Mitigated Negative Declaration

Name of Project

Bay Village Planned Development Project

Lead Agency

City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066

Contact

Paula Bradley, MCP, AICP
Contract Planner
831 345-5482
pbradley@mbakerintl.com

Project Applicant

Charlie Eadie
Eadie Consultants
P O Box 1647
Santa Cruz, CA 95061-1647
831 431-3396
charlie@eadieconsultants.com

Project Location

The project site is on two parcels (APN 22-481-18 and 22) on Erba Lane (no situs – vacant) in the City of Scotts Valley.

Project Description

The proposed Bay Village Planned Development Project (the project) would construct 10 residential units comprised of six single-family homes and two duplex/duets on a 1.04 acre (45,245 square feet (sf)) parcel. The project site consists of two existing lots that would be subdivided into ten lots and two common lots. The residential lots would range in size from 2,750 sf to 3,691 sf, with a common lot area where the riparian woodland area is located (Lot B – 10,681 sf) and a common lot for a new roadway for access to seven of the new residences (Lot A – 3,557 sf).
The project includes nine 3-bedroom homes, which range in size from 1,766 sf to 2,108 sf, and one 2,236 sf 4-bedroom unit. Each unit would include a 2-car garage and a 20-foot deep driveway.

To protect an existing oak riparian woodland habitat that extends along the eastern boundary of the project site, a split rail fence would be constructed outside of the riparian boundary. Retaining walls would be constructed along the property lines in the southeast, south, northwest corner and between most of the lots to create level building pads on the sloped lot. The retaining walls would be topped with wood.

Fronting Erba Lane, the project includes a five-foot sidewalk and six-foot landscaped planting strip. The project would construct a new 24 foot-wide private roadway, extending from Erba Lane, providing access to seven of the residential units (Lots 4 through 10).

Public Review and Comment Period

March 30, 2021 through April 30, 2021

Any individual, group, or agency disagreeing with this determination or wishing to comment on the project may submit written comments to the City of Scotts Valley at the address listed above or by email to the project planner listed above. All comments received by 5:00 PM on April 30, 2021 will be considered by the City of Scotts Valley.

Findings and Reasons

Apart from biological resources, and the implementation of identified Standard Conditions of Approval, the Initial Study did not identify any potentially significant impacts on the environment. The project would not have the potential to significantly degrade the environment; would have no significant impact on long-term environmental goals; would have no significant cumulative effect upon the environment; and would not cause substantial adverse effects on human beings, either directly or indirectly.

With respect to biological resources, the Initial Study identified potentially significant impacts to sensitive natural communities. Implementation of MM BIO-1: Oak Riparian Woodland - Project Construction and MM BIO-2: Oak Riparian Woodland Post-Construction would reduce these impacts to less than significant.

The following reasons support these findings:

1. The project is consistent with the adopted goals and policies of the City of Scotts Valley General Plan, and the City of Scotts Valley Municipal Code.
2. City staff independently reviewed the Initial Study, and this mitigated negative declaration reflects the independent judgment of the City of Scotts Valley.
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Note: All figures are inserted at the end of the document.

List of Tables

None.
Initial Study

Background & Project Description

Project Title
Bay Village Planned Development

Lead Agency Name and Address
City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066

Contact Person and Phone Number
Paula Bradley, MCP, AICP
Contract Planner
831 345-5482
pbradley@mbakerintl.com

Project Location
As shown in Figure 1: Regional Location, and Figure 2: Project Vicinity, the project site is on two parcels (APN 22-481-18 and 22) on Erba Lane in the City of Scotts Valley.

Project Applicant/Sponsor
Charlie Eadie
Eadie Consultants

General Plan Designation
Residential High Density (R-H)

Zoning
Residential High Density (R-H)

Project Description
The proposed Bay Village Planned Development project (the project) would construct 10 residential units comprised of six single-family homes on a 45,245 sf parcel. As shown in Figure 3: Site Plan, the project site’s two existing lots that would be subdivided into ten lots and two common lots. The lots would range in size from 2,750 to 3,691 square feet (sf), with a common area for the riparian setback (Lot B – 10,681 sf) and a new lane (Lot A – 3,557 sf).
The project includes nine 3-bedroom homes, which range in size from 1,766 sf to 2,108 sf, and one 2,236 sf 4-bedroom unit. Each unit would include a two-car garage and a 20-foot deep driveway. A rendering of the subdivision is shown in Figure 4: Project Rendering.

To protect an existing oak riparian woodland habitat that extends along the eastern boundary of the project site, a split rail fence would be constructed outside of the riparian boundary. Retaining walls would be constructed along the property lines in the southeast, south, northwest corner and between most of the lots to create level building pads on the sloped lot. The retaining walls would be topped with wood.

Fronting Erba Lane, the project includes a five-foot sidewalk and six-foot landscaped planting strip. The project would construct a new 24 foot-wide private roadway, extending from Erba Lane, providing access to seven of the residential units (Lots 4 through 10). A street view from Erba Lane is shown in Figure 5: Street View from Erba Lane.

As shown in Figure 6: Grading Plan, grading for the project would require a cut of 1,155 cubic yards of soil (maximum cut of 4.9 feet), and fill of 1,870 cubic yards (maximum fill of 5.2 feet), for a net import of 715 cubic yards. Consistent with current conditions, stormwater would flow generally north to south across the project site.

Storm drainage from constructed impervious surfaces (e.g. roofs, driveways) would be conveyed via a series of collector storm drain pipes to underground (Stormtech) chambers located on Sam Lane where it would be retained and treated. Stormwater from Erba Lane fronting the project site would be collected via drainage inlets and directed to a newly constructed 18-inch storm drain for channel overflow along the southern boundary of the project site. A channel emergency overflow catch basin with riprap apron would be constructed on the southeast corner of the project site to control storm drain flows that would ultimately flow into the adjacent dry creek located in the existing oak riparian woodland corridor.

Water and sewer services would connect to an existing six-inch sanitary sewer and eight-inch water main located on Erba Lane.

**Project-Related Approvals, Agreements and Permits**

- Planned Development Permit PD19-004
- Minor Land Division MLD19-002
- Design Review DR19-014
- Environmental Assessment EA19-010
- Environmental Review ND20-001
- Cultural Resources Report Permit CR20-001
Other public agencies whose approval is required

None.

Environmental Setting

Background and Intent

The purpose of the project is to allow for the subdivision of the project site (Lots A and B and Lots 1 through 10) and the construction of 10 residential units as part of a Planned Development.

Project Site and Existing Facilities

The project site is currently vacant with partially paved surface parking. The General Plan designation is Residential High Density (R-H) and the zoning designation is Residential High Density (R-H).

Surrounding the project site is the Scotts Valley Fire Department and single-family residential to the west, Scotts Valley City Hall, and MacDorsa Park to the north and east, and office buildings to the east between the project site and Scotts Valley Drive. The corner of Erba Lane and Scotts Valley Drive is a landscape supply company.

Environmental Checklist

The discussion below analyzes the potential environmental impacts of the project per the criteria as described in Public Resources Code Section 21166 and CEQA Guidelines Section 15162. For convenience, this analysis uses the Appendix G of the CEQA Guidelines as a framework. Different from the standard CEQA checklist included in Appendix G of the CEQA Guidelines are the impact options included in this analysis.

Aesthetics

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<th>ENVIRONMENTAL IMPACTS Issues</th>
<th>Potentially Significant Issues</th>
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<tr>
<td>Except as provided in Public Resources Code Section 21099, would the project:</td>
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<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
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<tr>
<td>a) Substantially damage scenic resources, including but not limited to trees, rock</td>
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ENVIRONMENTAL IMPACTS

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<td>outcroppings, and historic buildings within a state scenic highway?</td>
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<tr>
<td>b) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (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?</td>
<td></td>
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<td>X</td>
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<tr>
<td>c) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
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<td>X</td>
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Discussion

Scenic Vista
The project site is currently used as a partially paved parking lot and is surrounded by a combination of commercial, industrial, office, and residential uses. The project site is relatively flat and would not block any scenic vista nor substantially change an important view from a scenic vantage point, and therefore there would be no impact.

Scenic Resources and Visual Character
The project site is not located along a state scenic highway or designated scenic corridor. Although the project would represent a visual change from the existing conditions, it would be consistent with the type of development planned for this area in the General Plan. Additionally, the project is subject to design review, which would provide an opportunity for further evaluation that the project would not adversely impact the visual character of the area. Because there are no scenic resources and the visual character would not be substantially altered, there would be no impact.

Light and Glare
Existing ambient sources of nighttime lighting include neon and fluorescent signs, lighting of building exteriors and architectural accents, illumination through windows, landscape lighting,
street lighting, parking lot lighting, and vehicle headlights. The project would include outdoor lighting on the site typical to a residential development. As shown in Figure 7: Exterior Lighting Plan, project plans provide details for exterior lighting for the proposed homes that include: 42-inch tall lighting bollards, wall mounted lights, and recessed 6-inch LED downlights. All fixtures would utilize light-emitting diode (LED) lighting with glare cutoffs and be dark sky-friendly certified by the International Dark-Sky Association.

Site and architectural lighting is subject to the City design review process which would provide an opportunity for further evaluation so that levels of luminance do not adversely affect the adjacent properties. To further minimize lighting effects on the surrounding area, a project-specific conditions would require the project applicant to use no pole lights, and utilize down-directed fixtures on building exteriors with concealed light sources, consistent with City policies and design guidelines for lighting to be at the lowest level and carefully controlled for security, aesthetics, safety, and identification without interfering with nearby land uses. Implementation of these standard conditions of approval would reduce potential off-site light intrusion impacts to a less than significant level.

**Findings**

The project would not generate affect a scenic vista or scenic resource, would not change the visual character of the project area, and therefore there would be no impact. The project would not result in a substantial change to light and glare and therefore impacts would be less than significant and no mitigation is required.

**Agriculture and Forestry Resources**

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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. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide 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? X
ENVIRONMENTAL IMPACTS

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<tr>
<td>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td></td>
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<td>X</td>
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<tr>
<td>c) Conflict with existing zoning for, or cause rezoning of, forest land (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))?</td>
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<td>X</td>
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<tr>
<td>d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
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<td>X</td>
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<tr>
<td>e) 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 forest land to non-forest use?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
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</table>

**Discussion**

The property is not located on land that is classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the Farmland Mapping and Monitoring Program of the California Resource Agency, and therefore no agricultural impacts would occur as a result of the project.

**Findings**

As described above, there would be no impact on agricultural resources. Therefore, no mitigation is required.
Air Quality

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<td>Issues</td>
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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:

a) Conflict with or obstruct implementation of the applicable air quality plan?  
   - X

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

c) Expose sensitive receptors to substantial pollutant concentrations?  
   - X

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

Discussion

Air Quality Plan and Air Quality Standards

The project site is located within the North Central Coast Air Basin (NCCAB), which includes Monterey County, San Benito County, and Santa Cruz County, comprising an area of approximately 5,159 square miles along the central California coast. The Monterey Bay Air Resources District (MBARD) is responsible for local control and monitoring of criteria air pollutants throughout the NCCAB.

MBARD has developed the *2012 Air Quality Management Plan for the Monterey Bay Region* (2012 AQMP) The 2012 AQMP is a transitional plan shifting focus of MBARD’s efforts from achieving the 1-hour component of the State ozone AAQS to achieving the 8-hour ozone requirement. The Plan includes an updated air quality trends analysis, which reflects both the 1- and 8-hour standards, as well as an updated emission inventory, which includes the latest information on stationary, area and mobile emission sources.
In March 2017, MBARD adopted the 2012-2015 Triennial Plan Revision, which assesses and updates elements of the 2012 AQMP, including the air quality trends analysis, emission inventory, and mobile source programs. The 2017 AQMP Revision only addresses attainment of the State ozone standard. In 2012, EPA designated the NCCAB as in attainment of the current national 8-hour ozone standard of 0.075 ppm.

The following MBARD rules would limit emissions of air pollutants from construction and operation of residential development pursuant to the project:

- **Rule 400 (Visible Emissions)** – Discharge of visible air pollutant emissions into the atmosphere from any emission source for a period or periods aggregating more than 3 minutes in any 1 hour, as observed using an appropriate test method, is prohibited.

- **Rule 402 (Nuisances)** - No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 425 (Use of Cutback Asphalt)** – The use of cutback asphalt (asphalt cement that has been blended with petroleum solvents) is restricted.

- **Rule 426 (Architectural Coatings)** – This rule limits the emissions of ROGs from the use of architectural coatings.

The MBARD’s 2008 CEQA Air Quality Guidelines provides criteria for determining cumulative impacts and consistency. The CEQA Air Quality Guidelines note that a project which is inconsistent with an Air Quality Plan would have a significant cumulative impact on regional air quality. Any emissions sources that would be generated as part of the project would be subject to the MBARD rules and regulations. The proposed development (the point source) does not include any processes or activities that would emit air pollutants. Therefore, the proposed use does not have the potential for significant impacts that would conflict with the AQMP. Therefore, the project would be consistent with the AQMP for the Monterey Bay Region. Thus, the project would not make a considerable contribution to this existing, cumulatively significant impact. Impacts would be less than significant.

**Construction**

MBARD CEQA Guidelines state that construction activities (e.g., excavation, grading, on-site vehicles) that emit 82 pounds per day or more of PM$_{10}$ would have a significant impact on local

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1 On October 1, 2015, U.S. EPA adopted a new 8-hour ozone standard of 0.070 ppm. However, U.S. EPA has not yet reviewed recent NCCAB emissions to determine attainment with the current 0.070 ppm standard. Therefore, this attainment status is based upon U.S. EPA’s prior 0.075 ppm standard.
air quality when they are located nearby and upwind of sensitive receptors. Based on this emissions threshold, construction activity occurring on more than 2.2 acres per day may result in significant PM$_{10}$ emissions (MBARD, 2015). Because development of the project would not result construction activity occurring on more than 2.2 acres per day, impacts would be less than significant.

However, grading activities during construction could cause dust accumulation in the project area. Implementation of the following standard conditions of approval would be required to ensure potential impacts are reduced to a less-than-significant level for all construction activities on the project site.

Furthermore, standard conditions of approval require that development projects reduce dust generation from project grading and construction to minimal levels, the project proponent shall require the grading contractor to implement best management practices (BMPs) for dust control, including watering down exposed earth surfaces each non-rainfall day at intervals that attenuate dust problems. Any dirt tracked on to adjacent roadways shall be removed daily in a manner that does not create substantial airborne dust. The following BMPs shall be included in the construction contract for the project and be implemented during site grading:

- Excavation of the site shall be done in phases by grading only those areas where immediate activity will take place, leaving the remaining areas in their original condition with ground cover.
- A water truck, using recycled water, shall be available on a repeated basis each day throughout the grading phase of the project to spray exposed earth surfaces.
- In addition to regular water spraying, a biodegradable chemical palliative shall be sprayed on any graded areas that will remain exposed without additional grading for three or more days in succession.
- The site entrance shall be base rocked to avoid or minimize tracking mud on roadways by construction vehicles.
- Roadway(s) along the project frontage shall be mechanically swept at the end of each work day when any dirt or mud has been tracked on the street.
- No grading activities shall occur during days of high wind velocity.
- Finished graded areas that are designated as open space and landscape areas of project, shall be covered with an accepted erosion control substance such as straw mulch or hydro mulch with a tackifier.
- Construction staff shall monitor daily all areas that have received a chemical palliative spray or application of mulch to determine if these areas remain in a dust-free condition and take corrective action as needed to maintain a dust-free environment.
Operational
The project would result in new long-term operational emissions from mobile sources (burning of fossil fuels in cars); energy sources (cooling, heating, and cooking); and area sources (landscape equipment and household products). Mobile source emissions constitute most operational emissions from this type of land use development project. However, emissions associated with buildout of this type of project is not expected to exceed any applicable MBARD thresholds. No stationary sources would be constructed that would be long-term permanent sources of emissions. Therefore, the project would not generate a significant level of operational emissions and impacts would be less than significant.

Sensitive Receptors
Sensitive receptors in the vicinity include residents and patrons of nearby commercial/office establishments, located approximately 30 feet from the property boundaries of the proposed development.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust which is a known toxic air containment (TAC). The California Air Resources Board (CARB) has identified diesel exhaust particulate matter as a toxic air contaminant, and assessment of toxic air contaminant cancer risks is typically based upon a 70-year exposure period. Project grading and construction activities that would utilize diesel-powered equipment would expose receptors to possible diesel exhaust for a very limited number of days (approximately 10 days). Because exposure to diesel exhaust would be well below the 70-year exposure period, and given the limited and short-term duration of activities that would use diesel equipment, construction-related diesel emissions are not considered significant. Furthermore, the State is implementing emission standards for different classes of on- and off-road diesel vehicles and equipment that applies to off-road diesel fleets and includes measures such as retrofits. Additionally, Title 13 of the California Code of Regulations (section 2485(c)(1)) prohibits idling of a diesel engine for more than five minutes in any location.

Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations. Potential exposure of sensitive receptors to diesel emissions and associated risks is considered a less-than-significant impact, and no mitigation measures are required. However, standard conditions of approval require that prior to issuance of any grading permit, the Director of Public Works and the Building Official shall confirm that the grading permit and specifications stipulate that all off-road construction vehicles/equipment shall comply with the California Air Resources Board’s In-Use Off-Road Diesel Vehicle Regulation.

Odors
During construction activities, temporary odors from vehicles exhaust and construction equipment engine would occur. However, construction-related odors would be short-term and would cease upon completion. Therefore, no objectionable odors are anticipated from construction activities associated with the project and there would be no impact.
Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project does not include any uses that would be associated with objectionable odors. Odor emissions from the project would be limited to odors associated with vehicle and engine exhaust and idling cars. The project does not include any known sources of objectionable odors associated with the long-term operational use and therefore there would be no impact.

Findings

A significant air quality impact is defined as any violation of an ambient air quality standard, any substantial contribution to an existing or projected air quality violation, or any exposure of sensitive receptors to substantial pollutant concentrations. As discussed above, the MBARD thresholds of significance have not been exceeded. Therefore, there would be no significant air quality impacts and no mitigation is required in addition to the City's standard conditions of approval for construction dust control at the time of development.

Biological Resources

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<td>Would the project:</td>
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<tr>
<td>a)</td>
<td>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 regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</td>
<td>X</td>
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<tr>
<td>b)</td>
<td>Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?</td>
<td>X</td>
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<td>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</td>
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<td>X</td>
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<tr>
<td>d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</td>
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<td>X</td>
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<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
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<td>X</td>
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<tr>
<td>f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</td>
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Discussion

A Biological Assessment was prepared for the project site in May of 2019 (Biotic Resources Group, May 2019), which was based on a previous site plan consisting of six single-family homes and three duplex homes (total of 12 units) (Erba Lane Housing, Site Plan, David Zulim, Inc. dated 8-3-18). An Addendum to the Biological Assessment was prepared in May 2020 based on a revised site plan which represents the proposed project (Biotic Resources Group, May 2020).

Similarly, a Preliminary Tree Inventory & Assessment was prepared for the previous site plan in November 2017 (Kurt Fouts, November 2017). A Preliminary Arborist Report, Preliminary Tree Inventory and Assessment (the Revised Arborist Report) was prepared in March 2020 based on the revised site plan (Kurt Fouts, March 2020).
The analysis below is based on the findings of these assessments, as revised.

Environmental Setting

The project area is located along an unnamed creek. The USGS map (Felton quadrangle) does not identify a stream at this location; however, the field inspection documented a defined bed and bank and evidence of seasonal water flow at the site.

As shown in Figure 8: Vegetation Types (which shows the previous site plan), two plant communities occur on the project site. Coast live oak riparian woodland grows along the eastern property line and this woodland extends further eastward along the creek corridor on the City of Scotts Valley property. The woodland is closely associated with the creek, with many trees rooted on the slope and along the top-of-bank. Mature trees of coast live oak (Quercus agrifolia) dominant the woodland, with their canopies extending outward from top-of-bank. Figure 9: Oak Riparian Woodland Habitat illustrates the extent of the oak riparian woodland in relation to the revised site plan (May 12, 2020).

According to the arborists report (Kurt Fouts, November 2017), 14 oak trees grow on the project site; 26 oak trees are rooted on the adjacent City-owned property. Within the woodland, native and non-native plant species are present, including California blackberry (Rubus ursinus), poison oak (Toxicodendron diversilobum), curly dock (Rumex crispus), velvet grass (Holcus lanatus), French broom (Genista monspessulana), sword fern (Polystichum munitum), and young willows. The riparian woodland on the City property also supports willows (Salix sp.), which grow along the wetted channel.

In general, oak woodlands provide a high value habitat type for wildlife because acorns are important forage, the natural cavities in the oaks provide nesting opportunities for some birds and mammals, and downed decaying logs and limbs add to structural complexity of a moist microclimate and invertebrate food supply. The value of the oak riparian woodland to wildlife at this site is enhanced by the presence of water in the creek, which provides seasonal water sources for wildlife. Common wildlife expected to occur in this small patch of oak woodland include scrub jay (Aphelocoma coerulescens), acorn woodpecker (Melanerpes formicivorus), oak titmouse (Baeolophus inornatus), chestnut-backed chickadee (Poecile rufescens), bushtit
(Psaltriparus minimus), spotted towhee (Pipilo maculatus), and western gray squirrel (Sciurus griseus).

The second plant community is non-native grasses and forbs dominate the southeast portion of the Erba Lane property, abutting the existing paved area. Evidence of previous fill/base rock materials was observed, suggesting previous disturbances to this area. Plant species are typical of such areas, with wild radish (Raphanus sativa), wild oat, Bermuda grass (Cynodon dactylon), velvet grass, black mustard (Brassica nigra), English plantain (Plantago lanceolata), soft chess (Bromus hordeaceus), filaree (Erodium botrys), and rose clover (Trifolium repens) being common. Native plant species in this area are limited to California poppy (Eschscholzia californica) and telegraph weed (Heterotheca grandiflora).

The use by wildlife of the grassland area is expected to include common species, such as mourning dove (Zenaida macroura), California towhee (Pipilo crissalis), white-crowned sparrow (Zonotrichia leucophrys), and house finch (Carpodacus mexicanus). Western fence lizard (Sceloporus occidentalis), gopher snake (Pituophis melanoleucus), and Botta’s pocket gopher (Thomomys bottae) are also likely to occur in the grass habitat.

Applicable Regulations

California Department of Fish and Wildlife

CDFW classifies and ranks the State’s natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFW, 2007 and 2010). The oak-willow riparian woodland (CaCode 71.060.47) is ranked S4, yet some associations are of high priority (CDFW, 2010).

City of Scotts Valley Zoning Code

Streams and Drainage Courses

The City of Scotts Valley Zoning Code contains several references to streams and drainage courses. Section 17 requires structures to be located outside a 25-foot creek setback (measured outward from the top-of-bank). This review found the top of bank to be the break in slope from the flat terrace to the creek. Most of the oak trees are rooted at or just below this top-of-bank location, with the tree canopies extending into, and in some cases beyond, this 25-foot setback.

City Zoning Code 15.06 also addresses drainage facilities, requiring disturbances to natural drainageways be kept to a minimum and existing drainage courses shall not be obstructed or obliterated without mitigating measures installed that have been approved by the building official. Grading equipment is not to disturb or cross flowing streams unless absolutely necessary and only with prior approval from the building official. The code also states no construction materials or construction byproducts shall be discarded in any drainageway or
riparian zone. All streams, floodplains, channels, bodies of standing water, or other riparian areas shall be identified and delineated on the development plans and vegetative removal, land disturbances, or other development activities shall be conducted at a time, and in a manner that will provide and maintain an undisturbed vegetative filter strip. The code also states if it is determined that certain development activities in or near the riparian zones would be detrimental, those activities may be prohibited.

Tree Protection

The City of Scotts Valley Zoning Ordinance Section 17.44.080 regulates the removal of protected trees. Section 17.44.080 includes tree protection regulations. Protected trees are defined as:

- Any tree having a main stem or trunk at least 8 inches or greater diameter at breast height (DBH) (25 inches in circumference), located in a hillside residential zone where the slope within 20 feet of where the tree is located exceeds 20 percent;
- Any single-trunk oak tree with a main stem or trunk at least 8 inches DBH (25-inch circumference), or any multi-trunk oak tree with an individual trunk over 4 inches DBH (12 inch circumference);
- Any street tree (defined as any tree within five feet of a public or private street or right of way), regardless of size;
- Any single-trunk tree with a 13-inch or greater DBH (40-inch circumference);
- Any multi-trunk tree with any trunk greater than or equal to 8-inch DBH (25-inch circumference);
- Any tree, regardless of size, required to be planted or preserved as part of a permit approved by the Planning Department, Planning Commission or City Council, or required as a replacement tree for a removed tree; or
- Any Heritage Tree, defined as a tree identified, because of unique quality and/or size, as among the most significant and noteworthy in the city and formally designated by the City Council.

Per SVMC Section 17.44.080(E)(4), tree removal request shall be included as part of the development application, including an arborist’s report, and shall be approved by the planning commission or city council. The development review process shall seek to preserve healthy trees, trees that contribute to the overall aesthetic quality of an area, and to preserve significantly sized trees that are important to the overall landscape of an area.

Sensitive Natural Communities

A biological survey of the project site was conducted in May 2019 to determine the presence of special status plant and animal species. No special status plant species were observed and none are expected. The only special status wildlife species that may occur within or immediately adjacent to the project work area is the San Francisco dusky-footed woodrat.
The project was evaluated as to potential direct and indirect impacts to sensitive biological resources. Examples of direct impacts are the removal of oak trees for construction of housing and associated lot development, and pathway construction in the riparian corridor. Examples of indirect impacts include potential disturbance to the oak riparian woodland and wildlife utilization of these areas from increased human uses on the property (e.g., residential uses, landscaping, lighting, pathway uses).

Based on the revised site plan dated May 12, 2020, the revised grading plan preserves most of the oak riparian woodland on the project site. The footprint of the residential buildings are located outside of the dripline of the oak riparian woodland and 25 feet from the “top of bank” of the 100-year storm flood boundary. Two Coast live oaks (T39 and T40), which are located outside of the oak riparian woodland on the southeast corner of Lot 7, would be removed, as discussed below. Additionally, some limited grading would occur within the dripline of oak trees that are to be retained. Some trees would require targeted clearance pruning for grading equipment and hand grading may be required near them to minimize impacts. Two additional protected oaks near lot 6 (T35 and T38) may not be retained.

To reduce construction and post-construction-period impacts to the riparian woodland, the Biological Assessment, as revised, the following mitigation measures would reduce impacts to the oak riparian woodland to a less than significant level.

**MM BIO-1: Oak Riparian Woodland - Project Construction**

Prior to issuance of the grading permit, the project applicant shall demonstrate to the satisfaction of the City compliance with the following:

1.1 The outer edge of the riparian setback area should be demarcated by the placement of six-foot high plastic construction fencing (during the construction period) and a permanent six-foot high fence (after construction). The fence should have an opening to allow access to the existing pathway that crosses the intermittent drainage channel. Fencing should be placed along the outside edge of the dripline of the tree or grove of trees. The construction fencing should be maintained in a functional manner throughout the site construction period and should be inspected periodically by the contractor and City of Scotts Valley personnel for damage and proper functioning. No equipment staging, vehicle parking or other activities shall occur within the protected riparian area.

1.2 To minimize sediments entering the intermittent creek, the project should implement best management practices, including:

   - Conduct construction activities within 20 feet of the riparian woodland during the dry season;
   - Incorporate measures to filter and entrap pollutants prior to their discharge into the creek or other downstream drainage features that lead to Carbonera Creek.
   - Stabilize disturbed soils to minimize erosion and sediment input to the creek;
- Implement erosion control measures to prevent sediment from entering the creek channel, including the use of silt fencing or fiber rolls to trap sediments;
- Conduct erosion control seeding of all disturbed areas as soon as practicable after disturbance following construction;
- Monitor the effectiveness of the erosion control measures during the first year’s rainy season and implement remedial measures (e.g., reseeding, repair of silt fencing) if sedimentation or erosion is noted.

1.3 Occurrences of invasive, non-native plant species (i.e., French broom, bull thistle) should be removed from the riparian woodland prior to project completion.

MM BIO-2: Oak Riparian Woodland Post-Construction

Prior to issuance of the building permit, the project applicant shall demonstrate to the satisfaction of the City compliance with the following:

2.1 All lighting features shall be directed away from the oak riparian woodland, such that the woodland is not illuminated. Homeowners/tenants shall not be allowed to install night lighting that illuminates the riparian woodland.

2.2 Future landowners/tenants should not utilize invasive, non-native plant species for landscaping. Plant species that should not be used on the property include all plants recognized as exotic pest plants by Cal-IPC (see Exotic Pest Plants of Greatest Ecological Concern in California, www.cal-ipc.org). This list includes: all brooms (i.e., French broom, Spanish broom and Scotch broom), periwinkle (*Vinca sp.*), Cape (or German) ivy, English ivy, Algerian ivy, acacia (all kinds), eucalyptus (all kinds), all pines, cotoneaster, and pyracantha. If evidence of the fungus responsible for Sudden Oak Death (*Phytophthora sp.*) is detected on the property, the homeowners should implement measures to prevent/control the spread of this fungus both on and off-site. The homeowners should be responsible for implementing the most current disease-preventing measures for the use, storage and/or transporting of oak firewood as a means of minimizing the spread of the disease within the City, the County and the State of California. Preventative and treatment measures should also be implemented as recommended. Current information on this disease and recommended treatments is available through the California Oak Mortality Task Force, University of California Cooperative Extension, Sudden Oak Death website (http://cemarin.ucdavis.edu).

State and Federal Regulated Waterways and Federal Wetlands

Development of the project would occur adjacent to regulated waterway. The project is located near California Department of Fish and Wildlife’s (CDFW) and Regional Water Quality Control Board’s (RWQCD) regulatory jurisdiction, however, proposed residential development is located outside of the oak riparian woodland dripline. As shown in Figure 9: Oak Riparian Woodland Habitat, construction would not require the removal of vegetation in the streambank, nor on
the top of the bank of the dry creek, within regulated areas by the CDFW and RWQCD. Therefore, there would be no impact associated with regulated waterways.

Special Status Species, Wildlife Corridors, and Nursery Sites

The only special status wildlife species that may occur within or immediately adjacent to the project site is the San Francisco dusky-footed woodrat. The woodrats may be present in above-ground stick nests. Additionally, nesting birds may occur in or adjacent to the project work area. No other special status wildlife species occur within the project area.

Because most nesting birds are protected by the Migratory Bird Treaty Act, the project would implement the mitigation measure listed below to avoid potential impacts if any active bird nests are present during vegetation removal. The mitigation measure below would also reduce potential impacts to the woodrats and nesting birds. While none were identified during the May 2019 survey, the project site is suitable habitat for the San Francisco dusky-footed woodrat. Therefore, implementation of the following mitigation measure would reduce impacts associated with special status species and nursery sites to a less than significant level.

MM BIO-4: Protection of Sensitive Animal Species

Prior to issuance of the grading permit, the project applicant shall demonstrate to the satisfaction of the City the following:

1. The landowner shall hire a qualified biologist to search for San Francisco dusky-footed woodrat nests. If any are found and impacts to the nests cannot be avoided, the applicant shall seek written approval from CDFW to implement a trapping and relocation program. Wood rat nests shall not be disturbed without prior written approval from CDFW.

2. If construction is scheduled to begin between March 1 and August 15 of any given year, the landowner shall hire a qualified biologist to conduct a search for active bird nests in the vicinity of the work site (following CDFW survey protocols). If active bird nests are observed, the work shall be postponed until the biologist determines that all chicks have fledged the nest(s).

Conflict with Local Polices, HCP or NCCP, or Other Conservation Plan

As shown in Figure 6: Grading Plan, which reflects the revised site plan dated 5/12/2020, the revised Grading Plan preserves most of the oak riparian woodland on the property. The footprint of the buildings are located outside of the dripline of the oak riparian woodland and all but two oak trees (T39 and T40, located on the southeast corner of Lot 7) would be retained.

Some grading would occur within the dripline of oak trees that are to be retained. The Revised Arborists Report analyzed the revised grading plan relative to trees and found that up to six trees may be affected by the project. Some trees would still require targeted clearance pruning for grading equipment (T29 and T30) and hand grading may be required near them. Impacts to
two trees (T35 and T38), adjacent to Lot 6 may be greater, and would likely need to be removed. The Revised Arborists Report also indicated that the future growing conditions for most of the oaks would slightly improve, as more soil would be retained allowing for a larger rooting area.

The Revised Arborists Report recommended tree replacement to compensate for the removal and limbing of the identified trees at a 2:1 tree replacement using 15-gallon or 24-inch box size trees and identifies an open area east of Lot 7 be used for the tree replacement plantings. This recommendation is consistent with City regulations, as described above.

Standard conditions of project approval require the project applicant to implement all measures contained within the Revised Arborists Report for the protection of existing trees to remain, including but not limited to the required procedures and sequence, required tree replacement, tree preservation and protection, and appraised value of preserved trees in the report.

A habitat survey report for the endangered Mount Hermon June Beetle and Zayante Band Wing grasshopper was prepared by Entomological Consulting Services, Ltd., dated July 14, 2005. Due to the absence of indigenous sand parkland vegetation and sunlight, barren Zayante sandy soils, and habitat conditions, the report concluded that the project site was not suitable for the Zayante Band Wing grasshopper. Similarly, due to the absence of Ponderosa pines and Zayante sands, habitat conditions are not suitable for the Mount Hermon June Beetle.

Therefore, the proposed project would not conflict with any local policies or applicable HCP’s and there would be no impact.

Findings

The project would comply with the City’s standard conditions of approval wherein protected tree removals are compensated at a minimum of 2:1 ratio. Additionally, through implementation of MM BIO-1 and MM BIO-2, impacts associated with vegetation, wildlife, riparian woodland, and other biological resources would be reduced to a less than significant level.
Cultural Resources

<table>
<thead>
<tr>
<th>ENVIRONMENTAL IMPACTS Issues</th>
<th>Potentially Significant Issues</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>Would the project:</td>
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<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?</td>
<td></td>
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<td>X</td>
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<tr>
<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?</td>
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<td>X</td>
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<tr>
<td>c) Disturb any human remains, including those interred outside of dedicated cemeteries?</td>
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</tbody>
</table>

Discussion

Cultural Resources

The Scotts Valley 1994 General Plan, Figure OS-2 ("Archeological Sensitivity Zones"), indicates that the project site is located within areas of moderate and high archaeological sensitivity.

An Extended Phase I Archeological Assessment (Albion Environmental, Inc., March 2020) was prepared for the project site in 2020 (Albion Environmental, Inc., March 2020). After reviewing the record search results, Albion conducted an intensive pedestrian survey and limited trenching and auguring of the project area. Visual inspection surface and small-scale subsurface excavations revealed no evidence of intact prehistoric or historic-era archaeological deposits. However, due to the proximity of archeological site SCR-177/H, it was recommended that archeological and Native American monitoring occur during all ground-disturbing activities.

Standard conditions of approval for development require that the project applicant and construction contractor ensure that any cultural resource, including archaeological, paleontological, or human remains are not destroyed if discovered during project grading or other subsurface work.

As part of the standard conditions of approval, the project applicant shall submit a copy of a contract with a qualified/registered archaeologist to conduct monitoring of all earth disturbing activities for review and approval by the Community Development Director, before grading
permit issuance. The project applicant shall include this requirement in the contract for all contractors involved with grading and subsurface work. The qualified/registered archaeologist shall monitor all earthwork activity as described below:

1. An archaeologist shall monitor the grading or excavation of soils at the development site in order to determine if important cultural remains are present. Such monitoring shall begin before and occur during subsurface earth moving activities;
2. The duration and period of archaeological monitoring of project development activities shall be at the discretion of the professional archaeologist. At a minimum, however, any activity that initially displaces or removes original soil from its present context shall be monitored by an archaeologist on a continuous basis;
3. Monitoring activities such as replacing soils in trenches, redistributing displaced soil elsewhere on the development site, or removing stockpiled excavated soil may not require monitoring;
4. Monitoring may include the periodic sampling and screening of soils in order to better determine if cultural remains are present; and,
5. If any cultural resources are discovered, the project contractor shall immediately stop all earth disturbing work within a 150-foot radius of the discovery to allow for inspection, evaluation, and potential recovery of resources by the supervising project archaeologist, before resuming any earth-disturbing construction activities. The project applicant shall also contact the Planning Department and Building Official as soon as work has been stopped. It may be necessary to resume grading or excavation activities under the direction of the supervising archaeologist in order to locate or expose cultural remains.

