits on January 22, 2019, and February 6, 2019, water was actively flowing in the intermittent drainage feature. Water was observed at approximately 8 to 12 inches in depth. The intermittent drainage feature is canopied by riparian coast live oak forest habitat, and the banks are covered with patches of dense Himalayan blackberry (*Rubus armeniacus*) as well as patches of annual grasses and forbs.

Consistent with findings in the 2016 report, the intermittent drainage does not provide suitable habitat for fish and most aquatic wildlife species due to the fact that the drainage is narrow and relatively shallow. In addition, the intermittent drainage, which is a tributary to Arroyo Ojo de Agua, runs underground from a large culvert inlet to the northeast of the project site, and through a series of pipes towards Redwood Creek. Due to the fact that this feature runs subsurface, it does not provide suitable aquatic dispersal habitat for fish or aquatic wildlife species. However, the intermittent drainage may provide a water source for wildlife species in adjacent habitats, which may use the drainages on the project site for drinking or bathing. In addition, the intermittent drainage feature may provide temporary aquatic refuge for the rare vagrant western pond turtle that may disperse through the area.

Ephemeral Drainage

Ephemeral drainage features are typically associated with having less flow than intermittent streams and water is only flowing for brief periods in response to rainfall. Ephemeral streams and ditches are normally dry for most of the year. (Wetlands Professional Services 2017)

The 2016 report describes a "second drainage swale" that connects to the above-described unnamed tributary of Arroyo Ojo de Agua, near the eastern boundary of the site. This drainage swale lacks a riparian canopy, but does contain some Himalayan blackberry along the banks of the feature. During both site visits on January 22, 2019, and February 6, 2019, water was actively flowing in this ephemeral

drainage feature. Water was observed at approximately 4 to 6 inches in depth due to the recent rain events.

As part of the expanded project description, SWCA identified another ephemeral drainage feature on the southwestern side of the project site which conveys stormwater runoff through a series of culverts, starting on the southwestern side of the project site near Vista Lane, and draining downslope towards the intermittent drainage on the north side of Canyon Lane. Water was flowing in this feature during both site visits (January 22, 2019 and February 6, 2019). Water was observed at approximately 6 inches in depth due to recent rain events. This second, western ephemeral drainage feature was not identified in the 2016 report, as the feature overlaps with the 11 future developable parcels and the proposed water main installation site.

Neither of the ephemeral drainages observed within the project site provide suitable habitat for fish and most aquatic wildlife species due to the fact that the drainages are narrow and relatively shallow, and the water in the drainages is the result of storm events. However, both of the ephemeral drainages may provide a seasonally present water source for wildlife species in adjacent habitats, which may use the drainages on site for drinking or bathing.

Biotic Impacts and Mitigation

OVERVIEW

The CEQA Guidelines outlined within the 2016 report are current and valid for impacts analysis within this report. SWCA's determinations remain consistent with the definitions and guidelines outlined in the 2016 report.

In summary, SWCA's assessment of the potential impacts for the project expansion of Canyon Lane remained consistent with those assessed in the 2016 report. However, due to the expanded project description, the areas of impact are no longer consistent with the areas reviewed in the 2016 report. Temporary and permanent impact areas are further described in Table 4 below. SWCA determined that mitigation measures and procedures described in the 2016 report provide mitigation for the impacts of the project on sensitive habitats and special-status species, with the exception of impacts to San Francisco dusky-footed woodrat and bat species. SWCA recommends the addition of language added to Mitigation Measure 7c (described below) to further prevent impacts to San Francisco dusky-footed woodrat young, and implementation of Mitigation Measure 10: Pre-Construction Bat Survey, described below to mitigate impacts to special-status bat species and maternal bat roosts.

Table 4. Temporary and Permanent Impacts as a Result of the Project

Habitat	Temporary Impact Area (acres)	Permanent Impact Area (acres)
Coast live oak forest	0.372	0.506
Developed	0.257	0.211
California annual grassland	0.173	0.056
Riparian coast live oak forest	0.144	0.103
Disturbed	0.066	N/A
Intermittent drainage	0.005	0.005
Ephemeral drainage	0.003	0.001
TOTAL	1.020	0.882

KEY ASSUMPTIONS

To date, the design for the proposed bridge over the tributary of Arroyo Ojo de Agua has not yet been finalized. However, the proposed design shows that the bridge would fully span the intermittent drainage without encroaching below the top of bank, and this design is a key assumption in this analysis, as well as in the 2016 report. Therefore, no additional permits or compensatory mitigation are anticipated beyond those outlined in the original Biological Resources Report. If there are changes to the bridge design which may impact the potentially jurisdictional boundaries of these features, additional permitting may be required.

The 11 developable parcels that are part of this proposed project were analyzed at a program level. The purpose of the assessment of these parcels, within this biological resources report, is to provide a baseline for future development on these parcels. As conditions may change, and no certain date of potential development is yet known, it is recommended that any future development of these parcels proceed only after a biological evaluation, specific to the parcel(s) in question, be completed. Considering potential future regulatory changes and changes to special-status species designations, an individual report, congruent with the CEQA process, will need be completed to assess potential impacts.

LESS-THAN-SIGNIFICANT IMPACTS

The levels of significance reported for impacts in the 2016 report are consistent with that of the expanded project description scope. However, the total acreages that will be impacted by the proposed project have been altered due to the expanded project description. The proposed project will result in 0.88 acre of permanent impacts and 1.02 acre of temporary impacts. These acreages do not include potential impacts from the 11 developable parcels which accounts of 2.62 acres of the project area, as described above.

IMPACTS FOUND TO BE LESS THAN SIGNIFICANT WITH MITIGATION

No additional impacts, beyond those reported in the 2016 report, to bent-flowered fiddleneck or San Mateo woolly sunflower were identified as part of the 2019 biological evaluation. The following Mitigation measures suggested in the 2016 report would be sufficient to mitigate the effects of the project on these species for the expanded project description: Mitigation Measures 1a, 1b, 1c, 2a, and 2b.

Loss of Protected Trees

Trees within the City were not measured in accordance with the City's tree ordinance standards. The City requires measurements be taken at the widest section of the trunk between 6 and 36 inches above ground.

Trees within the City will need to be measured in accordance with the standards outlined in the City tree ordinance. Trees within the County of San Mateo will need to be measured in accordance with the San Mateo County Significant Tree Ordinance.

Mitigation Measures 3a, 3b, 3c, 4a, 4b, and 4c proposed in the 2016 report for loss of protected trees are suggested to be applied to the expanded project description scope; however, additional trees may be added to the identified list of trees following updates to the Arborist Reports.

Impacts on Intermittent and Ephemeral Drainage Features and Water Quality

SWCA's determination on project impacts to potentially jurisdictional waters is consistent with that of the 2016 report. However, the expanded project description area includes one additional ephemeral drainage feature, observed on the western side of the project. The feature intersects with one of the 11 future developable parcels; however, Mitigation Measures 5a and 5b described in the 2016 report are relevant in

order to mitigate for potential impacts to all drainage features. Permitting will be required for the widening of the culvert crossing within the ephemeral drainage on the east side of Canyon Lane. Additional permitting may be required for the installation of the proposed bridge crossing, if the design encroaches on the jurisdictional boundaries of the intermittent drainage feature.

Impacts from Invasive Weeds

SWCA's determination on project impacts to invasive weeds is consistent with those described in the 2016 report. No additional mitigation measures beyond those stated in Mitigation Measure 6 are recommended.

Impacts on the San Francisco Dusky-Footed Woodrat

Five San Francisco dusky-footed woodrat nests were identified during the field surveys on January 22, 2019, and February 6, 2019. SWCA's determination on project impacts to dusky-footed woodrats is consistent with those described in the 2016 report. No changes to Mitigation Measures 7a and 7b are recommended, however the following language (indicated by the italicized text) has been added to Mitigation Measure 7c to further prevent any potential impacts to woodrat young.

> **BIO/mm-7c Pre-Construction Bat Survey**. Relocation of Nest Materials. If active woodrat nests are found within the project boundary during the preconstruction survey and avoidance is not feasible, the woodrats will be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist will disturb and *slowly dismantle* the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. *If dependent woodrat young are observed within the nest during dismantling, the biologist will stop dismantling, and install a buffer to allow additional time for the adults and young to disperse offsite. Once adults and young have dispersed offsite, the biologist will then complete dismantling of the nest.* Subsequently, the nest sticks will be relocated; these materials will be piled at the base of a nearby tree or shrub outside of the activity area. The spacing between relocated nests will not be less than 20 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.

Impacts on Western Pond Turtle

SWCA's determination on project impacts to western pond turtle is consistent with those described in the 2016 report. No additional mitigation measures beyond those stated in Mitigation Measure 8 are recommended.

Regulatory Overview for Nesting Birds

SWCA's determination on project impacts to nesting birds is consistent with those described in the 2016 report. No additional mitigation measures beyond those stated in Measure 1a, 1b and 1c are recommended.

Impacts on Roosting Bats

The project could result in the loss of bat roosting habitat, including potential roosting habitat for pallid bat, through the removal of onsite trees and impacts to rocky outcrops during construction. Loss of individual bats, bat colonies, or their habitat could occur if active bat roosts are present within trees or rocky outcrops, particularly if construction activities take place during the maternal roosting period season when young bats cannot yet fly or, for crevice-roosting bats, during hibernation when bat activity is decreased. Implementation of Mitigation Measure 10: Pre-Construction Bat Survey, would reduce this

potentially significant impact on special-status and roosting bat species to a less-than-significant level by ensuring tree removal activities are seasonally timed where active bat roosts occur, and mitigation is provided for the loss of identified bat roosts.

> **BIO/mm-10 Pre-Construction Bat Survey**. Prior to tree removal or grading of rocky outcrops, a qualified bat biologist shall conduct a visual and acoustic survey of the project site to identify if bats are roosting within trees or rocky outcrops within the project site. Sensitive habitat areas and roost sites should be avoided to the maximum extent possible. If no roosting sites or bats are observed during the survey, a letter report detailing the survey observations shall be sent to the California Department of Fish and Wildlife (CDFW) and no further mitigation is necessary.
>
> If roosting bats or indications of bat roosts are observed within the project site and cannot be avoided, CDFW will be consulted to determine if bat roost replacement is required. If required, roost replacement will be implemented before construction activities begin. Roost replacement will be implemented using suggested mitigation strategies such as those described in the Caltrans' *California Bat Mitigation Techniques, Solutions, and Effectiveness* report (Johnston et al. 2004) and will be based off species-specific roosting requirements. Roost replacement will be conducted on site to the extent feasible.
>
> If roosting bats or indications of bat roosts are observed within Project trees to be removed, tree removal shall be conducted between September 1 and March 30 to avoid impacts to maternal bat roosts. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal will begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking forage). Trees will be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.