Standard conditions of approval require that the project applicant and construction contractor ensure that paleontological resources are not destroyed during project grading by implementing following measures:

1) Provide the project paleontologist with a copy of the final grading plans for review prior to any project grading;
2) Provide for daily monitoring during grading activities by the project paleontologist to determine if paleontological resources are encountered in excavated areas;
3) Allow for the recovery of any discovered paleontological resources according to a recovery plan/methods specified by the project paleontologist, including the donation of the recovered resources to a suitable repository (museum, school, etc.);
4) If recovery occurs, ensure that the project paleontologist prepare a recovery report that details the type of resources recovered and the repository locations where they were taken; and,
5) Specify in the construction contract with the project grading contractor(s), that grading personnel are to cooperate with and assist the project paleontologist during monitoring and any recovery activities, including assisting with recovery efforts if necessary.
Human Remains
No known human remains are located on the project site. Pursuant to section 7050.5 of the Health and Safety Code, if human remains are discovered, there shall be no further excavation or disturbance of the discovery site or any nearby area reasonably suspected to overlie adjacent human remains until the project applicant has complied with the provisions of State CEQA Guidelines Section 15064.5(e).

Findings
As discussed above, due to the proximity of archeological site SCR-177/H, archeological and Native American monitoring during all ground-disturbing activities would be required as a standard condition of approval, which would reduce any potential impacts associated with cultural resources to a less than significant level.

Energy

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<tr>
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<tr>
<td>Would the project:</td>
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<tr>
<td>a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</td>
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<tr>
<td>b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</td>
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Discussion
Energy consumption associated with construction of the project would be temporary and short-term. Project design and operation would comply with State Building Energy Efficiency Standards, appliance efficiency regulations, and green building standards. Additionally, the project includes other design features including efficient low-energy lighting, and natural ventilation systems.

The project would also be required to be built according to City and State energy efficiency standards. The project would be required to comply with existing regulations, including
applicable measures from the City’s General Plan. Vehicle trips and energy consumption would be less carbon intensive as compared to historic levels due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards).

Findings
The project would comply with existing State energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. There would be no impact to energy.

Geology and Soils

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<tr>
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<tbody>
<tr>
<td>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
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<tr>
<td>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? Refer to Division of Mines and Geology Special Publication 42.</td>
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<td>ii) Strong seismic ground shaking?</td>
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<td>iii) Seismic-related ground failure, including liquefaction?</td>
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<td>iv) Landslides?</td>
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<td>X</td>
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ENVIRONMENTAL IMPACTS

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<tbody>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td></td>
<td>X</td>
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<tr>
<td>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, liquefaction or collapse?</td>
<td></td>
<td>X</td>
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<tr>
<td>d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?</td>
<td></td>
<td>X</td>
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<tr>
<td>e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?</td>
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<td>X</td>
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<tr>
<td>f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td></td>
<td>X</td>
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</table>

Discussion

Earthquake Faults, Landslides, and Seismic Ground Shaking

Project construction would subject the buildings and their inhabitants to periodic seismic shaking associated with the San Andreas Fault and other active faults within the Monterey Bay area. As part of any future Planned Development application submitted to the City of Scotts Valley, the project applicant would be required to submit plans that are in compliance with the latest California Building Code (CBC) standards consistent with Title 15 – Buildings and Construction of the Scotts Valley Municipal Code.

Prior to approval of any entitlements, City staff is required to review project plans and verify that the CBC Seismic requirements are printed on the plans. Building Division staff shall verify
that CBC standards are met prior to issuance of Building Permits. Building inspectors shall conduct site inspections to assure that construction occurs consistent with approved plans.

The Scotts Valley 1994 General Plan, Figure S-3 ("Liquefaction Potential") indicates that the project site is not in an area for liquefaction. Figure S-4 ("Landslide Deposits") indicates that the site is in an area containing landslide deposits. Figure S-5 ("Slopes"), indicate that the project site is not located within any mapped geological hazard areas. Per the earthquake hazard zones defined by the Alquist-Priolo map, the risk of earthquake-induced ground rupture occurring across the project site is moderately low.

A geotechnical investigation was prepared by Haro, Kasunich and Associates, Inc. (Haro, Kasunich & Associates, November 2005) determined that given the project site is generally level, the potential for seismically induced landslides are low. As a standard condition of approval, an updated geotechnical report would be required for review and approval by the City prior to issuance of a building permit.

Because compliance with Title 15 – Buildings and Construction of the Scotts Valley Municipal Code is required for all future project, potential impacts associated with earthquake-related ground rupture would be less than significant and no mitigation is required.

Soil Erosion

The project would involve the removal of landscape vegetation and grading activities associated with the construction of buildings, infrastructure, and roads. Grading would largely be limited to the project site, which would limit the amount of exposed soil area that would be subject to erosion. Measures to control erosion would be incorporated into the construction specifications pursuant to the National Pollution Discharge Elimination System (NPDES) requirements for construction. In addition, to comply with the NPDES requirements for construction, projects involving construction on sites that are one acre or more are required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies how the discharger would protect water quality during construction activities. Compliance with the erosion control ordinances and acquisition of the NPDES General Permit for construction activities would ensure that soil erosion impacts associated with development pursuant to the project would be less than significant.

Sewage Disposal

The project would involve disposal of wastewater through the City’s existing sanitary sewer system, and there would be no septic systems constructed as part of the project. Therefore, no impacts would occur.

Unique Geological Features and Paleontological Resources

There are no known paleontological resources on the project site. However, development of the project could result in the discovery and disturbance of previously unknown or undiscovered paleontological resources. Should evidence of paleontological resources be
encountered during grading and construction, adherence to City, State, and Federal historic preservation laws, regulations, and codes related to archaeological and paleontological resources would ensure the adequate protection of historic and pre-historic resources. With implementation of existing regulations, the impact would be less than significant.

Findings

Compliance with Title 15 – Buildings and Construction of the Scotts Valley Municipal Code and NPDES requirements would reduce any potential impacts associated with geological and soil resources to a less than significant impact. Therefore, no mitigation is required.

Greenhouse Gas Emissions

<table>
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<tr>
<td>Would the project:</td>
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<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
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<td>X</td>
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<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
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<td>X</td>
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</table>

Discussion

Construction

Construction of the project would result in direct emissions of CO₂, N₂O, and CH₄ from the operation of construction equipment and the transport of materials. MBARD does not have a threshold for construction GHG emissions, which would be one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the project. In the absence of quantitative significance thresholds in CEQA guidance, this analysis turns to other programs. For example, the CARB Mandatory Reporting program requirements are triggered for sources of GHG emissions exceeding 2,500 MTCO₂e) per year. AB 32 requires California agencies to take actions that reduce GHG emissions by 2020 to the levels of 1990, and then substantially further reduce emissions by 2050. Most individual projects do not generate sufficient GHGs to create a project-specific impact to significantly influence climate change; therefore this impact typically involves an analysis to determine if a
project’s GHG emissions are cumulatively considerable (significant cumulative impact). Once construction is complete, the generation of construction-related GHG emissions would cease. The project is not expected to exceed the CARB Mandatory Reporting applicability level of 2,500 MTCO$_2$e per year. As a result, the short-term emission of GHG during construction would be less than significant

Operational

Operational or long-term emissions would occur over the project’s life. GHG emissions would result from direct emissions such as project generated vehicular traffic, on-site combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power over the life of the project, the energy required to convey water to, and wastewater from the project site, the emissions associated with solid waste generated from the project site, and any fugitive refrigerants from air conditioning or refrigerators. The project would meet CalGreen and CBC standards for energy efficiency standards including passive solar design and natural ventilation and natural lighting.

Additionally, the project includes water-efficient landscape, water-reducing features, and low-impact development practices to reduce water use. The project is an example of “smart growth” strategies based on infill, density, and unit types. Energy use of the completed residential units would be less than similar units constructed in previous years because their construction is required to comply with the energy efficiency standards of the California Building Code. All these factors result in a project that would not significantly contribute to a cumulative GHG impact. Thus, impacts would be considered less than significant.

Findings

While some GHGs would be generated as a result of development of the project, its contribution to GHGs would not be cumulatively considerable and there would not be any significant impacts associated with GHGs. Therefore, the project would result in a less than significant impact, and no mitigation is required.

Hazards and Hazardous Materials

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<tr>
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<tr>
<td>Would the project:</td>
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<tr>
<td>a) Create a significant hazard to the public or the environment through the routine</td>
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<td>transport, use, or disposal of hazardous materials?</td>
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<tr>
<td>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?</td>
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<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td></td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?</td>
<td></td>
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<td>X</td>
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<tr>
<td>f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
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### ENVIRONMENTAL IMPACTS

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<tr>
<td>g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?</td>
<td></td>
<td></td>
<td>X</td>
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</table>

### Discussion

**Hazardous Substances**

Regarding on-site hazards, the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No records of the project site were found pertaining to open cases of LUSTs, toxic releases, or site cleanup requirements. The project site is located adjacent to a known hazardous materials site at 7 Erba Lane (southwest of the project site) due to diesel contamination. Given the distance from the project site and the propensity for diesel to migrate downward and not laterally in sandy soils, impacts from the known hazardous site to the subject parcel and the proposed use are unlikely.

It is likely that oils, lubricants, and similar materials may be used to maintain and/or fuel construction vehicles and machinery during the construction phase of the project. Standard conditions of approval require the project applicant to have the construction contractor implement a best management practice/hazardous materials containment plan during the entire time construction activities are occurring. The hazardous materials containment plan shall contain the following elements:

- Stationary equipment such as motors, pumps, welding equipment shall be placed over drip pans or other containment apparatus.
- Construction materials shall not be stockpiled or stored where they could be accidently discharged downslope or in to Scotts Valley Drive.
- Any petroleum, lubricants or other hazardous materials used during; and, construction shall be stored in a special storage location equipped with double containment and this location shall be shown on the erosion control plan and approved by the agencies that review this plan.

---

The project’s residential uses may involve use and storage of some materials that are considered hazardous, although these materials are typically limited to everyday use solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be substantially different from household chemicals and solvents already in use throughout the City. Therefore, impacts associated with hazardous substances would be considered less than significant, and no mitigation is required.

Release of Substances Near Schools
The project is located within one-quarter mile of the Scotts Valley Unified School, approximately 700 feet south of the project site. However, project construction and operation would not involve the emission of hazardous materials, therefore impacts would be considered less than significant and no mitigation is required.

Emergency Response
General Plan Safety Element Figure S-6 “Evacuation Routes” shows Scotts Valley Drive as a primary evacuation route in the City’s Emergency Response Plan. Construction of the project would not change the function of Scotts Valley Drive as a primary evacuation route. Therefore, the proposed project would have no impact on emergency response.

Public Airport or Private Airstrip
The project site is not located within two miles of a public airport or public use airport, or within the vicinity of a private airstrip. Therefore, there would be no impact.

Wildland Fire
Refer to the Wildfire Section below for further discussion.

Findings
The project site is not on a list of hazardous materials sites, nor would the residential use involve the use of hazardous materials that would require permitting by the Santa County Health Department and therefore impacts would be less than significant. The project would not impact the City’s primary evacuation routes, nor is it located within two miles of an airport, and therefore there would be no impacts. No mitigation is required.

Hydrology and Water Quality

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<tr>
<td>a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?</td>
<td>X</td>
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<tr>
<td>b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</td>
<td></td>
<td>X</td>
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<tr>
<td>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 which would:</td>
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<tr>
<td>i. Result in substantial erosion or siltation on- or off-site?</td>
<td>X</td>
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<tr>
<td>ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?</td>
<td>X</td>
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<tr>
<td>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?</td>
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<td>X</td>
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<tr>
<td>iv. Impede or redirect flood flows?</td>
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<td>X</td>
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<tr>
<td>d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</td>
<td></td>
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<tr>
<td>e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</td>
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### Discussion

#### Groundwater Demand

According to the project plans, the project would use approximately 1,485 gallons per day (or two acre-feet of water per year) of water. The Scotts Valley Water District has reviewed the application and has determined that existing water resources would support the proposed development (SVWD Will Serve Letter, dated March 5, 2020). Therefore, there would be no impact.

#### Groundwater Recharge

The project is located in an area designated on the Scotts Valley General Plan Hydrological Resources Map, Figure OS-5, as a Potential Groundwater Recharge Area. Per the Open Space and Conservation Policy OSA-343 of the Scotts Valley General Plan, all proposed construction in a Potential Groundwater Recharge Area requires a detailed hydrological evaluation to mitigate the loss of recharge.

According to the Preliminary Stormwater Control Plan (Bowman & Williams, September 2018), the existing paved project site contains 32,280 sq. ft. of impervious surface area. Redevelopment would reduce the amount of impervious surface area to 25,924 sq. ft. resulting in a net addition of impervious surface area by 4,345 sq. ft., resulting in an improvement to groundwater recharge as compared to existing conditions. Additionally, the project would incorporate various low impact development design strategies such as the use of permeable pavements, dispersal of runoff of pervious areas, and stormwater control measures that would assist in improving groundwater conditions. Therefore, there would be no impact and no mitigation is required.

#### Stormwater Runoff

The project applicant prepared a Preliminary Stormwater Control Plan (PSCP) (Bowman & Williams, 9/10/2018) to address potential impacts from stormwater runoff. The PSCP described
project site-specific best management practices (BMPs) to control erosion and sedimentation and maintain water quality in accordance with the current edition of the City of Scotts Valley Stormwater Technical Guide. The BMPs address the construction and maintenance of storm drain inlets, irrigation and use of pesticides, maintenance of hardscapes, and maintenance of underground stormwater facilities.

Furthermore, standard conditions of approval require the developer and construction contractor to implement best management practices to prevent sedimentation and discharge of contaminants off-site during project construction, including hazardous materials containment plan during the entire time construction activities are occurring. The hazardous materials containment plan shall contain the following elements:

- Stationary equipment such as motors, pumps, welding equipment shall be placed over drip pans or other containment apparatus.
- Construction materials shall not be stockpiled or stored where they could be accidently discharged downslope or in to Scotts Valley Drive.
- Any petroleum, lubricants or other hazardous materials used during; and, construction shall be stored in a special storage location equipped with double containment and this location shall be shown on the erosion control plan and approved by the agencies that review this plan.

Implementation of recommendations as described in the PSCP and preparation of a SWPPP for review and approval prior to construction activities would ensure that impacts from stormwater runoff would be less than significant.

Floodplains, Seiche, Tsunami and Mudflow Related Hazards
The property is not located within a floodplain. There is no possibility of a seiche or tsunami occurring that could affect the project. The project is not located on or near a lake or ocean coastline. Therefore, the project would have no impacts.

Findings
Implementation of recommendations as described in the PSCP and preparation of a SWPPP would reduce impacts on hydrology and water resources to a level of less than significant. Therefore, no mitigation is required.
Land Use and Planning

Would the project:

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<tbody>
<tr>
<td>a) Physically divide an established community?</td>
<td>X</td>
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<tr>
<td>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?</td>
<td>X</td>
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</table>

Discussion

Surrounding the project site is the Scotts Valley Fire Department and single-family residential to the west, Scotts Valley City Hall, and MacDorsa Park to the north and east, and office buildings to the east between the project site and Scotts Valley Drive. The corner of Erba Lane and Scotts Valley Drive is a landscape supply company.

The project site is currently zoned Residential High Density (R-H). Additionally, the project site is designated under the City of Scotts Valley General Plan as Residential High Density (R-H), which allows for 9 to 15 residential units. Therefore, the project would be consistent with the existing zoning and General Plan land use designations.

Findings

The proposed future residential use of the site would be in keeping with surrounding land uses and the development pattern of the neighborhood. The project would have no impact and therefore no mitigation is required.

Mineral Resources

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</table>
### Discussion

The Scotts Valley 1994 General Plan, Figure OS 4, indicates that there are no significant mineral deposits on the project site. The project is not located in an area known to contain regionally significant mineral resources and would not result in the loss of the availability of a known mineral resource of regional value. Additionally, the project site is not located in an area that has been identified by the City of Scotts Valley as a locally important mineral resource recovery site.

### Findings

The project would have no impact and therefore no mitigation is required.

### Noise

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<tr>
<td>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</td>
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Would the project result in:

**a)** Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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<tbody>
<tr>
<td>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?</td>
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<td>local general plan or noise ordinance, or applicable standards of other agencies?</td>
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<tr>
<td>b) Generation of excessive groundborne vibration or groundborne noise levels?</td>
<td></td>
<td>X</td>
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<tr>
<td>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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td></td>
<td>X</td>
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</table>

Discussion

Short Term Noise Levels

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g. land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, exterior noise levels could affect the residential neighborhoods surrounding the construction site. Project construction would occur adjacent to existing single-family residences on Erba Lane. However, construction activities would occur throughout the project site and would not be concentrated at a single point near sensitive receptors.

Project construction would comply with the City’s Municipal Code Section 17.46.160, which states that all construction activity shall be limited to the hours between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. through 5 p.m. on Saturday. No construction activity is allowed on Sunday. These permitted hours of construction are included in the code in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant disruption. Construction would occur throughout the project site and would not be concentrated or confined in the area directly adjacent to sensory receptors. Therefore, construction noise would be acoustically dispersed throughout the project site and impacts would be less than significant.
Long Term Noise Levels
The Noise Contour Map for the City indicates that the project site is in an area of less than 60dBA. The Noise Element of the Scotts Valley General Plan specifies that "exterior noise levels measured at the property line of proposed new residential developments shall be limited to or below an average annual day-night level of 60 dBA" (NA-454).

Implementation of the project would create new sources of noise in the project vicinity from residential sources, mechanical equipment, and landscape maintenance. These noise sources would similar to those generated in other residential neighborhoods throughout the City. Such noise would primarily occur during the “daytime” activity hours of 7:00 a.m. to 7:00 p.m. Furthermore, the residences would be required to comply with the noise standards set forth in the City’s General Plan and Municipal Code. Per General Plan Policies LP-38, NA-457, NO-441, and NA-444 land uses which include residential uses should not be allowed in areas with excessive noise. Therefore, there would be no impact from long-term noise levels.

Exposure to Groundborne Vibrations
Because the project would not require the use of heavy construction equipment, the residences located approximately 30 feet from the project’s construction area would not be exposed to vibrations levels exceeding the FTA’s 0.20 in/sec PPV significance threshold vibrations. Therefore, there would be no vibration impacts.

Future project residents may experience occasional groundborne vibrations from nearby traffic on Scotts Valley Drive when large trucks use the roadway. But this vibration is not expected to be frequent nor at high levels. This impact is less than significant.

Airport or Private Airstrip Noise
The project site is not located within any airport noise impact contours and not located within the vicinity of any private air strip, and therefore there would be no impact.

Findings
The project would not expose future residential uses to short-term construction nor long-term operational noise levels in excess of City standards. Noise generated during the construction phase is temporary and would be limited to Monday-Saturday daytime hours per compliance with the City’s Municipal Code Section 17.46.160. Therefore, no mitigation is required.
Population and Housing

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<tr>
<td>Would the project:</td>
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<tr>
<td>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)?</td>
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<tr>
<td>b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?</td>
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**Discussion**

The project would result in a relatively small increase in population (27 persons ³) that is well within the land use buildout capacity projections identified within the City of Scotts Valley General Plan (1994) as well as the Association of Monterey Bay Area Government's 2018 Regional Growth Forecast for the City of Scotts Valley population of 12,418 by 2040. Therefore, there would be no impact.

**Findings**

There is no potential for a significant impact due to substantial growth either directly or indirectly. Therefore, the project would have a no impact and no mitigation is required.

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³. The average household size for Scotts Valley is 2.67 persons which estimates 27 persons for a project with 10 units
Public Services

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<td>Would the project result in:</td>
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<tr>
<td>a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:</td>
<td></td>
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<tr>
<td>i) Fire protection?</td>
<td>X</td>
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<tr>
<td>ii) Police protection?</td>
<td>X</td>
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<tr>
<td>iii) Schools?</td>
<td>X</td>
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<tr>
<td>iv) Parks?</td>
<td>X</td>
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<tr>
<td>v) Other public facilities?</td>
<td>X</td>
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Discussion

Fire Services
The project is located in an existing urban area that is currently served by the Scotts Valley Fire Protection District. The closest fire station is located across the street from the project site. Therefore, there would be no impact.

Police Services
The project would add new residents to the City who would occasionally need police services. This type of additional service would not generate a demand beyond what the police department can accommodate. The Scotts Valley Police department is located west and adjacent to the project site at City Hall. Therefore, there would be no impact.
Schools
The project would add approximately 27 new residents to the City, some of whom would be students attending schools within the Scotts Valley Unified School District. These additional students would not generate a significant demand on the area school system and therefore there would be no impact.

Parks
The project would add approximately 27 new residents to the City who would occasionally utilize City parks and recreational programs; however, this additional use would not generate a demand beyond what the City Parks Department can accommodate and no new additional park facilities would be required. Additionally, as a standard condition of the approval, the project would be required to pay a parks and recreation in-lieu fee as part of their building permit. Therefore, there would be no impact.

Other Public Facilities
The project does not have the potential to affect other public facilities, in excess of that previously considered by the General Plan. Therefore, there would be no impact.

Findings
The project would have no impact on public services and therefore no mitigation is required.

Recreation

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<tr>
<td>Would the project:</td>
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<tr>
<td>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td></td>
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<td>X</td>
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<tr>
<td>b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Discussion

Scotts Valley has a total of seven parks, ranging in size from a half-acre to 7.5 acres. Recreational facilities are also available at local schools, the Scotts Valley Senior Center, and Scotts Valley Community Center. The proposed project would not require the construction of new or expanded recreational facilities and therefore there would be no impact. Additionally, standard conditions require the developer pay an in-lieu park fee.

Finding

No significant impacts to recreation and open space resources are expected. Thus, the thresholds of significance have not been exceeded. Payment of Park Impact fees would mitigate the incremental increase created by the project.

Transportation

<table>
<thead>
<tr>
<th>ENVIRONMENTAL IMPACTS Issues</th>
<th>Potentially Significant Issues</th>
<th>Potentially Significant Unless Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>Would the project:</td>
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<tr>
<td>a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td></td>
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<td>X</td>
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<tr>
<td>d) Result in inadequate emergency access?</td>
<td></td>
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</table>
Discussion

Conflict with City Policies or Programs, Increase Hazards, Impair Emergency Access
The project would involve the construction of a new 24 foot-wide private roadway that would provide access to six of the residential units. The design of the roadway would be consistent with City standards and subject to design review to ensure there is adequate emergency vehicle access. The frontage along Erba Lane would be improved with a sidewalk, curb and gutter landscaped buffer, and on-street parking; consistent with City standards. Therefore, there would be no impact.

Increase Vehicle Miles Travelled
Vehicle Miles Traveled (VMT) is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. Because the City of Scotts Valley has not formally adopted VMT significance criteria, this CEQA analysis uses guidance per the City of Scotts Valley’s VMT Implementation Guidelines (Kimley-Horn and Associates, July 2020).

The VMT Implementation include screening criteria to avoid unnecessary analysis and findings for non-significant transportation impacts. Small projects that generate less than 110 trips per day are exempt from VMT analysis. Project trip generation was estimated by applying the proposed type of development to the appropriate trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition (2012). The ITE estimated rate for single-family housing is 10.67 average daily trips per household (ITE Code 210). This would result in 106.7 trips per day for the project, which is less than the City’s VMT Implementation Guidelines and as such, the project is exempt from further VMT analysis.

Furthermore, because the project would not generate more than 50 peak hour trips, it is exempt from preparing a traffic impact analysis per the City’s Guide for the Preparation of Traffic Impact Studies (2003).

Findings
The project would not conflict with City policies or programs regarding the circulation system, including transit, roadway, bicycle and pedestrian facilities. The project would not cause a hazard nor impair emergency access. The project is considered a “small project” per the City VMT Implementation Guidelines and is exempt to further analysis. Therefore there would be no impacts to transportation and no mitigation is required.
Tribal Cultural Resources

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<thead>
<tr>
<th>ENVIRONMENTAL IMPACTS Issues</th>
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<tbody>
<tr>
<td>Would the project:</td>
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<tr>
<td>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, 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:</td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>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)?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>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?</td>
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<td>X</td>
</tr>
<tr>
<td>b) Cause a substantial adverse change in the significance of a tribal cultural</td>
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</table>
ENVIRONMENTAL IMPACTS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>resource, defined in Public Resources Code section 21074 as either a site, feature, place, 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</td>
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Discussion

Section 21080.3.1(b) of the California Public Resources Code (AB 52) requires a lead agency formally notify a California Native American tribe that is traditionally and culturally affiliated within the geographic area of the discretionary project when formally requested.

As of this writing, no California Native American tribes traditionally and culturally affiliated with the Santa Cruz County region have formally requested a consultation with the City of Scotts Valley (as Lead Agency under CEQA) regarding Tribal Cultural Resources. As a result, no Tribal Cultural Resources are known to occur in or near the project area.

Findings

No California Native American tribes traditionally and culturally affiliated with the Santa Cruz County region have formally requested a consultation with the City of Scotts Valley. Therefore, no impact to the significance of a Tribal Cultural Resource is anticipated and no mitigation is required.
Utilities and Service Systems

<table>
<thead>
<tr>
<th>ENVIRONMENTAL IMPACTS Issues</th>
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<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</thead>
<tbody>
<tr>
<td>Would the project:</td>
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<tr>
<td>a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?</td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td>b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</td>
<td></td>
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<td>X</td>
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</tbody>
</table>
Discussion

Water Treatment Facilities
The 10 proposed residential units would result in a daily water demand of 1,485 gallons per day or approximately two-acre feet per year (AFY). Therefore, the proposed residential use would cause only a minimal increase on the demand for water and wastewater service. The Scotts Valley Water District has reviewed the application and has determined that existing water resources would support the proposed development. Thus, impacts are be considered less than significant and no mitigation is required.

Wastewater Treatment Facilities
The Wastewater Department has reviewed the proposed development and has determined that the existing wastewater treatment facilities would support the proposed development. The project would not generate solid waste in excess of that typically generated by 10 residential units. Thus, impacts would be considered less than significant, and no mitigation is required.

Electric Power, Natural Gas, or Telecommunications
The project would require new connections to PG&E for electricity and natural gas. In addition, the project would require new telecommunication connections with the respective service providers. The project site is surrounded by commercial development to the south, and east and single-family residential to the west, which are serviced by various dry utility providers. Because these utilities would be readily extended from existing infrastructure adjacent to the project site, impacts from the project would be less than significant, and no mitigation is required.

Solid Waste
The project would generate approximately 122 pounds of daily solid waste. The 122 pounds of daily solid waste generated by the project would represent less than one percent of the daily permit capacities of Buena Vista and Monterey Peninsula landfills, respectively. Therefore, both landfills have adequate capacity. Thus, impacts would be considered less than significant, and no mitigation is required.

4 Daily Water Use Factor for High Density Residential is 55 (gallons per capita/day). (27 residents x 55 gallons/day) = 1,485 (gallons/day)
5 Daily Solid Waste Generation Rate for Residential Use is 12.23 pounds per day/unit (CalRecycle, 2019). (10 residential units x 12.23 pounds/day) = 122.3 pounds/day
6 The Buena Vista Sanitary Landfill is permitted to receive 838 tons of solid waste per day (CalRecycle, 2019). The Monterey Peninsula Landfill is permitted to receive 3,500 tons of solid waste per day.
Findings

Existing utilities and service systems are available to serve the project and no new facilities would be required to be constructed. Therefore, the project would have less than significant or no impacts associated to utilities and service systems, and no mitigation is required.

Wildfire

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Issues</td>
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<tr>
<td>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</td>
<td></td>
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</tr>
<tr>
<td>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>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?</td>
<td></td>
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<td>X</td>
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</table>
Discussion

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped the relative wildfire risk in areas of large population by intersecting residential housing density with proximate fire threat according to three risk levels, namely Moderate, High, and Very High. Wildfires are large-scale brush and grass fires in undeveloped areas. The project is within an urbanized area and not within a Very-High Fire Hazard Severity Zone as mapped by CALFIRE. Additionally, the project would incorporate all applicable fire safety code requirements, including fire protection devices in all residential units and appropriate fire-resistant landscaping on the project site, as required by the Scotts Valley Fire District, and therefore there would be no impact.

Findings

The project would not affect emergency response/evacuation plans, would not expose residents or structures to a wildfire risk, and would not exacerbate fire risk. Therefore, the project would have no impact to wildfires, and no mitigation is required.

Mandatory Findings of Significance

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Does the project:</td>
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<tr>
<td>a) 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?</td>
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## ENVIRONMENTAL IMPACTS

<table>
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<tbody>
<tr>
<td>b) Does the project have impacts that are individually limited, but cumulatively considerable? (&quot;Cumulatively considerable&quot; 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)?</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td></td>
<td></td>
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<td>X</td>
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</table>

### Discussion

As discussed in the individual sections, the project would not degrade the quality of the environment with the implementation of identified Standard Conditions of Approval and mitigation measures. As discussed in Biological Resources, mitigation measures MM BIO-1: Oak Riparian Woodland -Project Construction and MM BIO-2: Oak Riparian Woodland -Post Construction would reduce impacts to less than significant.

As described in the environmental resource sections of this Initial Study, the project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

The project would result in temporary air quality and noise impacts during construction. With the implementation of the identified Standard Conditions of Approval, and consistency with adopted City policies, construction impacts would be mitigated to a less than significant level. As described above, these impacts would be temporary and the project would not have cumulatively considerable impacts on air quality and noise impacts in the project area.

The project would have a less than significant impact or no impact on the remaining environmental resources and would not contribute to cumulative impacts to these resources. Therefore, the project would not cause a cumulatively considerable impact and no mitigation is required.
**Determination**

On the basis of this initial evaluation:

<table>
<thead>
<tr>
<th>Finding</th>
<th>Action</th>
</tr>
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<tbody>
<tr>
<td>I find that the project <strong>COULD NOT</strong> have a significant effect on the environment, and a <strong>NEGATIVE DECLARATION</strong> will be prepared.</td>
<td></td>
</tr>
<tr>
<td>I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A <strong>MITIGATED NEGATIVE DECLARATION</strong> will be prepared.</td>
<td>X</td>
</tr>
<tr>
<td>I find that the project <strong>MAY</strong> have a significant effect on the environment and an <strong>ENVIRONMENTAL IMPACT REPORT</strong> is required.</td>
<td></td>
</tr>
<tr>
<td>I find that the project <strong>MAY</strong> have a potentially significant or a potentially significant unless mitigated impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An <strong>ENVIRONMENTAL IMPACT REPORT</strong> is required, but it must analyze only the effects that remain to be addressed.</td>
<td></td>
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<tr>
<td>I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or <strong>NEGATIVE DECLARATION</strong> pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or <strong>NEGATIVE DECLARATION</strong>, including revisions or mitigation measures that are imposed upon the project, nothing further is required.</td>
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______________________________  _____________________________
Paula Bradley, MCP, AICP  Date
Contract Planner
**Figure 1: Regional Location**
Bay Village Planned Development Project
Figure 2: Project Vicinity
Bay Village Planned Development Project

Source: Nearmaps, 2021
Figure 3: Site Plan
Bay Village Planned Development Project

Source: Bowman & Williams, 2020
Figure 4: Proposed Project Rendering
Bay Village Planned Development Project

Source: Bowman & Williams, 2020
Figure 5: Proposed Street View
Bay Village Planned Development Project

Source: Bowman & Williams, 2020
Figure 6: Exterior Lighting Plan
Bay Village Planned Development Project

Source: Bowman & Williams, 2020
Figure 7: Grading Plan
Bay Village Planned Development Project
Figure 8: Vegetation Types
Bay Village Planned Development Project

Source: Biotic Resources Group, 2019
Figure 9: Oak Riparian Woodland Habitat
Bay Village Planned Development Project

Source: David B. Zulim Inc., 2019
Bay Village Planned Development Initial Study Reports

1. Biological Assessment, by Biotic Resources Group, dated 5/31/2019
2. Addendum to Biological Assessment, by Biotic Resources Group, dated 5/31/19
3. Arborists Report Tree Appraisal & Inventory, by Kurt Fouts, dated 11/30/2017
5. Appendix C - Tree Appraisal & Inventory, dated 4/29/20
7. Extended Phase I Archaeological Assessment, by Albion, dated 3/04/2020
ERBA LANE HOUSING PROJECT

Biological Assessment
ERBA LANE HOUSING PROJECT

Biological Assessment

Prepared for:

SV Housing LLC

Prepared by:

Biotic Resources Group
Kathleen Lyons

May 31, 2019
1.0 INTRODUCTION

This property is located on Erba Lane in the City of Scotts Valley. The site is located on the east side of Erba Lane, north of Scotts Valley Drive (Figure 1). The property encompasses approximately 0.76-acre and abuts an unnamed intermittent creek/drainage channel. The creek is located on an adjacent parcel owned by the City of Scotts valley; however, some riparian trees and riparian tree canopy extends onto the Erba Lane property. The property is currently undeveloped and the property owner has proposed a planned residential development consisting of 6 single-family homes and 3 duplex homes (total of 12 units) (Erba Lane Housing, Site Plan, David Zulim, Inc. dated 8-3-18).

The Biotic Resources Group assessed the biotic resources on the Erba Lane property and the creek area on the adjacent City-owned property in May 2019. This work supplements a previous biotic assessment conducted for the area in August 2005 (Erba Lane Project, Biological Assessment, Biotic Resources Group, dated October 2005). The focus of the 2019 assessment was to review and document sensitive biological resources and evaluate the potential impacts of the proposed residential project on such resources.

Specific tasks conducted for this study include:

- Characterize and map the major plant communities on the property;
- Identify sensitive biotic resources, including species of concern, and
- Evaluate the potential effects of the proposed land uses on sensitive botanical resources and recommend measures to avoid or reduce such impacts.

1.1 Intended Use of this Report

The findings presented in this report are intended for the sole use of the SV Housing LLC and the City of Scotts Valley in evaluating proposed residential land uses on the subject parcel. The findings presented by the Biotic Resources Group in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or City laws or ordinances pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

2.0 ENVIRONMENTAL SETTING

2.1 Methodology

The biological resources of the Erba Lane property and the creek area on the adjacent City-owned property were assessed through literature review and field observations. The site was surveyed on May 27, 2019. The major plant communities within the project area, based on the classification system developed by California Terrestrial Natural Communities (California Department of Fish and Game, 2003 and 2007) and A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) and as amended to reflect site conditions, were identified during the field surveys. Modifications to the classification system’s nomenclature were made, as necessary, to accurately describe the site’s resources. The plant communities were mapped onto the engineer’s base map (Figure 2). All plant species observed were recorded and identified to a level sufficient to determine their rarity; all species observed at listed in the narrative section of this report. Plant nomenclature follows The Jepson Manual (2012); the Annotated Checklist of the Vascular Plants of Santa Cruz County, California (CNPS, 2013) was also reviewed.
The vegetation types were documented and recorded in a field notebook. To assess the potential occurrence of special status biological resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory (2019), and California Department of Fish & Wildlife (CDFW) RareFind database (CDFW, 2019) for the Felton U.S.G.S. quadrangle and surrounding quadrangles.

This report summarizes the findings of the biological assessment. The potential impacts of the proposed development (i.e., establishment of residential land use on the Erba Lane property) on sensitive resources are discussed below. Measures to reduce significant impacts to biological resources to a level of less-than-significant are recommended, as applicable.

2.2 ENVIRONMENTAL SETTING

2.2.1 Geographic Setting
The Erba Lane property is located on Erba Lane, a public street reached from Scotts Valley Drive. The site is located approximately 0.5 mile east of the intersection of Scotts Valley Drive and Mt. Hermon Road within the City of Scotts Valley (see Figure 1). The property is located near an unnamed creek; the creek centerline is located between 15 and 40 feet from the Erba Lane property line. The creek flows in a northwest to southeast direction, travels under Scotts Valley Drive, then flows into Carbonera Creek. The creek had surface flow at the time of the May 2019 site visit. Carbonera Creek is a perennial waterway which empties into Branciforte Creek and then into the San Lorenzo River before entering Monterey Bay in the City of Santa Cruz. Urban residences, commercial business and public facilities (e.g., fire station, City Hall, police station) are located adjacent to the subject property.

2.2.2 Vegetation and Wildlife Habitats
Two plant communities occur on the Erba Lane property. Coast live oak riparian woodland grows along the eastern property line and this woodland extends further eastward along the creek corridor on the City of Scotts Valley property. Small areas of annual grassland occur outward of the riparian woodland. The western portion of the property is a paved (asphalt) parking area. The distribution of the plant communities on the property is depicted on Figure 2. The distribution of vegetation types in 2019 is similar to conditions documented in 2005.

The majority of property is mapped as Soquel loam, 2 to 9 percent slope (171) (Soil Survey of Santa Cruz County, USDA NRCS Web Soil Survey, 2019). This soil type corresponds to areas shown as grassland and wooded areas in the 1974 soil survey aerial photo. A small area of Zayante coarse sand, 5-30 percent slopes (182) is mapped along the western property line in an area that is currently paved.

Coast Live Oak Riparian Woodland
Coast live oak riparian woodland occurs along the eastern property line. The woodland is closely associated with the creek, with many trees rooted on the slope and along the top-of-bank.
Figure 1: Location of Project on USGS Quadrangle (Felton quadrangle)
Figure 2: Distribution of Vegetation Types on Proposed Site Plan
Mature trees of coast live oak (*Quercus agrifolia*) dominant the woodland, with their canopies extending outward from top-of-bank. According to the arborists report (Kurt Fouts, November 2017), 14 oak trees grow on the Erba Lane property; 26 oak trees are rooted on the adjacent City-owned property. Figure 3 shows the character of the woodland on the Erba Lane property.

![Figure 3: Character of Oak Riparian Woodland on Erba Lane Property](image)

The riparian woodland on the City property also supports willows (*Salix sp.*), which grow along the wetted channel. Within the woodland, native and non-native plant species are present, including California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), curly dock (*Rumex crispus*), velvet grass (*Holcus lanatus*), French broom (*Genista monspessulana*), sword fern (*Polystichum munitum*), and young willows. Figure 4 shows the character of the woodland on the Erba Lane property.

![Figure 4: Character of Oak Riparian Woodland on City-owned Property](image)

Beneath the oak canopy on the Erba Lane property, the understory is comprised of non-native annual grasses and forbs, such as rattlesnake grass (*Briza maxima*), wild oat (*Avena sp.*), dogtail grass (*Cynosurus*...
Echinatus), wild lettuce (Sonchus asper), Mediterranean clover (Trifolium angustifolium), and foxtail (Hordeum leporinum). Native California blackberry is also present.

In general, oak woodlands provide a high value habitat type for wildlife because acorns are important forage, the natural cavities in the oaks provide nesting opportunities for some birds and mammals, and downed decaying logs and limbs add to structural complexity of a moist microclimate and invertebrate food supply. The value of the oak riparian woodland to wildlife at this site is enhanced by the presence of water in the creek, which provides seasonal water sources for wildlife. Common wildlife expected to occur in this small patch of oak woodland include scrub jay (Aphelocoma coerulescens), acorn woodpecker (Melanerpes formicivorus), oak titmouse (Baeolophus inornatus), chestnut-backed chickadee (Poecile rufescens), bushtit (Psaltriparus minimus), spotted towhee (Pipilo maculatus), and western gray squirrel (Sciurus griseus).

Non-Native Grassland
Non-native grasses and forbs dominate the southeast portion of the Erba Lane property, abutting the existing paved area. Evidence of previous fill/base rock materials was observed, suggesting previous disturbances to this area. Plant species are typical of such areas, with wild radish (Raphanus sativa), wild oat, Bermuda grass (Cynodon dactylon), velvet grass, black mustard (Brassica nigra), English plantain (Plantago lanceolata), soft chess (Bromus hordeaceus), filaree (Erodium botrys), and rose clover (Trifolium repens) being common. Native plant species in this area are limited to California poppy (Eschscholzia californica) and telegraph weed (Heterotheca grandiflora).

The use by wildlife of the grassland area is expected to include common species, such as mourning dove (Zenaida macroura), California towhee (Pipilo crissalis), white-crowned sparrow (Zonotrichia leucophrys), and house finch (Carpodacus mexicanus). Western fence lizard (Sceloporus occidentalis), gopher snake (Pituophis melanoleucus), and Botta’s pocket gopher (Thomomys bottae) are also likely to occur in the grass habitat at this site.

2.3 SENSITIVE BIOTIC RESOURCES

2.3.1 Regulated Habitats
The project area is located along an unnamed creek. The USGS map (Felton quadrangle) does not identify a stream at this location; however, the field inspection documented a defined bed and bank and evidence of seasonal water flow at the site.

California Department of Fish and Wildlife (CDFW) is a trustee agency that has jurisdiction under Section 1600 et seq. of the CDFW Code. Under Sections 1600-1603 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW also regulates alterations to ponds and impoundments. CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. The proposed project is located within CDFW’s regulatory jurisdiction, as a portion of the proposed residential development is located within the dripline of the oak riparian woodland and on the creek bank. Alteration of riparian vegetation on the Erba Lane property and the adjacent City property to accommodate the residential development as well as construction of a new pathway to the creek will occur within CDFW’s jurisdiction and may be subject to a Streambed Alteration Agreement with this agency (pending confirmation by this agency).
Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board’s basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank (and riparian vegetation if it extends outward from the top-of-bank), as well as isolated water/wetland features and saline waters. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction), a report of waste discharge (ROWD) is filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies. The proposed project is located within RWQCB’s regulatory jurisdiction, as a portion of the proposed residential development is located within the dripline of the oak riparian woodland and on the creek bank. Alteration of riparian vegetation on the Erba Lane property and the adjacent City property to accommodate the residential development as well as construction of a new pathway (a portion on City property) to the creek will occur within RWQCB’s jurisdiction and may be subject to a water quality certification with this agency (pending confirmation by this agency). The RWQCB also has guidelines for habitat compensation for permanent and temporary impacts to creek and riparian zones and has established tree replacement ratios based on the species and diameter of the tree removed.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (OHWM) (freshwater areas). The proposed pathway to the creek may enter the USACE’s jurisdiction if pathway/bridge construction occurs below the OHWM of the creek. In May 2019, the OHWM was estimated to be 6 inches above the thalweg. The channel bed averages 2 feet wide.

2.3.2 Sensitive Habitats
Sensitive habitats are defined by local, State, or Federal agencies as habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity.

CDFW classifies and ranks the State’s natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFW, 2007 and 2010). The oak-willow riparian woodland (CaCode 71.060.47) is ranked S4, yet some associations are of high priority (CDFW, 2010).

The City of Scotts Valley Zoning Code contains several references to streams and drainage courses. Section 17 requires structures to be located outside a 25-foot creek setback (measured outward from the top-of-bank). This review found the top of bank to be the break in slope from the flat terrace to the creek. Most of
the oak trees are rooted at or just below this top-of-bank location, with the tree canopies extending into, and in some cases beyond, this 25-foot setback.

City Zoning Code 15.06 also addresses drainage facilities, requiring disturbances to natural drainageways be kept to a minimum and existing drainage courses shall not be obstructed or obliterated without mitigating measures installed that have been approved by the building official. Grading equipment is not to disturb or cross flowing streams unless absolutely necessary and only with prior approval from the building official. The code also states no construction materials or construction byproducts shall be discarded in any drainageway or riparian zone. All streams, floodplains, channels, bodies of standing water, or other riparian areas shall be identified and delineated on the development plans and vegetative removal, land disturbances, or other development activities shall be conducted at a time, and in a manner that will provide and maintain an undisturbed vegetative filter strip. The code also states if it is determined that certain development activities in or near the riparian zones would be detrimental, those activities may be prohibited.

In addition, the City typically requires tree replacement plantings if tree removal is unavoidable. Please refer to the arborist’s report on the existing trees and the City’s requirements for tree replacement.

In 2001, the California Oak Woodland Conservation Act was passed. This act formally recognizes the role of oak woodlands as wildlife habitat, erosion control, and sustaining water quality. The Act encourages voluntary, long-term private stewardship and conservation of oak woodland by landowners and provides financial incentives, through the Wildlife Conservation Board (WCB), to protect and promote biologically functional oak woodlands (Sierra Foothill Research & Extension Center, 2004). The WCB is authorized to award cost-share incentives to private landowners who enter into long term agreement to implement management practices that benefit oak woodlands. Funds can be used for the purchase of easements, restoration activities or enhancement projects. In a related action, effective January 2005, the State amended CEQA with the addition of Public Resources Code 21083.4. This code requires that counties consider the significance of oak woodland conversions under CEQA and adopt an oak woodland management plan pursuant to the Oak Woodlands Conservation Act that contains measures to minimize impacts to oak woodlands along riparian zones, near wetlands and those that contain snags or other features used by wildlife. If significant impacts are determined under CEQA, mitigation alternatives may include conserving oaks through the use of conservation easements (2:1 ratio, conserved to impacted), restoration of former oak woodland area (2:1 ratio), contribution to the Oak Conservation Fund established under CDFW, or other mitigation measures developed by the county. If a planting program is implemented, replanting shall be at a 3:1 ratio (tree replacement) with requirements for planting maintenance and monitoring for seven years.

2.3.3 Special Status Plant Species
Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS (List 1B). The search of the CNPS and CNDDB inventories identified the special status plant species with potential to occur in the project area. No special status plant species have been recorded in the CNDDB as occurring within the immediate project area. All species evaluated for potential occurrence within the proposed project area as per CNDDB and CNPS records (Felton quadrangle and surrounding quadrangles) are listed on Table 1.

The May 2019 survey was conducted during the blooming/identification period for many plant species, including the identification period for spineflower species (Chorizanthe ssp.), Santa Cruz tarplant (Holocarpha macradenia), and Scotts Valley polygonum (Polygonum hickmanii). Due to the habitat conditions on the site the potential for the occurrence of other special status plant species is considered very
This is due to the lack of ponderosa pine forest (on site or in the immediate vicinity), manzanita chaparral, native grassland and/or rocky outcrops. No special status plant species were observed in the project area and none are expected.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bent-flowered fiddleneck</td>
<td>Amsinckia lunaris</td>
<td>CNPS List 1B.2</td>
<td>Grassland, scrub</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Santa Cruz manzanita</td>
<td>Arctostaphylos andersonii</td>
<td>CNPS List 1B.2</td>
<td>Broadleaf upland forest, chaparral, coniferous forests; open sites</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Hooker’s manzanita</td>
<td>Arctostaphylos hookeri ssp. hookeri</td>
<td>CNPS List 1B.2</td>
<td>Broadleaf upland forest, chaparral, coniferous forests; open sites</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Pajaro manzanita</td>
<td>Arctostaphylos pajaroensis</td>
<td>CNPS List 1B.1</td>
<td>Broadleaf upland forest, chaparral, open sites</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Bonny Doon manzanita</td>
<td>Arctostaphylos silvicola</td>
<td>CNPS List 1B.2</td>
<td>Chaparral, closed cone coniferous forests; restricted to Zayante sands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Marsh sandwort</td>
<td>Arenaria paludicola</td>
<td>CE FE CNPS List 1B.1</td>
<td>Marshes and swamps</td>
<td>A</td>
<td>Site lacks suitable habitat.</td>
</tr>
<tr>
<td>Santa Cruz Mtns. pussypaws</td>
<td>Calyptridium parryi var. hesseae</td>
<td>CNPS List 1B.1</td>
<td>Zayante Sandhills chaparral and pine forest</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Swamp harebell</td>
<td>Campanula californica</td>
<td>CNPS List 1B.2</td>
<td>Bogs and marshes</td>
<td>A</td>
<td>Creek lacks suitable habitat.</td>
</tr>
<tr>
<td>Deceiving sedge</td>
<td>Carex saliniformis</td>
<td>CNPS List 1B.2</td>
<td>Mesic sites in coastal prairie</td>
<td>A</td>
<td>Site lacks suitable habitat.</td>
</tr>
<tr>
<td>Congdon’s tarplant</td>
<td>Centromadia parryi ssp. condonii</td>
<td>CNPS List 1B.1</td>
<td>Grassland, moist areas</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Ben Lomond spineflower</td>
<td>Chorizanthe pungens var. hartwegiana</td>
<td>FE CNPS List 1B.1</td>
<td>Ponderosa pine and maritime chaparral within Zayante sands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Monterey spineflower</td>
<td>Chorizanthe pungens var. pungens</td>
<td>FT CNPS List 1B.2</td>
<td>Oak woodland, chaparral, scrub; sandy substrate</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Scotts Valley spineflower</td>
<td>Chorizanthe robusta var. hartwegii</td>
<td>FE CNPS List 1B.1</td>
<td>Grasslands with mudstone and sandstone outcrops</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/Absent</td>
<td>Rationale</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Robust spineflower</td>
<td>Chorizanthe robusta var. robusta</td>
<td>FE CNPS List 1B.1</td>
<td>Coastal dunes, grassland, and scrub with loose sandy soils</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Mt. Hamilton thistle</td>
<td>Cirsium fontinale var. campyon</td>
<td>CNPS List 1B.1</td>
<td>Serpentine seeps, moist grassland</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>San Francisco collinsia</td>
<td>Collinsia multicolor</td>
<td>CNPS List 1B.2</td>
<td>Moist shady woodland</td>
<td>A</td>
<td>Site lacks suitable microhabitat.</td>
</tr>
<tr>
<td>Tear drop moss</td>
<td>Dacryophyllum falcifolium</td>
<td>CNPS List 1B.3</td>
<td>Redwood forest on limestone outcrops</td>
<td>A</td>
<td>Site lacks suitable microhabitat; no suitable outcrop conditions in area</td>
</tr>
<tr>
<td>Santa Clara dudleya</td>
<td>Dudley abramsii ssp. setchellii</td>
<td>FE CNPS List 1B.1</td>
<td>Serpentine outcrops</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Ben Lomond buckwheat</td>
<td>Eriogonum nudum var. decurrens</td>
<td>CNPS List 1B.1</td>
<td>Ponderosa pine woodland, sandhills</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Sand loving wallflower</td>
<td>Erysimum ammophilum</td>
<td>CNPS List 1B.2</td>
<td>Openings in chaparral, sand dunes; sand substrate</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Santa Cruz wallflower</td>
<td>Erysimum teretifolium</td>
<td>FE CNPS List 1B.1</td>
<td>Openings in chaparral, ponderosa pine forest; Zayante sands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Minute pocket moss</td>
<td>Fissidens pauperculus</td>
<td>CNPS List 1B.2</td>
<td>Redwood forest on limestone outcrops</td>
<td>A</td>
<td>Site lacks suitable microhabitat; no suitable outcrops.</td>
</tr>
<tr>
<td>Fragrant fritillary</td>
<td>Fritillaria lilacea</td>
<td>CNPS List 1B.2</td>
<td>Ultramafic talus in chaparral and foothill woodland</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Monterey gilia</td>
<td>Gilia tenuiflora ssp. arenaria</td>
<td>FE CNPS List 1B.2</td>
<td>Openings in chaparral, sand dunes; sand substrate</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Santa Cruz cypress</td>
<td>Hesperocyparis abramsiana var. abramsiana</td>
<td>FE CNPS List 1B.2</td>
<td>Coniferous forest and chaparral on sandstone and granitic derived soils</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Loma Prieta hoita</td>
<td>Hoita strobilina</td>
<td>CNPS List 1B.1</td>
<td>Chaparral, cismontane woodland, riparian woodland with serpentine soils and mesic</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
</tbody>
</table>
## Table 1. Special Status Plant Species and Their Predicted Occurrence Within the Erba Lane Housing Project Area, May 2019

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Cruz tarplant</td>
<td>Holocarpha macradenia</td>
<td>FT CE CNPS List 1B.1</td>
<td>Coastal prairie and grasslands with sandy soil types</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Kellogg’s horkelia</td>
<td>Horkelia cuneata ssp. sericea</td>
<td>CNPS List 1B.1</td>
<td>Openings on old dunes and coastal sandhills</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Point Reyes horkelia</td>
<td>Horkelia marinensis</td>
<td>CNPS List 1B.2</td>
<td>Coastal dunes, prairies, scrub</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Smooth lessingia</td>
<td>Lessingia micradenia var. glabrata</td>
<td>CNPS List 1B.2</td>
<td>Serpentine soils in chaparral and grasslands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Indian Valley bush-mallow</td>
<td>Malacothamnus aboriginum</td>
<td>CNPS List 1B.2</td>
<td>Riparian scrub, chaparral, woodland</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Arcuate bush-mallow</td>
<td>Malacothamnus arcuatus</td>
<td>CNPS List 1B.2</td>
<td>Serpentine chaparral</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Halls bush-mallow</td>
<td>Malacothamnus hallii</td>
<td>CNPS List 1B.2</td>
<td>Riparian scrub, chaparral, woodland</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Marsh microseris</td>
<td>Microseris paludosa</td>
<td>CNPS List 1B.2</td>
<td>Coastal grassy habitats (mesic)</td>
<td>A</td>
<td>No suitable habitat on site.</td>
</tr>
<tr>
<td>Northern curly-leaved monardella</td>
<td>Monardella sinae ssp. nigrescens</td>
<td>CNPS List 1B.2</td>
<td>Openings in chaparral, ponderosa pine forest; Zayante sands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Woodland woolythreads</td>
<td>Monolopia gracilens</td>
<td>CNPS List 1B.2</td>
<td>Openings in redwood and mixed evergreen forests</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Dudley’s lousewort</td>
<td>Pedicularis dudleyi</td>
<td>CR CE CNPS List 1B.2</td>
<td>Redwood forest, moist areas near streams</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Santa Cruz Mountains beardtongue</td>
<td>Penstemon rattanii var. kleei</td>
<td>CNPS List 1B.2</td>
<td>Sandy shale slopes in chaparral, coniferous forests</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>White-rayed pentachaeta</td>
<td>Pentachaeta bellidiflora</td>
<td>FE CE CNPS List 1B.1</td>
<td>Valley and foothill grassland, open dry rocky slopes, often on serpentine bedrock</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>White-flowered rein</td>
<td>Piperia candida</td>
<td>CNPS List 1B.2</td>
<td>North coast coniferous forest,</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
</tbody>
</table>
Table 1. Special Status Plant Species and Their Predicted Occurrence Within the Erba Lane Housing Project Area, May 2019

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>orchid</td>
<td>Plagiobothrys chorisianus var. chorisianus</td>
<td>CNPS List 1B.2</td>
<td>Lower montane coniferous forest, broadleaved upland forest, on serpentine, mossy banks, rock outcrops</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Choris’ popcorn-flower</td>
<td>Plagiobothrys chorisianus</td>
<td>CE</td>
<td>Chaparral, coastal scrub, coastal prairie (mesic areas)</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>San Francisco popcorn-flower</td>
<td>Plagiobothrys diffusus</td>
<td>CNPS List 1B.1</td>
<td>Grassland, coastal prairie (mesic areas)</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Hairless popcorn-flower</td>
<td>Plagiobothrys globar</td>
<td>CNPS List 1A</td>
<td>Grassland, coastal prairie (mesic areas)</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Scotts Valley polygonum</td>
<td>Polygonum hickmani</td>
<td>FE</td>
<td>Grassland with sandstone or mudstone outcrops</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Pine rose</td>
<td>Rosa pinetorum</td>
<td>CNPS List 1B.2</td>
<td>Closed cone (pine) coniferous forest</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>San Francisco campion</td>
<td>Silene verecunda ssp. verecunda</td>
<td>CNPS List 1B.2</td>
<td>Sand hills and rocky soils in coastal prairie and scrub</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Metcalf Canyon jewelflower</td>
<td>Streptanthus albidis ssp. albidus</td>
<td>FE</td>
<td>Serpentine soils in chaparral and grasslands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Most beautiful jewelflower</td>
<td>Streptanthus albidis ssp. peramerous</td>
<td>CNPS List 1B.2</td>
<td>Serpentine soils in chaparral and grasslands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
<tr>
<td>Santa Cruz clover</td>
<td>Trifolium buckwestiorum</td>
<td>CNPS List 1B.1</td>
<td>Moist grasslands</td>
<td>A</td>
<td>Area lacks suitable habitat; not observed.</td>
</tr>
</tbody>
</table>

Absent [A] - No habitat present and no further work needed.
Habitat Present [HP] - Habitat is, or may be present. The species may be present.
Present [P] - Species is present
Critical Habitat [CH] - Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Status:
- Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); Federal Species of Concern (FSC); California State Endangered (CE); California State Threatened (CT); California Native Plant Society (CNPS)

2.3.3 Special Status Wildlife Species
Special status wildlife species include those listed by either the Federal or State resource agencies as well
as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Game Code, and migratory birds are protected by the Migratory Bird Treaty Act. One special status wildlife species may occur on site: San Francisco dusky-footed woodrat. Table 2 below lists special status wildlife species that are known from the general vicinity of Scotts Valley, and a brief explanation of why they are not expected to occur on site. In 2005 the property was evaluated by Dr. Richard Arnold for Mt. Hermon June beetle and Zayante band-winged grasshopper, and that study found that suitable habitat for these insects was absent on the property. Site conditions remain the same in 2019.

Table 2. Special Status Wildlife Species and Their Predicted Occurrence Within the Erba Lane Housing Project Area, May 2019.

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>STATUS1</th>
<th>HABITAT</th>
<th>POTENTIAL OCCURRENCE ON SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invertebrates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohlone tiger beetle <em>Cicindela ohlone</em></td>
<td>FE</td>
<td>Coastal terrace prairie with sparse vegetation and openings, Watsonville loam soils</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>Mt. Hermon June beetle <em>Polyphylla barbata</em></td>
<td>FE</td>
<td>Chaparral and ponderosa pine with Zayante sandy soils</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>Zayante band-winged grasshopper <em>Trimerotropis infantilis</em></td>
<td>FE</td>
<td>Openings in sand hills parkland habitat with Zayante sandy soils</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>Smith’s blue butterfly <em>Euphilotes enoptes smithi</em></td>
<td>FE</td>
<td>Coastal dunes and coastal sage scrub with buckwheat plants</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>Fish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coho salmon <em>Oncorhynchus kisutch</em></td>
<td>FE, SE</td>
<td>Perennial creeks and rivers with gravels for spawning</td>
<td>No suitable habitat in project area.</td>
</tr>
<tr>
<td>Steelhead <em>Oncorhynchus mykiss</em></td>
<td>FT</td>
<td>Perennial creeks and rivers with gravels for spawning</td>
<td>No suitable habitat in project area.</td>
</tr>
<tr>
<td>Amphibians</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santa Cruz black salamander <em>Aenides flavipunctatus niger</em></td>
<td>CSC</td>
<td>Mesic forests of fog belt; terrestrial, lives under logs, rocks, etc.</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>California giant salamander <em>Dicamptodon ensatus</em></td>
<td>CSC</td>
<td>Wet coastal forests near streams and seeps; breed in streams</td>
<td>None, small creek not suitable habitat.</td>
</tr>
<tr>
<td>California red-legged frog <em>Rana draytonii</em></td>
<td>FT, CSC</td>
<td>Riparian, marshes, estuaries and ponds with still water at least into June.</td>
<td>None, small creek not suitable habitat.</td>
</tr>
<tr>
<td>Foothill yellow-legged frog <em>Rana boylii</em></td>
<td>CSC</td>
<td>Creeks and rivers with cobble substrate</td>
<td>None, small creek not suitable habitat.</td>
</tr>
<tr>
<td>Reptiles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western pond turtle <em>Emys marmorata</em></td>
<td>CSC</td>
<td>Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting.</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osprey <em>Pandion haliaetus</em></td>
<td>None</td>
<td>Nests in tall trees adjacent to reservoirs and rivers</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>White-tailed kite <em>Elanus leucurus</em></td>
<td>FP</td>
<td>Nests in tall riparian trees adjacent to open lands for foraging</td>
<td>None, no suitable habitat on site.</td>
</tr>
<tr>
<td>Mammals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pallid bat <em>Antrozous pallidus</em></td>
<td>CSC</td>
<td>Roosts in caves, hollow trees, mines, buildings, bridges, rock</td>
<td>No suitable tree hollows in oaks on site were observed</td>
</tr>
</tbody>
</table>
Table 2. Special Status Wildlife Species and Their Predicted Occurrence Within the Erba Lane Housing Project Area, May 2019.

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>STATUS</th>
<th>HABITAT</th>
<th>POTENTIAL OCCURRENCE ON SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Cruz kangaroo rat <em>Dipodomys venustus</em></td>
<td>None</td>
<td>Manzanita chaparral with sandy soils</td>
<td>None. No suitable habitat on site.</td>
</tr>
<tr>
<td>San Francisco dusky-footed woodrat <em>Neotoma fuscipes annectens</em></td>
<td>CSC</td>
<td>Woodlands including oaks, willow riparian, Eucalyptus</td>
<td>None observed within project area; yet possible in riparian woodland</td>
</tr>
<tr>
<td>American badger <em>Taxidea taxus</em></td>
<td>CSC</td>
<td>Grasslands with friable soils</td>
<td>None, no suitable habitat on site.</td>
</tr>
</tbody>
</table>

1 Key to status: FE=Federally listed as endangered species; FT=Federally listed as threatened species; SE=State listed endangered; FP=Fully protected species by State; CSC=California species of special concern

3.0 IMPACT AND MITIGATION DISCUSSION

3.1 IMPACT CRITERIA

The thresholds of significance presented in the CEQA Guidelines, updated December 2018, were used to evaluate project impacts and to determine if implementation of the proposed Project would pose significant impacts to botanical resources. For this analysis, significant impacts are those that substantially affect, either directly or through habitat modifications:

a) A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
b) Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
c) State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat conservation plan.

3.2 ENVIRONMENTAL IMPACTS OF THE PROJECT

The proposed residential development was evaluated as to potential direct and indirect impacts to sensitive biological resources. Examples of direct impacts are the removal of oak trees for construction of housing and associated lot development, and pathway construction in the riparian corridor. Examples of indirect impacts include potential disturbance to the oak riparian woodland and wildlife utilization of these areas from increased human uses on the property (e.g., residential uses, landscaping, lighting, pathway uses).

Measures are recommended to reduce impacts to biological resources from the proposed residential development, including measures to compensate for impacts to sensitive habitats (i.e., oak riparian woodland) and to reduce the potential spread of invasive, non-native plant species into sensitive habitat.
The proposed project identifies construction of 12 homes, with vehicular access from Erba Lane. A new pathway is proposed from Erba Lane to the creek and to the City property on the east side of the creek. An open split rail fence is proposed at the rear of the homes, abutting the creek. These proposed construction activities will occur within the dripline of the riparian woodland, requiring removal of 22 oak trees within the riparian woodland. Pathway construction will also require vegetation removal within the riparian woodland. If a creek crossing is needed, the crossing may be placed will occur within the limits of the OHWM of the creek. The Site Plan does not depict any new stormwater features (drainage outlets) into the creek.

The Arborist Report identifies the removal of all 14 oak trees on the Era Lane property and the removal of 8 oak trees on the City property. Removal of these trees will remove approximately 13,000 square feet of riparian woodland tree canopy.

3.2.1 Special Status Species (federal and non-federal)
The only special status wildlife species that may occur within or immediately adjacent to the project work area is the San Francisco dusky-footed woodrat. The woodrats may be present in above-ground stick nests. Nesting birds may also be present. Measures are given below to avoid impacts to woodrats and nesting birds. No other special status wildlife species occur within the project area.

3.2.2 Sensitive Natural Communities
The project is located along an unnamed creek, which supports oak riparian woodland, a sensitive habitat. On the Erba Lane property, the proposed project would remove all of the oak trees (14 oaks) from the woodland. Mature oaks are also present on the City property, wherein 8 oak trees are proposed for removal. Woody understory vegetation is also present on the City property; some of this vegetation would be disturbed during tree removal. Pathway construction will also affect riparian woodland. Table 3 outlines the temporary and permanent impacts from project actions, including impacts to sensitive habitats (riparian corridor).

3.2.3 State and Federal Regulated Waterways and Federal Wetlands
Residential development will occur in regulated waterways, as work will require the removal of vegetation on the streambank and along the top of bank of the creek, within regulated areas by CDFW and RWQCB, pending confirmation by regulating agencies. Pathway work may occur within the flow line (below OHWM) of the intermittent creek within regulated areas by USACE, CDFW and RWQCB. Table 3 outlines the components of the project and where permanent and temporary impacts will occur in the streambed (below OHWM) and within the riparian zone (above OHWM). Pathway work may affect federally designated wetlands, depending upon site design.

3.2.4 Wildlife Corridors and Nursery Sites
The proposed residential project will remove 22 mature (greater than 4-inch diameter) oak trees, that encompass approximately 13,000 square feet of woodland canopy. Nesting birds may occur in or adjacent to the project work area. Because most nesting birds are protected by the Migratory Bird Treaty Act, measures are listed below to avoid potential impacts if any active bird nests are present during vegetation removal.

3.2.5 Conflict with Local Policies
The project will be located within the riparian corridor of a creek, an area regulated by the City of Scotts Valley Zoning Codes. Work within the corridor and the City’s creek setback areas will require...
approval from the City. The proposed project may conflict with City Zoning code in that development will be allowed within a riparian woodland, pending confirmation by the City.

3.2.6 Conflict with HCP or NCCP, or Other Conservation Plan
The project has a small area of Zayante sands soil, as per the soil survey; however, the area is covered in pavement. The property is not located in an area subject to the Interim Programmatic HCP for the Zayante sandhills (Mt. Hermon June Beetle and Ben Lomond Spineflower) The property is located east of the Scotts Valley West Parcels, as outlined in the IPHCP.

3.2 RECOMMENDED MEASURES
The following measures are recommended to avoid or mitigate potentially significant impacts to vegetation and wildlife, to a less-than significant level:

Recommendation BIO-1. The following measures are recommended to reduce impacts to the riparian woodland to a less-than significant level.

1.1 To preserve the value of the oak riparian woodland habitat for biological resources, the project design should be revised such that development activities on the Erba Lane property are located outside the dripline of the riparian trees. There should be a minimum setback of 25-feet from the retained riparian woodland dripline and residential development. The setback area should be landscaped with plant materials that are native to the local riparian woodland. Structures, including grading and rear/backyard spaces and fences should be located outside of the riparian woodland dripline and 25-foot setback area.

1.2 If the project cannot be redesigned to avoid direct impacts to the riparian woodland and riparian trees are proposed to be removed for the project, the applicant shall confer with State regulatory agencies regarding permit requirements. In addition, the applicant should confer with the City on the establishment of a setback areas between the retained woodland and the proposed development. There should be a minimum setback of 25-feet from the retained riparian woodland dripline and residential development. The setback area should be landscaped with plant materials that are native to the local riparian woodland. To compensate for direct impacts to the woodland, a riparian woodland mitigation program should be developed and implemented, wherein permanent impacts are compensated at a minimum 2:1 ratio (i.e., two square feet replanted for each square foot removed) and temporary impacts are replaced at a 1:1 ratio. Based on the current site plan, approximately 13,000 square feet (0.31 acre) of riparian woodland vegetation will be permanently impacted to accommodate the proposed project. To meet the 2:1 compensation ration, an area of 0.62 acre would be needed for mitigation. Within the mitigation area revegetation of riparian woodland would be implemented, including tree replacement. Tree replacement ratios shall follow guidelines developed by the City or by the RWQCB, whichever is greater.

Recommendation BIO-2. The following measures are recommended to reduce construction-period impacts to the riparian woodland to a less-than significant level.

2.1 The outer edge of the riparian setback area should be demarcated by the placement of 6-foot high plastic construction fencing (during the construction period) and a permanent 6-foot high fence (after construction). The fence could have an opening to allow access to the existing pathway that crosses the intermittent drainage channel. Fencing should be placed along the outside edge of the dripline of the tree or grove of trees. The construction fencing shall be maintained in a functional
manner throughout the site construction period and should be inspected periodically by the contractor and City of Scotts Valley personnel for damage and proper functioning. No equipment staging, vehicle parking or other activities should occur within the protected riparian area.

2.2 To minimize sediments entering the intermittent creek, the project should implement best management practices, including
- Conduct construction activities within 20 feet of the riparian woodland during the dry season;
- Incorporate measures to filter and entrap pollutants prior to their discharge into the creek or other downstream drainage features that lead to Carbonera Creek.
- Stabilize disturbed soils to minimize erosion and sediment input to the creek;
- Implement erosion control measures to prevent sediment from entering the creek channel, including the use of silt fencing or fiber rolls to trap sediments;
- Conduct erosion control seeding of all disturbed areas as soon as practicable after disturbance following construction;
- Monitor the effectiveness of the erosion control measures during the first year’s rainy season and implement remedial measures (e.g., reseeding, repair of silt fencing) if sedimentation or erosion is noted.

2.3 Occurrences of invasive, non-native plant species (i.e., French broom, bull thistle) should be removed from the riparian woodland prior to project completion.

**Recommendation BIO-3.** The following measures are recommended to reduce post-construction-period impacts to the riparian woodland to a less-than significant level.

3.1 All lighting features shall be directed away from the oak riparian woodland, such that the woodland is not illuminated. Homeowners/tenants shall not be allowed to install night lighting that illuminates the riparian woodland.

3.2 Future landowners/tenants shall not utilize invasive, non-native plant species for landscaping. Plant species that should not be used on the property include all plants recognized as exotic pest plants by Cal-IPC (see *Exotic Pest Plants of Greatest Ecological Concern in California*, www.cal-ipc.org). This list includes: all brooms (i.e., French broom, Spanish broom and Scotch broom), periwinkle (*Vinca* sp.), Cape (or German) ivy, English ivy, Algerian ivy, acacia (all kinds), eucalyptus (all kinds), all pines, cotoneaster, and pyracantha. If evidence of the fungus responsible for Sudden Oak Death (*Phytophthora* sp.) is detected on the property, the homeowners shall implement measures to prevent/control the spread of this fungus both on and off-site. The homeowners shall be responsible for implementing the most current disease-preventing measures for the use, storage and/or transporting of oak firewood as a means of minimizing the spread of the disease within the City, the County and the State of California. Preventative and treatment measures should also be implemented as recommended. Current information on this disease and recommended treatments is available through the California Oak Mortality Task Force, University of California Cooperative Extension, Sudden Oak Death website (http://cemarin.ucdavis.edu).

**Recommendation BIO-4.** The following measures are recommended to reduce impacts to special status wildlife and nesting birds to a less-than significant level.

4.1 The landowner shall hire a qualified biologist to search for woodrat nests. If any are found and impacts to the nests cannot be avoided, the applicant shall seek written approval from CDFW to implement a trapping and relocation program. Wood rat nests shall not be disturbed without prior written approval from CDFW.
4.2 If construction is scheduled to begin between March 1 and August 15 of any given year, the landowner shall hire a qualified biologist to conduct a search for active bird nests in the vicinity of the work site (following CDFW survey protocols). If active bird nests are observed, the work shall be postponed until the biologist determines that all chicks have fledge the nest(s).

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Impact</th>
<th>Permanent Impact (approx.)</th>
<th>Temporary Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent Stream Channel (below OHWM)</td>
<td>Pathway Improvements in stream channel</td>
<td>Possible, yet no specific design plan reviewed</td>
<td>Possible, yet no specific design plan reviewed</td>
</tr>
<tr>
<td></td>
<td>(City Property)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Impacts to Stream Channel</td>
<td></td>
<td>Possible, yet no specific design plan reviewed</td>
<td>Possible, yet no specific design plan reviewed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riparian Zone (above OHWM)</td>
<td>Pathway Improvements on creek bank</td>
<td>500 square feet 50 linear feet</td>
<td>Possible, yet no specific design plan reviewed</td>
</tr>
<tr>
<td></td>
<td>(City Property)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Removal of Riparian Woodland (22 oak trees)</td>
<td>13,000 square feet</td>
<td>Possible, yet no specific design plan reviewed</td>
</tr>
<tr>
<td></td>
<td>(Erba Lane Property and City Property)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Impacts to Riparian Zone</td>
<td>13,500 square ft. (0.31 acre) 260 linear feet</td>
<td>Possible, yet no specific design plan reviewed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.0 LITERATURE CITED AND REFERENCES


California Native Plant Society. 2019. Electronic Inventory of Rare and Endangered Vascular Plants of California. CNPS, Sacramento CA.

California, State of, Department of Fish & Wildlife. 2010. The Vegetation Classification and Mapping Program, List of California Terrestrial Natural Communities Recognized by the CNDDDB. December 2010.