Implementation of the pre-construction survey and bat roosting minimization measures presented in mm/BIO-10 would avoid and minimize impacts to roosting bat species and the impacts will be reduced to a less-than-significant level.

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APPENDIX A

CNDDB Maps

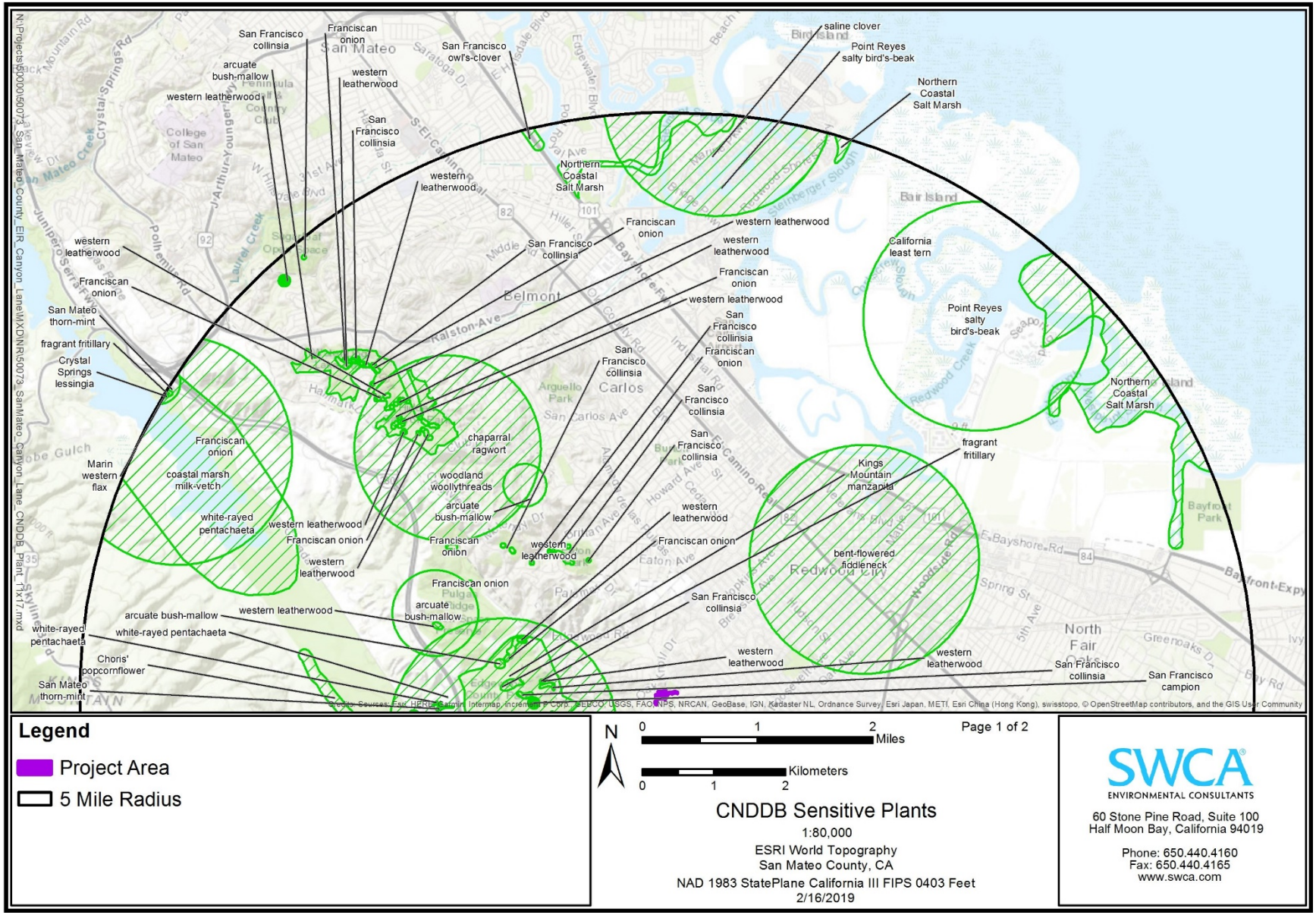

Figure 3a: CNDDB Sensitive Plant Records (1 of 2)

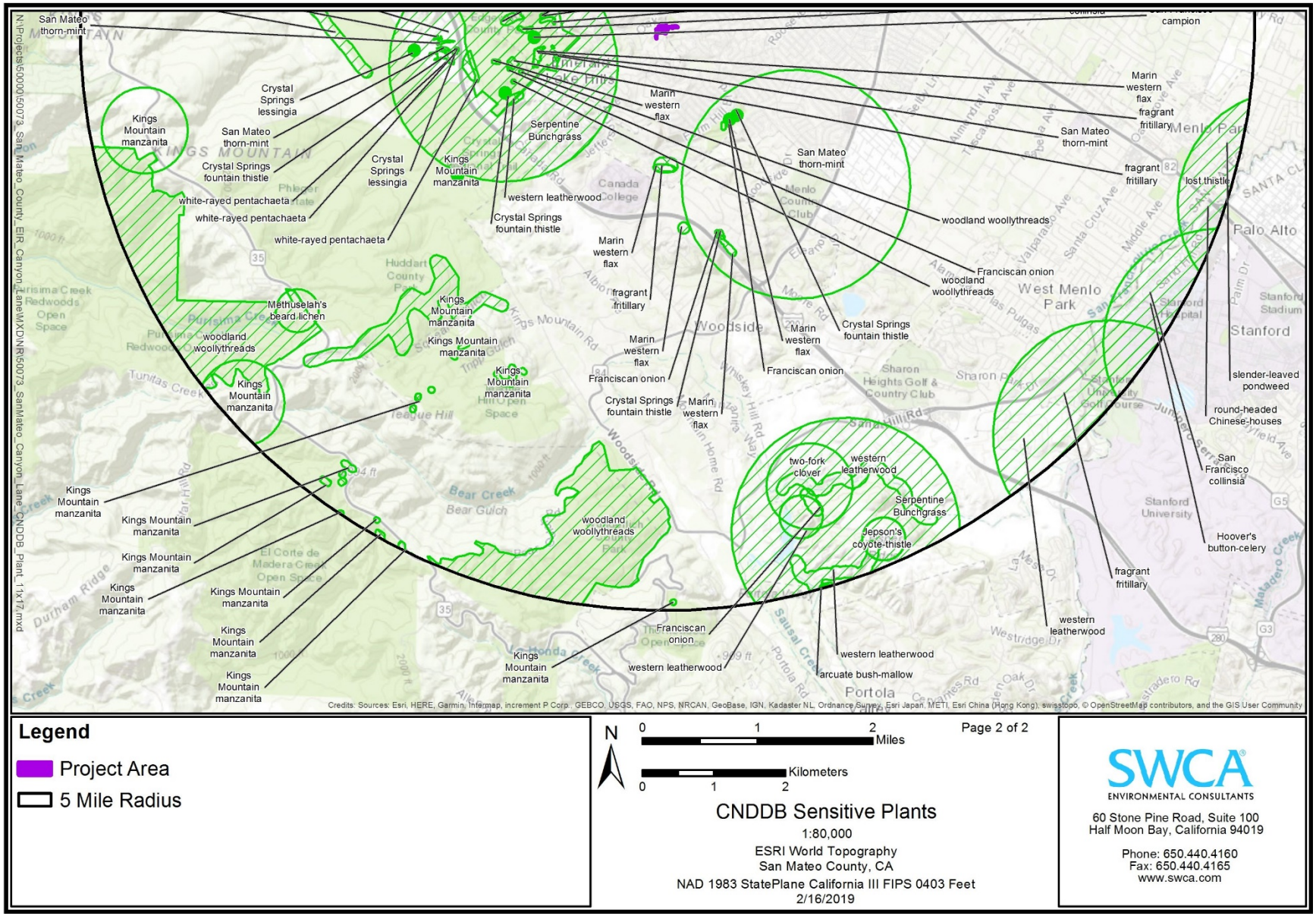

Figure 3b: CNDDB Sensitive Plant Records (2 of 2)

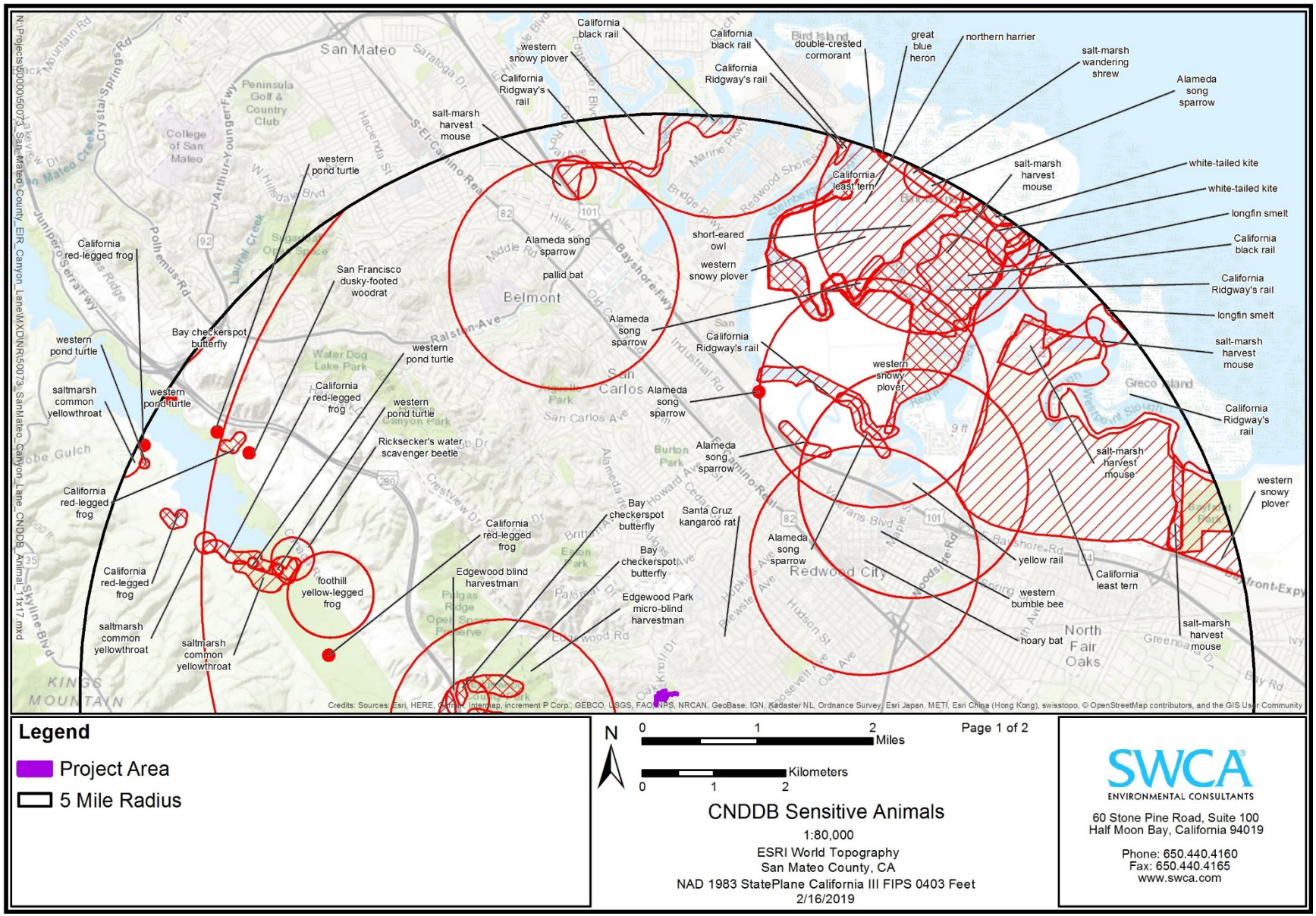

Figure 4a: CNDDB Sensitive Animal Records (1 of 2)