California, State of, Department of Fish & Wildlife. 2019. Natural Diversity DataBase, Natural Communities. Rarefind 5 Program


USDA, 1974. Soil Survey of Santa Cruz County, California. United States Department of Agriculture, Soil Conservation Service in cooperation with University of California Agricultural Experiment Station.
April 17, 2020

Charles Eadie
Eadie Consultants
P.O. Box 1647
Santa Cruz, CA 95061

RE: Erba Lane Housing Project, SV Housing LLC
Addendum to Biological Assessment, dated May 31, 2019

Dear Charlie,

The Biotic Resources Group has prepared this letter addendum to a Biological Assessment, dated May 31, 2019 for the Erba Lane Housing Project. The addendum addresses a revised Grading Plan, as prepared by Bowman & Williams, dated March 13, 2020, and a Summary Arborists Report, Revisions to Preliminary Tree Inventory and Assessment, as prepared by Kurt Fouts, Arborist Consultant, dated March 27, 2020.

REVIEW OF REVISED GRADING PLAN AND ARBORIST REPORT
The May 2019 Biological Assessment recommended that the oak riparian woodland habitat be preserved and the site plan be revised such that development be located outside the riparian woodland canopy. In addition, if impacts were to be incurred to the riparian woodland, compensatory mitigation be implemented to replace the lost tree canopy.

The revised Grading Plan preserves most of the oak riparian woodland on the property. The footprint of the buildings is now located outside of the dripline of the oak riparian woodland and most trees previously slated for removal will now be retained. However; some grading will occur within the dripline of oak trees that are to be retained. Kurt Fouts analyzed the revised grading plan relative to trees and found that up to 6 trees may be affected by the project. Some trees will still require targeted clearance pruning for grading equipment (T29 and T30) and hand grading may be required near them. Impacts to two trees (T35 and T38), adjacent to proposed Lot 6 will be increased. Based on field staking prior to construction, these trees may or may not be retained. One oak (T40), previously recommended to be retained, will be removed to accommodate the revised grading. Mr. Fouts indicated that the future growing conditions for most of the oaks will slightly improve, as more soil will be retained allowing for a larger rooting area. The Summary Arborists Report, Revisions to Preliminary Tree Inventory and Assessment recommends tree replacement to compensate for the removal and limbing of the identified trees. He recommends installation of a 2:1 tree replacement using 15-gallon or 24-inch box size trees and identifies an open area east of Lot 7 be used for the tree replacement plantings.

FINDINGS
The revised Grading Plan and Summary Arborists Report, Revisions to Preliminary Tree Inventory and Assessment, conform to Recommendation 1, relative to the oak riparian woodland, from the May 31,2019 Biological Assessment.

Please give me a call if you have any questions on these findings.

Sincerely,

Kathleen Lyons, Plant Ecologist
ARBORIST REPORT

Preliminary Tree Inventory & Assessment for:

Erba Lane Housing – Scotts Valley
ERBA LANE — APN 022-081-34 &35

November 30th, 2017

Prepared for:
Larry Abitol
Scotts Valley Housing LLC
505 Ironwood Drive
Soquel, CA 95
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Appendix A – Tree Assessment Chart
Appendix B – Criteria for Tree Assessment Chart
Attachments:
- Tree Protection Plan – Sheet T1
- Subject Tree Images
- Tree Inventory Aerial Image
- Tree Protection Fencing Example
- Tree Protection Signage Example
- Assumptions and Limiting Conditions
INTRODUCTION and OVERVIEW

Scotts Valley Properties LLC is proposing to develop a property currently utilized as a parking lot. The property is located along Erba Lane in Scotts Valley. As an element of the development, the developers requested certified arborist services for a preliminary tree inventory and assessment. The purpose of this report is to inventory and evaluate the health and structural condition of the trees and access their suitability for preservation.

A “tree resource evaluation”, sometimes called a "tree inventory”, or "tree survey report" is the first step in documenting the existing trees on a proposed development or building project site. This survey is used to aid in planning and project review, for the identification and location of existing trees on the site during the design of the project, placement of structures, driveways, utilities, and landscape components.

It also is used to identify trees of designated size and species that are protected under the municipal or county code that is applicable for the site location.

Suitability for preservation of individual trees is included in this evaluation, with the criteria for retention based on an evaluation of the heath, structural condition and the specific development features impacting each tree.

Preliminary development parameters such as grading, paving, retaining walls, building construction footprint, and the proposed distance each of these elements are to be located from individual trees is evaluated.

Tree protection zones based on tree species, size and condition are prescribed for those trees recommended for retention.

When final plan sets have been completed, protective fencing and tree protection treatments will be prescribed by the arborist consultant. Tree replacement numbers will be calculated when a final tree removal count is established.
ASSIGNMENT/SCOPE OF SERVICES

Kurt Fouts an independent certified arborist, has been contracted by Mr. Larry Abitol, to inventory and evaluate the condition of the existing trees on the proposed development site, including trees located on adjacent parcels with canopies that overhang the project site. Additionally, to make recommendations to retain or remove each tree, based on tree condition and anticipated construction impacts. The inventory is oriented to trees that are protected under the City of Scotts Valley Municipal Code – Section 17.44.080 Tree Protection Regulations & Section 17.44.080(7) “Protected Tree”.

To complete this assignment, the following services were performed:

- **Plan Review**: Reviewed provided plans including: Preliminary Design for Erba Lane Housing by: David Zulim Inc., dated 7/11/17 & 100 Year Flood Boundary Exhibit by: Boman & Williams, dated 11/18/17
- **Ordinance Review**: Reviewed the City of Scotts Valley Municipal Code – Section 17.44.080 Tree Protection Regulations & Section 17.44.080(7) “Protected Tree” (applicable sections).
- **Tree Preservation Evaluation**: Site visit by the arborist for orientation and tree inspection. Visually examining each tree and measuring as necessary to confirm City of Scotts Valley, ‘protected’ tree status. Measuring and evaluating each tree for health and structural condition. Assessing each tree for suitability for preservation.
- **Mapping**: Trees were numbered and tagged with embossed metal tags in the field. Each numbered tree was plotted, and specific preservation or removal information was included on the attached Tree Location and Protection Plan sheet. Base map for Protection Plan sheet is: Preliminary Design for Erba Lane Housing by: David Zulim Inc., dated 7/11/17. Accuracy of trees plotted is limited to plans provided.

Unless expressed otherwise, the information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. The inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in questions may not arise in the future.
SUMMARY OF FINDINGS

- Twelve new single family, two-story homes are proposed for the site where a parking lot currently exists.
- The subject trees consist of existing trees within the vicinity of the proposed development and included within the Site Plan.
- The subject trees total forty (40) individuals consisting of one species.
- All the subject trees are “protected” size trees according to the City of Scotts Valley Municipal Code.
- More than half of the subject trees are located on the adjacent City of Scotts Valley property.
- Three trees have trunks close to the property line and may be located on either, (1) the proposed site parcel, (2) City of Scotts Valley parcel or (3) located on both parcels.
- I have found that 22 (22) protected size trees will require removal due to poor condition or because of anticipated construction impacts from the proposed development.
- I have found that 17 (17) protected size trees will be preserved for the proposed development.
- I have found that 1 (1) protected size tree will require a field evaluation during the construction phase of the project to determine if removal is required or alternatively, if the tree can be retained.
- All protected size trees as designated by the City of Scotts Valley Municipal Code require approval from the Community Development Director, if they are proposed for removal.

RESOURCES

All information within this report is based on preliminary site plans as of the date of this report. Resources are as follows:

- Preliminary Design for Erba Lane Housing by: David Zulim Inc., dated 7/11/17.
- 100 Year Flood Boundary Exhibit by: Boman & Williams, dated,11/18/17
- Site visits to access tree condition on 11/15/17 & 11/18/17.
- Site visit with David Zulim, project designer and Dean Bustichi project builder on 11/28/17. Using the preliminary design plan sheet, distance from individual subject trees to proposed new home locations was measured in the field, to help determine the anticipated construction impacts to each tree.
SUBJECT TREE REMOVALS

TOTAL SUBJECT TREE REMOVALS: 22 Trees

TREE REMOVAL FOR PROPOSED DEVELOPMENT:

‘PROTECTED’ SIZE TREES: Total = 22
22 Coast Live Oak (Quercus agrifolia) Trees T1, T5, T6, T7, T9, T11, T12, T14, T15, T17, T18, T19, T20, T22, T23, T24, T29, T30, T32, T33, T36, & T39.

- Three (3) Protected size trees (Coast Live Oaks, T5, T18 & T39), will require removal due to impacts from the proposed homes according to the proposed site plan, dated 7/11/17.
- Nineteen (19) Protected size trees (Coast Live Oaks, T1, T6, T7, T9, T11, T12, T14, T15, T17, T19, T20, T22, T23, T24, T29, T30, T32, T33, & T36), will require removal due to poor condition.
- One (1) Protected size tree (Coast Live Oak, T27), will require a field decision during the construction phase, to determine if required clearance pruning can be accomplished without significantly impacting the structure of the tree.
- Seventeen (17) Protected size trees (Coast Live Oaks, T2, T3, T4, T8, T10, T13, T16, T21, T25, T26, T28, T31, T34, T35, T37, T38, & T40), can be preserved. Some will require pre-construction treatments to promote long-term health.

SPECIES LIST

TOTAL SUBJECT TREES: 40 Trees

All subject trees are protected.
All subject trees are Coast Live Oak (Quercus agrifolia) #’s T1 – T40.
### PROTECTED TREES IN THE CITY OF SCOTTS VALLEY

**Protected Tree List***

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Any size tree located within five (5) feet of a public right-of-way or street.</td>
</tr>
<tr>
<td>B</td>
<td>Any single-trunk <em>oak tree</em> greater than or equal to eight (8) inch diameter (25-inch circumference). **</td>
</tr>
<tr>
<td>C</td>
<td>Any multi-trunk <em>oak tree</em> with any trunk greater than or equal to four (4) inches diameter (12-inch circumference). **</td>
</tr>
<tr>
<td>D</td>
<td>Any tree greater than or equal to eight (8) inch diameter (25-inch circumference) ** if located within 20 feet of a moderate slope (greater than 20% slope).</td>
</tr>
<tr>
<td>E</td>
<td>Any single-trunk tree greater than or equal to 13-inch diameter (40-inch circumference). **</td>
</tr>
<tr>
<td>F</td>
<td>Any multi-trunk tree with any trunk greater than or equal to eight (8) inch diameter (25-inch circumference). **</td>
</tr>
<tr>
<td>G</td>
<td>Any tree, regardless of size, required as part of a permit approved by the Planning Department, Planning Commission or City Council, or required as a replacement tree for a removed tree.</td>
</tr>
<tr>
<td>H</td>
<td>Any <em>Heritage Tree</em>, as specified in Municipal Code Section 17.44.080 and Exhibit A. A list and map of Heritage Trees are available at the Planning Department. Fees for removal of Heritage Trees are higher than other protected tree removals and applications must be approved at a public hearing before the Planning Commission.</td>
</tr>
</tbody>
</table>

** Note: No tree removal permit is required to remove:
- Monterey Pine trees that are infected with pitch canker; *proof of infection is required*;
- Blue Gum Eucalyptus or Acacia trees;
- Bay Laurel trees *if* they are growing under the drip-line of an established oak tree; or,
- Fruit trees.

** Tree measurement shall be taken 4½ feet (54 inches) above the ground.
TREE EVALUATION AND RECORDING METHODS

Site evaluations were made on November 15 & 18, 2017. The assessments included all protected trees, located within the dripline of the project limits. The trees were tagged with numbered metal tags. The health and structural condition of each tree was assessed and recorded. Based on the trees health and structural condition, each trees suitability for preservation was rated and recorded.

An additional site evaluation was made on 11/28/17. This site evaluation included David Zulim, project designer and Dean Bustichi project builder. Using the preliminary design plan sheet, the distance from individual subject trees to proposed new home locations was measured in the field, to help determine the anticipated construction impacts to each tree.

The recorded data is included in the Tree Assessment Chart, Appendix A, of this report. Tree numbers were plotted on the attached Tree Location Map. To correlate the data in the Tree Assessment Chart to the tree's location on the site, refer to the Tree Location Map & Protection Plan, Sheet T-1.

Descriptions for tree assessment methodology used in the Tree Assessment Chart are included in the Appendix B, of this report.

Forty trees were evaluated, representing one species, Coast Live Oak (Quercus agrifolia). All trees evaluated are “protected” under City of Scotts Valley ordinance.
SUMMARY TREE AND SITE DESCRIPTION

The proposed development site of approximately ¾ of an acre, is currently utilized as a parking lot. The gently sloped property, follows the grade of the adjacent Erba Lane and is predominately paved. On the northeast edge of the parcel, the soil is unpaved and contains an oak grove abutting a dry creek. The oak grove location parallels the dry creek as it runs west to east. This oak grove contains 38 of the 40 trees evaluated in this report.

Slightly more than half of the oak trees assessed, are located on the adjacent parcel, owned by the City of Scotts Valley. Since the canopies of these trees overhang the project site, they were also evaluated.

Three trees appear to straddle the property line between the subject property and City of Scotts Valley. If any are in fact, located on the property line, then these trees are owned by both parties.

Crowded growing conditions has created uneven canopy growth in many of the trees. The thirty-eight trees located in the grove appear to be naturally occurring natives. Two nursery grown oak trees, are planted in a landscape parking island at the southeast end of the property.

Most of the trees have trunks with lean, and the structural growth habit and canopy are oriented to the southwest, as they have grown to maximize light intake. These trees have unbalanced canopies, contributing to a south or west weight bias. (Images #1,2, & 3).
Alternatively, several of the trees on the eastern end of the grove lean or grow to the southeast, to maximize light.

To remain stable, trees with lean and unbalanced canopies form reaction wood (stronger wood), which helps to support the additional mechanical stress.

Some trees in the grove have a more upright growth pattern creating good structure (Image #4).

The strong southwest growth habit (towards the new homes), of most trees, and the siting of the homes necessitates that clearance pruning will be required for many of the trees.

Slightly more than half of the trees are recommended for removal. Removal recommendations are based on the relative risk and/or suitability to continue to thrive for the long term in the development planned.

Of the 22 trees recommended for removal, many have severely compromised structures with limited canopy formation. These trees have a nearly horizontal trunk growth pattern, little to no secondary branching and a small canopy at the end of the trunk (Image #5). Trees T11,17,19,22,23,29,30,32 & 33 have poor structure meeting the above description and are recommended for removal.

A significant site development decision is for no machine grading to occur in the back yards of the homes, between the homes and trees. This will greatly reduce the impact to existing tree roots.

**TREE PROTECTION ZONES**

Data has been entered in the *Tree Assessment Chart – Appendix A*, which indicates the Tree Protection Zone for each tree.

To prevent inadvertent encroachment by heavy machinery, fencing should be installed either at the edge of the Tree Protection Zone (TPZ), the crown drip line (whichever is further from the trunk), or at the edge of the construction zone, if the construction zone protrudes into the TPZ. The Project Arborist, should approve the location of the fencing. All fencing should be in place prior to any site grading.

Once the TPZ is delineated and fenced (prior to site work and equipment/materials move in), any construction activities or landscape construction, are only to be permitted within the TPZ if allowed for and specified by the project arborist. **The fenced TPZ areas are considered "non-intrusion zones" and should not be altered or breached.**

*Tree Protection Zone fencing locations are documented on the attached map: (Tree Location Map & Protection Plan).*
TREE PROTECTION GUIDELINES AND RESTRICTIONS

The following restrictions and guidelines apply to the designated tree protection zones:

1) Before the start of site work, equipment or materials move in, clearing, excavation, construction, or other work on the site, every tree to be retained shall be securely fenced-off as delineated in approved plans. Such fences shall remain continuously in place for the duration of the work undertaken in connection with the development.

2) If the proposed development, including any site work, will encroach upon the tree protection zone, special measures shall be utilized, as approved by the project arborist, to allow the roots to obtain necessary oxygen, water, and nutrients.

3) Underground trenching shall avoid the major support and absorbing tree roots of protected trees. If avoidance is impractical, hand excavation undertaken under the supervision of the project arborist may be required. Trenches shall be consolidated to service as many units as possible. Boring/tunneling under roots should be considered as an alternative to trenching.

4) Concrete or asphalt paving shall not be placed over the root zones of protected trees, unless otherwise permitted by the project arborist.

5) Artificial irrigation shall not occur within the root zone of native oaks, unless deemed appropriate on a temporary basis by the project arborist to improve tree vigor or mitigate root loss.

6) Compaction of the soil within the tree protection zone shall be avoided.

7) Any excavation, cutting, or filling of the existing ground surface within the tree protection zone shall be minimized and subject to such conditions as the project arborist may impose. Retaining walls shall likewise be designed, sited, and constructed to minimize their impact on protected trees.
(8) Burning or use of equipment with an open flame near or within the tree protection zone shall be avoided. All brush, earth, and other debris shall be removed in a manner that prevents injury to the tree.

(9) Oil, gas, chemicals, paints, cement, stucco or other substances that may be harmful to trees shall not be stored or dumped within the tree protection zone of any protected tree, or at any other location on the site from which such substances might enter the tree protection zone of a protected tree.

(10) Construction materials shall not be stored within the tree protection zone of a protected tree.

PROJECT ARBORIST DUTIES & INSPECTION SCHEDULE

Supervision of site: Prior to equipment and materials move in, site work, demolition and landscape construction:
(1) The project arborist shall meet with the tree removal company to verify trees to be removed.
(2) The project arborist shall meet with the tree pruning company and supervise the clearance pruning performed on each tree so designated.

Inspection of site: Prior to equipment and materials move in, site work, demolition, landscape construction and tree removal: The project arborist will meet with the general contractor, architect / engineer, and owner or their representative to review tree preservation measures, designate tree removals, delineate the location of tree protection fencing, specify equipment access routes and materials storage areas, review the existing condition of trees and provide any necessary recommendations.

Inspection of site: After installation of TPZ fencing: Inspect site for the adequate installation of tree preservation measures. Review any requests by contractor for access, soil disturbance or excavation areas within root zones of protected trees. Assess any changes in the health of trees since last inspection.

Inspection of site: During excavation or any activities that could affect trees: Inspect site during any activity within the Tree Protection Zones of preserved trees and any recommendations implemented. Assess any changes in the health of trees since last inspection.

Final Inspection of Site: Inspection of site following completion of construction. Inspect for tree health and make any necessary recommendations.
TREE WORK STANDARDS AND QUALIFICATIONS

All tree work, removal, pruning, planting, shall be performed using industry standards of workmanship as established in the Best Management Practices of the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI A 300 series), and safety (ANSI Z133.1).

Contractor licensing and insurance coverage shall be verified.

During tree removal and clearance, sections of the Tree Protection Fencing may need to be temporarily dismantled to complete removal and pruning specifications. After each section is completed, the fencing is to be re-installed.

Trees requiring removal are listed in the attached Tree Assessment Chart – Appendix A.

Trees to be removed shall be cut into smaller manageable pieces consistent with safe arboricultural practices, and carefully removed so as not to damage any surrounding trees or structures. The trees shall be cut down as close to grade as possible. Tree removal is to be performed by a qualified contractor with valid City Business/State Licenses and General Liability and Workman’s compensation insurance.

TREE REPLACEMENT RECOMMENDATIONS

The removal of trees can be offset by replacement planting. The number and species of replacement trees or shrubs shall be determined by the City of Scotts Valley Community Development Director. Typical replacement ratios are one 15-gallon tree planted for every tree removed. They should be placed in areas where ample light for establishment can be found and where they do not present safety concerns.

Below is a summary of total trees removed, retained and proposed for replanting.

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Protected Trees Removed:</td>
<td>22</td>
</tr>
<tr>
<td>Total Protected Trees Retained:</td>
<td>17</td>
</tr>
<tr>
<td>Total Protected Trees Removal or Retain T.B.D.</td>
<td>1</td>
</tr>
<tr>
<td>Total Trees To be Replanted:</td>
<td>22</td>
</tr>
</tbody>
</table>

The proposed replanting ratio is one tree replanted for every tree removed. There is ample space to plant 22 new, small to medium sized trees on the proposed 12 residential lots.
DEVELOPMENT SITE TREE HEALTH CARE MEASURES

RECOMMENDED TO PROVIDE OPTIMUM GROWING CONDITIONS, PHYSIOLOGICAL INVIGORATION AND STAMINA, FOR PROTECTION AND RECOVERY FROM CONSTRUCTION IMPACT.

Establish and maintain TPZ fencing, trunk and scaffold limb barriers for protection from mechanical damage, and other tree protection requirements as specified in the arborist report.

Project arborist to specify site-specific soil surface coverings (wood chip mulch or other) for prevention of soil compaction and loss of root aeration capacity.

Soil, water and drainage management is to follow the ISA BMP for "Managing Trees During Construction" and the ANSI Standard A300(Part 2)- 2011 Soil Management (a. Modification, b. 'Fertilization, c. Drainage.)

Fertilizer / soil amendment product(s), amounts and method of application to be specified by certified arborist.

ADDITIONAL TREE PROTECTION SPECIFICATIONS REQUIRED

This is a preliminary tree resource evaluation only.

When final architectural and civil plans are completed, and decisions are made by the Scotts Valley planning department and the developer about which trees are to be retained and protected, then further tree protection measures can be specified.

Respectfully submitted,

Kurt Fouts

Kurt Fouts  ISA Certified Arborist WE-0681A
## Erba Lane Housing Project - Scotts Valley
### Tree Assessment Chart - Appendix A

**Suitability for Preservation Ratings:**

- **Good:** Trees in good health and structural condition with potential for longevity on the site.
- **Fair:** Trees in fair health and/or with structural defects that may be reduced with treatment procedures.
- **Poor:** Trees in poor health and/or with poor structure that cannot be effectively abated with treatment.

**Retention or Removal Code:**

- **R.T.:** Retain Tree
- **R.I.:** Remove Due to Construction Impacts
- **I.M.:** Impacts Can Be Mitigated With Pre-Construction Treatments
- **R.C.** Remove Due to Condition

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5' above grade</th>
<th>Protected Tree</th>
<th>Crown Height &amp; Spread</th>
<th>Health Rating</th>
<th>Structural Rating</th>
<th>Suitability for Preservation (Based Upon Condition)</th>
<th>Tree Protection Zone (in feet)</th>
<th>Construction Impacts (Rating &amp; Description)</th>
<th>Retention or Removal Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>coast live oak (Quercus agrifolia)</td>
<td>28&quot;</td>
<td>Yes</td>
<td>40'X30'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. Fallen tree. Root plate partially uprooted [See image #1]. Tree still vital and producing green foliar canopy. Co-dominant trunks at 9' above grade. Lower trunk is horizontal and straddles intermittent stream. Recommend removal. Or retain for habitat. Tree is a low hazard. Tagged and marked with blue flagging tape.</td>
</tr>
<tr>
<td>T2</td>
<td>coast live oak</td>
<td>10&quot;,7&quot;</td>
<td>Yes</td>
<td>18'X22'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>13'</td>
<td>Low (Canopy loss - ground clearance pruning)</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Co-dominant trunks at 1' above grade. Suppressed canopy growth by taller adjacent trees. Strong horizontal growth to southwest creates an unbalanced canopy. Low canopy clearance (5' above grade), will require clearance pruning, if tree is retained. Minor trunk decay at 1' above grade from previous limb failure.</td>
</tr>
<tr>
<td>T3</td>
<td>coast live oak</td>
<td>22&quot;</td>
<td>Yes</td>
<td>45'X20'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>22'</td>
<td>Low (Canopy loss- bldg. clearance pruning &amp; root pruning - pathway installation)</td>
<td>R.T.</td>
<td>I.M.</td>
</tr>
<tr>
<td>T4</td>
<td>coast live oak</td>
<td>34&quot;</td>
<td>Yes</td>
<td>55'X40'</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>26'</td>
<td>Low (Canopy loss - minimal bldg. clearance pruning)</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Mature, well structured tree, with minimal decay. Some epicormic growth on lateral limbs. Very good specimen.</td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Trunk Diameter @ 4.5' above grade</td>
<td>Protected Tree</td>
<td>Crown Height &amp; Spread</td>
<td>Health Rating</td>
<td>Structural Rating</td>
<td>Suitability for Preservation (Based Upon Condition)</td>
<td>Tree Protection Zone (in feet)</td>
<td>Construction Impacts (Rating &amp; Description)</td>
<td>Retention or Removal Code</td>
<td>Comments</td>
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</tr>
<tr>
<td>T6</td>
<td>coast live oak</td>
<td></td>
<td>10&quot;</td>
<td>Yes</td>
<td>20'X15'</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
</tr>
<tr>
<td>T7</td>
<td>coast live oak</td>
<td></td>
<td>15&quot;</td>
<td>Yes</td>
<td>20'X20'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
</tr>
<tr>
<td>T8</td>
<td>coast live oak</td>
<td></td>
<td>44&quot;</td>
<td>Yes</td>
<td>48'X40'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Low (Canopy loss - minimal bldg. clearance pruning)</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Co-dominant trunks at 8' above grade. Trunk has 30 degree lean to south. Strong scaffold (main branches), growth to southwest, creating an unbalanced canopy. Tree has good vigor but some deadwood and decay from poor pruning cuts. If tree is retained, cabling of two main trunks is recommended as risk reduction treatment.</td>
</tr>
<tr>
<td>T9</td>
<td>coast live oak</td>
<td></td>
<td>12&quot;</td>
<td>Yes</td>
<td>21'X25'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>12'</td>
<td>N/A</td>
<td>R.C.</td>
</tr>
<tr>
<td>T10</td>
<td>coast live oak</td>
<td></td>
<td>27&quot;</td>
<td>Yes</td>
<td>42'X40'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Low (Canopy loss - bldg. clearance pruning)</td>
<td>R.T.</td>
<td>I.M.</td>
</tr>
<tr>
<td>T11</td>
<td>coast live oak</td>
<td></td>
<td>10&quot;</td>
<td>Yes</td>
<td>15'X35'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
</tr>
</tbody>
</table>
### Erba Lane Housing Project - Scotts Valley

#### Tree Assessment Chart - Appendix A

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5' above grade</th>
<th>Protected Tree</th>
<th>Crown Height &amp; Spread</th>
<th>Health Rating</th>
<th>Structural Rating</th>
<th>Suitability for Preservation (Based Upon Condition)</th>
<th>Tree Protection Zone (in feet)</th>
<th>Construction Impacts (Rating &amp; Description)</th>
<th>Retention or Removal Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T12</td>
<td>coast live oak (Quercus agrifolia)</td>
<td>15&quot;,13&quot;,12&quot;</td>
<td>Yes</td>
<td>50'X18'</td>
<td>Fair/Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>21'</td>
<td>N/A</td>
<td>R.C.</td>
<td>Co-dominant trunks (three) at 2 &amp; 3' above grade, with included bark. All trunks with strong growth habit and weight bias to southwest, creating an unbalanced canopy. Minor deadwood and decay present at previous limb failures. Dieback and decay of some branches up to 2&quot; in diameter.</td>
</tr>
<tr>
<td>T13</td>
<td>coast live oak</td>
<td>16&quot;</td>
<td>Yes</td>
<td>20'X30'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>12'</td>
<td>None</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Narrow canopy. Very upright growth, but stable structure.</td>
</tr>
<tr>
<td>T14</td>
<td>coast live oak</td>
<td>8&quot;</td>
<td>Yes</td>
<td>20'X10'</td>
<td>Poor</td>
<td>Fair</td>
<td>Poor</td>
<td>8'</td>
<td>N/A</td>
<td>R.C.</td>
<td>Trunk has 10 degree lean to southwest. Co-dominant trunks at 12' above grade. Dieback of lower canopy limbs, up to 2&quot; in diameter, with epicormic growth.</td>
</tr>
<tr>
<td>T15</td>
<td>coast live oak</td>
<td>17&quot;</td>
<td>Yes</td>
<td>33'X30'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. Co-dominant trunks at 6' above grade, with included bark. Dieback and decay on several branches up to 2&quot; in diameter. Twig dieback over 35 percent of canopy.</td>
</tr>
<tr>
<td>T16</td>
<td>coast live oak</td>
<td>28&quot;</td>
<td>Yes</td>
<td>50'X40'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>21'</td>
<td>Low (Canopy loss - minimal bldg. clearance pruning)</td>
<td>R.T.</td>
<td>Trunk has 10 degree lean to southwest. Co-dominant trunks at 12' above grade. Dieback of lower canopy limbs, up to 2&quot; in diameter, with epicormic growth.</td>
</tr>
<tr>
<td>T17</td>
<td>coast live oak</td>
<td>15&quot;</td>
<td>Yes</td>
<td>15'X30'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>Tree consists of one horizontal trunk, varying between 40-90 degrees (no secondary branching), with an 8'X8' canopy at end.</td>
</tr>
<tr>
<td>T18</td>
<td>coast live oak</td>
<td>27&quot;</td>
<td>Yes</td>
<td>38'X38'</td>
<td>Fair</td>
<td>Fair-poor</td>
<td>Fair</td>
<td>21'</td>
<td>High (Canopy loss - bldg. clearance pruning)</td>
<td>R.I.</td>
<td>Co-dominant trunks (three) at 2' above grade, with included bark. &amp; 3' above grade, with included bark. All trunks with strong growth habit and weight bias to south, creating an unbalanced canopy. 5&quot;X5&quot; cavity in one trunk at 10' above grade. One 6&quot; diameter limb is fractured at 12' above grade. End of branch hits ground. Cannot be effectively clearance pruned without significant tree structure damage.</td>
</tr>
<tr>
<td>Tree #</td>
<td>Species</td>
<td>Trunk Diameter @ 4.5' above grade</td>
<td>Protected Tree</td>
<td>Crown Height &amp; Spread</td>
<td>Health Rating</td>
<td>Structural Rating</td>
<td>Suitability for Preservation (Based Upon Condition)</td>
<td>Tree Protection Zone (in feet)</td>
<td>Construction Impacts (Rating &amp; Description)</td>
<td>Retention or Removal Code</td>
<td>Comments</td>
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</tr>
<tr>
<td>T19</td>
<td>coast live oak <em>(Quercus agrifolia)</em></td>
<td>14&quot;</td>
<td>Yes</td>
<td>15'X35'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. Extreme horizontal trunk growth to southwest. Cavity and decay at trunk base. Trunk is partially supported by tree T18.</td>
</tr>
<tr>
<td>T20</td>
<td>coast live oak</td>
<td>13&quot;</td>
<td>Yes</td>
<td>17'X18'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>Co-dominant trunks, with included bark, at 5’ above grade. Strong growth and weight bias to southwest, creating an unbalanced canopy. Moderate failure risk.</td>
</tr>
<tr>
<td>T21</td>
<td>coast live oak</td>
<td>22&quot;</td>
<td>Yes</td>
<td>60'X30'</td>
<td>Good</td>
<td>Fair</td>
<td>Fair</td>
<td>17'</td>
<td>Low (Canopy loss - minimal bldg. clearance pruning)</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Trunk leans 10 degrees to south. Mature specimen with good branching structure.</td>
</tr>
<tr>
<td>T22</td>
<td>coast live oak</td>
<td>8&quot;</td>
<td>Yes</td>
<td>10'X30'</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>Tree consists of one horizontal trunk (no secondary branching), with an 5’X5’ canopy at end.</td>
</tr>
<tr>
<td>T23</td>
<td>coast live oak</td>
<td>19&quot;</td>
<td>Yes</td>
<td>33'X35'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>Trunk grows at a 45 degree angle. No secondary branching structure. Canopy growth limited to a very end of trunk</td>
</tr>
<tr>
<td>T24</td>
<td>coast live oak</td>
<td>10&quot;</td>
<td>Yes</td>
<td>25'X30'</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>Lower trunk has a 20 degree lean. Upper trunk has strong horizontal growth and weight bias to south, creating an unbalanced canopy. Limited secondary branching and canopy development. Dieback of small branches and twigs up to 2” in diameter over 35 percent of canopy.</td>
</tr>
<tr>
<td>T25</td>
<td>coast live oak</td>
<td>14&quot;</td>
<td>Yes</td>
<td>45'X35'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>11'</td>
<td>Low (Canopy loss - minimal bldg. clearance pruning)</td>
<td>R.T.</td>
<td>May be located (partially) on City of Scotts Valley property. Trunk has 15 degree lean to southwest. Co-dominant trunks with included bark, at 13’ above grade. Cabling of two main trunks for risk reduction recommended.</td>
</tr>
</tbody>
</table>
Tree Assessment Chart - Appendix A

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5' above grade</th>
<th>Protected Tree</th>
<th>Crown Height &amp; Spread</th>
<th>Health Rating</th>
<th>Structural Rating</th>
<th>Suitability for Preservation (Based Upon Condition)</th>
<th>Tree Protection Zone (in feet)</th>
<th>Construction Impacts (Rating &amp; Description)</th>
<th>Retention or Removal Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T26</td>
<td>coast live oak (Quercus agrifolia)</td>
<td>21”</td>
<td>Yes</td>
<td>35’X30’</td>
<td>Fair</td>
<td>Fair-Poor</td>
<td>Fair</td>
<td>21’</td>
<td>Low (Canopy loss - minimal bldg. clearance pruning)</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Strong horizontal growth and weight bias to southwest.</td>
</tr>
<tr>
<td>T27</td>
<td>coast live oak</td>
<td>22”</td>
<td>Yes</td>
<td>20’X30’</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>17’</td>
<td>Moderate-High (Canopy loss - bldg. clearance pruning).</td>
<td>R.T. or R.I.</td>
<td>May be located (partially) on City of Scotts Valley property. Strong horizontal growth and weight bias to southwest. Requires field decision during construction phase, to determine if amount of canopy/branch structure loss due to bldg. clearance pruning will significantly damage tree structure.</td>
</tr>
<tr>
<td>T29</td>
<td>coast live oak</td>
<td>14”</td>
<td>Yes</td>
<td>12’X8’</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>May be located (partially) on City of Scotts Valley property. Tree consists of one horizontal trunk (no secondary branching), with an 8’X 8’ canopy at end.</td>
</tr>
<tr>
<td>T30</td>
<td>coast live oak</td>
<td>13”</td>
<td>Yes</td>
<td>15’X12’</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. Tree consists of one horizontal trunk (no secondary branching), with an 12’ X 12’ canopy at end.</td>
</tr>
<tr>
<td>T31</td>
<td>coast live oak</td>
<td>9”</td>
<td>Yes</td>
<td>16’X10’</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>10’</td>
<td>None</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Suppressed growth habit from larger adjacent trees. Poor wound wood formation, with deadwood and decay on pruning cut at 4’ above grade. Indicates lack of energy reserves or poor pruning cut.</td>
</tr>
<tr>
<td>T32</td>
<td>coast live oak</td>
<td>10”</td>
<td>Yes</td>
<td>25’X10’</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. No secondary branching. Live foliage limited to 10’ X 10’ canopy at end of trunk.</td>
</tr>
</tbody>
</table>

Kurt Fouts Arborist Consultant
828 Monterey Avenue
Capitola, CA 95010
831-359-3607
scharbogrounds@yahoo.com

Page 5 of 7
11/16/2017
<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5' above grade</th>
<th>Protected Tree</th>
<th>Crown Height &amp; Spread</th>
<th>Health Rating</th>
<th>Structural Rating</th>
<th>Suitability for Preservation (Based Upon Condition)</th>
<th>Tree Protection Zone (in feet)</th>
<th>Construction Impacts (Rating &amp; Description)</th>
<th>Retention or Removal Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T33</td>
<td>coast live oak <em>(Quercus agrifolia)</em></td>
<td>13&quot;</td>
<td>Yes</td>
<td>10'X7'</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. Trunk leans 45 degrees to south. No secondary branching structure. Canopy growth limited to end of trunk.</td>
</tr>
<tr>
<td>T34</td>
<td>coast live oak</td>
<td>11&quot;</td>
<td>Yes</td>
<td>40'X20'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>10'</td>
<td>None</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Limited secondary branching on bottom two-thirds of trunk.</td>
</tr>
<tr>
<td>T35</td>
<td>coast live oak</td>
<td>30&quot;</td>
<td>Yes</td>
<td>48'X30'</td>
<td>Good</td>
<td>Fair</td>
<td>Fair</td>
<td>23'</td>
<td>Low (Canopy loss - bldg. clearance pruning)</td>
<td>R.T.</td>
<td>I.M.</td>
</tr>
<tr>
<td>T36</td>
<td>coast live oak</td>
<td>8&quot;,7&quot;</td>
<td>Yes</td>
<td>20'X18'</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>N/A</td>
<td>N/A</td>
<td>R.C.</td>
<td>On City of Scotts Valley property. Co-dominant trunks at 2' above grade. Suppressed growth from larger adjacent trees. 15&quot; X10&quot; cavity at trunk base with deadwood and decay. Remove or retain for habitat, low risk.</td>
</tr>
<tr>
<td>T37</td>
<td>coast live oak</td>
<td>12&quot;</td>
<td>Yes</td>
<td>20'X20'</td>
<td>Good</td>
<td>Fair</td>
<td>Fair</td>
<td>10'</td>
<td>None</td>
<td>R.T.</td>
<td>On City of Scotts Valley property. Trunk leans 15 degrees to south. Strong growth and weight bias to southeast.</td>
</tr>
<tr>
<td>T38</td>
<td>coast live oak</td>
<td>20&quot;</td>
<td>Yes</td>
<td>30'X30'</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>15'</td>
<td>Low (Canopy loss - bldg. clearance pruning)</td>
<td>R.T.</td>
<td>I.M.</td>
</tr>
</tbody>
</table>
## Erba Lane Housing Project - Scotts Valley

### Tree Assessment Chart - Appendix A

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5' above grade</th>
<th>Protected Tree</th>
<th>Crown Height &amp; Spread</th>
<th>Health Rating</th>
<th>Structural Rating</th>
<th>Suitability for Preservation (Based Upon Condition)</th>
<th>Tree Protection Zone (in feet)</th>
<th>Construction Impacts (Rating &amp; Description)</th>
<th>Retention or Removal Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T39</td>
<td>coast live oak</td>
<td>14&quot;</td>
<td>Yes</td>
<td>18' X 18'</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>11'</td>
<td>High (Canopy loss - bldg. clearance pruning &amp; root loss - foundation installation.)</td>
<td>R.I.</td>
<td>Planted in parking landscape island at northeast corner of property.</td>
</tr>
<tr>
<td>T40</td>
<td>coast live oak (Quercus agrifolia)</td>
<td>14&quot;</td>
<td>Yes</td>
<td>18' X 18'</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>11'</td>
<td>Low (Root loss - deck piers installation, canopy loss - deck clearance pruning).</td>
<td>R.T. I.M.</td>
<td>Planted in parking landscape island at northeast corner of property.</td>
</tr>
</tbody>
</table>
APPENDIX B – CRITERIA FOR TREE ASSESSMENT CHART

Following is an explanation of the data used in the tree evaluations. The data is incorporated in the Tree Assessment Chart, Appendix A.

Trunk Diameter and Number of Trunks:
Trunk diameter as measured at 4.5 feet above grade. The number of trunks refers to a single or multiple trunked tree. Multiple trunks are measured at 4.5 feet above grade.

Health Ratings:

- **Good:** A healthy, vigorous tree, reasonably free of signs and symptoms of disease
- **Fair:** Moderate vigor, moderate twig and small branch dieback, crown may be thinning and leaf color may be poor
- **Poor:** Tree in severe decline, dieback of scaffold branches and/or trunk, most of foliage from epicormics

Structure Ratings:

- **Good:** No significant structural defects. Growth habit and form typical of the species
- **Fair:** Moderate structural defects that might be mitigated with regular care
- **Poor:** Extensive structural defects that cannot be abated.

Suitability for Preservation Ratings:

Rating factors:

- **Tree Health:** Healthy vigorous trees are more tolerant of construction impacts such as root loss, grading and soil compaction, then are less vigorous specimens.

- **Structural integrity:** Preserved trees should be structurally sound and absent of defects or have defects that can be effectively reduced, especially near structures or high use areas.

- **Tree Age:** Over mature trees have a reduced ability to tolerate construction impacts, generate new tissue and adjust to an altered environment. Young to maturing specimens are better able to respond to change.
Species response: There is a wide variation in the tolerance of individual tree species to construction impacts.

Rating Scale:

**Good:** Trees in good health and structural condition with potential for longevity on the site

**Fair:** Trees in fair health and/or with structural defects that may be reduced with treatment procedures.

**Poor:** Trees in poor health and/or with poor structure that cannot be effectively abated with treatment. Trees can be expected to decline or fail regardless of construction impacts or management

Construction Impacts:

Rating Scale:

**High:** Development elements proposed that are located within the Tree Protection Zone that would severely impact the health and/or stability of the tree. These elements cannot be mitigated without design changes.

**Moderate:** Development elements proposed that are located within the Tree Protection Zone that will impact the health and/or stability of the tree and can be mitigated with tree protection treatments.

**Low:** Development elements proposed that are located within or near the Tree Protection Zone that will impact the health of the tree and can be mitigated with tree protection treatments.

**None:** Development elements will have no impact on the health and stability of the Tree.

Tree Protection Zone (TPZ):

Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, particularly during construction or development.
Tree Location & Protection Plan

Legend

Tree Location & Number
Remove Tree
Tree Protection Fencing
Canopy Extents

Sheet T1  11/30/2017

Base Map Provided by Boman & Williams: Consulting Civil Engineers

Preliminary Design for Erba Lane Housing by:
DAVID B. ZULIM INC.

Kurt Fouts

Printing:

Graphic Scale:
1" = 50' - 0"
Image #1 – Many of the trees have a strong trunk lean.

Image #2 – Strong trunk leans and un-balanced canopies (circled), typical of grove.
Image #3 – Tree T5, trunk lean and unbalanced canopy. Tree T5 is recommended for removal.

Image #4 – Tree T4 – Upright and stable structure.
Image #5 – Tree T29. Many trees in the grove have horizontal trunk growth and minimal canopy formation similar to T29. Tree T29 is recommended for removal.
NOTES

1. Practice may be combined with sediment control fencing.
2. Location and limits of fencing should be coordinated in field with arborist.
3. Boundaries of protection area should be staked prior to installing protective device.
4. Root damage should be avoided.
5. Protection signage is required.
6. Fencing shall be maintained throughout construction.
Warning

Tree Protection Zone

Keep Out

NOTICE: PROTECTIVE FENCING IS REQUIRED ON THIS JOB SITE. REMOVAL OR DAMAGE OF THIS FENCING MAY RESULT IN A FINE

This sign must be prominently displayed. Fencing may not be moved or removed without permission of the Project Arborist. During demolition and construction, all reasonable steps necessary to prevent damage, or the destruction of protected trees is required. Failure to comply with all precautions may result in a STOP WORK order being issue by the regulating agency.

No Entry without Project Arborist Authorization
Kurt Fouts – Arborist Consultant- 831 – 359 -3607
ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided by the appraiser/consultant is assumed to be correct. No responsibility is assumed for matters legal in character nor is any opinion rendered as the quality of any title.
2. The appraiser/consultant can neither guarantee nor be responsible for accuracy of information provided by others.
3. The appraiser/consultant shall not be required to give testimony or to attend court by reason of this appraisal unless subsequent written arrangements are made, including payment of an additional fee for services.
4. Loss or removal of any part of this report invalidates the entire appraisal/evaluation.
5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person(s) to whom it is addressed without written consent of this appraiser/consultant.
6. This report and the values expressed herein represent the opinion of the appraiser/consultant, and the appraiser/consultant’s fee is in no way contingent upon the reporting of a specified value nor upon any finding to be reported.
7. Sketches. Diagrams. Graphs. Photos. Etc., in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys.
8. This report has been made in conformity with acceptable appraisal/evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.
9. When applying any pesticide, fungicide, or herbicide, always follow label instructions.
10. No tree described in this report was climbed, unless otherwise stated. We cannot take responsibility for any defects which could only have been discovered by climbing. A full root collar inspection, consisting of excavating around the tree to uncover the root collar and major buttress roots, was not performed, unless otherwise stated. We cannot take responsibility for any root defects which could only have been discovered by such an inspection.

CONSULTING ARBORIST DISCLOSURE STATEMENT

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.
SUMMARY ARBORIST REPORT
Revisions to Preliminary Tree Inventory & Assessment for:

Erba Lane Housing – Scotts Valley
ERBA LANE — APN 022-081-34 &35

3/27/2020

Prepared for:
Larry Abitol
Scotts Valley Housing LLC
505 Ironwood Drive
Soquel, CA 95
Revisions

A revised grading exhibit (see attached Grading Exhibit by Bowman & Williams, dated 3/13/2020), has been completed for the housing project at Erba Lane. The impacts to the existing trees have been reevaluated based on the revised exhibit and site plan.

A biotic assessment has been completed and the recommendation is to retain all coast live oaks within the riparian area.

All coast live oaks are to be retained regardless of condition, unless impacts will significantly affect the trees condition. Note that trees recommended for removal due to condition in the Tree Assessment Chart, arborist report dated 11/30/2020, will be retained.

As noted in the arborist report, some trees will require targeted clearance pruning. The degree of pruning required will be reduced based on the new grading exhibit and will primarily involve attaining clearance for grading equipment. Two trees T29 and T30 with horizontal trunks and limited canopies may require hand grading instead of mechanical grading near them, as clearance pruning may not be feasible.

Except for two trees adjacent to the new Lot 6, the revised construction impacts to the trees in the riparian area, will be slightly reduced. Most of the homes will be built further from the trees than in the initial site plan, and therefore less of the trees rooting area will be lost. Canopy losses will also be reduced as less clearance pruning from the new homes will be necessary, which allows the trees to retain more stored energy.

Two coast live oak trees, T5 and T18 that were recommended for removal, are now recommended for retention, due to reduced impacts, including reduced root loss and canopy loss.

One tree T27, coast live oak, who's status (remove or retain), was to be determined after field staking for grading, is now recommend for retention, as it is further from the grading limits.

Two coast live oak trees, T35 and T38, that were recommended for retention, will have increased impacts. However, if mitigation measures are implemented and depending on field staking locations, it may be possible to retain one or both trees.

One coast live oak tree T40, previously recommend for retention will require removal due to revised construction impacts. The tree is located in a parking lot island, outside of the riparian area.

Future growing conditions for most of the coast live oaks will also slightly improve, as more soil area will be retained allowing for a larger rooting area. An increased soil area also means more water will be available to the trees.

The anticipated impacts to the above trees T5, T18, T27, T35, T38 & T40 have been updated in the Tree Assessment Chart, Appendix A, and are included in the revised report.
Tree Replacement

Two protected trees T39 and T40, located in a parking island and outside the riparian area will require removal. If after field staking, it is determined that either tree T35 and/or tree T38 require removal, replacement trees as mitigation will be required. The City of Scotts Valley recommends a minimum ratio of two trees are to be replanted (15 gallon or 24-inch box size), for every "protected" tree removed. Therefore, between four and eight replacement trees will be required. Recommended replacement locations are included on the attached grading exhibit.

Recommendations

1. After grading stakes are placed, the project arborist, the grading equipment operator and the tree service company should meet to review the extent of pruning required to achieve clearance from grading equipment operations.

2. Plant four 15-gallon, coast live oak replacement trees as mitigation for the removal of coast live oak trees, T39 and T40, in the locations recommend on the attached grading exhibit.

3. If either tree T35 or T38 requires removal, plant two 15-gallon coast live oak, for each tree removed, in the locations identified on the attached grading exhibit.

Once final plan sets are completed, a tree protection plan, containing tree protection specifications, will be required.

Any questions regarding these revisions can be directed to my office.

Respectfully submitted,

Kurt Fouts
ISA Certified Arborist WE-0681A
Plant 4 - 8 each, 15 gallon coast live oak replacement plants

This area is in cut, the maximum cut within the woodland setback will be about 3 feet.

There is very little change in grade here, small amount of cut perhaps 0.5'.

This area is in cut, maximum 4' in the setback area.

This area at the end of the driveway will be in fill, maximum 2 to 3'.

Very small amount of cut in this area, about 1'.
Tree Appraisal and Valuation
The City of Scotts Valley requires valuation of all protected trees on or adjacent to a construction project. The value of twenty-four, (24) trees located within 20 feet of the project grading limits has been appraised. References included, 1) Guide for Plant Appraisal 9th Edition, 2) Species Classification and Group Assignment, (Wester Chapter Edition).
The total appraised value is $152,427 The criteria and results for appraisal are included in the attached spreadsheet, Appendix C, Appraised Value of “Protected” Trees – Trunk Formula Method.
## Appendix C

**Erba Lane Housing Project - Scotts Valley**

### Appraised Value of "Protected" Trees - Trunk Formula Method

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5'</th>
<th>Basic Tree Cost</th>
<th>Species</th>
<th>Condition</th>
<th>Site</th>
<th>Contribution</th>
<th>Placement</th>
<th>Appraised Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2</td>
<td>coast live oak</td>
<td>10&quot;,7&quot;</td>
<td>$8,114</td>
<td>90%</td>
<td>66%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$3,760</td>
</tr>
<tr>
<td></td>
<td><em>Quercus agrifolia</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,760</td>
</tr>
<tr>
<td>T3</td>
<td>coast live oak</td>
<td>22&quot;</td>
<td>$19,343</td>
<td>90%</td>
<td>63%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$8,600</td>
</tr>
<tr>
<td>T5</td>
<td>coast live oak</td>
<td>17&quot;,17&quot;</td>
<td>$24,389</td>
<td>90%</td>
<td>66%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$11,300</td>
</tr>
<tr>
<td>T6</td>
<td>coast live oak</td>
<td>10&quot;</td>
<td>$5,600</td>
<td>90%</td>
<td>50%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$1,990</td>
</tr>
<tr>
<td>T7</td>
<td>coast live oak</td>
<td>15&quot;</td>
<td>$10,115</td>
<td>90%</td>
<td>63%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$4,470</td>
</tr>
</tbody>
</table>

---

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Capitola, CA 95010  
831-359-3607  
kurtfouts1@outlook.com

Sheet 1 of 5  
4/29/2020
## Erba Lane Housing Project - Scotts Valley

### Appraised Value of "Protected" Trees - Trunk Formula Method

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5'</th>
<th>Basic Tree Cost</th>
<th>Species</th>
<th>Condition</th>
<th>Site</th>
<th>Contribution</th>
<th>Placement</th>
<th>Appraised Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>T12</td>
<td>coast live oak</td>
<td>15&quot;,13&quot;</td>
<td>$17,797</td>
<td>90%</td>
<td>56%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$7,000</td>
</tr>
<tr>
<td>T15</td>
<td>coast live oak</td>
<td>17&quot;</td>
<td>$12,388</td>
<td>90%</td>
<td>63%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$5,500</td>
</tr>
<tr>
<td>T16</td>
<td>coast live oak</td>
<td>28&quot;</td>
<td>$30,026</td>
<td>90%</td>
<td>75%</td>
<td>75%</td>
<td>85%</td>
<td>75%</td>
<td>$15,800</td>
</tr>
<tr>
<td>T17</td>
<td>coast live oak</td>
<td>15&quot;</td>
<td>$10,115</td>
<td>90%</td>
<td>31%</td>
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</table>

4/29/2020

Kurt Fouts
Aborist Consultant
826 Monterey Avenue
Capitola, CA 95010
831-358-3607
kurtfouts1@outlook.com
# Erba Lane Housing Project - Scotts Valley

## Appraised Value of "Protected" Trees - Trunk Formula Method

<table>
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<tr>
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</tbody>
</table>
# Erba Lane Housing Project - Scotts Valley

## Appraised Value of "Protected" Trees - Trunk Formula Method

<table>
<thead>
<tr>
<th>Tree #</th>
<th>Species</th>
<th>Trunk Diameter @ 4.5'</th>
<th>Basic Tree Cost</th>
<th>Species</th>
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### Erba Lane Housing Project - Scotts Valley

#### Appraised Value of "Protected" Trees - Trunk Formula Method

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<th>Tree #</th>
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<th>Trunk Diameter @ 4.5'</th>
<th>Basic Tree Cost</th>
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</tbody>
</table>

**Total Value of Appraised Trees** $152,427

---

Kurt Fouts Arborist Consultant

826 Monterey Avenue
Capitola, CA 95010
831-359-3607
kurtfouts1@outlook.com

Sheet 5 of 5

4/29/2020
Taylor Bateman  
Community Development  
City of Scotts Valley  
One Civic Center Drive  
Scotts Valley, CA 95066

RE: Surplus Parcel on Erba Lane in Scotts Valley, CA  
Correction to 14 July 2005 Entomological Report

Dear Taylor:

It has come to my attention that the acreage figure that I used in the  
aforementioned report, 0.25 acres, for the surplus parcel, should have been 0.75 acres.  
Please attach this letter to the original report to reflect this correction to my original  
report.

Thank you.

Sincerely,

Richard A. Arnold, Ph.D.  
President
Laura Kuhn, Community Development Director  
City of Scotts Valley  
One Civic Center Drive  
Scotts Valley, CA 95066

RE: Surplus Parcel on Erba Lane in Scotts Valley, CA  
Habitat Assessment Report for the Endangered  
Mount Hermon June Beetle & Zayante Band Winged Grasshopper

Dear Laura:

This letter reports on the findings of my habitat assessment survey for the endangered Mount Hermon June beetle (MHJB) and Zayante Band Wing grasshopper (ZBWG) at the above-noted parcel. I can briefly summarize the findings of my habitat assessment by stating that the neither the MHJB nor the ZBWG is likely to occur at this property because habitat conditions there are unsuitable to support either insect. The remainder of this letter provides pertinent background information on the MHJB and ZBWG, describes my survey methods and findings in greater detail, and offers recommendations for project planning.

**Background Information.**

The MHJB is known scientifically as *Polyphylla barbata* (Coleoptera: Scarabaeidae) and was described in 1938 from specimens collected on Mount Hermon in Santa Cruz County. Of the 28 species of *Polyphylla* that occur in North America, the MHJB has one of the most restricted geographic ranges. It is found in association with Zayante sandy soils in the Felton-Scotts Valley-Mt. Hermon-Ben Lomond area of Santa Cruz County, CA, and is known only from these Zayante sandhills. Due to the beetle's limited geographic range, plus the historical and anticipated loss of habitat within its limited range, the U.S. Fish & Wildlife Service (USFWS) recognized the MHJB as an endangered species in 1997, pursuant to provisions of the federal Endangered Species Act of 1973 (FESA).

The Zayante sandhills support several indigenous plants communities that are preferred by the MHJB, including Silverleaf Manzanita Chaparral with Ponderosa pine, Sand Chaparral, mixed Silverleaf Manzanita Chaparral, Ponderosa Pine Forest, dense sand parkland, and open sand parkland. These plant communities often intergrade to become a mosaic mixture of Ponderosa pine, chaparral, and sparsely-vegetated areas of grasses, forbs and subshrubs.
Within the Zayante sandhills MHJB has been found at about 70 locations. A common feature of all known MHJB locations is the presence of Ponderosa pine, and for this reason it is a likely food plant of the MHJB larvae, which are subterranean and feed on roots. Additional information on the MHJB can be found in the final ruling to recognize it as an endangered species (USFWS 1997) and its recovery plan (USFWS 1998).

The ZBWG is known scientifically as Trimerotropis infantilis (Orthoptera: Acrididae: Oedopodinae) and was described in 1984 from specimens collected near Mount Hermon in Santa Cruz County. It is found in association with Zayante sandy soils in the Mount Hermon-Felton-Scotts Valley-Ben Lomond area of Santa Cruz County, CA. Historically it has been found at about 20 locations in the Zayante sandhills. Due to the grasshopper’s limited geographic range, plus the historical and anticipated loss of habitat within its limited range, the USFWS recognized the ZBWG as an endangered species in 1997, pursuant to provisions of FESA.

Within the sand parkland plant community that is indigenous to the Zayante sandhills, the ZBWG is restricted to areas of barren or sparsely-vegetated loose sands that are sunlit. Adults are usually active from about late-July through late October. There is a single generation per year. Additional information on the ZBWG can be found in the final ruling to recognize it as an endangered species (USFWS 1997) and its recovery plan (USFWS 1998).

**Project Site Description.**

The city’s surplus parcel on Erba Lane measures approximately 0.25 acres in size. It is currently used as a parking lot and where recyclable materials may be dropped off by citizens of Scotts Valley. Figure 1 is a photograph that illustrates existing site conditions. A series of Coast Live Oak trees grow along the rear (eastern) border of the site, with an understory of grasses and herbs. Most of the site is covered by asphalt paving. Topography at the property slopes from northwest to southeast. Bowman and Estrada (1980) indicate that the soils at this property are Soquel loam and Zayante sands.

**Survey Methods and Results.**

I visited the property on June 21st. I walked throughout the site to view existing conditions. Zayante soils may be present, but if so, must be covered by the asphalt, as I did not find any Zayante soils. No indigenous plant communities of the Zayante sandhills were evident. Similarly, no Ponderosa pine trees were noted growing on-site or on immediately surrounding properties, but a few Ponderosas were observed growing elsewhere in the neighborhood at distances greater than 150 feet from this property. In loose sandy soils, roots of Ponderosa pines are known to extend as far as 150 feet from the trunk (Oliver and Ryker 1990).

**Conclusions and Recommendations.**

Due to the absence of indigenous sand parkland vegetation and sunlit, barren Zayante sandy soils, habitat conditions at this property are not suitable for the ZBWG and I would not expect this endangered grasshopper to occur there. Since no impacts to the
ZBWG or its habitat are anticipated, the City should not need to mitigate for the ZBWG. I have previously performed several presence-absence surveys for the ZBWG at various properties located in the greater Scotts Valley area. The closest known location for the ZBWG is at the Mount Hermon Cross.

Similarly, due to the absence of Ponderosa pines and Zayante sands, habitat conditions are not suitable for the MHJB and I would not expect this endangered beetle to occur at the City’s property. Since no impacts to the MHJB or its habitat are anticipated, the City should not need to mitigate for the MHJB. I have previously performed several presence-absence surveys for the MHJB at various properties located in the greater Scotts Valley area. The closest known locations for the MHJB are from the upper terminus of Blake Lane.

I conclude that the City should not need an incidental take permit for compliance with the Endangered Species Act; however, I suggest that you contact Mr. Roger Root of the USFWS’s Ventura office (805-644-1766) to confirm this.

References Cited.
Bowman, R.H. and D.C. Estrada. 1980. Soil survey of Santa Cruz County, California. U.S. Dept. of Agriculture and Soil Conservation Service in cooperation with the University of California, Agricultural Experiment Station Publications. 148 pp. & maps.


Please feel free to contact me if you have questions about my survey findings or need any further assistance.

Sincerely,

Richard A. Arnold
Richard A. Arnold, Ph.D.
President

Attachment: figure
Figure 1. Habitat conditions at the City of Scotts Valley's Erba Lane property.
City of Scotts Valley  
One Civic Center Drive  
Scotts Valley, CA 95066  

Attn: Laura Kuhn, Community Development Director  

Re: Surplus Parcel on Erba Lane. in Scotts Valley, CA  
Habitat Assessment for the Endangered Mount Hermon June Beetle  
and Zayante Band Winged Grasshopper  

Bill for entomological consulting services regarding the aforementioned endangered insects. Services are for the period of June 21 – July 14, 2005, and included:  
a) conducted a habitat assessment survey of the site for the aforementioned insects; and  
b) prepared a written report that describes my survey methods, findings, and recommendations.  

Labor:  
R.A. Arnold – 2.0 hrs. @ $150/hr.  
$300.00  

Total Amount Due  
$300.00  

Please make your check payable to Entomological Consulting Services, Ltd., a California corporation whose FEIN is 68-0242981. Thank you.  

Sincerely,  

[Signature]  
Richard A. Arnold, Ph.D.  
President
Extended Phase I Archaeological Assessment
for the Erba Lane Development Project,
Scotts Valley, Santa Cruz County, California
Prepared for SV Housing, LLC
Extended Phase I Archaeological Assessment for the Erba Lane Development Project, Scotts Valley, Santa Cruz County, California

MARCH 2020
J2019-056.01
Image Credit: Larry Abitbol
Executive Summary

In October 2019, SV Housing, LLC contracted with Albion Environmental, Inc. (Albion), to conduct a cultural resources assessment of an approximately 1.04-acre site consisting of two parcels (APNs 022-481-18 and 22) on Erba Lane in the RH High-Density Residential Zone for residential land use in Scotts Valley, California. The property owner plans to create of twelve lots and two common lots for six single-family homes and three duplex units (Project). Albion’s investigation included a background records search at the California Historical Resources Information System Northwest Information Center at Sonoma State University (NWIC), a field investigation entailing pedestrian survey, limited subsurface investigation of the parcel, and Native American outreach. The study was designed to adequately address treatment of cultural resources under current guidelines outlined by Assembly Bill 52 and California Environmental Quality Act (CEQA).

A search of records at NWIC indicated that five archaeological studies have been conducted within the Project Area and 20 studies were conducted within a 1/8-mile radius of the Project Area. One archaeological resource has been previously identified within the Project Area and two resources have been recorded within a 1/4–mile radius of the Project Area.

After reviewing the record search results, Albion conducted an intensive pedestrian survey and limited trenching and augering of the Project Area. Visual inspection of the Project Area surface and small-scale subsurface excavations revealed no evidence of intact prehistoric or historic-era archaeological deposits.

Soils encountered were redeposited fill over five native soil strata with no evidence of culturally produced stratigraphy. Seven mechanically excavated trenches and three hand-excavated augers were used to expose subsurface soils. Thirteen Trench Samples (TS) and three augers recovered 3.7018 m$^3$ of soil for inspection. The sample included 1.3828 m$^3$ of fill soils characterized by differing soil types mixed with modern materials such as concrete and pavement. The remaining 2.319 m$^3$ appeared as intact native soil. The sampled soils produced cultural material, consisting of 9 pieces of flaked stone and two groundstone implements. At least two flaked stone pieces were recovered from the redeposited fill suggesting at least some mechanical disturbance of native soil occurred on the parcel. The two groundstone implements and the additional seven flaked stone debitage pieces recovered from native soils, are likely in-situ. However, the sparse nature of the deposit (3.9 artifact per m$^3$), paucity of artifact types, and no chronological markers or organic cultural materials for radiocarbon dating limits the ability for any archaeological interpretations. This limited and narrow assemblage, which cannot be placed within the regional dating scheme, does not allow for significant data potential and is therefore not significant under CEQA guidelines.

Albion’s investigation at APNs 022-481-18 and 22 on Erba Lane in Scotts Valley indicates that potentially significant cultural materials are not located in the Project Area. Due to the proximity of archaeological site SCR-177/H, we recommend archaeological and Native American monitoring during all future ground-disturbing activity.
Two tribal representatives provided comments about the Project and shared the importance of the cultural resources within the Project area, as well as their concern for any impacts to these resources (Confidential Appendix B).
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Appendices

A  Records Search Results
B  Confidential Native American Outreach Documentation
Introduction

This report documents the results of a cultural resource assessment of an approximately 1.04-acre site consisting of two parcels (APNs 022-481-18 and 22) on Erba Lane in the RH High-Density Residential Zone for residential land use in Scotts Valley, California. The property owner plans to create of twelve lots and two common lots for six single-family homes and three duplex units (Project).

Since the property is in an area designated as “archaeologically sensitive” the City of Scotts Valley, Albion was contracted to conduct a cultural resource assessment. The investigation comprised four tasks: 1) a review of records from the Northwest Information Center of the Historical Resources Information System at Sonoma State University (NWIC); 2) a surface survey of the parcel; 3) limited subsurface excavation; and 4) Native American outreach.

The study was designed to adequately address treatment of cultural resources under current guidelines outlined by Assembly Bill 52 and California Environmental Quality Act (CEQA). This included: 1) identification of significant resources; 2) determination of significant impacts to resources; and 3) development of any necessary mitigation measures. All work was conducted in accordance with guidelines and regulations set forth in the CEQA.

The records search was requested by Albion Senior Archaeologist Stella D’Oro in October 2019 (NWIC File No.: 19-0713). The subsequent pedestrian survey and subsurface testing was conducted January 13-15, 2020 with a crew led by John Ellison. Mr. Ellison earned an BA in Anthropology and has worked in California archaeology for fourteen years. Kanyon Consulting monitors (Kanyon Sayers-Roods and Scott Territo representing the Indian Canyon Mutsun Band of Costanoan were present during all surveying and subsurface testing. The field work was supervised by Ms. D’Oro who holds an MA in Applied Anthropology and has been working in California archaeology for fifteen years.
Figure 1. Project location, Erba Lane, Scotts Valley, California.
Project Location and Description

The subject parcels are located on the northeast side of Erba Lane approximately 70 ft (22 m) southeast of the intersection of Erba Lane and Ridgecrest Lane and approximately 495 ft (150 m) northwest of the intersection of Erba Lane and Scotts Valley Drive in Scotts Valley, California (Figure 1). The parcel ranges from approximately 578 feet above sea level (ASL) in the east to 600 ft ASL in the west. An unnamed drainage borders the Project Area on its eastern side; Carbonera Creek is approximately 902 ft (275 m) southeast of the Project Area.

The Project applicant plans to create of twelve lots and two common lots for six single-family homes and three duplex units (Project). Impacts include the following (Figure 2):

- Retaining wall: depth depends on the type of wall. A soldier pile wall with pier would be up to 10–12 ft depth with an 18 in. diameter hole. A cantilever wall with wide footing would be approximately 4 ft deep.
- Collector pipe for drainage system will be approximately 3 ft deep
- Storm drain chambers will be approximately 6.5 ft deep
- Overflow for storm drain retention system will be 3–4 ft deep
- Sewer laterals will be 4 ft deep
- The entire Project Area will be graded to a depth of 4 ft below the existing grade
Figure 2. Project impacts.

LEGEND
- Red: Retaining wall
- Orange: Collector pipe for drainage system
- Blue: Storm drain chambers
- Green: Overflow for storm drain retention system
- Blue-gray: Sewer laterals

Note: Entire Project Area will be graded to a depth of 4 feet.
Sources Consulted

In order to determine if cultural resources are recorded within or near the Project Area, Albion consulted the following sources as part of the NWIC records search:

**CALIFORNIA INVENTORY OF HISTORIC RESOURCES**

The California Inventory of Historic Places is managed by the State of California Department of Parks and Recreation lists no historic resources within a \( \frac{1}{4} \)-mile of the Project Area.

**HISTORIC PROPERTY DATA FILE FOR SANTA CRUZ COUNTY**

The Historic Property Data File for Santa Cruz County is managed by the State Office of Historic Preservation (including the California Register of Historical Resources (CRHR) and the National Register of Historical Places (NRHP), California Historical Landmarks, and California Points of Historical Interest) indicates two historic properties are located within a \( \frac{1}{4} \)-mile radius of the Project.

One property was determined ineligible for the National Register by consensus through the Section 106 process. It has not been evaluated for CRHR or Local Listing:

- Highway 17

One property is listed in the National Register by the Keeper and is also listed in the California Register:

- 1 Civic Center Drive (The Hiram D. Scott House) built in 1853

**ARCHAEOLOGICAL STUDIES**

**WITHIN THE PROJECT AREA**

A search of records at NWIC indicates five archaeological studies have been conducted within the Project Area (Appendix A). They are listed in Table 1 below.
### Table 1. Studies Conducted Within the Project Area.

<table>
<thead>
<tr>
<th>Survey Number</th>
<th>Date</th>
<th>Title</th>
<th>Author</th>
</tr>
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<tbody>
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<td>S-3913</td>
<td>Aug-77</td>
<td>Cultural Resource Inventory of the Scotts Valley Wastewater Project Service Area</td>
<td>William Roop, Leo Barker, and Charlene Detlefs</td>
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<tr>
<td>S-4080</td>
<td>Mar-80</td>
<td>Archeological Evaluation of the Scotts Valley City Hall Project</td>
<td>Robert Cartier</td>
</tr>
<tr>
<td>S-8313</td>
<td>1980</td>
<td>Cultural Resource Evaluation of the Scotts Valley Redevelopment Area in the City of Scotts Valley, County of Santa Cruz</td>
<td>Robert Cartier, Charlene Detlefs, and Glory Laffey</td>
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<tr>
<td>S-10186</td>
<td>Aug-88</td>
<td>Archaeological Testing at the Cask-Pacific Parcel on Civic Center Drive in the City of Scotts Valley, County of Santa Cruz</td>
<td>Robert Cartier</td>
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<tr>
<td>S-10214</td>
<td>Sep-88</td>
<td>Cultural Resource Evaluation of Landscaping of Scott House Park in the City of Scotts Valley, County of Santa Cruz</td>
<td>Robert Cartier</td>
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</table>

### WITHIN 1/8-MILE OF THE PROJECT AREA

Twenty studies were conducted within a 1/8-mile radius of the Project Area (Appendix A). They are listed in Table 2 below.

### Table 2. Studies Conducted Within 1/8-Mile Project Area.

<table>
<thead>
<tr>
<th>Survey Number</th>
<th>Date</th>
<th>Title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-005758</td>
<td>Oct-82</td>
<td>Subsurface Testing Evaluation of the Parking Lot at the Scotts Valley City Hall, Scotts Valley, County of Santa Cruz, California</td>
<td>Robert Cartier</td>
</tr>
<tr>
<td>S-006016</td>
<td>May-83</td>
<td>Cultural Resource Evaluation of the Lands of Overbow on Scotts Valley Drive in the City of Scotts Valley, Santa Cruz County, California</td>
<td>Robert Cartier</td>
</tr>
<tr>
<td>S-006527</td>
<td>Dec-83</td>
<td>Cultural Resource Evaluation of the Civic Center Plaza Project off Scotts Valley Drive in the City of Scotts Valley, County of Santa Cruz</td>
<td>Robert Cartier</td>
</tr>
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<td>S-006819</td>
<td>May-84</td>
<td>Limited Archaeological Testing at CA-SCR-177, Scotts Valley Office Plaza, Scotts Valley, California</td>
<td>James C. Bard, Raymond J. Dezzani, Mary R. Davy, Rebecca L. Anastasio, and Donna M. Garaventa</td>
</tr>
<tr>
<td>S-009377</td>
<td>Jul-87</td>
<td>Archeological Testing at the Civic Center Cooperative Parking Lot in the City of Scotts Valley, County of Santa Cruz</td>
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<td>Date</td>
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<td>--------------------------------------------------------------------------------------------------</td>
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<td>S-009717</td>
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<td>Cultural Resource Evaluation of Scotts Valley Water District Headquarter's Building in the City of Scotts Valley, County of Santa Clara</td>
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<td>S-010522</td>
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<td>Cultural Resource Evaluation of the Ridgecrest Project on Civic Center Drive in the City of Scotts Valley, County of Santa Cruz</td>
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<td>S-010854</td>
<td>May-89</td>
<td>Salvage Mitigation Excavation Report for the Scott House Park in the City of Scotts Valley, County of Santa Cruz</td>
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<td>S-013326</td>
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<td>Cultural Resource Evaluation of 4301 Scotts Valley Drive in the City of Scotts Valley, County of Santa Cruz</td>
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<td>S-015134</td>
<td>No month</td>
<td>The Scotts Valley Site: CA-SCR-177</td>
<td>Robert Cartier, Robert Edwards, Gerrit Fenenga, Terry Jones, Alan Leventhal, Charlotte Simpson-Smith, Vasiliki Vassil, and Glen Wilson</td>
</tr>
<tr>
<td>S-016354</td>
<td>Apr-90</td>
<td>Evaluation of Potential Historic Structures in the City of Scotts Valley</td>
<td>Glory Anne Laffey, Marion Pokriots, Charlene Detlefs, Leslie Hurst, and Edith Smith</td>
</tr>
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<td>S-018378</td>
<td>Apr-96</td>
<td>Data Recovery Report for the Tuscany Hills Project in the City of Scotts Valley</td>
<td>Robert Cartier and Lynne Eckert</td>
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<td>S-018971</td>
<td>Oct-96</td>
<td>Cultural Resource Evaluation for the Pacific Bell West Bay Project, Located at 4860 Scotts Valley Drive in the City of Scotts Valley, Santa Cruz County</td>
<td>Robert Cartier and Lynne Eckert</td>
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<td>S-020176</td>
<td>Feb-98</td>
<td>Cultural Resource Evaluation of the Scotts Valley Drive Reconstruction Project in the City of Scotts Valley, California, n Fulfillment of CEQA Requirements</td>
<td>Robert Cartier</td>
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<tr>
<td>S-020294</td>
<td>Apr-98</td>
<td>Final Report on Archaeological Mitigation at CA-SCR-177 for Construction on APN 022-082-037 at 101 Civic Center Drive, Scotts Valley, Santa Cruz, California</td>
<td>Gary S. Breschini and Mary Doane</td>
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<tr>
<td>S-022624</td>
<td>Nov-99</td>
<td>Archaeological Recovery at SCR-249 for the Scotts Valley Drive Reconstruction Project in the City of Scotts Valley</td>
<td>Robert Cartier, Alex Wesson, Victoria Bobo, and B. Vasiliki Vassil</td>
</tr>
</tbody>
</table>
### ARCHAEOLOGICAL SITES

### WITHIN THE PROJECT AREA

NWIC reports one archaeological resource within the Project Area, CA-SCR-177/H (Appendix A).