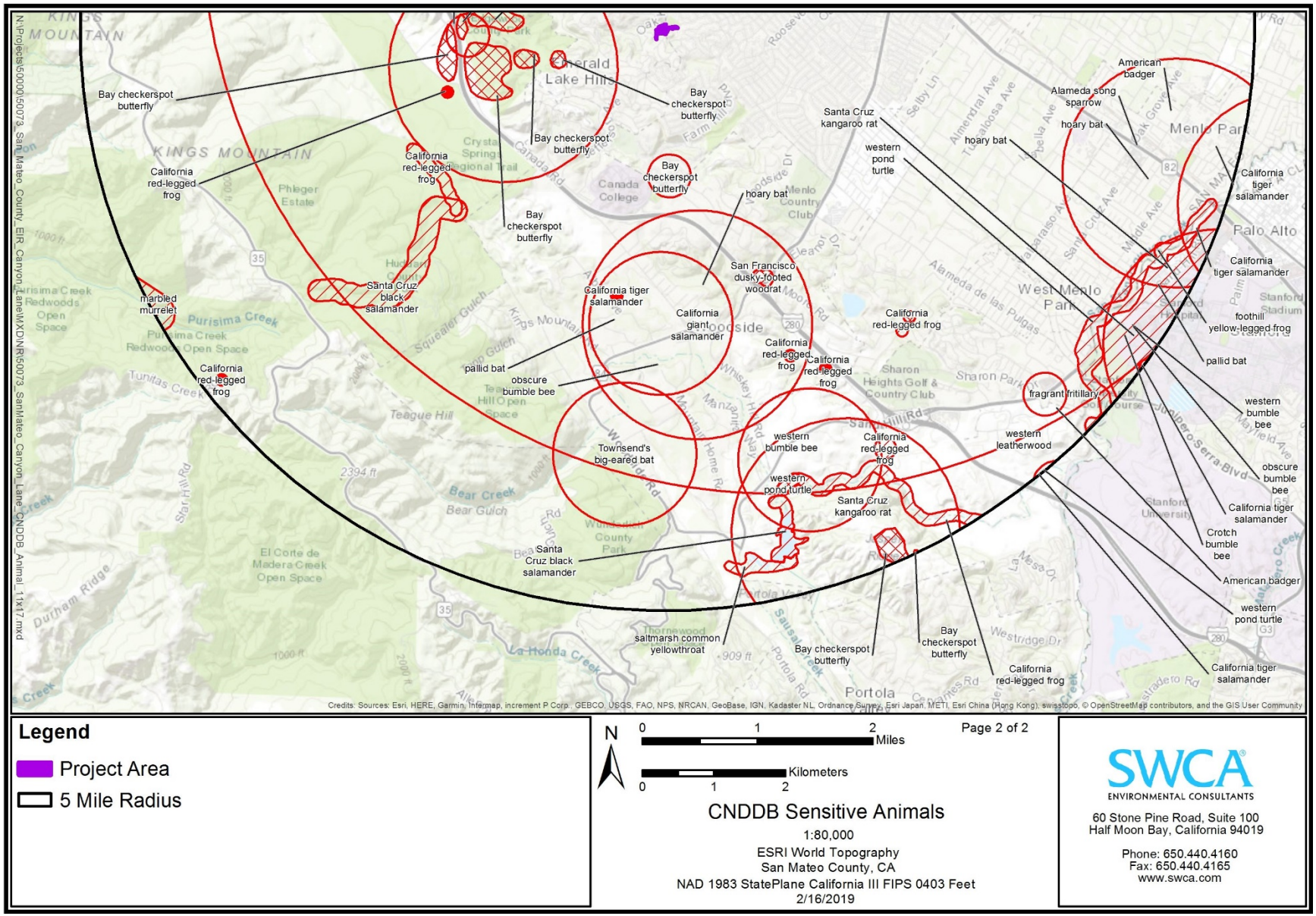

Figure 4b: CNDDB Sensitive Animal Records (2 of 2)

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT E

COUNTY OF SAN MATEO, PLANNING AND BUILDING DEPARTMENT

NOTICE OF INTENT TO ADOPT
MITIGATED NEGATIVE DECLARATION

A notice, pursuant to the California Environmental Quality Act of 1970, as amended (Public Resources Code 21,000, et seq.), that the following project: *Grading Remediation and Variance Permit*, when adopted and implemented, will not have a significant impact on the environment.

FILE NO.: PLN 2018-00309

OWNER/ APPLICANT: Brian Musante

ASSESSOR'S PARCEL NO.: 057-222-390

LOCATION: 651 Vista Drive, Redwood City

PROJECT DESCRIPTION: Grading Remediation and Variance Permit to remediate and restore unpermitted earthwork resulting from grading beyond the scope of work necessary to demolish a fire damaged single-family residence. Site remediation includes 1,233 cubic yards (1,200 cubic yards of over excavation to remove undocumented fill, 10 cubic yards of cut, and 20 cubic yards of fill) to establish stable slopes. Staff has assessed that two trees were removed along the roadway on Vista Drive due to the fire and/or to provide safe access for emergency vehicles. The project will be conditioned to require replacement trees at a 3:1 ratio which will be required upon proposal of a new single-family residence.

FINDINGS AND BASIS FOR A NEGATIVE DECLARATION

The Current Planning Section has reviewed the initial study for the project and, based upon substantial evidence in the record, finds that:

1. The project will not adversely affect water or air quality or increase noise levels substantially.

2. The project will not have adverse impacts on the flora or fauna of the area.

3. The project will not degrade the aesthetic quality of the area.

4. The project will not have adverse impacts on traffic or land use.

5. In addition, the project will not:

    a. Create impacts which have the potential to degrade the quality of the environment.

    b. Create impacts which achieve short-term to the disadvantage of long-term environmental goals.

c. Create impacts for a project which are individually limited, but cumulatively considerable.

d. Create environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

The County of San Mateo has, therefore, determined that the environmental impact of the project is insignificant.

MITIGATION MEASURES included in the project to avoid potentially significant effects:

Mitigation Measure 1: The applicant shall require construction contractors to implement all the Bay Area Air Quality Management District's Basic Construction Mitigation Measures, listed below:

a. Water all active construction areas at least twice daily.

b. Apply water two times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

c. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

d. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour.

e. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

Mitigation Measure 2: Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

Mitigation Measure 3: Prior to the issuance of the building permit for the property, the applicant shall submit to the Planning Department for review and approval an erosion and drainage control plan that shows how the transport and discharge of soil and pollutants from and within the project site shall be minimized. The plan shall be designed to minimize potential sources of sediment, control the amount of runoff and its ability to carry sediment by diverting incoming flows and impeding internally generated flows, and retain sediment that is picked up on the project site through the use of sediment-capturing devices. The plan shall also limit application, generation, and migration of toxic substances, ensure the proper storage and disposal of toxic materials, and apply nutrients at rates necessary to

establish and maintain vegetation without causing significant nutrient runoff to surface waters. Said plan shall adhere to the San Mateo Countywide Stormwater Pollution Prevention Program "General Construction and Site Supervision Guidelines," including:

a. Sequence construction to install sediment-capturing devices first, followed by runoff control measures and runoff conveyances. No construction activities shall begin until after all proposed measures are in place.

b. Minimize the area of bare soil exposed at one time (phased grading).

c. Clear only areas essential for construction.

d. Within five (5) days of clearing or inactivity in construction, stabilize bare soils through either non-vegetative best management practices (BMPs), such as mulching, or vegetative erosion control methods, such as seeding. Vegetative erosion control shall be established within two (2) weeks of seeding/planting.

e. Construction entrances shall be stabilized immediately after grading and frequently maintained to prevent erosion and to control dust.

f. Control wind-born dust through the installation of wind barriers such as hay bales and/or sprinkling.

g. Soil and/or other construction-related material stockpiled on-site shall be placed a minimum of 200 feet from all wetlands and drain courses. Stockpiled soils shall be covered with tarps at all times of the year.

h. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drains by using earth dikes, perimeter dikes or swales, or diversions. Use check dams where appropriate.

i. Provide protection for runoff conveyance outlets by reducing flow velocity and dissipating flow energy.

j. Use silt fence and/or vegetated filter strips to trap sediment contained in sheet flow. The maximum drainage area to the fence should be 0.5 acres or less per 100 feet of fence. Silt fences shall be inspected regularly, and sediment removed when it reaches 1/3 the fence height. Vegetated filter strips should have relatively flat slopes and be vegetated with erosion-resistant species.

k. Throughout the construction period, the applicant shall conduct regular inspections of the condition and operational status of all structural BMPs required by the approved erosion control plan.

l. No erosion or sediment control measures will be placed in vegetated areas.

m. Environmentally sensitive areas shall be delineated and protected to prevent construction impacts.

n. Control of fuels and other hazardous materials, spills, and litter during construction.

o. Preserve existing vegetation whenever feasible.

Mitigation Measure 4: In the event that cultural, paleontological, or archaeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery and the project sponsor shall immediately notify the Community Development Director of the discovery. The applicant shall be required to retain the services of a qualified archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. The cost of the qualified archaeologist and of any recording, protecting, or curating shall be borne solely by the project sponsor. The archaeologist shall be required to submit to the Community Development Director for review and approval a report of the findings and methods of curation or protection of the resources. In addition, an archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased. No further grading or site work within the area of discovery shall be allowed until the preceding has occurred.

Mitigation Measure 5: If a newly discovered resource is, or is suspected to be, Native American in origin, the resource shall be treated as a significant Tribal Cultural Resource, pursuant to Public Resources Code 21074, until the County has determined otherwise with the consultation of a qualified archaeologist and local tribal representative.

Mitigation Measure 6: In the event of discovery or recognition of any human remains during project construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The applicant shall then immediately notify the County Coroner's Office and possibly the State Native American Heritage Commission to seek recommendations from a Most Likely Descendant (Tribal Contact) before any further action at the location of the find can proceed. All contractors and sub-contractors shall be made aware of these requirements and shall adhere to all applicable laws including State Cultural Preservation laws. Disposition of Native American remains shall comply with CEQA Guidelines Section 15064.5(e).

Mitigation Measure 7: A qualified engineer shall be on site to observe and test over excavation of the man-made fill slopes and backfill and compaction of the proposed fill slopes as recommended in the Romig Engineers Geotechnical Investigation.

Mitigation Measure 8: The applicant shall implement dust control measures, as listed below. Measures shall be included on plans submitted for the Building Permit and encroachment permit applications. The measures shall be implemented for the duration of any grading, demolition, and construction activities that generate dust and other airborne particles. The measures shall include the following:

a. Water all active construction areas at least twice daily.

b. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

c. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

d. Apply water three times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

e. Sweep daily (preferably with water sweepers) all paved access roads, parking, and staging areas at the construction sites.

f. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour (mph).

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measure 9: The applicant shall implement the following basic construction measures at all times:

a. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measure, Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

b. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be check by a certified visible emissions evaluator.

c. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person, or his/her designee, shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure 10: The applicant shall keep on-site soils in a moist condition throughout the construction period to help mitigate the potential effects of the expansive on-site soils.

Mitigation Measure 11: Should any traditionally or culturally affiliated Native American Tribe respond to the County's issued notification for consultation, such process shall be completed and any resulting agreed upon measures for avoidance and preservation of identified resources be taken prior to implementation.

Mitigation Measure 12: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall cease until a qualified professional

can evaluate the find and recommend appropriate measures to avoid and preserve the resources in place or minimize adverse impacts to the resource. Those measures shall be approved by the County Planning Department prior to implementation and prior to continuing any work associated with the project.

Mitigation Measure 13: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

RESPONSIBLE AGENCY CONSULTATION

San Mateo County Planning and Building Department

INITIAL STUDY

The San Mateo County Current Planning Section has reviewed the Environmental Evaluation of this project and has found that the probable environmental impacts are insignificant. A copy of the initial study is attached.

REVIEW PERIOD: November 7, 2019 to November 27, 2019

All comments regarding the correctness, completeness, or adequacy of this Negative Declaration must be received by the County Planning and Building Department, 455 County Center, Second Floor, Redwood City, no later than **5:00 p.m., November 27, 2019**.

CONTACT PERSON

Olivia Boo
Project Planner, 650/363-1818
oboo@smcgov.org

Olivia Boo, Project Planner

OSB:cmc – OSBDD0560_WCH.DOCX

County of San Mateo
Planning and Building Department

INITIAL STUDY
ENVIRONMENTAL EVALUATION CHECKLIST
(To Be Completed by Planning Department)

1. **Project Title:** Grading Remediation and Variance Permit

2. **County File Number:** PLN 2018-00309

3. **Lead Agency Name and Address:** County of San Mateo Planning and Building Department 455 County Center, 2nd Floor, Redwood City, CA 94063

4. **Contact Person and Phone Number:** Olivia Boo, Project Planner; 650/363-1818, oboo@smcgov.org

5. **Project Location:** 651 Vista Drive, Redwood City

6. **Assessor's Parcel Number and Size of Parcel:** 057-222-390; 1.17 acres (51,400 sq. ft.)

7. **Project Sponsor's Name and Address:** Brian Musante, P.O. Box 172, San Carlos, CA 94070

8. **Name of Person Undertaking the Project or Receiving the Project Approval (if different from Project Sponsor):** N/A

9. **General Plan Designation:** Low Density Residential

10. **Zoning:** Residential Hillside/Design Review (RH/DR)

11. **Description of the Project:** Grading Remediation and Variance to remediate and restore unpermitted earthwork resulting from grading beyond the scope of work necessary to demolish a fire damaged single-family residence. Site remediation includes 1,233 cubic yards (1,200 cubic yards of over excavation to remove undocumented fill, 10 cubic yards of cut, and 20 cubic yards of fill) to establish stable slopes. Staff has assessed that two trees were removed along the roadway on Vista Drive due to the fire and/or to provide safe access for emergency vehicles. The project will be conditioned to require replacement trees at a 3:1 ratio which will be required upon proposal of a new single-family residence.

12. **Surrounding Land Uses and Setting:** The 4.4-acre now vacant parcel is located in the unincorporated community of Emerald Lake Hills in Redwood City. The parcel abuts and takes access from Vista Drive but also fronts the unimproved Canyon Lane Road. The project parcel is surrounded by single-family residences. The project parcel has a steep 2.5:1 (68%) slope within the first 40 feet of the property. The rear of the property, to the northeast, has a drainage swale.

13. **Other Public Agencies Whose Approval is Required:** N/A

14. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    The project does not include any new development but rather remediation of grading work done without proper permits. The County seeks to satisfy the Native American Heritage Commission's best practices and will include conditions of approval that upon findings of any potential historic artifacts, construction activity must halt until an archeologic consultant is brought to site. As of the date of this report, no tribes have contacted the County requesting formal consultation on this project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Significant Unless Mitigated" as indicated by the checklist on the following pages.

	Aesthetics		Energy		Public Services
	Agricultural and Forest Resources		Hazards and Hazardous Materials		Recreation
X	Air Quality	X	Hydrology/Water Quality		Transportation
	Biological Resources		Land Use/Planning	X	Tribal Cultural Resources
	Climate Change		Mineral Resources		Utilities/Service Systems
X	Cultural Resources	X	Noise		Wildfire
X	Geology/Soils		Population/Housing		Mandatory Findings of Significance

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than

significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in 5. below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

   a. Earlier Analysis Used. Identify and state where they are available for review.

   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources. Sources used or individuals contacted should be cited in the discussion.

1.	**AESTHETICS**. Except as provided in Public Resources Code Section 21099, would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
1.a.	Have a substantial adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?			X	
Discussion: The subject parcel is not located within or adjacent to any County or State Scenic Corridors. Due to the steep downward slope from Vista Drive (68% slope), the unpermitted earthwork is minimally visible from the roadway. The parcel is located in a densely vegetated area					

consisting of a variety of oak trees and other native/non-native tree species. Staff has determined that that two trees, adjacent to the roadway were removed during the grading activities likely due to the fire and/or in order to provide safe access required to remove the fire damaged home. The removal of these trees is less than significant given the minimal number of trees removed and the landscaping plan that will be required as part of a Design Review permit for a future residence. The Residential Hillside district requires a 3:1 replanting ratio for each tree removed. The replanting can be accomplished during the design review process. No water bodies or public lands are located in the immediate area. **Source:** Project Plans, Project Location, San Mateo County GIS.					
1.b.	Substantially damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
Discussion: The project site is not located within or in close proximity to a scenic resource. **Source:** Project Location; National Park Service National Register of Historic Place.					
1.c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings, such as significant change in topography or ground surface relief features, and/or development on a ridgeline? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
Discussion: The project site is located in an urbanized area and is surrounded by single-family residences. General Plan policies and Zoning Regulation development standards require that development minimize tree removal and natural topography alterations. The existing site conditions are in conflict with these policies, however, the proposed remediation plan will remove the undocumented fill, restore to the site to stable slopes, and require tree replanting (replanting will occur at the time a future residence is constructed). **Source:** Project Location; San Mateo County General Plan; Scenic Resources Map.					
1.d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?				X
Discussion: The project is for grading remediation only. No exterior lights are proposed at this time. **Source:** Project Plans.					

1.e.	Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?				X

Discussion: The subject property is not located within a designated State or County Scenic Corridor.

Source: San Mateo County Geographic Information System.

1.f.	If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?				X

Discussion: The project is within a Design Review District. As discussed in Question 1.c., the current conditions conflict with the provisions of the Emerald Lake Hills Design Review District, a variance is required to legalize the grading due to the amount exceeding 1,000 cubic yards, however, the project will resolve the conflict through remediation.

Source: Project Location; San Mateo County Zoning Map, Romig Engineers Geotechnical Report.

1.g.	Visually intrude into an area having natural scenic qualities?			X	

Discussion: The project site is located in the Emerald Lake Hills Design Review District area, which is a heavily vegetated hilly single-family residential area. As seen from the Vista Drive road right-of-way the grading work will be minimally visible due to the steep downslope from the roadway. Trees removed along the right-of-way will be replaced when future residential construction occurs. No other tree removal occurred during the past grading work nor will tree removal be necessary to carry out the remediation plan. The project will have a less than significant impact on the visual quality of the area.

Source: Project Plans; San Mateo County GIS.

2. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
2.a.	For lands outside the Coastal Zone, convert Prime Farmland, Unique Farmland, or Farmland of Statewide				X

	Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				
Discussion: The project site is identified as "Urban and Built-Up Land" on the California Important Farmland Finder (California Farmlands of Statewide Importance map) and is not mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No impact. **Source:** San Mateo County Geographic Information System, California Department of Conservation Important Farmland Finder map, https://maps.conservation.ca.gov/DLRP/CIFF/.					
2.b.	Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?				X
Discussion: The property is not contracted or encumbered by an easement nor are any surrounding lands under contract or encumbered. **Source:** Property History.					
2.c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?				X
Discussion: See response to Question 2.a. The parcel is not designated as Farmland. Forest land is defined as *land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits* (PRC 12220(g)). Though it is likely that this parcel could support 10% native tree cover, forest resources management is not feasible given parcel size and the residential land use designation. **Source:** Project Plans, California Department of Conservation Important Farmland Finder map, https://maps.conservation.ca.gov/DLRP/CIFF/.					
2.d.	For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?				X
Discussion: This project is not located within the Coastal Zone. **Source:** San Mateo County GIS. The Natural Resources Conservation Service (NRCS) Web Soil Survey.					
2.e.	Result in damage to soil capability or loss of agricultural land?				X

Discussion: The Natural Resources Conservation Service (NRCS) Web Soil Survey indicates the project parcel is not considered to be protected agricultural land under the San Mateo County Zoning Regulations as soils in the project area have a Class 8 rating (soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes). With no current agricultural use of the project site the proposed grading remediation would not result in the significant loss of agricultural land or soil capability. The project parcel is undeveloped and does not include any farm land or agricultural land. The property is zone for single-family residential development.