#### CA-SCR-177/H

Archaeological resource CA-SCR-177/H includes both historic and precolonial components. Both components are discussed below.

**Historic Component**

CA-SCR-177/H includes the location of the Scott House, which was constructed as a residence for Hiram Scott and his family in 1858. The house is significant for its architecture (Greek Revival) and historical importance to the region. Mr. Scott was one of the original settlers in the area and is the person after whom Scots Valley is named. The house is listed in the National Register of Historic Places. The boundaries of CA-SCR-177/H include the house and its parcel despite the fact that it was moved to its present location in 1936 due to the construction of Highway 17. The original location of the Scott House is not included within the current boundaries of CA-SCR-177/H.

**Precolonial Component**

The precolonial component of CA-SCR-177/H was originally recorded as a lithic scater (Cooper 1979). In 1980, Dr. Robert Cartier conducted an archaeological evaluation for the proposed construction of a City Hall for Scots Valley (Cartier 1980). Radiocarbon assays from the initial study returned dates of 7,000–10,000 years before present (BP), very early for this region and for California as a whole.

Past actions to the site resulted in lawsuits that were settled out of court in October 1982 (Cartier 1993). The settlement required the City of Scots Valley to fund two large data recovery efforts in 1983 and 1987. The data recovery sampled over 400 cubic meters of cultural soils along the northeast portion of the CA-SCR-177, and over 40 cubic meters from the southcentral area.

Very few sites dating from before 10,000 BP have been investigated; some researchers have suggested that earliest Californians established residences along estuaries and bay shores. The
Scots Valley site (CA-SCR-177) is one of the few inland sites in the region with such early dates. Cartier’s (1993:271-273) report on the data recovery suggests the earliest cultural stratum of CA-SCR-177 dates to at least 10,500 BP. Since the soils are too acidic for bone or shell preservation, dates were extrapolated from radiocarbon dating charcoal in column samples, obsidian hydration, and diagnostic artifacts including an eccentric crescent, small leaf-shaped and medium lanceolate projectile points, knives, and hammer stones.

More recently, Jones et. al (Jones and Klar 2007) suggests that there are numerous issues compromising interpretations of the site’s stratigraphic integrity and dating. The excavation unit used for radiocarbon dating during the 1987 data recovery produced dates from every millennium from 13,000 BP to present, although not in stratigraphic order. In 1987, radiocarbon studies required large amounts of charcoal. It was a common practice to use column samples, which included many pieces of charcoal producing an average date likely from many burn events. Additionally, the charcoal may or may not be cultural in origin as natural forest fires are common in the region. Currently, much smaller carbon (bone, shell, charcoal) samples are necessary to return accurate dates. Carbon samples are ideally taken from known cultural phenomena, such as transported shell, cut/cooked faunal bone, or discrete archaeological features such as hearths or human burials. Jones et al (2007:135) acknowledges the radiocarbon dates from two intact hearth features place the earliest well dated occupation of the site into the Millingstone Period at 8,000 BP, still of remarkable antiquity.

WITHIN ¼-MILE OF THE PROJECT AREA

Two resources have been recorded within a ¼-mile radius of the Project Area. Both are precolonial archaeological sites and described below.

P-44-000039 is a granite outcropping of four bedrock mortars. The property owner has collected many artifacts near the outcropping including pestles, a projectile point, and flakes made of basalt, chert, and quartzite (Buckman and Stafford 1974). The resource is located 1,202 ft (366 m) southeast of the Project Area.

P-44-000251 is a diffuse lithic scatter with a large amount of fire-affected rock, quartzite, Monterey Banded chert, obsidian, basalt, and chalcedony. Prior radiocarbon dating yielded a date of 12,965 BP, making the site one of the earliest in the region (Archaeological Resource Management 2003). The resource is located 541 ft (165 m) southeast of the Project Area.

HISTORIC MAPS

Albion also conducted an online search of historical maps and aerials and found information pertinent to the Project Area from the following:

- 1864 GLO plat map
- 1866 Rancho San Augustin diseño
- 1881 plat map
- 1889 plat map
- 1906 plat map
- 1929 plat map
- 1940 aerial photograph
Native American Outreach

Albion initiated Native American outreach to solicit information about potential Tribal resources in or near the Project Area and the treatment of those resources. Resources of interest might include archaeological deposits, traditionally important plants, or locales that have been or are currently used for Tribal activities.

As part of this outreach process, Albion contacted the California Native American Heritage Commission in December 2019 for information from the Commission’s Sacred Lands File and a list of stakeholders (Appendix B). The Commission found no information in their files and forwarded the names of six tribal representatives. Albion contacted each of these by letter, describing the project and asking for information or comments. Albion followed the letters with emails and phone calls to every tribal stakeholder listed on the NAHC list. Two tribal representatives provided a response and shared the importance of the cultural resources within the Project area, as well as their concern for any impacts to these resources.

No additional comments or concerns have been received as of March 4, 2020. Additional details can be found in confidential Appendix B.
Background

NATURAL ENVIRONMENT

The parcel ranges from approximately 578 ft ASL in the east to 600 ft ASL in the west. An unnamed drainage borders the Project Area on its eastern side; Carbonera Creek is approximately 902 ft (275 m) southeast of the Project Area.

The soils in the area are characterized as Soquel loam (USDA 2019). The Soquel loam series consists of deep, moderately well drained soils that formed in alluvium derived from sedimentary rocks. Soquel soils are in narrow valleys and on alluvial fans and plains and have slopes of 0 to 15 percent. The A horizon is very dark gray, very dark grayish brown, dark gray, dark grayish brown, dark brown, or grayish brown. It is heavy sandy loam, loam, silt loam, clay loam, or silty clay loam and extends from the surface to approximately 21 inches deep. Some pedons have a horizon designated as a B horizon with color of light yellowish brown or very pale brown. Texture is heavy sandy loam, loam, silt loam, clay loam, or silty clay loam. The C horizon is dark brown, dark grayish brown, dark yellowish brown, brown or yellowish brown. It is loam, silt loam, or silty clay loam. In some pedons are narrow lenses of sandy loam, loamy sand, or sand with 0 to 25 percent pebbles by volume.

CULTURAL ENVIRONMENT

Prehistory of the southern San Francisco Bay area is complex due to the dramatic increase in human populations from middle to late Holocene times (Milliken et al. 2007). Cultural chronology is quite variable spatially but is generally framed within a tripartite sequence that is commonly used in central California—Early, Middle, and Late (Hylkema 2002; Milliken et al. 2007). These temporal periods are preceded by early to middle Holocene occupation, often characterized as the Millingstone era (Hylkema 2002; Milliken et al. 2007).

The Millingstone Period (9000–5500 years Before Present (Ingram et al.)) is characterized by small groups who travelled widely and practiced broad spectrum foraging of easily acquired plant and animal resources. Artifacts common to this time period are handstones and millingstones. Flaked stone implements, such as projectile points, are much less common than grinding and battering tools (Fitzgerald 2000). Common foods are thought to have included a variety of small seeds, shellfish, and small mammals.

The Early Period ranges from approximately 5500 to 2500 B.P. and encompasses an era where people are thought to still have practiced wide ranging residential mobility but placed a greater emphasis on hunting larger game. Large pinnipeds, such as northern fur seal, are common to coastal archaeological sites during this time. Several styles of large projectile points correspond to this general time frame, which also marks the initial use of mortar and pestle technology.
The Middle Period dates from 2500–1000 B.P. and appears to represent a time when people were somewhat more residentially stable and practiced more logistical (short term) mobility (Milliken et al. 2007:106). By this time, people apparently went on extended resource acquisition forays for the purpose of bringing subsistence or trade items back to residential base camps. Large, terrestrial mammals were hunted more often during this time and grinding implements become more common (Milliken et al. 2007:107).

The Late Period begins at 1000 B.P. and extends to ca. 1550 B.P. (Hylkema 2002:33), or perhaps more recently. The Late Period is characterized by increased sociopolitical complexity and settlement centralization. Large village sites in the northern Santa Clara Valley are often found in the valley center along perennial streams (Bergthold 1982; Milliken et al. 2007). There is continued prevalence of mortar and pestle technology, thought to signify a greater reliance on acorn than in earlier times. Other labor-intensive foods were also used with greater frequency during this latest time period (Hylkema 2002). For example, sea otter and harbor seal were exploited more heavily. These animals are thought to be more labor-intensive to capture compared to other pinnipeds and large mammals, which were more commonly hunted in earlier time. Bow and arrow technology is also believed to have been adopted by aboriginal hunters during this latest prehistoric interval (Milliken et al. 2007:117).

ETHNOGRAPHIC BACKGROUND

The Project Area was inhabited by Ohlone, or Costanoan populations (Levy 1978; Milliken et al. 2007). When first encountered by Spanish explorers, aboriginal inhabitants of the Bay Area and vicinity were referred to as Costaños (Levy 1978). The people came to be known as Costanoans (cf. Levy 1978), although now, the descendants of those earlier inhabitants prefer to be referred to as Ohlone (Bean 1994). Both terms refer to the language group spoken by the people, rather than any sort of political group. The Ohlone inhabited the San Francisco Peninsula, the East Bay to the Delta, and south past Santa Clara Valley to the coast of the Monterey Bay.

At Spanish contact, aboriginal groups residing in the southern Bay Area were organized under a tribelet system where villages, thought to number around 50, were autonomous political units (Levy 1978). The Ohlone exploited all of the regional habitats including bay marshes, valley grasslands, mountainous uplands and open coastal environs. Resources exploited included elk, pronghorn, deer, sea mammals, salmon, trout, shellfish, ducks, geese, acorns, seeds, grasses, and roots (Baumhoff 1963).

HISTORICAL CONTEXT

MISSION PERIOD

The Santa Cruz Mission

In Santa Cruz, the Mission period (1776-1834) saw the disruption of traditional Ohlone culture and lifeways. La Misión de la Exaltación de la Santa Cruz was founded in 1791. As the Ohlone were gradually brought into the mission system and placed under the protection and tutelage of the Mission fathers, they lost much of their erstwhile autonomous existence and traditional lifeways. Compounding the difficulties and disruption to traditional life, the Mission fathers inducted
members of distant and distinct tribes into the Mission neophyte population. In Santa Cruz, Costanoan peoples were joined by Northern Valley Yokuts, conscripted from the San Joaquin Valley, as the local Indian workforce succumbed to diseases and hardships ubiquitous to the Spanish and Mexican missions.

A second early European community established during the Mission era in the vicinity of present-day Santa Cruz was Villa de Branciforte. The Villa was established in 1797 and was one of the three original Spanish communities established in Alta California. The community comprised both active and retired Spanish soldiers, as well as civilians, with the intention of occupying the land and hence deterring incursions from other nationalities such as Russians and the British. The main thoroughfare for the community was Branciforte Avenue.

**MEXICAN PERIOD**

In 1834, under the new Mexican government, secularization of the mission lands began in earnest. Most of the former mission land was divided among loyal Mexican subjects, though some indigenous individuals were given land as well. Most of the indigenous population, however, scattered away from the mission centers. The few individuals that were given rancherias were ill-equipped to maintain or work their land, and many Ohlone who chose to remain in their ancestral territory were obliged to become squatters. Some were given jobs as manual laborers or domestic servants on Mexican, or later American, cattle ranches.

The Ohlone underwent a period of near cultural anonymity from the mid-19th century to the relatively recent past. During this time Ohlone often presented themselves as other than Indian to the outside world, in large part to the discrimination suffered during and after the mission period. Present day Ohlone descendants often remark that they were unaware of their heritage, or that their elders and relatives had not encouraged an interest in Ohlone heritage.

**AMERICAN PERIOD**

In the 1840s, Santa Cruz County’s population increased substantially. The Spanish and Mexican governments contributed to this growth by granting large tracts of former mission lands to private citizens. In 1833, the Mexican governor, Jose Figueroa, granted Jose Antonio Bolcoff, a Russian immigrant who had assumed Mexican citizenship, a portion of land that encompassed Scotts Valley. Bolcoff raised cattle, horses, sheep and developed crops such as wheat and barley on his property, which was known as Rancho San Augustin. The Rancho changed ownership three times over the next 30 years. Bolcoff’s American brother-in-law, Joseph Ladd Majors purchased the Rancho in 1841. During his ownership, Majors established a gristmill that provided wheat to residents from Monterey to the Santa Clara Valley. During the Mexican War (1846-1848), Majors sided with the Americans and used his rancho as a stockade/fortress for American and British residents seeking refuge from local Mexican authorities. Following Majors residency, Hiram Scott, a young Maine seaman, purchased the estate for the sum of $20,000, in 1850. Homesteading the area, Mr. Scott soon sent for additional family members to join him. Before long the Scott family became the predominate inhabitants in the area, thus the town was named Scotts Valley (Detleffs 1980; Laffey and Pokriots 1991).
HISTORY OF THE PROJECT AREA

A Bureau of Land Management General Land Office (GLO) map from 1864 shows the project parcel lies in the southwest ¼ of the northwest ¼ of Section 18 in Township 11 south, Range 1 west (Figure 3). Public records indicate the entire section was patented to John A. Bachelder on February 5, 1875. As of 1985, there were still members of the Bachelder family living on Granite Creek Road (Clark 1986).

A plat map from 1881 indicates that the project parcel was on an 85.258-acre parcel of land owned by Eireich Lassen. The County (Figure 4). By 1906, a plat map shows Russell still owned the property and the street configuration Road represented on the map may refer to the present-day Scotts Valley Drive.

According to a plat map from 1889 Lassen continued to own the property on which the project parcel is located (Figure 5).

A 1906 plat map shows the Lassen parcel had been reduced to 79 acres and was owned by A & O Smith (Figure 6).

A plat map from 1929 shows the A & O Smith parcel had been reduced to 35.558 acres and was owned by Sophie C. Frank (Figure 7).

An aerial photograph from 1940 shows that the project parcel was undeveloped (Figure 8).
Figure 3. Detail of an 1864 GLO map with the Project Area.
Figure 4. Diseño del Rancho San Augustín from 1866 with the approximate location of the Project Area.
Figure 5. Detail of an 1881 plat map with the Project Area.
Figure 6. Detail of an 1889 plat map with the Project Area.
Figure 7. Detail of a 1906 plat map with the Project Area.
Figure 8. Detail of a 1929 plat map with the Project Area.
Figure 9. Detail of a 1940 aerial photograph with the Project Area.
Field Methods and Results


PEDESTRIAN SURVEY

Staff Archaeologist John Ellison closely inspected the exposed natural surface for any artifacts, cultural materials, ecofacts, anthrosols, or any other indication of archaeological resources. Visibility of ground surface throughout the lot was poor due to pavement covering 80–90% of the parcel. The western edge of property allowed for visual inspection of the surface, though high grasses complicated surface visibility (Figure 10). Archaeologists identified no cultural materials during the pedestrian survey.

TRENCHES

The crew oversaw mechanical excavation of seven trenches and screened soils from thirteen Trench Samples (TS) for subsurface soils testing. Trenches were excavated in areas where planned Project elements will impact native soils (Figure 11). The archaeologists directed the Project-provided operator for the excavation of the exploratory trenches. The mechanical trench excavations involved the use of a backhoe equipped with a standard 2-ft (61 cm) wide, flat-bladed bucket in order to determine the presence or absence of buried archaeological deposits. Most trenches (Trench 2, 3, 4, and 7) measured 2 x 10 ft, excavated in approximately 1-ft increments to varying depths (4–9 ft) reflecting each area’s project element. Trench 1 measured 2 x 50 ft, ranging in depths 5–6.5 ft. Trench 5 measured 2 x 20 ft, to 6.5 ft and Trench 6 was 2 x 20 ft, to 4 ft.

Staff archaeologists Christina Spellman, Britney Biasi, and John Ellison inspected each trench to identify strata and to record the soil profile and descriptions. Albion staff recorded soil profiles from inside the trenches to a depth of 5 ft. After initial profile recordation, three areas were excavated to greater depths. The archaeologists could no longer enter the trenches due to OSHA safety guidelines. For every vertical foot excavated, archaeologist screened a minimum of .053 m³ (14 gallons) of matrix through 6 mm (‘/4 inch) or 3mm (‘/8 inch) mesh to identify cultural materials. Appropriate field forms documented excavation results including strata, description of soils, identified artifacts, disturbances, and any other pertinent information. The trenches were backfilled upon completion. Archaeologists identified five natural strata (Strata I-V) and several modern fill events. Soil descriptions for each stratum are presented in Table 3.
Figure 10. Photos from the field.

Photograph 1. Overview of the Project Area (facing south southeast).

Photograph 2. Trench 4 backfilled (facing southeast).

Photograph 3. Overview augered areas (facing south).

Photograph 4. Overview of augered areas (facing north).

Photograph 5. Crew dry screening soils (facing east).

Photograph 6. Trench 2 backfilled after collapse (facing north).
Figure 11. Test locations.
Table 3. Trench Soils and Artifacts.

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Soil Type</th>
<th>Munsell Color</th>
<th>Artifacts</th>
<th>Soil (m³)</th>
<th>Artifacts (m³)</th>
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<tbody>
<tr>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
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<td>I</td>
<td>Sandy Loam</td>
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<td>II</td>
<td>Sandy Clay Loam</td>
<td>10 YR 2/1</td>
<td>3-debitage/1-groundstone</td>
<td>0.9082</td>
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<td>III</td>
<td>Clay Loam</td>
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<td>0.3758</td>
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<td>IV</td>
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<td>V</td>
<td>Sandy Clay</td>
<td>10 YR 2/1</td>
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<td>-</td>
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<td>3.7018</td>
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</table>

TRENCH 1

Trench 1 was originally placed in an area thought to be impacted to a depth of 6.5 ft by elements of a storm drain line. However, the storm drain is further to the south and Trench 5 explored this project element. This trench measured approximately 2 ft wide, 5–6.5 ft deep, and 50 ft in length. For horizontal control, Trench 1 was divided into 10-ft sections. Sections were labelled Trench Sample (TS) 1-5, from east to west. The TSs were excavated in 1-ft increments with 0.053 M³ (14 gallons) set aside to screen through 6 mm (1/4 inch) or 3mm (1/8 inch) mesh.

TRENCH SAMPLE 1

The eastern most TS within Trench 1 was excavated to a 6.5-ft depth and selected for soils profile recordation. TS 1 held all four natural strata (Strata I-IV) and several modern fill events. All soils from TS 1 were processed through 3mm (1/8 inch) mesh. A total of 0.344 m³ soil was sampled from just below surface to 6.5 ft. The results of TS 1 are presented in Table 4. Two flaked stone debitage artifacts were recovered from a modern fill stratum, less than 1-ft below surface. Modern material (safety glass) was identified to a depth of 4 ft below surface.

Table 4. Test Results of Trench Sample 1.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
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<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>2</td>
<td>+</td>
<td>+</td>
<td>0.0530</td>
<td>3mm</td>
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<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
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<td>3mm</td>
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TRENCH SAMPLE 2

The modern fill soils from TS 2 were not screened (0–2 ft below surface). Additionally, the native soils contained more clay than previously recorded; therefore, the sample was divided to accelerate the soils sample processing within the fieldwork timeline. Archaeologists screened 75% of the sample through 6 mm (1/4 inch) mesh and 25% through 3mm (1/8 inch) mesh. Three native soil strata, Strata I, II, and III, were identified in TS 2. The results of TS 2 are presented in Table 5. The sample yielded one debitage flake from Strata II, 3–4 ft below surface. Modern materials were recovered as deep as 4 ft below surface.

Table 5. Test Results of Trench Sample 2.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
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<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>4–5</td>
<td>III</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>+</td>
<td>0.2650</td>
<td>-</td>
</tr>
</tbody>
</table>

TRENCH SAMPLE 3

TS 3 continued the same process as TS 2. Only two native soil strata, Strata II and III, were identified in TS 3. The results of TS 3 are presented in Table 6. One debitage flake was recorded from Strata II, 2–3 ft below surface. Modern materials were recovered as deep as 4 ft below surface. Archaeologists selected the south wall of TS 3 for soils profile recordation.

Table 6. Test Results of Trench Sample 3.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1-2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2-3</td>
<td>II</td>
<td>-</td>
<td>1</td>
<td>+</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3-4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>4-5</td>
<td>III</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>+</td>
<td>+</td>
<td>0.2650</td>
<td>-</td>
</tr>
</tbody>
</table>
TRENCH SAMPLE 4

TS 4 continued the same process as TS 2. Three native soil strata, Strata II, III, and IV, were identified in TS 4. The results of TS 4 are presented in Table 7. No artifacts or modern materials were recovered from TS 4.

Table 7. Test Results of Trench Sample 4.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3–4</td>
<td>III</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>4–5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>0.2650</td>
<td>-</td>
</tr>
</tbody>
</table>

TRENCH SAMPLE 5

The western most TS within Trench 1 was excavated to a 6.5-ft depth and selected for soils profile recordation (Figure 12). TS 5 held all four natural strata (Strata I-IV) and several modern fill events. TS 5 continued the same method as TS 2. The results of TS 5 are presented in Table 8. No artifacts were recovered from TS 5 and modern material (safety glass) was identified in the sample 5-6.5 ft below surface.

Table 8. Test Results of Trench Sample 5.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>4–5</td>
<td>III</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>5–6.5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0790</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.3440</td>
<td>-</td>
</tr>
</tbody>
</table>
Figure 12. Trench 1 south wall profile views.

LEGEND

Top of grade

0 50 100 150 200

Centimeters

0cm

Baserock

Modern fill

Gravelly modern fill

I

II

III

IV
TRENCH 2

Trench 2, TS 7 was placed in an area with a proposed impact to a depth of 10 ft by installation of a retaining wall in the northern area of parcel. This trench measured 2 ft wide, 10 ft in length. Excavation was halted at approximately 9 ft below surface due to a collapse. Trench samples were collected to a depth of 8 ft below surface Figure 13 depicts the stratigraphy of Trench 2.

TRENCH SAMPLE 7

The soils remained consistent, Stratum IV sand from just below modern fill to 9 ft deep. All soils were processed through 3mm (1/8 inch) mesh. The results of TS 7 are presented in Table 9. Three specimens of flaked stone debitage were recovered from the 1 to 2-ft and 2 to 3-ft levels. Modern glass was present in the 5–6-ft level of TS 7. The north wall profile was recorded to 2 meters in depth. Further profile recordation could not take place due to the collapse of the trench walls.

Table 9. Test Results of Trench Sample 7.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
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<td>1–2</td>
<td>IV</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>2–3</td>
<td>IV</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>3–4</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>4–5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>5–6</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>6–7</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>7–8</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>0.0530</td>
<td>3mm</td>
</tr>
<tr>
<td>Total</td>
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<td>3</td>
<td></td>
<td>+</td>
<td>0.4240</td>
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<td></td>
</tr>
</tbody>
</table>

TRENCH 3

Trench 3 was placed in an area with a proposed impact of 4 ft deep, by initial grading and re-compaction of the parcel. This trench measured 2 ft wide, 10 ft in length, and 4 ft deep. Figure 14 depicts the stratigraphy of Trench 3.

TRENCH SAMPLE 6

A large hand stone was identified at the interface of modern fill and Stratum I, though incorporated into the Stratum I, 1 to 2-ft level sample. TS 6 continued the same process as TS 2. The results of TS 6 are presented in Table 10. Only two native soil strata, Strata I and III, were identified in TS 6. Modern materials were recovered as deep as 2 ft below surface. Archaeologists selected the north wall of TS 6 for soils profile recordation.
Figure 13. Trench 2 north wall profile.

LEGEND

Modern fill

Top of grade

Figure 13. Trench 2 north wall profile.
Figure 14. Trench 3 north wall profile views.
Table 10. Test Results of Trench Sample 6.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground- stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1 Modern Fill</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1–2 I</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
<td></td>
</tr>
<tr>
<td>2–3 III</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
<td></td>
</tr>
<tr>
<td>3–4 III</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
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<td>-</td>
<td>+</td>
<td>+</td>
<td>0.2120</td>
<td>-</td>
</tr>
</tbody>
</table>

TRENCH 4

Trench 4 was placed in an area with a proposed impact of 4 ft deep, by initial grading and re-compaction of the parcel. This trench measured 2 ft wide, 10 ft in length, and 4 ft deep.

TRENCH SAMPLE 8

Most levels within the TS 8 trench were modern fill strata (Figure 15). The only level containing native soils was the 3–4 ft level, identified as Stratum II. TS 8 continued the same process as TS 2. The results of TS 8 are presented in Table 11. No artifacts or modern materials were recovered from TS 8.

Table 11. Test Results of Trench Sample 8.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1 Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1–2 Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2–3 Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3–4 II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.2120</td>
<td>-</td>
</tr>
</tbody>
</table>

TRENCH 5

Trench 1 was placed in an area to be impacted to a depth of 6.5 ft by elements of a storm drain line. This trench measured approximately 2 ft wide, 6.5 ft deep, and 20 ft in length. For horizontal control, Trench 5 was divided into two 10-ft sections labelled TS 9 and TS 10. The TSs were excavated in 1-ft increments with 0.053 m³ (14 gallons) set aside to screen through 6 mm (1/4 inch) mesh.
Figure 15. Trench 4 east wall profile views.

**LEGEND**

- Top of grade

Centimeters

Modern fill

Modern fill

Modern fill

II

Unexcavated

0cm 20cm 40cm 60cm 80cm 100cm 120cm
TRENCH SAMPLE 9

Trench Sample 9 was excavated to a 6.5-ft depth and selected for soils profile recordation (Figure 16). TS 9 held two natural strata (Strata II and IV) and several modern fill events. All soils from TS 9 were processed through 6 mm (1/4 inch) mesh. A total of 0.344 m$^3$ soil was sampled from just below surface to 6.5 ft. The results of TS 9 are presented in Table 12. Modern material was identified to a depth of 4 ft below surface.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m$^3$)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>6mm</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>6mm</td>
</tr>
<tr>
<td>4–5</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>6mm</td>
</tr>
<tr>
<td>5–6.5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0790</td>
<td>6mm</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.3440</td>
<td>-</td>
</tr>
</tbody>
</table>

TRENCH SAMPLE 10

Similar to TS 9 just to the west, soils recovered from TS 10 included modern above Strata II and IV (Figure 16). All soils from TS 10 were processed through 6 mm (1/4 inch) mesh. A total of 0.344 m$^3$ soil was sampled from just below surface to 6.5 ft. The results of TS 10 are presented in Table 13. Modern material was identified to a depth of 4 ft below surface.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m$^3$)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
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<tr>
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<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>Modern Fill</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>6mm</td>
</tr>
<tr>
<td>4–5</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>6mm</td>
</tr>
<tr>
<td>5–6.5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0790</td>
<td>6mm</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.3440</td>
<td>-</td>
</tr>
</tbody>
</table>
Figure 16. Trench 5 south wall profile views.
TRENCH 6

Trench 6 was placed in an area with a proposed impact of 4 ft deep, by initial grading and recompaction of the parcel. This trench measured 2 ft wide, 20 ft in length, and 4 ft deep. Trench 6 was divided into two 10-ft sections labelled TS 11 and TS 12. Each TS was excavated in 1-ft increments with 0.053 M³ (14 gallons) set aside to screen. Archaeologists screened 75% of the sample through 6 mm (1/4 inch) mesh and 25% through 3 mm (1/8 inch) mesh.

TRENCH SAMPLE 11

Stratum II was the only natural soil identified in TS 11 (Figure 17). The results of TS 11 are presented in Table 14. Artifacts recovered include a handstone alongside clear modern glass in the 2–3 ft below surface level.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>II</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
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<td>-</td>
<td>-</td>
<td>+</td>
<td>0.2120</td>
<td>-</td>
</tr>
</tbody>
</table>

TRENCH SAMPLE 12

The soils remain consistent with adjacent TS (Figure 17), Stratum II was the only natural soil identified in TS 12. The results of TS 12 are presented in Table 15. Artifacts recovered include a one Monterey chert debitage flake and a mix of modern ceramic, glass and metal fragments.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>II</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>+</td>
<td>0.2120</td>
<td>-</td>
</tr>
</tbody>
</table>
Figure 17. Trench 6 south wall profile views.

LEGEND

Top of grade

Modern fill

II

Unexcavated

Figure 17. Trench 6 south wall profile views.
TRENCH 7

Trench 6 was placed in an area with a proposed impact of 4 ft deep, by initial grading and re-compaction of the parcel. This trench measured 2 ft wide, 10 ft in length, and 4 ft deep.

TRENCH SAMPLE 13

The southeastern most TS was excavated to a 4-ft depth and selected for soils profile recordation. The results of TS 13 are presented in Table 16. A new stratum was present (Strata V) in TS 13 from which the only artifact (igneous rock debitage) was recovered (Figure 18). Stratum V is marsh-like with very soft sandy clay, wet with organic materials present.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Groundstone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m²)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>-</td>
</tr>
<tr>
<td>2–3</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>3–4</td>
<td>V</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>0.0530</td>
<td>3mm (25%), 6mm (75%)</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>+</td>
<td>0.2120</td>
<td>-</td>
</tr>
</tbody>
</table>

AUGERS

Three augers explored the soils in the location of the proposed collector drain, along the west boundary of the parcel. The augers measured 10-cm in diameter, reached a depth of 6.5 ft, and all soils collected in 1-ft intervals were screened through 3mm (1/8 inch) mesh.

AUGER 1

Auger 1 was located just to the northwest of Trench 1 and southwest of Trench 3. The results of Auger 1 are presented in Table 17. Auger 1 produced no artifacts or modern materials.
Figure 18. Trench 7 west wall profile views.

**LEGEND**

- Top of grade

---

Modern fill

Unexcavated

---

Figure 18. Trench 7 west wall profile views.
Table 17. Test Results of Auger 1.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>I</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>1–2</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>2–3</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>3–4</td>
<td>II</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>4–5</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>5–6.5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0036</td>
<td>3mm</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0156</td>
<td>-</td>
</tr>
</tbody>
</table>

AUGER 2

Auger 2 was located just to the northwest of Trench 3. The soils identified reflect the nearby TS 6 soils, with the addition of Stratum IV soil below. The results of Auger 2 are presented in Table 18. Auger 2 produced no artifacts or modern materials.

Table 18. Test Results of Auger 2.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>2–3</td>
<td>III</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>3–4</td>
<td>III</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>4–5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>5–6.5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>0.0036</td>
<td>3mm</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0156</td>
<td>-</td>
</tr>
</tbody>
</table>

AUGER 3

Auger 3 was located just to the southwest of Trench 2. The results of Auger 2 are presented in Table 19. Auger 3 produced no artifacts or modern materials.
Table 19. Test Results of Auger 3.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Stratum</th>
<th>Ground-stone</th>
<th>Flaked Stone</th>
<th>Charcoal</th>
<th>Modern Material</th>
<th>Soil (m³)</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>Modern Fill</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>-</td>
</tr>
<tr>
<td>1–2</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>3mm</td>
</tr>
<tr>
<td>2–3</td>
<td>I</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>3–4</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>4–5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0024</td>
<td>3mm</td>
</tr>
<tr>
<td>5–6.5</td>
<td>IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0036</td>
<td>3mm</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0156</td>
<td>-</td>
</tr>
</tbody>
</table>

In sum, the field effort identified modern fill present across the entire parcel, a series of intact native soils, and very few artifacts from only two artifact classes. Fill soils range from 1-3 ft, with the thickest layer in the central area of the parcel. Loamy soils (Strata I-III) developed above a sandy stratum (Strata IV) in the parcels central and southern areas. The north area was entirely composed of the Strata IV sand, and in the far southwest loamy soil (Stratum II) developed over a marshy sandy-clay (Stratum V). Artifacts are vertically distributed rather evenly across Strata I, II, and IV ranging from 3.9-4.5 artifact per cubic meter. Stratum V density appears inflated due to a single artifact recovered from the small volume sampled, although remaining a sparse 18.8 artifacts/m³. No artifacts were recovered from Stratum III. Horizontally, cultural materials were present in eight TSs and distributed evenly with four artifacts in the north, four artifacts in the central area, and three artifacts in the south. However, only two artifacts were identified in the seven TSs and three Augers located greater than 20m west of the riparian corridor. No chronologically sensitive artifacts, organic artifacts, or charcoal attributable to a cultural event were recovered from the screened sample or identified in trench walls.
Conclusions and Recommendations

Visual inspection of the Project Area surface and subsurface excavations revealed no evidence of intact prehistoric or historic-era archaeological deposits.

Soils encountered were redeposited fill over five native soil strata with no evidence of culturally produced stratigraphy. Seven mechanically excavated trenches and three hand-excavated augers were used to expose subsurface soils. Thirteen Trench Samples (TS) and three augers recovered 3.7018 m³ of soil for inspection. The sample included 1.3828 m³ of fill soils characterized by differing soil types mixed with modern materials such as concrete and pavement. The remaining 2.319 m³ appeared as intact native soil. The sampled soils produced cultural material, consisting of 9 pieces of flaked stone and two groundstone implements. At least two flaked stone pieces were recovered from the redeposited fill suggesting at least some mechanical disturbance of native soil occurred on the parcel. The two groundstone implements and the additional seven flaked stone debitage pieces recovered from native soils, are likely in-situ. However, the sparse nature of the deposit (3.9 artifact per m³), paucity of artifact types, and no chronological markers or organic cultural materials for radiocarbon dating limits the ability for any archaeological interpretations. This limited and narrow assemblage, which cannot be placed within the regional dating scheme, does not allow for significant data potential, and is therefore not significant under CEQA guidelines.

Albion’s investigation at APNs 022-481-18 and 22 on Erba Lane in Scotts Valley indicates that potentially significant cultural materials are NOT located in the Project Area. Due to the proximity of archaeological site SCR-177/H, we recommend archaeological and Native American monitoring during all ground-disturbing activity.
References Cited

Archaeological Resource Management
2003    Department of Parks and Recreation Updated Site Record for P-44-000251, CA-SCR-249.
        On file at the Northwest Information Center, Rohnert Park, California.

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1963    Ecological Determinants of Aboriginal California Populations. University of California

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        at the Northwest Information Center, Rohnert Park, California.

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2000    Cross Creek: An Early Holocene/Millingstone Period Site. California State Water Project,
        Coastal Branch Series Paper Number 12. San Luis Obispo County Archaeological Society, San Luis
        Obispo.
Hylkema, M.G.

Ingram, B. Lynn, James C. Ingle, and Mark E. Conrad

Jones, Terry L., and Kathryn A. Klar (editors)

Levy, R.