Source: Zoning Maps.

2.f.	Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? *Note to reader: This question seeks to address the economic impact of converting forestland to a non-timber harvesting use.*				X

Discussion: The project parcel is zoned Residential Hillside (RH) and, is not located in a Timberland Preserve Zoning District. The proposed project does not include rezoning nor does the grading remediation conflict with the underlying zoning district. Timber harvesting is not a permitted use on this property. The project parcel is dominated by open area and some mature trees and has not been identified as containing forestland (see discussion under Question 2.c.). Single-family residential development is the designated use in the RH District, does not conflict with the existing zoning, and would not require a rezoning of the area.

Source: San Mateo County Zoning Maps.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
3.a.	Conflict with or obstruct implementation of the applicable air quality plan?		X		

Discussion: The project involves the remediation of non-permitted grading. The Bay Area 2017 Clean Air Plan (CAP), developed by the Bay Area Air Quality Management District (BAAQMD), is the applicable air quality plan for San Mateo County. The CAP was created to improve Bay Area air quality and to protect public health and climate.

The proposed project would not conflict with or obstruct the implementation of the BAAQMD's 2017 CAP. The project and its operation involve minimal hydrocarbon (carbon monoxide: CO2) air emissions, whose source would be exhaust from vehicle trips (e.g., construction vehicles and

personal cars of construction workers), whose primary fuel source is gasoline. Assuming construction vehicles and workers are based in urban areas, potential project air emission levels from construction would be increased from general levels. However, any such earthwork-related emissions would be temporary and localized and would not conflict with or obstruct the Bay Area Air Quality Plan.

The BAAQMD has established thresholds of significance for construction emissions and operational emissions. As defined in the BAAQMD's 2017 CEQA Guidelines, the BAAQMD does not require quantification of construction emissions due to the number of variables that can impact the calculation of construction emissions. Instead, the BAAQMD emphasizes implementation of all feasible construction measures to minimize emissions from construction activities. The BAAQMD provides a list of construction-related control measures that they have determined, when fully implemented, would significantly reduce construction-related air emissions to a less than significant level. These control measures have been included in Mitigation Measure 1 below:

Mitigation Measure 1: The applicant shall require construction contractors to implement all the Bay Area Air Quality Management District's Basic Construction Mitigation Measures, listed below:

a. Water all active construction areas at least twice daily.

b. Apply water two times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

c. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

d. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour.

e. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

Also, see the discussion to Question 7.1. (Climate Change: Greenhouse Gas Emissions), relative to the project's compliance with the County Energy Efficiency Climate Action Plan.

Source: BAAQMD CEQA Guidelines, May 2017; Project Plans.

3.b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?		X		

Discussion: The San Francisco Bay Area Air Basin is a State designated non-attainment area for Ozone, Particulate Matter (PM10), and Fine Particulate Matter (PM2.5). A temporary increase in the project area of particulate matter is anticipated during construction since these PM-2.5 particles are a typical vehicle emission. Therefore, any increase in these criteria pollutants would be significant. The temporary nature of the proposed construction and California Air Resources Board vehicle regulations (to reduce air pollution e.g., limits on idling) will reduce the potential

effects to a less than significant impact. Implementation of Mitigation Measure 2 will minimize increases in non-attainment criteria pollutants generated from project construction to a less than significant level.

Mitigation Measure 2: Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

Source: BAAQMD CEQA Guidelines, May 2017; Project Plans.

3.c.	Expose sensitive receptors to substantial pollutant concentrations, as defined by the Bay Area Air Quality Management District?		X		

Discussion: Sensitive receptors are facilities or land uses such as schools, hospitals, or residential areas where people live, play, convalesce, or a place where sensitive individuals spend significant amounts of time. Sensitive individuals, such as children and the elderly, are those most susceptible to poor air quality.

The project site is located in a medium density urban residential area with a park located within 1-mile of the project site. However, any pollutant emissions generated from the proposed project will primarily be temporary in nature and associated with earthwork remediation. Mitigation Measure 2 will minimize potentially significant exposure of pollutants to nearby sensitive receptors to a less than significant level.

Source: Project Plans, Project Location.

3.d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?		X		

Discussion: The project has the potential to generate emissions during construction such as noise and odor. However, any such odors will be temporary and are expected to be minimal. Mitigation Measure 2 is recommended to control emissions related to the construction of the proposed development to reduce emissions to a less than significant level.

Source: Project Plans.

4. BIOLOGICAL RESOURCES. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
4.a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or		X		

regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				

Discussion: A search of the California Natural Diversity Database (CNDDB) on the County's Geographic Information System identified no State or Federal Special Status plan or animal species within the project parcel. There is an unnamed intermittent stream located on the northerly side of Canyon Lane (across the unimproved road) at the north end of the parcel approximately 250 feet from the project site. In order to minimize potential impacts resulting from erosion and sedimentation, the following mitigation measure is proposed to reduce runoff potential during project earthwork activities:

Mitigation Measure 3: Prior to the issuance of the building permit for the property, the applicant shall submit to the Planning Department for review and approval an erosion and drainage control plan that shows how the transport and discharge of soil and pollutants from and within the project site shall be minimized. The plan shall be designed to minimize potential sources of sediment, control the amount of runoff and its ability to carry sediment by diverting incoming flows and impeding internally generated flows, and retain sediment that is picked up on the project site through the use of sediment-capturing devices. The plan shall also limit application, generation, and migration of toxic substances, ensure the proper storage and disposal of toxic materials, and apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters. Said plan shall adhere to the San Mateo Countywide Stormwater Pollution Prevention Program "General Construction and Site Supervision Guidelines," including:

a. Sequence construction to install sediment-capturing devices first, followed by runoff control measures and runoff conveyances. No construction activities shall begin until after all proposed measures are in place.

b. Minimize the area of bare soil exposed at one time (phased grading).

c. Clear only areas essential for construction.

d. Within five (5) days of clearing or inactivity in construction, stabilize bare soils through either non-vegetative best management practices (BMPs), such as mulching, or vegetative erosion control methods, such as seeding. Vegetative erosion control shall be established within two (2) weeks of seeding/planting.

e. Construction entrances shall be stabilized immediately after grading and frequently maintained to prevent erosion and to control dust.

f. Control wind-born dust through the installation of wind barriers such as hay bales and/or sprinkling.

g. Soil and/or other construction-related material stockpiled on-site shall be placed a minimum of 200 feet from all wetlands and drain courses. Stockpiled soils shall be covered with tarps at all times of the year.

h. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drains by using earth dikes, perimeter dikes or swales, or diversions. Use check dams where appropriate.

i. Provide protection for runoff conveyance outlets by reducing flow velocity and dissipating flow energy.

j. Use silt fence and/or vegetated filter strips to trap sediment contained in sheet flow. The maximum drainage area to the fence should be 0.5 acres or less per 100 feet of fence. Silt fences shall be inspected regularly, and sediment removed when it reaches 1/3 the fence

height. Vegetated filter strips should have relatively flat slopes and be vegetated with erosion-resistant species.

k. Throughout the construction period, the applicant shall conduct regular inspections of the condition and operational status of all structural BMPs required by the approved erosion control plan.

l. No erosion or sediment control measures will be placed in vegetated areas.

m. Environmentally sensitive areas shall be delineated and protected to prevent construction impacts.

n. Control of fuels and other hazardous materials, spills, and litter during construction.

o. Preserve existing vegetation whenever feasible.

Source: California Natural Diversity Database, County GIS, Project Plans.

4.b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		

Discussion: See response to 4.a.

Source: Project Site; San Mateo County GIS.

4.c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		

Discussion: A biologist report, prepared by SWCA Environmental Consultants, was prepared for a different project located along Canyon Lane. Canyon Lane is located northeast of the project site. In evaluating the Canyon Lane project, the biological report included portions of the parcel at 651 Vista Drive, namely, the forest of coast live oak existing on the subject parcel and the ephemeral drainage swale that crosses north to south along the center portion of the property. Both areas are located on the subject property behind where the home previously existed. The ephemeral drainage does not provide suitable habitat for fish and most aquatic wildlife species because the drainage is narrow and relatively shallow and the water in the drainage is the result of storm events. The drainages may provide a seasonally present water source for wildlife species in adjacent habitats, for drinking or bathing. To protect the ephemeral drainage swale from disturbance and maintain the drainage for drinking and bathing, implementation of the Mitigation Measure 3 is recommended.

Source: Project Plans; Site Visit; San Mateo County GIS, SWCA Environmental biologist report for Canyon Land Roadway Improvements Development Project.

4.d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or				X

	impede the use of native wildlife nursery sites?				
Discussion: The subject parcel had already been developed with a single-family residence. The grading remediation will restore site with stable slopes. Given the developed nature of the surrounding area and the site as previously developed, migratory wildlife is not expected to be found on site. **Source:** Project Plans.					
4.e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including the County Heritage and Significant Tree Ordinances)?				X
Discussion: There are seven trees within or near the area of grading remediation that are required to remain on site to help keep the soil intact and two trees located along Vista Drive that were removed in order to provide proper access to remove the fire damaged home. No additional tree removal is necessary to carry out the remediation and tree replanting (3:1 ratio) will be required as part of the Design Review permit for a future new residence. **Source:** Project Plans. SWCA Environmental biologist report for Canyon Land Roadway Improvements Development Project.					
4.f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?				X
Discussion: The project parcel is not located within the boundaries of a Habitat Conservation Plan, Natural Conservation Community Plan, or any other approved regional or State habitat conservation plan area. **Source:** Project Plans: California Department of Fish and Wildlife.					
4.g.	Be located inside or within 200 feet of a marine or wildlife reserve?				X
Discussion: The project parcel nor the project site is inside or within 200 feet of a marine or wildlife reserve. **Source:** Project Location; California Department of Fish and Wildlife Services; National Wildlife Refuge System Locator.					
4.h.	Result in loss of oak woodlands or other non-timber woodlands?				X
Discussion: Grading remediation will not result in the removal of additional trees. Past tree removal resulting from the unpermitted grading did not remove oak trees in the area of the oak woodlands					

identified in the SWCA Environmental Report for Canyon Land. Due to the distance of the project site to the oak woodlands, no impacts are anticipated as mitigated.

Source: Project Plans.

5. CULTURAL RESOURCES. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
5.a.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?		X		

Discussion: The project was not referred to the California Historical Resources Northwest Information Center of Sonoma State University since the property had been previously developed with a single-family residence. The property is now vacant, and no new development is proposed at this time, only grading remediation for unpermitted grading work done. Should any articles of historical evidence be found during the grading activities, construction is required to halt until an archaeological consultant can visit the site. The property is not listed on the National Park Service National Register of Historic Places. The following mitigation measures will ensure project impacts, should cultural resources be found, are reduced to less than significant impacts.

Mitigation Measure 4: In the event that cultural, paleontological, or archaeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery and the project sponsor shall immediately notify the Community Development Director of the discovery. The applicant shall be required to retain the services of a qualified archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. The cost of the qualified archaeologist and of any recording, protecting, or curating shall be borne solely by the project sponsor. The archaeologist shall be required to submit to the Community Development Director for review and approval a report of the findings and methods of curation or protection of the resources. In addition, an archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased. No further grading or site work within the area of discovery shall be allowed until the preceding has occurred.

Mitigation Measure 5: If a newly discovered resource is, or is suspected to be, Native American in origin, the resource shall be treated as a significant Tribal Cultural Resource, pursuant to Public Resources Code 21074, until the County has determined otherwise with the consultation of a qualified archaeologist and local tribal representative.

Mitigation Measure 6: In the event of discovery or recognition of any human remains during project construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The applicant shall then immediately notify the County Coroner's Office and possibly the State Native American Heritage Commission to seek recommendations from a Most Likely Descendant (Tribal Contact) before any further action at the location of the find can proceed. All contractors and sub-contractors shall be made aware of these requirements and shall adhere to all applicable laws including State Cultural Preservation laws. Disposition of Native American remains shall comply with CEQA Guidelines Section 15064.5(e).

Source: Project Location, County GIS Map.

5.b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?		X		
Discussion: See staff's response to 5.a. **Source:** Project Location, County GIS Maps.					
5.c.	Disturb any human remains, including those interred outside of formal cemeteries?		X		
Discussion: There are no known human remains located within the project area or surrounding vicinity. Mitigation Measures 4,5, and 6 have been included in the event human remains are encountered. **Source:** California Public Resources Code; Project Location.					

6.	**ENERGY**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
6.a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?				X
Discussion: No buildings are proposed with this project. Future residential construction and use is required to comply building energy and efficiency standards. Currently, the existing site does not use any electricity due to the parcel being vacant land. During grading remediation operations, energy consumption would be associated with grading vehicles and will be minimal given the temporary nature of the remediation plan. **Source:** California Building Code; California Energy Commission; Project Plans.					
6.b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.				X
Discussion: The project does not proposed development at this time, thus there is no conflict with state or local renewable energy or energy efficiency. **Source:** Project Plans.					

7.	**GEOLOGY AND SOILS**. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
7.a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				
	i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? *Note: Refer to Division of Mines and Geology Special Publication 42 and the County Geotechnical Hazards Synthesis Map.*			X	
Discussion: The submitted geotechnical report prepared by Romig Engineers states there are no mapped faults running within or adjacent to the site and the site is not located within a State of California Fault zone (formerly known as a Special Studies Zone) an area where the potential for fault rupture is considered probable. The closest active fault is the San Andreas Fault, located approximately 2.0 miles south of the property. The likelihood of surface ruptures occurring from active faulting at the site is low. The nearest fault to the property is the San Andreas fault about 2 miles southwest of the property. The San Gregorio fault, approximately 11 miles southwest. The site will experience severe ground shaking during moderate and large earthquakes along the San Andreas fault or other active faults. The purpose of the grading remediation is to stabilize the already disturbed soils on site. No further work is proposed. **Source:** Romig Engineering Report.					
	ii. Strong seismic ground shaking?			X	
Discussion: See staff's response to 7.a.i. **Source:** Romig Engineers Geotechnical Report; Project Plans.					
	iii. Seismic-related ground failure, including liquefaction and differential settling?			X	
Discussion: Romig Engineers reported that pervious investigation by Michelucci and Associates indicated the surface soil has high plasticity and a high potential for expansion. The former house had been affected by differential foundation settling. Grading remediation will remove the undocumented fill and stabilize soils and slopes. **Source:** Romig Engineers Report.					
	iv. Landslides?			X	

Discussion: Romig engineers inspected the site in March 2018 and noted tension cracks at the top upper man-made cuts and fills that require restoration for long term stability. Landslides are not anticipated upon stability of the soil once remediation is completed.

Source: Romig Engineers Geotechnical Report.

v. Coastal cliff/bluff instability or erosion? *Note to reader: This question is looking at instability under current conditions. Future, potential instability is looked at in Section 7 (Climate Change).*				X

Discussion: The project parcel is not located near any coastal cliffs or bluffs.

Source: Project Location.

7.b. Result in substantial soil erosion or the loss of topsoil?		X		

Discussion: Due to the placement of undocumented expansive fill placed at the site, up to 4 feet in some areas, remediation work will require 1,200 c.y. of over excavation to create stabilized compacted benches and keyways. Erosion control measures are currently in place and will be required to be maintained throughout the grading remediation. The Geotechnical Investigation by Romig Engineers report recommends that a member of their staff observe and test on nearly a full-time basis during over excavation of the man-made fill slopes, backfill and compaction of the proposed fill slopes. If remediation is anticipated during the wet season, Romig Engineers will be required to address whether grading remediation activity can continue through the wet season (October 1-April 30) and apply for a winter grading request if necessary. The following mitigation measures along with Mitigation Measure 3 will reduce potential significant impacts to less than significant levels.

Mitigation Measure 7: A qualified engineer shall be on site to observe and test over excavation of the man-made fill slopes and backfill and compaction of the proposed fill slopes as recommended in the Romig Engineers Geotechnical Investigation.

Mitigation Measure 8: The applicant shall implement dust control measures, as listed below. Measures shall be included on plans submitted for the Building Permit and encroachment permit applications. The measures shall be implemented for the duration of any grading, demolition, and construction activities that generate dust and other airborne particles. The measures shall include the following:

a. Water all active construction areas at least twice daily.

b. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

c. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

d. Apply water three times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

e. Sweep daily (preferably with water sweepers) all paved access roads, parking, and staging areas at the construction sites.

f. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour (mph).

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

Source: Project Plans.

7.c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, severe erosion, liquefaction or collapse?		X		

Discussion: See 7.b. above.

Source: Romig Engineers Geotechnical Report.

7.d.	Be located on expansive soil, as defined in Table 18-1-B of Uniform Building Code, creating substantial direct or indirect risks to life or property?		X		

Discussion: See response to 7.b.

Source: Romig Engineers Geotechnical Report.

7.e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion: Future development of a single-family residence would be served by the Emerald Lake Hills Sewer District.

Source: Project Plans, Project Location.

7.f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

Discussion: Based on the project parcel's existing surrounding land uses, it is not likely that the project parcel would host any paleontological resource or site or unique geologic feature due to the fact that the area of the property had been developed with a single-family residence. However, Mitigation Measures 4, 6 shall ensure that if any resources are encountered that potential impacts will be reduced to less than significant levels.

Source: Project Plans; San Mateo County GIS.

8.	**CLIMATE CHANGE**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
8.a.	Generate greenhouse gas (GHG) emissions (including methane), either directly or indirectly, that may have a significant impact on the environment?		X		

Discussion: Greenhouse Gas Emissions (GHG) include hydrocarbon (carbon monoxide; CO2) air emissions from vehicles and machines that are fueled by gasoline. Project-related vehicle trips (e.g., construction vehicles and personal vehicles of construction workers) and machinery associated with the proposed grading will result in the temporary generation of GHG emissions along travel routes and at the project site. Even assuming construction vehicles and workers are based in and traveling from urban areas, the potential project GHG emission levels from construction would be considered minimal. Although the project scope is not likely to generate significant amounts of greenhouse gases, Mitigation Measure 2 will ensure that any impacts are less than significant.

Source: Project Plans; Project Location.

8.b.	Conflict with an applicable plan (including a local climate action plan), policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		X		

Discussion: The San Mateo County Energy Efficiency Climate Action Plan (EECAP) identifies implementation measures for the reduction of GHG emissions resulting from development consistent with state legislation, including construction idling. The majority of GHG emissions from the project are expected to occur during the construction phase, primarily from vehicle exhaust. The following mitigation measure will ensure potential impacts are less than significant in conformance with the EECAP.

Mitigation Measure 9: The applicant shall implement the following basic construction measures at all times:

a. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measure, Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

b. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be check by a certified visible emissions evaluator.

c. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person, or his/her designee, shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Source: Project Plans, 2013 San Mateo County Energy Efficiency Climate Action Plan.					
8.c.	Result in the loss of forestland or conversion of forestland to non-forest use, such that it would release significant amounts of GHG emissions, or significantly reduce GHG sequestering?				X
Discussion: The project parcel has many trees on site, away from the proposed grading area. No tree removal, construction or change in use is proposed at this time. The property is zoned for residential uses, and any development will be analyzed at the time it's proposed, including tree replacement. **Source:** Project Site Features and Proposed Project Scope.					
8.d.	Expose new or existing structures and/or infrastructure (e.g., leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?				X
Discussion: The project parcel is located over ten miles from the Pacific Ocean and sits well above sea level. As such, the project will not expose people or structures to significant risk involving sea level rise. No structures are proposed at this time. **Source:** Project Location; San Mateo County GIS.					
8.e.	Expose people or structures to a significant risk of loss, injury or death involving sea level rise?				X
Discussion: See staff's response to 8.d. **Source:** Project Location; San Mateo County GIS.					
8.f.	Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: The project site is not located in an anticipated 100-year flood hazard area as mapped by the Federal Emergency Management Agency (FEMA). The project site is located in FEMA Flood Zone X, which is considered a minimal flood hazard (Panel No. 06081C0285E, effective October 16, 2012). FEMA Flood Zone X areas have a 0.2% annual chance of flooding, with areas with one (1) percent annual chance of flooding with average depths of less than 1-foot. The project does not propose a new structure at this time. Therefore, the project impact would be less than significant. **Source:** Project Location, County GIS Maps, Federal Emergency Management Agency Flood Insurance Rate Map 06081C0384E, effective October 16, 2012.					
8.g.	Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?				X

Discussion: See staff's response to 8.f.

Source: Project Location, County GIS Maps, Federal Emergency Management Agency Flood Insurance Rate Map 06081C0384E, effective October 16, 2012.