Appendix A

Results of Records Search
Stella D’Oro  
Albion Environmental, Inc.  
1414 Soquel Avenue, Suite 205  
Santa Cruz, CA 95062  

re: Erba Lane

The Northwest Information Center received your record search request for the project area referenced above, located on the Felton USGS 7.5’ quad. The following reflects the results of the records search for the project area and a 0.25 mile radius:

<table>
<thead>
<tr>
<th>Resources within project area:</th>
<th>P-44-000179 (copied supplemental records).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources within 0.25 mile radius:</td>
<td>P-44-000251 &amp; 000039 (copied supplemental records).</td>
</tr>
<tr>
<td>Reports within project area:</td>
<td>S-4080, 3913, 8313, 10214, &amp; 10186 (copied S-4080, 10214, &amp; 10186).</td>
</tr>
<tr>
<td>Reports within 1/8th mile radius:</td>
<td>See enclosed database printout &amp; maps.</td>
</tr>
</tbody>
</table>

**Resource Database Printout (list):**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Resource Database Printout (details):**  
☒ enclosed  ☐ not requested  ☐ nothing listed

**Resource Digital Database Records:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Report Database Printout (list):**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Report Database Printout (details):**  
☒ enclosed  ☐ not requested  ☐ nothing listed

**Report Digital Database Records:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Resource Record Copies:**  
☒ enclosed  ☐ not requested  ☐ nothing listed

**Report Copies:**  
☒ enclosed  ☐ not requested  ☐ nothing listed

**OHP Historic Properties Directory:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Archaeological Determinations of Eligibility:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**CA Inventory of Historic Resources (1976):**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Caltrans Bridge Survey:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Ethnographic Information:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Historical Literature:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Historical Maps:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Local Inventories:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**GLO and/or Rancho Plat Maps:**  
☐ enclosed  ☒ not requested  ☐ nothing listed

**Shipwreck Inventory:**  
☐ enclosed  ☒ not requested  ☐ nothing listed
Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lisa C. Hagel
Researcher

*Notes:

** Current versions of these resources are available on-line:
  - Caltrans Bridge Survey: [http://www.dot.ca.gov/hq/structur/strmaint/historic.htm](http://www.dot.ca.gov/hq/structur/strmaint/historic.htm)
  - Shipwreck Inventory: [http://www.slc.ca.gov/Info/Shipwrecks.html](http://www.slc.ca.gov/Info/Shipwrecks.html)
Appendix B

Confidential Native American Outreach Documentation
### Communication Log for Native American Consultation: Erba Lane Development, Scots Valley, CA

Stella sent NAHC Request 12/3/2019  
NAHC responded 12/9/2019  
Letters sent to Tribes 12/10/2019

<table>
<thead>
<tr>
<th>Name</th>
<th>Tribe</th>
<th>Date</th>
<th>Action</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valentin Lopez</td>
<td>Amah Mutsun Tribal Band</td>
<td>1/6/2020</td>
<td>Mailed certified letter</td>
<td>No response.</td>
</tr>
<tr>
<td>Valentin Lopez</td>
<td>Amah Mutsun Tribal Band</td>
<td>1/13/2020</td>
<td>Emailed letter and attachments.</td>
<td>Responded 1/11/2020, “This request is very different, we'll get back to you soon.”</td>
</tr>
<tr>
<td>Valentin Lopez</td>
<td>Amah Mutsun Tribal Band</td>
<td>1/13/2020</td>
<td>Telephoned</td>
<td>The Project Area is within the Amah Mutsun territory and they strongly request their tribe to monitor construction of the development. The tribe works closely with archaeologists at UC Berkeley, including Kent Lightfoot, and they are very interested in the site. When I told him Kanyon Sayers was currently monitoring testing, he insisted that she shouldn’t be monitoring since it’s not her territory. Mr. Lopez said that if human remains are found, they do not allow radiocarbon or DNA testing. He requested that I call him when testing is complete to tell him what we retrieved. He also recommends referencing their website at <a href="http://www.amahmutsun.org">www.amahmutsun.org</a>, which gives an overview of the studies they have been involved with.</td>
</tr>
<tr>
<td>Irenne Zwierlein</td>
<td>Amah Mutsun Tribal Band of San Juan Bautista</td>
<td>12/10/2019</td>
<td>Mailed certified letter</td>
<td>No response.</td>
</tr>
<tr>
<td>Irenne Zwierlein</td>
<td>Amah Mutsun Tribal Band of San Juan Bautista</td>
<td>1/6/2020</td>
<td>Emailed letter and attachments.</td>
<td>No response.</td>
</tr>
<tr>
<td>Irenne Zwierlein</td>
<td>Amah Mutsun Tribal Band of San Juan Bautista</td>
<td>1/13/2020</td>
<td>Telephoned</td>
<td>Irenne recommends the educating the construction crew regarding cultural resources in case anything is found.</td>
</tr>
<tr>
<td>Name</td>
<td>Tribe</td>
<td>Date</td>
<td>Action</td>
<td>Response</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------------------</td>
<td>-----------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/6/2020</td>
<td>Emailed letter and attachments.</td>
<td>No response.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/13/2020</td>
<td>Telephoned</td>
<td>Left a message.</td>
</tr>
<tr>
<td>Ann Marie Sayers</td>
<td>Indian Canyon Mutsun Band of Costanoan</td>
<td>12/10/2019</td>
<td>Mailed certified letter</td>
<td>The letter was returned 1/21/2020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/6/2020</td>
<td>Emailed letter and attachments.</td>
<td>No response.</td>
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<tr>
<td></td>
<td></td>
<td>1/13/2020</td>
<td>Telephoned</td>
<td>Left a message.</td>
</tr>
<tr>
<td>Monica Arellano</td>
<td>Muwekma Ohlone Tribe of the SF Bay Area</td>
<td>12/10/2019</td>
<td>Mailed certified letter</td>
<td>No response.</td>
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<tr>
<td></td>
<td></td>
<td>1/6/2020</td>
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<td>No response.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/13/2020</td>
<td>Telephoned</td>
<td>Tried to leave a message but the mailbox is full.</td>
</tr>
<tr>
<td>Charlene Nijmeh</td>
<td>Muwekma Ohlone Tribe of the SF Bay Area</td>
<td>12/10/2019</td>
<td>Mailed certified letter</td>
<td>No response.</td>
</tr>
<tr>
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<td>1/6/2020</td>
<td>Emailed letter and attachments.</td>
<td>No response.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/13/2020</td>
<td>Telephoned</td>
<td>Charlene texted me after I left a message. I texted her back asking for comments about the project.</td>
</tr>
</tbody>
</table>
December 9, 2019

Stella D’Oro
Albion Environmental, Inc.

VIA Email to: SDoro@albionenvironmental.com; pbradley@mbakerintl.com

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Erba Road Development, Scotts Valley, Santa Cruz County.

Dear Ms. D’Oro:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:
1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:
   - Any report that may contain site forms, site significance, and suggested mitigation measures.
     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Staff Services Analyst
Attachment
Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272  
Galt, CA, 95632  
Phone: (916) 743 - 5833  
vlopez@amahmutsun.org

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road  
Woodside, CA, 94062  
Phone: (650) 851 - 7489  
amahmutsuntribal@gmail.com

Costanoan Ohlone Rumsen-Mutsun Tribe
Patrick Orozco, Chairman
644 Peartree Drive  
Watsonville, CA, 95076  
Phone: (831) 728 - 8471  
yanapvoic97@gmail.com

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28  
Hollister, CA, 95024  
Phone: (831) 637 - 4238  
ams@indiancanyon.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano,  
20885 Redwood Road, Suite 232  
Castro Valley, CA, 94546  
Phone: (408) 205 - 9714  
marellano@muwekma.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Charlene Nijmeh, Chairperson
20885 Redwood Road, Suite 232  
Castro Valley, CA, 94546  
Phone: (408) 464 - 2892  
cnjmeh@muwekma.org

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65352.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed Erba Road Development, Scotts Valley, Santa Cruz County.

PROJ-2019-006230  
12/09/2019 01:16 PM  
1 of 1
December 10, 2019

Ms. Monica Arellano
20885 Redwood Road, Suite 232
Castro Valley, California 94546

RE: Native American Consultation for the Erba Lane Development Project, Scotts Valley, Santa Cruz County, California

Dear Ms. Arellano:

Albion Environmental, Inc (Albion), on behalf of the City of Scotts Valley, seeks your consultation for the Erba Lane Development Project (Project). The proposed work is to develop a 1.04-acre site consisting of two parcels (APNs 022-481-18 and 22) for residential land-use (Attachment 1). The Project involves the creation of twelve lots and two common lots for six single-family homes and three duplex units.

As the proposed Project requires an amendment to the existing General Plan of Scotts Valley and a California Environmental Quality Act (CEQA) review, Native American outreach must be conducted under Assembly Bill 52 regulations. The regulations state that all tribes have 30 days to comment.

Results of a record search conducted at the Northwest Information Center reveals five studies have been conducted within the Project APE and nineteen studies have been conducted within a 1/8-mile of the Project APE. One cultural resource has been recorded within the Project APE and two cultural resources have been recorded within a 1/4-mile radius of the APE. A summary of the studies and cultural resources are included in Attachments 2 and 3.

Archaeological resource CA-SCR-177/H located within the Project Area includes both historic and precolonial components. Both components are discussed below.

HISTORIC COMPONENT

CA-SCR-177/H includes the location of the Scott House, which was constructed as a residence for Hiram Scott and his family in 1858. The house is significant for its architecture (Greek Revival) and historical importance to the region. Mr. Scott was one of the original settlers in the area and is the person after whom Scotts Valley is named. The house is listed in the National Register of Historic Places. The boundaries of CA-SCR-177/H include the house and its parcel despite the fact that it was moved to its present location in 1936 due to the construction of Highway 17. The original location of the Scott House is not included within the current boundaries of CA-SCR-177/H.
PRECOLONIAL COMPONENT

The precolonial component of CA-SCR-177/H was originally recorded as a lithic scatter (Cooper 1979). In 1980, Dr. Robert Carter conducted an archaeological evaluation for the proposed construction of a City Hall for Scots Valley (Cartier 1980). Radiocarbon assays from the initial study returned dates of 7,000-10,000 years before present (BP), very early for this region and for California as a whole.

Past actions to the site resulted in lawsuits that were settled out of court in October 1982 (Cartier 1993). The settlement required the City of Scots Valley to fund two large data recovery efforts in 1983 and 1987. The data recovery sampled over 400 cubic meters of cultural soils along the northeast portion of the CA-SCR-177, and over 40 cubic meters from the southcentral area.

Very few sites dating from before 10,000 BP have been investigated; some researchers have suggested that earliest Californians established residences along estuaries and bay shores. The Scots Valley site (CA-SCR-177) is one of the few inland sites in the region with such early dates. Carter’s (1993:271-273) report on the data recovery suggests the earliest cultural stratum of CA-SCR-177 dates to at least 10,500 BP. Since the soils are too acidic for bone or shell preservation, dates were extrapolated from radiocarbon dating charcoal in column samples, obsidian hydration, and diagnostic artifacts including an eccentric crescent, small leaf-shaped and medium lanceolate projectile points, knives, and hammerstones.

More recently, Jones et. al (Jones and Klar 2007) suggests that there are numerous issues compromising interpretations of the site’s stratigraphic integrity and dating. The excavation unit used for radiocarbon dating during the 1987 data recovery produced dates from every millennium from 13,000 BP to present, although not in stratigraphic order. In 1987, radiocarbon studies required large amounts of charcoal. It was a common practice to use column samples, which included many pieces of charcoal producing an average date likely from many burn events. Additionally, the charcoal may or may not be cultural in origin as natural forest fires are common in the region. Currently, much smaller carbon (bone, shell, charcoal) samples are necessary to return accurate dates. Carbon samples are ideally taken from known cultural phenomena, such as transported shell, cut/cooked faunal bone, or discrete archaeological features such as hearths or human burials. Jones et al (2007:135) acknowledges the radiocarbon dates from two intact hearth features place the earliest well dated occupation of the site into the Millingstone Period at 8,000 BP, still of remarkable antiquity.

A host of small archaeological projects have identified archaeological materials as far south as the Bank of America lot at the corner of Erba Lane and Scots Valley Drive (Table 1). At this point, the archaeological site boundaries are limited to the City of Scots Valley City Hall lot, the adjacent park, and the lot of the current Project. The actual boundaries of the archaeological site are currently unknown.
Table 1. Archaeological Reports Associated with CA-SCR-177/H.

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Stella D’Oro, MA, RPA
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Jones, Terry L., and Kathryn A. Klar (editors)
December 10, 2019

Mr. Valentín Lopez
P.O. Box 5272
Galt, California 95632

RE: Native American Consultation for the Erba Lane Development Project, Scotts Valley, Santa Cruz County, California

Dear Mr. Lopez:

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Jones, Terry L., and Kathryn A. Klar (editors)
2007  *California Prehistory: Colonization, Culture, and Complexity.* AltaMira Press, Plymouth, United Kingdom.
December 10, 2019

Charlene Nijmeh
20885 Redwood Road, Suite 232
Castro Valley, California 94546

RE: Native American Consultation for the Erba Lane Development Project, Scotts Valley, Santa Cruz County, California

Dear Charlene Nijmeh:

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Jones, Terry L., and Kathryn A. Klar (editors)
December 10, 2019

Mr. Patrick Orozco
644 Peartree Drive
Watsonville, California 95076

RE: Native American Consultation for the Erba Lane Development Project, Scotts Valley, Santa Cruz County, California

Dear Mr. Orozco:

Albion Environmental, Inc (Albion), on behalf of the City of Scotts Valley, seeks your consultation for the Erba Lane Development Project (Project). The proposed work is to develop a 1.04-acre site consisting of two parcels (APNs 022-481-18 and 22) for residential land-use (Attachment 1). The Project involves the creation of twelve lots and two common lots for six single-family homes and three duplex units.

As the proposed Project requires an amendment to the existing General Plan of Scotts Valley and a California Environmental Quality Act (CEQA) review, Native American outreach must be conducted under Assembly Bill 52 regulations. The regulations state that all tribes have 30 days to comment.

Results of a record search conducted at the Northwest Information Center reveals five studies have been conducted within the Project APE and nineteen studies have been conducted within a 1/8-mile of the Project APE. One cultural resource has been recorded within the Project APE and two cultural resources have been recorded within a 1/4-mile radius of the APE. A summary of the studies and cultural resources are included in Attachments 2 and 3.

Archaeological resource CA-SCR-177/H located within the Project Area includes both historic and precolonial components. Both components are discussed below.

HISTORIC COMPONENT

CA-SCR-177/H includes the location of the Scott House, which was constructed as a residence for Hiram Scott and his family in 1858. The house is significant for its architecture (Greek Revival) and historical importance to the region. Mr. Scott was one of the original settlers in the area and is the person after whom Scotts Valley is named. The house is listed in the National Register of Historic Places. The boundaries of CA-SCR-177/H include the house and its parcel despite the fact that it was moved to its present location in 1936 due to the construction of Highway 17. The original location of the Scott House is not included within the current boundaries of CA-SCR-177/H.
PRECOLONIAL COMPONENT

The precolonial component of CA-SCR-177/H was originally recorded as a lithic scatter (Cooper 1979). In 1980, Dr. Robert Cartier conducted an archaeological evaluation for the proposed construction of a City Hall for Scots Valley (Cartier 1980). Radiocarbon assays from the initial study returned dates of 7,000-10,000 years before present (BP), very early for this region and for California as a whole.

Past actions to the site resulted in lawsuits that were settled out of court in October 1982 (Cartier 1993). The settlement required the City of Scots Valley to fund two large data recovery efforts in 1983 and 1987. The data recovery sampled over 400 cubic meters of cultural soils along the northeast portion of the CA-SCR-177, and over 40 cubic meters from the southcentral area.

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A host of small archaeological projects have identified archaeological materials as far south as the Bank of America lot at the corner of Erba Lane and Scots Valley Drive (Table 1). At this point, the archaeological site boundaries are limited to the City of Scots Valley City Hall lot, the adjacent park, and the lot of the current Project. The actual boundaries of the archaeological site are currently unknown.
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Jones, Terry L., and Kathryn A. Klar (editors)
December 10, 2019

Ms. Ann Marie Sayers
P.O. Box 28
Hollister, California 95024

RE: Native American Consultation for the Erba Lane Development Project, Scotts Valley, Santa Cruz County, California

Dear Ms. Sayers:

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<td>1984</td>
<td>The Scotts Valley Site (CA-SCR-177)</td>
<td>Archaeological Resource Management</td>
</tr>
<tr>
<td>1986</td>
<td>Cultural Resource Evaluation of a Parcel on Erba Lane in the City of Scotts Valley, County of Santa Cruz</td>
<td>Archaeological Resource Management</td>
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<td>1987</td>
<td>Archaeological Testing at the Civic Center Cooperative Parking Lot in the City of Scotts Valley, County of Santa Cruz</td>
<td>Archaeological Resource Management</td>
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<td>Archaeological Testing at the Cask-Pacific Parcel on Civic Center Drive in the City of Scotts Valley, County of Santa Cruz</td>
<td>Archaeological Resource Management</td>
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<td>Cultural Resource Evaluation of Landscaping of Scott House Park in the City of Scotts Valley, County of Santa Cruz</td>
<td>Archaeological Resource Management</td>
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<td>1989</td>
<td>Salvage Mitigation Excavation Report for the Scott House Park in the City of Scotts Valley, County of Santa Cruz</td>
<td>Archaeological Resource Management</td>
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<td>The Scotts Valley Site: CA-SCR-177</td>
<td>Archaeological Resource Management, The Santa Cruz Archaeological Society</td>
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<td>2003</td>
<td>Archaeological Monitoring Report for the Project Parcel APN 022 121 05 in the City of Scotts Valley, County of Santa Cruz, California</td>
<td>none listed</td>
</tr>
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</table>
Thank you for considering this consultation request. Please contact me at your earliest convenience to discuss this Project. I may be reached by email at sdoro@albionenvironmental.com or telephone, 831.345.7504. I will be contacting you again by email and by telephone prior to the end of the 30-day commenting period to be sure you have received notice about the Project.

Sincerely,

Stella D’Oro, MA, RPA
Senior Archaeologist

Attachment 1. Location Map
Attachment 2. Summary of Reports
Attachment 3. Site Records

REFERENCES CITED

Cartier, R
1980  *Archaeological Evaluation of the Scotts Valley City Hall Project. On file at the Northwest Information Center, Rohnert Park, California.*

Cartier, R.
1993  *The Scotts Valley Site: CA-SCR-177.* A monograph published by the Santa Cruz Archaeological Society, Santa Cruz, CA. In conjunction with Archaeological Resource Management, Robert Cartier, Principal.

Cooper, J.
1979  *Cabrillo College Archaeological Site Survey Record for P-44-000179 (CA-SCR-177/H).* On file at the Northwest Information Center, Rohnert Park, California.

Jones, Terry L., and Kathryn A. Klar (editors)
2007  *California Prehistory: Colonization, Culture, and Complexity.* AltaMira Press, Plymouth, United Kingdom.
Attachment 1

Location Map
Figure A1-1. Project location, Erba Lane, Scotts Valley, California.
Attachment 2

Summary of Reports
Report Detail: S-003913

Identifiers

Report No.: S-003913
Other IDs: Type Name
Voided E-167 SCR

Citation information

Author(s): William Roop, Leo Barker, and Charlene Detlefs
Year: 1977 (Aug)
Title: Cultural Resource Inventory of the Scotts Valley Wastewater Project Service Area
Affiliation: Archaeological Resource Service
No. pages:
No. maps:
Attributes: Archaeological, Architectural/historical, Field study
Inventory size: c 2000 ac
Disclosure: Not for publication
Collections: No

Sub-desig.: a
Author(s): Leo Barker and Charlene Detlefs
Year: 1977 (Aug)
Title: Historical Synopsis and Site Inventory of Scotts Valley
Affiliation:
Report type(s): Architectural/historical, Field study, Other research
Inventory size:
No. pages: 34
Disclosure: Not for publication
Collections: No
PDF Pages: 22-57

General notes
C-1156 (a historic stage stop), 5 unrecorded prehistoric sites, and 16 unrecorded historic resources are within the project area (see pdf pp. 8 through 11).

Associated resources

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<td>CA-SCR-000078</td>
<td>J.J. Graham Peat Bog</td>
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<td>P-44-000092</td>
<td>CA-SCR-000088/H</td>
<td>Hiram Scott House</td>
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<td>CA-SCR-000177/H</td>
<td>SV-1</td>
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<tr>
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No. resources: 7
Has informals: Yes

Location information

County(ies): Santa Cruz
USGS quad(s): Felton, Laurel
Address:
PLSS:
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<td>jay</td>
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<td>rinerg</td>
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### Record status: Verified
Report Detail: S-004080

Identifiers

Report No.: S-004080
Other IDs: Type     Name
          Voided     E-334 SCR

Cross-refs:

Citation information

Author(s): Robert Cartier
Year: 1980 (Mar)
Title: Archeological Evaluation of the Scotts Valley City Hall Project
Affiliation: Archeological Resource Management
No. pages:
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

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No. resources: 1
Has informals: No

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address: McDorsa Drive
City: Scotts Valley
Assessor's parcel no.
Zip code

PLSS:

Database record metadata

Date     User         Action taken
Entered: 4/7/2005     nwic-main      Appended records from NWICmain bibliographic database.
Last modified: 11/8/2019     hagell
IC actions: Date     User       Action taken
        4/7/2005     jay               Added collections and location info.
        11/5/2019   moored
Report Detail: S-006016

Identifiers

Report No.: S-006016
Other IDs:
Cross-refs:

Citation information

Author(s): Robert Cartier
Year: 1983 (May)
Title: Cultural Resource Evaluation of the Lands of Overbow on Scotts Valley Drive in the City of Scotts Valley, Santa Cruz County, California.
Affiliation: Archeological Resource Management
No. pages:
No. maps:
Attributes: Archaeological, Field study
Inventory size: c 2.26 ac
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address: Scotts Valley Drive
City: Scotts Valley
Assessor’s parcel no.
Zip code:

PLSS:

Database record metadata

Date Entered: 4/7/2005
Last modified: 11/8/2019
IC actions: 4/7/2005 jay
Action taken: Appended records from NWICmain bibliographic database.

Record status: Verified
### Identifiers

**Report No.:** S-006819  
**Other IDs:**  
**Cross-refs:**

### Citation information

**Author(s):** James C. Bard, Raymond J. Dezzani, Mary R. Davy, Rebecca L. Anastasio, and Donna M. Garaventa  
**Year:** 1984 (May)  
**Title:** Limited Archaeological Testing at CA-SCR-177, Scotts Valley Office Plaza, Scotts Valley, California  
**Affiliation:** Basin Research Associates, Inc.  
**No. pages:**  
**No. maps:**  
**Attributes:** Archaeological, Excavation  
**Inventory size:**  
**Disclosure:** Not for publication  
**Collections:** Yes

**Sub-desig.:** a  
**Author(s):** Charlene Detlefs  
**Year:** 1983 (Jul)  
**Title:** Historical Background of the Scott House Site on Scotts Valley Drive in the City of Scotts Valley, County of Santa Cruz, California  
**Affiliation:** Archaeological Resource Management  
**Report type(s):** Archaeological, Architectural/historical, Other research  
**Inventory size:**  
**Disclosure:** Not for publication  
**Collections:** No  
**PDF Pages:** 106-139

**Sub-desig.:** b  
**Author(s):** Donald G. Sullivan  
**Year:** 1984  
**Title:** Results of Pollen Analysis on Soil Samples from Unit #1, CA-Scr-177  
**Affiliation:** University of California, Berkeley  
**Report type(s):** Archaeological, Other research  
**Inventory size:**  
**Disclosure:** Not for publication  
**Collections:** No  
**PDF Pages:** 140-142

### General notes

### Associated resources

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**No. resources:** 1  
**Has informals:** No

### Location information

**County(ies):** Santa Cruz  
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**Address:**  
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<td>moored</td>
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Report Detail: S-008313

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Citation information

- **Author(s):** Robert Cartier, Charlene Detlefs, and Glory Laffey
- **Year:** 1980
- **Title:** Cultural Resource Evaluation of the Scotts Valley Redevelopment Area in the City of Scotts Valley, County of Santa Cruz
- **Affiliation:** Archeological Resource Management
- **No. pages:**
- **No. maps:**
- **Attributes:** Archaeological, Architectural/historical, Field study
- **Inventory size:** 925 ac
- **Disclosure:** Not for publication
- **Collections:** No

General notes

The report contains descriptions and mapped locations of unrecorded historic resources.

Associated resources

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- **No. resources:** 7
- **Has informals:** Yes

Location information

- **County(ies):** Santa Cruz
- **USGS quad(s):** Felton, Laurel
- **Address:**
- **PLSS:**

Database record metadata

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<td>mikulik</td>
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Record status: Verified
Report Detail: S-009717

Identifiers
- Report No.: S-009717
- Other IDs:
- Cross-refs:

Citation information
- Author(s): Robert Cartier
- Year: 1988 (Jan)
- Title: Cultural Resource Evaluation of Scotts Valley Water District Headquarters Building in the City of Scotts Valley, County of Santa Clara
- Affiliation: Archeological Resource Management
- No. pages:
- No. maps:
- Attributes: Archaeological, Field study

Inventory size:
- Disclosure: Not for publication
- Collections: No

General notes
The report title mistakenly states that the study area is located in Santa Clara County; the report is actually located in Santa Cruz County (JA 11/7/2019).

Associated resources
- No. resources: 0
- Has informals: No

Location information
- County(ies): Santa Cruz
- USGS quad(s): Felton
- Address: Scotts Valley Drive
- City: Scotts Valley
- Assessor's parcel no.: 22-081-32, 22-081-33, 22-081-92
- Zip code:

PLSS:

Database record metadata
- Entered: 4/7/2005
- Last modified: 11/8/2019
- IC actions: Date | User | Action taken
  - 4/7/2005 | jay | Appended records from NWICmain bibliographic database.
  - 11/6/2019 | moored | Added month, collections, and location info.
  - 11/7/2019 | akmenkalnsj | Added general note stating mistake in title; verified
- Record status: Verified
Report Detail: S-010186

Identifiers

Report No.: S-010186
Other IDs:
Cross-refs:

Citation information

Author(s): Robert Cartier
Year: 1988 (Aug)
Title: Archaeological Testing at the Cask-Pacific Parcel on Civic Center Drive in the City of Scotts Valley, County of Santa Cruz
Affiliation: Archeological Resource Management
No. pages:
No. maps:
Attributes: Archaeological, Excavation
Inventory size:
Disclosure: Not for publication
Collections: Yes

General notes

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<td>Hiram Scott House</td>
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No. resources: 1
Has informals: No

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address: Address
City: Scotts Valley
Assessor's parcel no.: 
Zip code: 
PLSS:

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Record status: Verified
Report Detail: S-010214

Identifiers
- Report No.: S-010214
- Other IDs:
- Cross-refs:

Citation information
- Author(s): Robert Cartier
- Year: 1988 (Sep)
- Title: Cultural Resource Evaluation of Landscaping of Scott House Park in the City of Scotts Valley, County of Santa Cruz
- Affiliation: Archeological Resource Management
- No. pages:
- No. maps:
- Attributes: Archaeological, Field study
- Inventory size:
- Disclosure: Not for publication
- Collections: No

General notes

Associated resources

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No. resources: 1
Has informals: No

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Report Detail: S-010522

Identifiers

Report No.: S-010522
Other IDs:
Cross-refs:

Citation information

Author(s): Robert Cartier
Year: 1988 (Oct)
Title: Cultural Resource Evaluation of the Ridgecrest Project on Civic Center Drive in the City of Scotts Valley, County of Santa Cruz
Affiliation: Archeological Resource Management
No. pages:
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Historic fence line remnants were discovered. (DM, 11/7/19)

Associated resources

No. resources: 0
Has informals: Yes

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address: Address
City: Scotts Valley
Assessor’s parcel no.: 
Zip code:
PLSS:

Database record metadata

Date User
Entered: 4/7/2005 nwic-main
Last modified: 11/8/2019 hagell
IC actions: Date User Action taken
4/7/2005 jay Appended records from NWICmain bibliographic database.
11/6/2019 moored Added collections and month.
11/7/2019 akmenkalnsj Verified

Record status: Verified
Report Detail: S-010854

Identifiers

Report No.: S-010854
Other IDs:
Cross-refs:

Citation information

Author(s): Robert Cartier
Year: 1989 (May)
Title: Salvage Mitigation Excavation Report for the Scott House Park in the City of Scotts Valley, County of Santa Cruz
Affiliation: Archaeological Resource Management
No. pages:
No. maps:
Attributes: Archaeological, Excavation
Inventory size:
Disclosure: Not for publication
Collections: Yes

General notes

Associated resources

Primary No. Trinomial Name
P-44-000179 CA-SCR-000177/H Hiram Scott House

No. resources: 1
Has informals: No

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address: Address
City: Scotts Valley
Assessor’s parcel no.
Zip code:

PLSS:

Database record metadata

Date User
Entered: 4/7/2005 nwic-main
Last modified: 11/7/2019 akmenkalnsj

IC actions: Date User Action taken
4/7/2005 jay Appended records from NWICmain bibliographic database.
11/6/2019 moored Added collections, author, and location info.
11/7/2019 akmenkalnsj Collections=yes; verified

Record status: Verified
Report Detail: S-013326

Identifiers
   Report No.: S-013326
   Other IDs: 
   Cross-refs: 

Citation information
   Author(s): Robert Cartier
   Year: 1991 (Aug)
   Title: Cultural Resource Evaluation of 4301 Scotts Valley Drive in the City of Scotts Valley, County of Santa Cruz
   Affiliation: Archaeological Resource Management
   No. pages: 
   No. maps: 
   Attributes: Archaeological, Field study
   Inventory size: c. 1 ac
   Disclosure: Not for publication
   Collections: No

General notes

Associated resources
   No. resources: 0
   Has informals: No

Location information
   County(ies): Santa Cruz
   USGS quad(s): Felton
   Address: 4301 Scotts Valley Drive
   City: Scotts Valley
   Assessor's parcel no.: 
   Zip code: 
   PLSS: 

Database record metadata
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   Last modified: 8/6/2015	rinerg
   IC actions: Date	User	Action taken
              4/7/2005	jay	Appended records from NWICmain bibliographic database.
   Record status: Verified
Report Detail: S-015134

Identifiers

Report No.: S-015134
Other IDs:
Cross-refs:

Citation information

Author(s): Robert Cartier, Rob Edwards, Gerrit Fenenga, Terry Jones, Alan Leventhal, Charlotte Simpson-Smith, Vasiliki Vassil, and Glen Wilson
Year: 1993
Title: The Scotts Valley Site: CA-SCR-177
Affiliation: Archaeological Resource Management; The Santa Cruz Archaeological Society
No. pages:
No. maps:
Attributes: Archaeological, Excavation
Inventory size:
Disclosure: Not for publication
Collections: Yes

General notes

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<td>Hiram Scott House</td>
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No. resources: 1
Has informals: No

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address:
PLSS:

Database record metadata

Date       User          Action taken
Entered:   4/7/2005     nwic-main
Last modified: 11/8/2019 hagell

IC actions: Date       User          Action taken
4/7/2005     jay          Appended records from NWICmain bibliographic database.
11/6/2019    moored       No month submitted, added collections.
11/7/2019    akmenkalnsj  Collections=Yes; verified

Record status: Verified
Identifiers

Report No.: S-016354
Other IDs:
Cross.refs:

Citation information

Author(s): Glory Anne Laffey, Marion Pokriots, Charlene Detlefs, Leslie Hurst, and Edith Smith
Year: 1990 (Apr)
Title: Evaluation of Potential Historic Structures in the City of Scotts Valley
Affiliation: Archives & Architecture
No. pages:
No. maps:
Attributes: Architectural/historical, Evaluation, Field study, Management/planning
Inventory size:
Disclosure: Not for publication
Collections: No

General notes
This report contains information on numerous historic-era buildings and structures.

Associated resources

No. resources: 0
Has informals: Yes

Location information

County(ies): Santa Cruz
USGS quad(s): Felton
Address:
PLSS:

Database record metadata

Date Entered: 4/7/2005
User nwic-main
Last modified: 1/26/2017
User hagell
IC actions: Date 4/7/2005 User jay Action taken Appended records from NWICmain bibliographic database.

Date 1/26/2017 User hagell Action taken edited notes

Record status: Verified
Report Detail: S-018971

Identifiers
   Report No.: S-018971
   Other IDs: 
   Cross-refs: 

Citation information
   Author(s): Robert Cartier and Lynne Eckert
   Year: 1996 (Oct)
   Title: Cultural Resource Evaluation for the Pacific Bell West Bay Project, Located at 4860 Scotts Valley Drive in the City of Scotts Valley, Santa Cruz County
   Affiliation: Archaeological Resource Management
   No. pages: 
   No. maps: 
   Attributes: Archaeological, Field study
   Inventory size: 
   Disclosure: Not for publication
   Collections: No

General notes
   Stone tool artifacts and stone tool manufacturing debris were discovered. (DM, 11/7/19)

Associated resources
   No. resources: 0
   Has informals: Yes

Location information
   County(ies): Santa Cruz
   USGS quad(s): Felton
   Address: Address
   City: Scotts Valley
   Assessor's parcel no. 
   Zip code: 
   PLSS: 

Database record metadata
   Date         User
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   Last modified: 11/7/2019   akmenkalnsj
   IC actions: Date         User         Action taken
   4/7/2005   jay          Appended records from NWICmain bibliographic database.
   11/6/2019   moored      Added collections, month, and location info.
   11/7/2019   akmenkalnsj  Verified

Record status: Verified
Report Detail: S-020294

Identifiers
Report No.: S-020294
Other IDs:
Cross-refs:

Citation information
Author(s): Gary S. Breschini and Mary Doane
Year: 1998 (Apr)
Title: Final Report on Archaeological Mitigation at CA-SCR-177 for Construction on APN 022-082-037 at 101 Civic Center Drive, Scotts Valley, Santa Cruz, California
Affiliation: Archaeological Consulting
No. pages:
No. maps:
Attributes: Archaeological, Excavation
Inventory size:
Disclosure: Not for publication
Collections: Yes

Sub-design.: a
Author(s): Gary S. Breschini and Mary Doane
Year: 1997 (Nov)
Title: Preliminary Archaeological Mitigation Plan for Assessor's Parcel Number 022-082-37, 101 Civic Center Drive, Scotts Valley, Santa Cruz County, California
Affiliation: Archaeological Consulting
Report type(s): Archaeological, Management/planning, Other research
Inventory size:
No. pages:
Disclosure: Not for publication
Collections: No
PDF Pages: 22-29

Sub-design.: b
Author(s): David G. DeVries
Year: 1997 (Nov)
Title: Soil Observations Northeast of CA-SCR-177, Scott’s Valley, Santa Cruz County, California
Affiliation: Mesa Technical
Report type(s): Archaeological, Other research
Inventory size:
No. pages:
Disclosure: Not for publication
Collections: No
PDF Pages: 50-74

General notes
The report contains a copy of S-10186.

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No. resources: 1
Has informals: No

Location information
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USGS quad(s): Felton
Address: 101 Civic Center Drive
City: Scott's Valley
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Report No.: S-022631
Other IDs:
Cross-refs:

Citation information

Author(s): Robert Cartier
Year: 1999 (Oct)
Title: Cultural Resource Evaluation of Approximately 2.5 Acres of Land off Scotts Valley Drive in the City of Scotts Valley
Affiliation: Archaeological Resource Management
No. pages: 
No. maps: 
Attributes: Archaeological, Field study
Inventory size: 
Disclosure: Not for publication
Collections: No

General notes

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No. resources: 1
Has informals: No

Location information

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USGS quad(s): Felton
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Assessor's parcel no.: 
Zip code: 
PLSS: 

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IC actions: Date            User            Action taken
 4/7/2005 jay            Appended records from NWICmain bibliographic database.
 11/6/2019 moored         Added collections.
 11/7/2019 akmenkalnsj   Verified

Record status: Verified
GEOTECHNICAL INVESTIGATION
Medium to High Density Residential Development
Erba Lane
Scotts Valley, California

Prepared For
Ken Anderson
City of Scotts Valley
Scotts Valley, California

Prepared By
HARO, KASUNICH AND ASSOCIATES, INC.
Geotechnical & Coastal Engineers
Project No. SC8998
November 2005
MR. KEN ANDERSON
City Of Scotts Valley Public Works
One Civic Center Drive
Scotts Valley, California  95066

Subject:  Geotechnical Investigation – Feasibilty Study
Medium to High Density Residential Development
Erba Lane
Scotts Valley, California

Dear Mr. Anderson:

In accordance with your authorization, we have performed a Geotechnical Investigation for the referenced project in the City of Scotts Valley in Santa Cruz County, California.

The results of our investigation indicate there are no adverse geotechnical hazards that would preclude the development of this project. Primary geotechnical concerns at the site include strong seismic shaking, adequate bearing support for foundations, and appropriate control of surface runoff. Due to variations in density and consistency across the property between the native soils and areas of loose fill, a conventional spread footing foundation system supported on reconsolidated compacted soil is recommended for this project.

The accompanying report presents our conclusions and recommendations, as well as the results of the geotechnical investigation on which they are based.

If you have any questions concerning the data or conclusions presented in this report, please call our office.

Very truly yours,

HARO, KASUNICH AND ASSOCIATES, INC.

Moses E. Cuprill
Staff Engineer

John E. Kasunich
G/E 455

MEC/dk
Copies:  5 to Addressee
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GEOTECHNICAL INVESTIGATION
Medium to High Density Residential Development
Erba Lane
Scotts Valley, California

Introduction

This report summarizes the findings, conclusions and recommendations from our site-specific geotechnical investigation for the proposed multi-residential development of a lot located on the north side of Erba Lane 500 feet west of Scotts Valley Drive.