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
9.a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., pesticides, herbicides, other toxic substances, or radioactive material)?				X
Discussion: The project does not involve the use, transport, or disposal of hazardous materials. **Source:** Project Plans.					
9.b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
Discussion: The project involves the repair and stabilizing of soils on site. The use of hazardous materials is not proposed for long term operation of this project. **Source:** Project Plans.					
9.c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
Discussion: The project parcel is located less than 0.5 miles from the nearest existing or proposed school and the emission of hazardous materials, substances, or waste is not proposed for this project. **Source:** Project Plans; San Mateo County GIS.					
9.d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X

Discussion: The project parcel is not included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and therefore would not result in the creation of a significant hazard to the public or the environment. **Source:** California Department of Toxic Substances Control, Hazardous Waste and Substances Site List.					
9.e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?				X
Discussion: The project site is 2.9 miles from the San Carlos. The project is not expected to pose a safety hazard or cause excessive noise for the airport. **Source:** Project Location; Geographic Information System.					
9.f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
Discussion: The proposed grading remediation is located on a privately-owned parcel. This parcel is accessed from Vista Drive. The proposed project would not impede, change, or close any roadways that could be used for emergency purposes and all existing roads would remain unchanged. Construction vehicles will be required to park along the edge of Vista Drive, if any constraints are needed that would confine traffic to one lane traffic, the construction workers will be required to direct traffic during construction hours. There is no evidence to suggest that the project will interfere with any emergency response plan. Therefore, the project poses no impact. **Source:** Project Plans, Project Location, County GIS Maps.					
9.g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X
Discussion: The project site is located within the very high Fire Hazard Severity Zone (State Responsibility Area). However, the project was reviewed by Cal-Fire and because no structure is proposed at this time, Cal-Fire had no comments. **Source:** Project Location, California State Fire Severity Zones Maps, Cal-Fire.					
9.h.	Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: No housing is proposed with this project.					

Source: Project Plans; Federal Emergency Management Agency, Flood Map 06081C0384E, Effective October 16, 2012.					
9.i.	Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: No structures are proposed with this project. **Source:** Project Plans, Project Location, County GIS Maps, Federal Emergency Management Agency Flood Insurance Rate Map 06081C0285E, effective October 16, 2012.					
9.j.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
Discussion: Northwestward of the parcel is the Lower Emerald Lake. Although the Division of Safety of Dams provides a GIS layer for emergency planning purposes and not for general planning, a mapped inundation area is identified along Canyon Lane (northerly property line), which is at a lower elevation than the project site area (grading and previous residential development). Given the topography and distance to the inundation area (over 200 feet from the grading area), no impacts are anticipated. **Source:** California Division of Safety of Dams Dam Breach Inundation Map Geographic Information System https://fmds.water.ca.gov/maps/damim/.					
9.k.	Inundation by seiche, tsunami, or mudflow?				X
Discussion: The project site is not in a seiche, tsunami, or mudflow hazard zone. **Source:** Project Plans, Project Location, County GIS Maps, San Mateo County Hazards Maps.					

10.	**HYDROLOGY AND WATER QUALITY**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
10.a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash))?				X

Discussion: The geotechnical report confirms free ground water was not encountered. Free ground water is water flowing through soil mass during the boring exploration. A stabilized ground water level was not obtained. However, changes in ground level water can occur due to future changes in rainfall, landscaping, underground drainage patterns and other factors. No structure is proposed at this time, thus no change to water quality is expected. **Source:** Project Plans, Project Location, Romig Engineers report.					
10.b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
Discussion: No hardscape is proposed that may affect groundwater recharge. In-place erosion control measures consisting of plastic tarps may interfere with recharge, however, these measures are temporary and are located only in the areas of ground disturbance. **Source:** Project Plans, Project Location, Groundwater Website https://www.smcsustainability.org/energy-water/groundwater					
10.c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
	i. Result in substantial erosion or siltation on- or off-site;		X		
Discussion: The proposed project does not involve the alteration of the course of a stream or river. Erosion control measures are already in place from the 2018 wet season and shall be maintained through the duration of the grading remediation project and until a future home is under construction. The Geotechnical Report notes concerns for erosion and downslope soil creep of the surface and near surface soil thus the over excavation is necessary to properly compact the current earthwork to a series of level benches and to cut keyways into the weathered bedrock. At least two subdrains will be installed at the bottom of two benches (as noted on Figure 5 of the geotechnical report). Per Romig Engineers, on site soils should be kept in moist condition throughout the construction period to help mitigate the potential effects of the expansive on-site soils on the proposed improvements. This is included as Mitigation Measure 10. **Mitigation Measure 10:** The applicant shall keep on-site soils in a moist condition throughout the construction period to help mitigate the potential effects of the expansive on-site soils. **Source:** Project Plans; Project Location.					
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;		X		

Discussion: See response to 10.c.i. **Source:** Project Plans.				
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or		X		
Discussion: See 10.c.i. The grading remediation project is not expected to affect existing stormwater drainage systems or cause additional pollution with implementation of the recommended mitigation measures. **Source:** Project Plans; Romig Engineering Report.				
iv. Impede or redirect flood flows?				X
Discussion: The proposed grading remediation does not involve the alteration or the course of a stream or a river. Additionally, the project is not located in a floodway or flood zone as identified by FEMA. **Source:** Project Plans, Project Location, County GIS Maps, Federal Emergency Management Agency Flood Insurance Rate Map 06081C0285E, effective October 16, 2012.				
10.d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
Discussion: The project is not located in a flood hazard, tsunami, or seiche zone. **Source:** Project Location; Federal Emergency Management Agency Flood Insurance Rate Map 06081C0285E, effective October 16, 2012.				
10.e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X
Discussion: The parcel is not located in 9 identified groundwater basins (the parcel is located outside of the San Mateo Plain Basin as identified in the Office of Sustainability Groundwater map). The implementation of the recommended mitigation measures, the project will comply with the San Mateo County Water Pollution Prevention Program. **Source:** Project Plans; San Mateo County Office of Sustainability, Groundwater website https://www.smcsustainability.org/energy-water/groundwater				
10.f. Significantly degrade surface or ground-water water quality?				X
Discussion: Refer to 10.a. **Source:** Project Plans.				

10.g. Result in increased impervious surfaces and associated increased runoff?				X
Discussion: No impervious surfaces are proposed. **Source:** Project Plans.				

11. LAND USE AND PLANNING. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
11.a. Physically divide an established community?				X
Discussion: There is no land division or development proposed that would result in the division of an established community. **Source:** Project Plans; Project Location.				
11.b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X
Discussion: Provided the recommended mitigation measures are implemented, no significant impacts will result. **Source:** Project Plans.				
11.c. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?				X
Discussion: The project site was previously development with a single-family residence, now demolished. Grading remediation will not create or require expanded utilities, industry, commercial facilities or recreation activities. **Source:** Project Plans.				

12. MINERAL RESOURCES. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
12.a. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?				X
Discussion: No known mineral resources are mapped on the parcel. **Source:** San Mateo County General Plan Mineral Resources map, California Department of Conservation Mines and Mineral Resources Map.				
12.b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
Discussion: There are no known mineral resources on the project parcel. **Source:** Project Plans; San Mateo County General Plan Mineral Resources Map.				

13. NOISE. Would the project result in?				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
13.a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
Discussion: The proposed project would not produce any long-term significant noise source. However, the project will generate short-term noise associated with grading activities. The short-term noise generated during grading activities will be temporary, where volume and hours are regulated by Section 4.88.360 (Exemptions) of the San Mateo County Ordinance Code for Noise Control. Adherence to Mitigation Measure 3 will limit any potential impacts related to grading and construction to a less than significant level. **Source:** Project Plans; Project Location; San Mateo County Noise Ordinance.				
13.b. Generation of excessive ground-borne vibration or ground-borne noise levels?			X	

Discussion: Grading activities will generate ground-borne vibration. However, these impacts are temporary and will cease when remediation is completed. **Source:** Project Plans; Project Location; San Mateo County Noise Ordinance.					
13.c.	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure to people residing or working in the project area to excessive noise levels?				X
Discussion: The project site is 2.9 miles from the San Carlos airport. The grading project is not expected to cause excessive noise impacts to the airport. **Source:** Project Location.					

14.	**POPULATION AND HOUSING**. Would the project:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
14.a.	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
Discussion: No new home development is proposed at this time. **Source:** Project Plans; Project Location.					
14.b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X
Discussion: No existing housing will be displaced during grading remediation. **Source:** Project Location; Project Plans.					

15.	**PUBLIC SERVICES**. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
15.a.	Fire protection?				X
15.b.	Police protection?				X
15.c.	Schools?				X
15.d.	Parks?				X
15.e.	Other public facilities or utilities (e.g., hospitals, or electrical/natural gas supply systems)?				X

Discussion: The proposed grading remediation will not impact these public services.

Source: Project Plans; Project Location.

16. RECREATION. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
16.a.	Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X

Discussion: The project does not propose development and thus would not significantly increase the use of existing parks or other recreational facilities.

Source: Project Location; San Mateo County GIS.

16.b.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion: The project does not include or require the construction or expansion of recreational facilities.

Source: Project Plans.

17. TRANSPORTATION. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
17.a.	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and parking?				X
Discussion: The project does not include residential development and thus does not conflict with circulation systems, transit, roadway, bicycle or pedestrian facilities or parking. **Source:** Project Plan.					
17.b.	Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) *Criteria for Analyzing Transportation Impacts*? *Note to reader: Section 15064.3 refers to land use and transportation projects, qualitative analysis, and methodology.*				X
Discussion: The project does not involve any construction or change in use, and therefore will not have an impact on vehicle miles travelled. Potential future development of a single-family residence would not be expected to generate a significant impact; however, any such future development proposal will be subject to further County review and approval at that time. **Source:** Project Plans.					
17.c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
Discussion: The project site is served by an existing right of way, Vista Drive. The project will not require the construction of new road infrastructure nor does it propose to alter any existing roadway that would create a hazard due to sharp turns or dangerous intersections. No mitigation is necessary. **Source:** Project Site Settings.					
17.d.	Result in inadequate emergency access?				X
Discussion: The project does not include residential development and will not affect emergency service access. **Source:** Project Plans; Cal-Fire.					

18. TRIBAL CULTURAL RESOURCES. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
18.a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)				X
Discussion: The project site is not listed in the California Register of Historical Resources nor is the location listed in a local register of historical resources, pursuant to any local ordinance or resolution as defined in Public Resources Code Section 5020.1(k). **Source:** Project Location, California Register of Historical Resources, County General Plan.				
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. (In applying the criteria set forth in Subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.)		X		
Discussion: This project site was previously developed with a single-family residence until it was destroyed by fire damage and then removed from site. The possibility of the land containing California Native American artifacts is unlikely. However, while the project is not expected to cause a substantial adverse change to any potential tribal cultural resources, the following mitigation measures are recommended to minimize any potential significant impacts to unknown tribal resources: **Mitigation Measure 11:** Should any traditionally or culturally affiliated Native American Tribe respond to the County's issued notification for consultation, such process shall be completed and				

any resulting agreed upon measures for avoidance and preservation of identified resources be taken prior to implementation.

Mitigation Measure 12: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall cease until a qualified professional can evaluate the find and recommend appropriate measures to avoid and preserve the resources in place or minimize adverse impacts to the resource. Those measures shall be approved by the County Planning Department prior to implementation and prior to continuing any work associated with the project.

Mitigation Measure 13: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

Source: California Office of Historic Preservation, San Mateo County Listed Historical Resources.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
19.a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
Discussion: The grading remediation does not involve any septic system or municipal sewer service. **Source:** Project Plans.				
19.b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
Discussion: The property has existing water supply that was used to serve the previously existing single-family home provided by City of Redwood City Municipal Water. Water will be used to help maintain dust levels for erosion control during the remediation. **Source:** Project Plans.				
19.c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X

Discussion: The grading remediation does not involve a waste water system. **Source:** Project Plans.				
19.d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
Discussion: The grading remediation is not expected to generate solid waste on a long-term basis. **Source:** Project Plans.				
19.e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				X
Discussion: The grading remediation is not expected to generate solid waste on a long-term basis. no mitigation is required. **Source:** Project Plans.				

20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
20.a. Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
Discussion: The project is located in a High Fire State Responsibility Area as identified by the County's GIS maps. Cal-Fire reviewed the plans and will not have any comment until a single-family residence is proposed. **Source:** Project Plans; Project Location.				
20.b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
Discussion: See response to 20.a. **Source:** Project Plans; Project Location.				
20.c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water				X

	sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				
Discussion: The proposed project does not require the installation of any new roads, fuel breaks, or power lines. See response to 20.a. **Source:** Project Plans.					
20.d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	
Discussion: The soil on the project site is currently unstable and slope failure may occur without the remediation. The site has been secured with erosion control measures and those measures shall be maintained through the duration of the project. Per Romig Engineers report, subdrains should be included at the back of the keyways and at least two to three of the benches or as directed by the field representative during construction. The subdrains should consist of an 18-inch width of Caltrans Class 2 permeable material. Four-inch diameter rigid plastic pipe should be placed with perforations down on a 4-inch thick bed of Class 2 permeable material. The Class material should be continued up to within 12-inches of the elevation of the next bench. The pipe should slope at a minimum inclination of 1.5 percent and should drain to a low point or points and then be connected to a suitable discharge location. The slopes and soil surfaces should be planted with erosion resistant vegetation. Implementation of the recommended mitigation measures will ensure potential significant impacts are reduced to less than significant levels. **Source:** Project Plans.					

21.	**MANDATORY FINDINGS OF SIGNIFICANCE**.				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
21.a.	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X

Discussion: A search of the California Natural Diversity Database (CNDDB) on the County's Geographic Information System identified no State or Federal Special Status plan or animal species within or adjacent to the project parcel. The project is not expected to have an adverse effect on any candidate or special status species. There is no riparian area near the property.

Source: All Applicable Sources Previously Cited in This Document.

21.b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				X

Discussion: As defined by the CEQA Guidelines, cumulative impacts reflect "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines, Section 15355(b)). To Staff's best of knowledge, there are no known approved pending or future projects associated with or near the project site.

The project will not impact agricultural or mineral resources. The project's potential impacts with respect to air quality, water, noise, and cultural resources etc. will be limited to the grading remediation. All impacts will be mitigated and there is no evidence to suggest that they would substantially combine with other off-site impacts. Due to the "stand-alone" nature of this project in conjunction with the recommended mitigation measures contained throughout this document, the project will have a less than significant cumulative impact on the environment.

Source: All Applicable Sources Previously Cited in This Document.

21.c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X

Discussion: As discussed in the previous sections, the proposed project is grading remediation for an unstable soil due to non-permitted grading. Based on the discussions in the previous sections where project impacts were determined to be less than significant or mitigation measures were required to result in an overall less than significant impact, the proposed project would not cause significant adverse effects on human beings, either directly or indirectly.

Source: All Applicable Sources Previously Cited in This Document.

RESPONSIBLE AGENCIES. Check what agency has permit authority or other approval for the project.

AGENCY	YES	NO	TYPE OF APPROVAL
Bay Area Air Quality Management District		X	
Caltrans		X	
City		X	
California Coastal Commission		X	
County Airport Land Use Commission (ALUC)		X	
Other: _____		X	
Regional Water Quality Control Board		X	
San Francisco Bay Conservation and Development Commission (BCDC)		X	
Sewer/Water District:		X	
State Department of Fish and Wildlife		X	
State Department of Public Health		X	
State Water Resources Control Board		X	
U.S. Army Corps of Engineers (CE)		X	
U.S. Environmental Protection Agency (EPA)		X	
U.S. Fish and Wildlife Service		X	

MITIGATION MEASURES

	Yes	No
Mitigation measures have been proposed in project application.		X
Other mitigation measures are needed.	X	

The following measures are included in the project plans or proposals pursuant to Section 15070(b)(1) of the State CEQA Guidelines:

Mitigation Measure 1: The applicant shall require construction contractors to implement all the Bay Area Air Quality Management District's Basic Construction Mitigation Measures, listed below:

a. Water all active construction areas at least twice daily.

b. Apply water two times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

c. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

d. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour.

e. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

Mitigation Measure 2: Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

Mitigation Measure 3: Prior to the issuance of the building permit for the property, the applicant shall submit to the Planning Department for review and approval an erosion and drainage control plan that shows how the transport and discharge of soil and pollutants from and within the project site shall be minimized. The plan shall be designed to minimize potential sources of sediment, control the amount of runoff and its ability to carry sediment by diverting incoming flows and impeding internally generated flows, and retain sediment that is picked up on the project site through the use of sediment-capturing devices. The plan shall also limit application, generation, and migration of toxic substances, ensure the proper storage and disposal of toxic materials, and apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters. Said plan shall adhere to the San Mateo Countywide Stormwater Pollution Prevention Program "General Construction and Site Supervision Guidelines," including:

a. Sequence construction to install sediment-capturing devices first, followed by runoff control measures and runoff conveyances. No construction activities shall begin until after all proposed measures are in place.

b. Minimize the area of bare soil exposed at one time (phased grading).

c. Clear only areas essential for construction.

d. Within five (5) days of clearing or inactivity in construction, stabilize bare soils through either non-vegetative best management practices (BMPs), such as mulching, or vegetative erosion control methods, such as seeding. Vegetative erosion control shall be established within two (2) weeks of seeding/planting.

e. Construction entrances shall be stabilized immediately after grading and frequently maintained to prevent erosion and to control dust.

f. Control wind-born dust through the installation of wind barriers such as hay bales and/or sprinkling.

g. Soil and/or other construction-related material stockpiled on-site shall be placed a minimum of 200 feet from all wetlands and drain courses. Stockpiled soils shall be covered with tarps at all times of the year.

h. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drains by using earth dikes, perimeter dikes or swales, or diversions. Use check dams where appropriate.

i. Provide protection for runoff conveyance outlets by reducing flow velocity and dissipating flow energy.

j. Use silt fence and/or vegetated filter strips to trap sediment contained in sheet flow. The maximum drainage area to the fence should be 0.5 acres or less per 100 feet of fence. Silt fences shall be inspected regularly, and sediment removed when it reaches 1/3 the fence height. Vegetated filter strips should have relatively flat slopes and be vegetated with erosion-resistant species.

k. Throughout the construction period, the applicant shall conduct regular inspections of the condition and operational status of all structural BMPs required by the approved erosion control plan.

l. No erosion or sediment control measures will be placed in vegetated areas.

m. Environmentally sensitive areas shall be delineated and protected to prevent construction impacts.

n. Control of fuels and other hazardous materials, spills, and litter during construction.

o. Preserve existing vegetation whenever feasible.

Mitigation Measure 4: In the event that cultural, paleontological, or archaeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery and the project sponsor shall immediately notify the Community Development Director of the discovery. The applicant shall be required to retain the services of a qualified archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. The cost of the qualified archaeologist and of any recording, protecting, or curating shall be borne solely by the project sponsor. The archaeologist shall be required to submit to the Community Development Director for review and approval a report of the findings and methods of curation or protection of the resources. In addition, an archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased. No further grading or site work within the area of discovery shall be allowed until the preceding has occurred.

Mitigation Measure 5: If a newly discovered resource is, or is suspected to be, Native American in origin, the resource shall be treated as a significant Tribal Cultural Resource, pursuant to Public Resources Code 21074, until the County has determined otherwise with the consultation of a qualified archaeologist and local tribal representative.

Mitigation Measure 6: In the event of discovery or recognition of any human remains during project construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The applicant shall then immediately notify the County Coroner's Office and possibly the State Native American Heritage Commission to seek recommendations from a Most Likely Descendant (Tribal Contact) before any further action at the location of the find can proceed. All contractors and sub-contractors shall be made aware of these requirements and shall adhere to all applicable laws including State Cultural Preservation laws. Disposition of Native American remains shall comply with CEQA Guidelines Section 15064.5(e).

Mitigation Measure 7: A qualified engineer shall be on site to observe and test over excavation of the man-made fill slopes and backfill and compaction of the proposed fill slopes as recommended in the Romig Engineers Geotechnical Investigation.

Mitigation Measure 8: The applicant shall implement dust control measures, as listed below. Measures shall be included on plans submitted for the Building Permit and encroachment permit applications. The measures shall be implemented for the duration of any grading, demolition, and

construction activities that generate dust and other airborne particles. The measures shall include the following:

a. Water all active construction areas at least twice daily.

b. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

c. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

d. Apply water three times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

e. Sweep daily (preferably with water sweepers) all paved access roads, parking, and staging areas at the construction sites.

f. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour (mph).

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measure 9: The applicant shall implement the following basic construction measures at all times:

a. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measure, Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

b. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be check by a certified visible emissions evaluator.

c. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person, or his/her designee, shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure 10: The applicant shall keep on-site soils in a moist condition throughout the construction period to help mitigate the potential effects of the expansive on-site soils.

Mitigation Measure 11: Should any traditionally or culturally affiliated Native American Tribe respond to the County's issued notification for consultation, such process shall be completed and any resulting agreed upon measures for avoidance and preservation of identified resources be taken prior to implementation.

Mitigation Measure 12: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall cease until a qualified professional can evaluate the find and recommend appropriate measures to avoid and preserve the resources in place or minimize adverse impacts to the resource. Those measures shall be approved by the County

d. Apply water three times daily or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

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Planning Department prior to implementation and prior to continuing any work associated with the project.

Mitigation Measure 13: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

DETERMINATION (to be completed by the Lead Agency).

On the basis of this initial evaluation:

_____ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Planning Department.

X I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because of the mitigation measures in the discussion have been included as part of the proposed project. A MITIGATED NEGATIVE DECLARATION will be prepared.

_____ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

(Signature)

11/7/19
Date

Olivia Boo
Project Planner

OSB:cmc – OSBDD0559_WCH.DOCX