At the time of this report, building and grading plans had not yet been developed. Therefore, some of the recommendations presented in this report are general in nature. Our firm should be provided the opportunity for a geotechnical review of the project plans prior to construction, so that our recommendations may be properly interpreted and implemented, and to determine if this preliminary report is adequate and complete for the final planned grading and construction. It is not intended that the geotechnical engineer approve or disapprove the plans, but to provide an opportunity to update the preliminary report and include additions or qualifications as necessary.
**Purpose and Scope**

The purpose of our investigation was to explore the subsurface conditions at the site, in order to assess the subsoil characteristics, evaluate the soil-structure interaction from a static (dead plus live) loading condition and develop geotechnical recommendations pertaining to earthwork and foundation design. It is presumed the latest UBC (1997) edition design considerations, specifically the seismic factors and coefficients from Chapter 16, Volume 2, will be followed in the design of the residential-type structures.

The specific scope of our services was as follows:

1. Site reconnaissance and review of available data in our files regarding the site and region.

2. Field exploration, consisting of logging and interval sampling of six (6) exploratory borings drilled to depths of 11 to 31 feet. The soil samples obtained were sealed and returned to the laboratory for testing.

3. Field and laboratory testing of selective samples obtained. Moisture content, particle size distribution, and dry density tests of selected samples were performed to evaluate the consistency of the in-situ soils. Laboratory direct shear tests were performed at selective intervals to evaluate the strength properties of the soils.
4. Engineering analysis and evaluation of the resulting data, in order to determine geotechnical feasibility of development and develop geotechnical design criteria for general site grading, building foundations, concrete slab-on-grade, retaining walls, and general site drainage.

5. Preparation of a geotechnical investigation report, presenting the results of our investigation.

**Site and Project Description**

The subject property is located on the north side of Erba Lane 500 feet west of Scotts Valley Drive in Santa Cruz County, California (see Vicinity Map, Figure No. 1). The property is bounded by business development to the south, Erba Lane to the west, residential development to the north, and an intermittent drainage swale to the east. The property is generally level with a 5% slope to the south. It currently serves as a parking lot with a chip seal coat on the surface. Two large waste bins are currently placed in the parking lot for local yard waste disposal. Fill placed under the chip seal on the south end of the lot creates a berm to the adjacent paved parking lot.

Based on our discussions with the City of Scotts Valley, the lot will be sold for development of multi-family structures. We presume the structures will be two-story, of wood frame and/or masonry construction, combined with some concrete slab-on-grade floors. Actual
loads are not known at this time but are expected to be typical of such construction. We have presumed that proposed construction will include driveway access, patios and sidewalks, and attendant utilities and landscaping. Minor grading is expected.

**Field Exploration**

Our investigation included a site reconnaissance by the project engineer, and on 1 September 2005 subsurface conditions were explored by drilling six (6) exploratory borings to depths of 11 to 31 feet. The borings were drilled with 6-inch diameter, continuous flight auger equipment mounted on a truck. The approximate locations of the borings are shown on the Boring Site Plan, Figure No. 2.

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using a 3.0 inch O.D. Modified California Sampler (L), or by a Standard Terzaghi Sampler (T). The soils encountered in the borings were continuously logged in the field and visually described in accordance with the Unified Soil Classification System (ASTM D2488). The Logs of Test Borings are included in the Appendix of this report. The logs depict subsurface conditions at the approximate locations shown on the Boring Site Plan; subsurface conditions at other locations may differ from those encountered at the explored locations. Stratification lines shown on the logs represent the approximate boundaries between soil types; actual transitions may be gradual.
The penetration blow counts noted on the boring logs were obtained by driving a sampler into the soil with a 140-pound hammer dropping through a 30-inch fall. The sampler was driven up to 18 inches into the soil and the number of blows counted for each 6-inch penetration interval. The numbers indicated on the logs are the total number of blows that were recorded for the second and third 6-inch intervals, or the blows that were required to drive the penetration depth shown if high resistance was encountered.

**Laboratory Testing**

Soil samples obtained from the borings at selected depths were taken to our laboratory for further examination and laboratory testing. The laboratory testing program was directed toward determining pertinent engineering properties of the potential foundation zone soils.

The soils were classified based on visual observation during drilling and laboratory test results. Sieve analyses on select samples were conducted and are recorded on the boring logs. The particle size distribution from a sieve analysis helps clarify the identity of the soil class. Natural moisture contents and dry densities were determined on selected samples and are recorded on the boring logs at the appropriate depths. Since water has a significant influence on soil, the natural moisture content provides a rough indicator of the soil's compressibility, strength, and potential expansion characteristics. A compaction test of the near surface, fill soils on the east side of the site was done to compare insitu densities of the fill sampled during our investigation.
The strength parameters of the underlying earth materials were determined from laboratory direct shear and field penetration resistance of the in-situ soils.

**Subsurface Conditions**

In general, the native earth materials underlying this site to the depths explored consist of silty sand with traces of gravel clasts. The silty sand is loose near the ground surface but becomes medium dense to dense with depth.

Fill composed of orange and brown silty sand with ¾ inch granite (possibly baserock) was encountered at the surface in each of the borings. Deeper fill (to 5 feet) was encountered on the northeast side of the parking lot. The fill appears to be a graded wedge since the depth of fill increased from north to south. Stockpiled fill has been placed around the south and south-east perimeters of the site to form a small berm. The deeper fill consisted of very loose silty sand and drain rock encountered in Boring No. 1, on the eastern end of the property.

In general, it is our opinion that the native materials underlying this site possess adequate engineering characteristics for support of the proposed improvements, provided our recommendations are incorporated into the design and construction of the project. The fill materials are unsuitable for structural support in their present condition and should be
removed from proposed improvement areas or redensified as engineered fill in accordance with the recommendations of this report.

**Groundwater**

Groundwater was encountered at a depth of 13 feet below existing grade in Boring Number 3. It should be noted that ground water levels will fluctuate due to variations in rainfall or other factors not evident during our investigation.

**Seismic Considerations**

The following is a general discussion of seismic considerations affecting the project area. Detailed studies of seismicity, faulting and other geologic hazards are beyond the scope of this study.

**Seismic Shaking**

The primary seismic hazard associated with the proposed development appears to be the potential for strong ground shaking. Experience following the 17 October 1989 Loma Prieta earthquake indicates that the quality of construction is a primary factor affecting the amounts of earthquake damage sustained by wood framed structures. Most of the structural damage from the Loma Prieta earthquake was sustained in buildings where the foundations were not adequately embedded into firm materials, where the wood-frame was
not well braced for lateral shear and/or where the wood-frame was not securely tied to the building foundations.

Conversely, where wood-frame structures were supported on foundations embedded into firm material, well braced for lateral shear and securely tied to the foundation, structural damage was generally minor, even in areas quite close to the epicenter where structures sustained very strong to severe ground shaking. Based on these considerations, the risk of substantial structural damage from earthquakes appears relatively low for well-built structures which incorporate lateral shear bracing and modern building code requirements into their design and construction.

It is highly probable that a major earthquake will occur in northern California during the next 50 years. During a major earthquake epicentered nearby, there is a potential for severe ground shaking at this site. Structures designed in accordance with the most current UBC should react well to seismic shaking.

**UBC Design Criteria**

Based on the information gathered from our borings we have classified the site soil conditions as Soil Type S₅ as defined in Table 16-J of the 1997 UBC. The following table indicates the 1997 UBC seismic coefficients appropriate for this site. These are minimum
values; the project designer or structural designer may utilize more conservative values at
his or her discretion.

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<th>R.I. (yr)</th>
<th>Mmax (Mw)</th>
<th>SLIP RATE (mm/yr)</th>
<th>UBC FAULT TYPE</th>
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<td>San Andreas</td>
<td>12km 7.5 Miles</td>
<td>210</td>
<td>7.9</td>
<td>24.0</td>
<td>A</td>
<td>1.0</td>
<td>1.1</td>
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<td>.70</td>
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<tr>
<td>Zayante</td>
<td>6 km 3.7 Miles</td>
<td>8821</td>
<td>6.8</td>
<td>0.10</td>
<td>B</td>
<td>1.0</td>
<td>1.2</td>
<td>.44</td>
<td>.77</td>
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<td>San Gregorio</td>
<td>19.6 km 12.2 Miles</td>
<td>400</td>
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<td>1.0</td>
<td>1.0</td>
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<td>.64</td>
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- Note: the Monterey Bay/Tularcitos is the critical fault at this site location.

**Seismic Hazards**

The seismic setting of the site is one in which it is reasonable to assume that the site will
experience significant seismic shaking during the lifetime of the project. Active or
potentially active faults which may significantly affect the site include the San Andreas (7.5
miles to the northeast), the Zayante (3.7 miles to the northeast), and the San Gregorio
(19.6 miles to the southwest). The San Andreas and the San Gregorio faults are classified
as Type A faults and the Zayante Fault is classified as a Type B fault.

Seismic hazards which may affect areas of Santa Cruz County are surface ground rupture,
seismic shaking, liquefaction and lateral spreading, and seismically induced slope
instabilities.
Surface ground rupture occurs in active fault zones. Since the nearest known active or potentially active fault is located 3.7 miles from the site, the potential for surface ground rupture at this site is considered to be low.

Ground shaking will be felt on the site. Structures founded on thick soft soil deposits will experience more destructive shaking, with higher amplitude and lower frequency, than structures founded on bedrock. Generally, shaking will be more intense closer to earthquake epicenters. Thick soft soil deposits large distances from earthquake epicenters, however, may result in seismic accelerations significantly greater than expected in bedrock. Structures built in accordance with the latest edition of the Uniform Building Code for Seismic Zone 4 should experience damage which is repairable. The seismic design of the project should be based on the 1997 Uniform Building Code as it has incorporated the most recent seismic design parameters.

**Liquefaction and Lateral Spreading**

The site is mapped in areas with a moderate potential for liquefaction (Maps showing Geology and Liquefaction Potential of Quaternary Deposits in Santa Cruz County, California, Dupre (1975). Liquefaction tends to occur in saturated soils composed of loose sand and non-cohesive silts, with low densities and restricted permeability’s. An analysis of this site, including soil types, depth to free groundwater, and estimated ground accelerations, indicates that the liquefaction potential is low.
Landsliding

An evaluation of the potential for seismically induced landsliding was outside of our scope of services. Loose and/or saturated soil above the bedrock may be induced to move through the addition of seismic forces where moderate to steep slopes exist. The reference property is generally level with a 5 percent slope to the southeast. The level slope gradient of the site indicates the potential for seismically induced landsliding is low.
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our investigation the reference property is feasible for development from a geotechnical standpoint, provided our recommendations are closely followed during the design and construction phases of the project. It is feasible to lower (but never eliminate) the level of risk to "ordinary" (as defined in the Scale of Acceptable Risks in Appendix C), by taking into consideration the risks and implementing mitigating measures.

The results of our investigation indicate there are no adverse geotechnical hazards that would preclude the development of this site. Primary geotechnical concerns at the site include strong seismic shaking, adequate bearing support for foundations, and appropriate control of surface runoff.

The project site is located within a seismically active area. Structures designed and constructed in accordance with the most current UBC and the recommendations of this report should react well to seismic shaking.

Due to variations in density and consistency across the property between the native soils and the areas of loose fill spread footings should be supported upon a uniform zone of engineered fill. The fill depth should extend a minimum of two feet below the bottom of the
footings, or 4 feet from existing grades, whichever is greater. The redensification zone should include the entire building footprint and an additional five feet (5') horizontally from all perimeter footing elements.

An engineered drainage plan to handle surface runoff should be developed for this site. Surface and subsurface site drainage should be adequately controlled during and after construction.

The following recommendations should be used as guidelines for preparing project plans and specifications, and assume that Haro, Kasunich & Associates will be commissioned to review project grading and foundation plans before construction and to observe, test and advise during earthwork and foundation construction. This additional opportunity to examine the site will allow us to compare subsurface conditions exposed during construction with those inferred from this investigation. Unusual or unforeseen soil conditions may require supplemental evaluation by the geotechnical engineer.

**General Site Grading**

1. The geotechnical engineer should be notified *at least four (4) working days prior to any grading or foundation excavating* so the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the geotechnical
engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557.

3. Areas to be graded or to receive proposed improvements should be cleared of all obstructions and fill materials. Existing depressions or voids created during site clearing should be backfilled with engineered fill. Any surface or subsurface obstructions, or questionable material encountered during grading, should be brought immediately to our attention for proper exposure, removal and processing as directed.

4. Cleared areas should then be stripped of organic-laden topsoil. Stripping depth is anticipated to be from 2 to 4 inches, although the actual depth of stripping should be determined in the field by the geotechnical engineer. Strippings should be wasted off-site or stockpiled for use in landscaped areas if desired.

5. Following clearing and stripping of the building area, the existing fill underlying the site should be completely removed until firm, native soil is encountered. In addition, the subgrade below proposed building footprints and/or exterior improvements should be
subexcavated to a minimum depth of 2 feet below bottom of footing elevation, or 4 feet below existing grades, whichever is greater. Below exterior slabs or pavements, the subexcavation depth may be reduced to 12 inches below proposed soil subgrade, provided any existing fill underlying these areas has been removed and redensified as recommended herein.

6. Although not anticipated, if the existing fill at the site extends below a depth of six feet (6’), additional subexcavation will be necessary to ensure that the existing fill is removed entirely. Subexcavation areas should extend a minimum of 5 feet beyond the proposed structures, and 3 feet beyond pavements or exterior slabs.

7. Following subexcavation, the base of the excavation should be scarified, moisture conditioned (or allowed to dry as necessary) to produce a moisture content about 2 to 4 percent above the laboratory optimum value and uniformly compacted to at least 90 percent relative compaction. The site may then be brought to design grades with engineered fill.

8. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness, water conditioned to a moisture content about 2 to 4 percent above optimum, and compacted to at least 90 percent relative compaction. The upper 8 inches of pavement subgrade should be compacted to at least 95 percent relative compaction.
Aggregate base below pavements should likewise be compacted to at least 95 percent relative compaction.

9. If grading is performed during or shortly after the rainy season, the grading contractor may encounter compaction difficulty with wet soils of high silt content. If compaction cannot be achieved after mixing and/or adjusting the soil moisture content, it may be necessary to use imported fill or gravel and stabilize the bottom of the excavation with stabilization fabric.

10. Provided they can be adequately moisture conditioned (or dried back) prior to use, the on-site soils (fill and native) appear generally suitable for use as engineered fill. Materials used for engineered fill which must be imported should be free of organic and deleterious material, contain no rocks or clods over 4 inches in dimension, and should contain no more than 15 percent by weight of rocks larger than 2 inches. Imported fill should also be granular, have a Plasticity Index of less than 18, and should have sufficient binder to allow excavations to stand without caving. Prior to delivery to the site, a representative sample of proposed import should be sent to our laboratory for evaluation.

11. We estimate shrinkage factors of about 20 percent for the on-site materials when used in engineered fills.
Cut and Fill Slopes

12. Temporary excavations should be properly shored and braced during construction to prevent sloughing and caving at sidewalls. The contractor should be aware of all CAL OSHA and local safety requirements and codes dealing with excavations and trenches.

13. Permanent cut slopes should be inclined no steeper than 2:1 (horizontal to vertical). The top of all cut slopes should be rounded off to reduce soil sloughing. If seepage is observed, the geotechnical engineer should provide additional recommendations. Cut slopes with these recommended gradients may require periodic maintenance to remove minor soil sloughing.

14. Compacted fill slopes should be constructed at a slope inclination not steeper than 2:1 horizontal to vertical. Fill slopes with these recommended gradients may require periodic maintenance to remove minor soil sloughing. All fills must be adequately benched into competent material, and keys for stability will be required at the toe of the fill embankment. The toe key should be at least 8 feet wide and should extend at least 2 feet into competent soil or bedrock. The bottom of the toe key should be sloped downward at about 2 percent toward the back of the key.

15. There should be a minimum of 10 feet horizontal separation between the bottom of all footing elements and the top of a fill slope or the base of a cut slope.
16. In order to maintain stable slopes at the recommended gradients, it is important that seepage forces and accompanying hydrostatic pressure be relieved by adequate drainage. Adequate backdrains in keyways and benches should be provided. The locations of backdrains and outlets will be determined by the geotechnical engineer in the field during grading.

17. Following grading, exposed soil should be planted as soon as possible with erosion-resistant vegetation.

18. After the earthwork operations have been completed and the geotechnical engineer has finished his observation of the work, no further earthwork operations shall be performed without the direct observation and approval of the geotechnical engineer.

**Utility Trenches**

19. Trenches must be properly shored and braced during construction or laid back at an appropriate angle to prevent sloughing and caving at sidewalls. The project plans and specifications should direct the attention of the contractor to all CAL OSHA and local safety requirements and codes dealing with excavations and trenches.

20. Utility trenches that are parallel to the sides of buildings should be placed so that they do not extend below an imaginary line sloping down and away at a 2:1 (horizontal to
vertical) slope from the bottom outside edge of all footings. The structural design professional should coordinate this requirement with the utility layout plans for the project.

21. Trenches should be backfilled with granular-type material and uniformly compacted by mechanical means to the relative compaction as required by city specifications, but not less than 95 percent under paved areas and 90 percent elsewhere. The relative compaction will be based on the maximum dry density obtained from a laboratory compaction curve run in accordance with ASTM Procedure #D1557.

22. We strongly recommend placing a three-foot (3') concrete plug in each trench where it passes under the exterior foundations. Care should be taken not to damage utility lines.

23. Trenches should be capped with 1.5 ± feet of relatively impermeable soil.

**Conventional Footing Recommendations**

24. Provided the building area is prepared in accordance with our recommendations, the proposed residences may be supported by continuous, conventional spread footings bearing uniformly on engineered fill as outlined above. A foundation system resting partially on engineered fill and partially on native soil is not recommended.
25. Interior load-bearing walls should be supported on continuous, reinforced concrete foundations that are structurally connected at each end to the continuous perimeter foundations.

26. A minimum footing embedment depth of 15 inches is recommended, as measured from lowest adjacent grade. The foundation trenches should be kept moist and be thoroughly cleaned of all slough or loose materials prior to pouring concrete. In addition, all footings located adjacent to other footings or utility trenches should have their bearing surfaces founded below an imaginary 2:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

27. Foundations designed in accordance with the above may be designed for an allowable soil bearing pressure of 2,000 psf for dead plus live loads. This value may be increased by one-third to include short-term seismic and wind loads.

28. Lateral load resistance for structures supported on spread footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.38 is considered applicable.
29. All footings should be reinforced in accordance with applicable UBC and/or ACI standards, however, we recommend the continuous footings contain a minimum steel reinforcement of four (4) #4 bars; i.e., two near the top and two near the bottom of the footing.

30. All footing excavations should be thoroughly cleaned and observed by the geotechnical engineer prior to placing forms and steel. Observation of foundation excavations allows anticipated soil conditions to be correlated to those inferred from our investigation and to verify that the footings are in accordance with our recommendations.

**Retaining Wall Lateral Pressures**

31. Retaining walls should be designed to resist both lateral earth pressures and any additional surcharge loads. For design of retaining walls up to 8 feet high, the following design criteria may be used:

A. Active earth pressure on fully drained walls allowed to yield is that exerted by an equivalent fluid weighing 35 pcf for a level backslope gradient; and 50 pcf for a 2:1 (horizontal to vertical) backslope gradient. **This assumes a fully drained condition.**

B. Where walls are restrained from moving at the top, as in the case for basement walls, design for a uniform rectangular distribution equivalent to 25H psf per foot of wall height for a level backslope, and 35H psf per foot of
wall height for a 2:1 backslope (where H is the height of the wall).

C. Use a coefficient of friction between base of foundation and native soil of 0.38.

D. In addition, the walls should be designed for any adjacent live or dead loads which will exert a force on the wall (garage and/or auto traffic).

E. Retaining walls used as interior living space should be thoroughly waterproofed.

32. For seismic design of interior structural retaining walls, a dynamic surcharge load equal to 10H psf, where H is the height of the wall, should be added to the above active lateral earth pressures.

33. Fully drained walls should be backfilled with drainage materials consisting of Class 1, Type A permeable material complying with Section 68-1.025 of Caltrans Standard Specifications, latest edition.

34. The drainage material should be at least 12 inches thick. The drains should extend from the base of the walls to within 12 inches of the top of the backfill. A perforated, rigid pipe should be placed (holes down) about 4 inches above the bottom of the wall and be tied to a suitable drain outlet. Wall backdrains should be capped at the surface with clayey material to prevent infiltration of surface runoff into the backdrains. A layer of filter fabric
(Mirafi 140N or equivalent) should separate the subdrain material from the overlying soil cap.

**Concrete Slabs-on-Grade**

35. Building floor slabs and exterior slabs should be constructed on properly water conditioned and compacted soil subgrades. Soil subgrades should be prepared and compacted as recommended in the section entitled "General Site Grading". Soil moisture should be consistently maintained at 2 to 3 percent over optimum until the slab is poured. If the subgrade is allowed to dry out, it should be adequately pre-moistened for at least 48 hours prior to pouring concrete.

36. Slab reinforcing should be provided in accordance with the anticipated use and loading of the slab, however we recommend a minimum reinforcement of #3 bars spaced 16 inches on-center in both directions. The steel reinforcement should be held firmly in the vertical center of the slab during placement and finishing of the concrete with pre-cast concrete dobies.

37. Where floor dampness must be minimized or where floor coverings will be installed, concrete slabs-on-grade should be constructed on a capillary break layer at least 4 inches thick, covered with a membrane vapor retarder. Capillary break material should be free-draining, clean gravel or rock, such as 3/4-inch gravel. The gravel should be washed
to remove fines and dust prior to placement on the slab subgrade. The vapor retarder should be a high quality membrane at least 10 mil in thickness. A layer of sand about 2 inches thick should be placed between the vapor retarder and the floor slab to protect the membrane and to aid in curing concrete. The sand should be lightly moistened prior to placing concrete.

38. Exterior concrete slabs-on-grade should be founded on firm, well-compacted ground as delineated above. Reinforcing should be provided in accordance with the anticipated use and loading of the slab. The reinforcement should not be tied to the building foundations. These exterior slabs can be expected to suffer some cracking and movement. However, thickened exterior edges, a well-prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints, and good workmanship should minimize cracking and movement.

**Surface Drainage**

39. An engineered drainage plan to handle surface runoff should be developed for this site. Site drainage should be adequately controlled both during and after construction.

40. The site should be graded to promote positive runoff towards an approved discharge point offsite.
41. All exposed soil should be landscaped and permanently protected against erosion as soon as possible after grading.

42. We recommend that full gutters be used along all roof down eaves to collect storm runoff water and channel it through closed rigid conduits to a suitable discharge point away from all structural improvements.

43. Surface runoff should not be allowed to flow onto graded or natural slopes. Consideration should be given to catch basins, berms, concrete v-ditches, or drainage swales at the top of all slopes to intercept runoff and direct it to a suitable discharge point.

44. Surface drainage should include provisions for positive gradients so that surface runoff is not permitted to pond adjacent to foundations and on pavements. Surface drainage should be directed away from the building foundations, on a minimum gradient of 2 percent for a distance of at least 3 feet to an adequate discharge point. Concentrations of surface water runoff should be handled by providing necessary structures, such as paved ditches, catch basins, etc.
45. Irrigation activities at the site should be done in a controlled and reasonable manner. Planter areas should not be sited adjacent to walls; otherwise, measures should be implemented to contain irrigation water and prevent it from seeping into walls and under foundations.

46. The migration of water or spread of extensive root systems below foundations, slabs, or pavements may cause undesirable differential movements and subsequent damage to these structures. Landscaping should be planned accordingly.

47. Drainage patterns approved at the time of fine grading should be maintained throughout the life of proposed structures.

**Pavement Design**

48. R-Value test results of finished subgrade soil at this site have not been performed. To have selected pavement sections perform to their greatest efficiency, it is very important that the following items be considered:

a. Scarify and moisture condition the top eight inches (8") of subgrade and compact to a minimum relative compaction of 95 percent, at a moisture content which is about 4 percent above laboratory optimum value.

b. Provide sufficient gradient to prevent ponding of water.
c. Use only quality materials of the type and thickness (minimum) specified. All baserock (R=78 minimum) must meet CALTRANS Standard Specifications for Class 2 Untreated Aggregate Base (Section 26). All subbase (R=50 minimum) must meet CALTRANS Standard Specifications for Class 2 Untreated Aggregate Subbase, (Section 25).

d. Compact the baserock and subbase uniformly to a minimum relative compaction of 95 percent.

e. Place the asphaltic concrete only during periods of fair weather when the free air temperature is within prescribed limits.

f. Maintenance should be undertaken on a routine basis.

Plan Review, Construction Observation and Testing

49. Our firm should be provided the opportunity for a general review of the project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. The purpose is to determine if this preliminary report is adequate and complete for the final planned grading and construction. It is not intended that the geotechnical engineer approve or disapprove the plans, but to provide an opportunity to update the preliminary report and include additions or qualifications as necessary. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations.
50. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. The recommendations presented in this report require our review of final plans and specifications prior to construction and upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.
LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The conclusions and recommendations noted in this report are based on probability and in no way imply that the proposed improvements will not possibly be subjected to ground failure or seismic shaking so intense they will be severely damaged or destroyed.

2. This report is issued with the understanding that it is the duty and responsibility of the owner or his representative or agent to ensure that the recommendations contained in this report are brought to the attention of the architects and engineers and contractors for the project, incorporated into the plans and specifications, and that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice in the Santa Cruz County area. No other warranty, expressed or implied, is made.

4. If any unexpected variations in soil conditions, or if adverse soil conditions are encountered during construction, or if the proposed construction will differ from that planned at the present time, Haro, Kasunich and Associates should be notified so that supplemental recommendations can be given.

5. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a geotechnical engineer.
APPENDIX A

Vicinity Map
Boring Site Plan
Key to Logs
Logs of Test Borings
Laboratory Test Results
### PRIMARY DIVISIONS

<table>
<thead>
<tr>
<th>COARSE GRAINED SOILS</th>
<th>FINES</th>
<th>CLEAN GRAVELS (LESS THAN 5% FINES)</th>
<th>SECONDARY DIVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAVELS</td>
<td>GW</td>
<td>Well graded gravels, gravel-sand mixtures, little or no fines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GP</td>
<td>Poorly graded gravels or gravel-sand mixtures, little or no fines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GM</td>
<td>Silty gravels, gravel-sand-silt mixtures, non-plastic fines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GC</td>
<td>Clayey gravels, gravel-sand-clay mixtures, plastic fines.</td>
<td></td>
</tr>
<tr>
<td>SANDS</td>
<td>SW</td>
<td>Well graded sands, gravelly sands, little or no fines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP</td>
<td>Poorly graded sands or gravelly sands, little or no fines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SM</td>
<td>Silty sands, sand-silt mixtures, non-plastic fines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC</td>
<td>Clayey sands, sand-clay mixtures, plastic fines.</td>
<td></td>
</tr>
<tr>
<td>FINE GRAINED SOILS</td>
<td>MW</td>
<td>Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CL</td>
<td>Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OL</td>
<td>Organic silts and organic silty clays of low plasticity.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MH</td>
<td>Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CH</td>
<td>Inorganic clays of high plasticity, fat clays.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>Organic clays of medium to high plasticity, organic silts.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PT</td>
<td>Peat and other highly organic soils.</td>
<td></td>
</tr>
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</table>

### GRAIN SIZES

**U.S. STANDARD SERIES SIEVE**

<table>
<thead>
<tr>
<th>200</th>
<th>40</th>
<th>10</th>
<th>4</th>
<th>3/4&quot;</th>
<th>3&quot;</th>
<th>12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SILTS AND CLAYS</strong></td>
<td><strong>SAND</strong></td>
<td><strong>GRAVEL</strong></td>
<td><strong>COBBLES</strong></td>
<td><strong>BOULDERS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FINE</td>
<td>MEDIUM</td>
<td>COARSE</td>
<td>FINE</td>
<td>COARSE</td>
<td></td>
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</tbody>
</table>

### RELATIVE DENSITY

<table>
<thead>
<tr>
<th>SANDS AND GRAVELS</th>
<th>BLOWS/FT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY LOOSE</td>
<td>0 - 4</td>
</tr>
<tr>
<td>LOOSE</td>
<td>4-10</td>
</tr>
<tr>
<td>MEDIUM DENSE</td>
<td>10 - 30</td>
</tr>
<tr>
<td>DENSE</td>
<td>30 - 50</td>
</tr>
<tr>
<td>VERY DENSE</td>
<td>OVER 50</td>
</tr>
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</table>

### CONSISTENCY

<table>
<thead>
<tr>
<th>SILTS AND CLAYS</th>
<th>STRENGTH**</th>
<th>BLOWS/FT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERY SOFT</td>
<td>0 - 1/4</td>
<td>0 - 2</td>
</tr>
<tr>
<td>SOFT</td>
<td>1/4 - 1/2</td>
<td>2 - 4</td>
</tr>
<tr>
<td>FIRM</td>
<td>1/2 - 1</td>
<td>4 - 8</td>
</tr>
<tr>
<td>STIFF</td>
<td>1 - 2</td>
<td>8 - 16</td>
</tr>
<tr>
<td>VERY STIFF</td>
<td>2 - 4</td>
<td>16 - 32</td>
</tr>
<tr>
<td>HARD...</td>
<td>OVER 4</td>
<td>OVER 32</td>
</tr>
</tbody>
</table>

---

*Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1.3/8 inch I.D.) split upon (ASTM D-1586)
**Unconfined compressive strength in tons/ft¹ as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.
<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Sample No. and type</th>
<th>Symbol</th>
<th>SOIL DESCRIPTION</th>
<th>Uniform Soil Classification</th>
<th>Blows/foot</th>
<th>300 ft.-lbs.</th>
<th>Cone Penetrometer</th>
<th>Moisture % dry wt.</th>
<th>MISC. LAB RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fill</td>
<td></td>
<td></td>
<td>SM</td>
<td>18</td>
<td>5.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1 (L)</td>
<td>Dark brown Silty SAND, loose to medium dense, damp</td>
<td></td>
<td></td>
<td>SM</td>
<td>9</td>
<td>98</td>
<td>8.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2 (L)</td>
<td>Loose</td>
<td></td>
<td></td>
<td>SM</td>
<td>12</td>
<td>111</td>
<td>7.5</td>
<td></td>
<td>Passing #200 Sieve = 17.3%</td>
</tr>
<tr>
<td>1-3 (L)</td>
<td>Native</td>
<td></td>
<td>Dark brown fine grain Sandy SILT, loose, dense, moist</td>
<td>SM</td>
<td>38</td>
<td>104</td>
<td>15.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-4 (L)</td>
<td>Dark brown Silty Clayey SAND with 1/16 to 1/8 inch clasts, medium dense, moist</td>
<td></td>
<td></td>
<td>SM</td>
<td>54</td>
<td>124</td>
<td>10.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 (L)</td>
<td>Grey brown medium coarse Silty SAND, medium dense to dense, moist</td>
<td></td>
<td></td>
<td>SM</td>
<td>26</td>
<td>50/6&quot;</td>
<td>11.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6 (T)</td>
<td>Some clay binder slight increase in moisture</td>
<td></td>
<td></td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-7 (T)</td>
<td>Consistant drilling</td>
<td></td>
<td></td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-7 (T)</td>
<td>Light brown medium - coarse grain Sand, (Sandstone), moist, very dense</td>
<td></td>
<td></td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Boring terminated at 31.5 feet</td>
</tr>
</tbody>
</table>

**HARO, KASUNICH AND ASSOCIATES, INC.**

**BY: DK**

**FIGURE NO. 1**
### Erba Lane
Santa Cruz County, California

**PROJECT NO. SC8998**

**LOGGED BY:** MC  
**DATE DRILLED:** September 1, 2005  
**BORING DIAMETER:** 6"  
**BORING NO.:** B-2

<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Sample No. and type</th>
<th>Symbol</th>
<th>SOIL DESCRIPTION</th>
<th>Unified Soil Classification</th>
<th>Blows/foot</th>
<th>Cube - l.s. f.</th>
<th>Penetrometer p.c.f.</th>
<th>Moisture % dry wt.</th>
<th>MISC. LAB RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0</td>
<td>Fill</td>
<td></td>
<td></td>
<td>SM</td>
<td>27</td>
<td></td>
<td></td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>2-1 (L)</td>
<td>Light brown Silty SAND, medium dense, dry-damp</td>
<td></td>
<td></td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-2 (L)</td>
<td>Native</td>
<td></td>
<td></td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-2 (L)</td>
<td>Light brown Silty SAND, fine-medium grain, medium dense, damp</td>
<td></td>
<td></td>
<td>SM</td>
<td>66</td>
<td>113</td>
<td>15.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3 (L)</td>
<td>Light brown Silty SAND, fine-medium grain with trace of gravel/mudstone, very dense, damp</td>
<td></td>
<td></td>
<td>SM</td>
<td>50/6&quot;</td>
<td>110</td>
<td>5.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4 (L)</td>
<td>Light brown Silty SAND medium-coarse grain with trace of gravel, medium dense, damp</td>
<td></td>
<td></td>
<td>SM</td>
<td>56</td>
<td>118</td>
<td>9.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-5 (T)</td>
<td>Light brown, orange coarse grain SAND with Silt, medium dense, moist</td>
<td></td>
<td></td>
<td>SM</td>
<td>22</td>
<td></td>
<td></td>
<td>10.4</td>
<td></td>
</tr>
<tr>
<td>2-6 (T)</td>
<td>Grey, medium-coarse Silty SAND, some small layer of fine grain sand, very dense, moist</td>
<td></td>
<td></td>
<td>SM</td>
<td>71</td>
<td></td>
<td></td>
<td>11.0</td>
<td></td>
</tr>
</tbody>
</table>

Boring terminated at 26.5 feet

---

**HARO, KASUNICH AND ASSOCIATES, INC.**

**BY:** DK  
**FIGURE NO. 2**
<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Sample No. and Type</th>
<th>Symbol</th>
<th>Soil Description</th>
<th>Unified Soil Classification</th>
<th>Blower/foot 350 ft.-lbs.</th>
<th>Cone-t-s. Penetrometer p.c.f.</th>
<th>Moisture % dry wt.</th>
<th>MISC. LAB RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Fill</td>
<td>SM</td>
<td>Dark brown Silty SAND fine grained damp-dry</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-1 (L)</td>
<td>3-2 (L)</td>
<td></td>
<td>Light brown Silty SAND, fine-medium grain, medium dense</td>
<td>SM</td>
<td>10</td>
<td>110</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Native</td>
<td></td>
<td>Dark brown Silty SAND fine-medium grain, loose, moist</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3-3 (L)</td>
<td></td>
<td>Light brown Silty SAND, medium-coarse grain, medium dense, moist (Sandstone)</td>
<td>SM</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>1st Encounter</td>
<td></td>
<td>12:10 pm, 9/1/05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4 (T)</td>
<td>Light brown Silty</td>
<td></td>
<td>Light brown Silty SAND, medium-coarse grain, dense, trace of gravels, very moist</td>
<td>SM</td>
<td>37</td>
<td></td>
<td>18.5</td>
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</tr>
<tr>
<td></td>
<td>SAND</td>
<td></td>
<td>Boring terminated at 16.5 feet</td>
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<td></td>
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</table>

Passing #200 Sieve = 31.3%
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4-1 (L)</td>
<td>Fill, orange Silty SAND fine - medium grain with 3/4&quot; Granite &quot;baserock&quot;</td>
<td>SM</td>
<td>17</td>
<td>7.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4-2 (L)</td>
<td>Native, dark brown Silty SAND, fine - medium grain, loose, dry-damp</td>
<td>SM</td>
<td>13</td>
<td>110</td>
<td>10.5</td>
<td></td>
<td>Passing #200 Sieve = 19.8%</td>
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<td>10</td>
<td>4-3 (T)</td>
<td>Light brown Silty SAND, medium coarse grain, loose, damp-moist</td>
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<td>14</td>
<td>13.3</td>
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</tr>
<tr>
<td>15</td>
<td>4-4 (T)</td>
<td>Light brown Silty SAND, fine - medium grain medium dense, damp-moist</td>
<td></td>
<td>62</td>
<td>13.7</td>
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<tr>
<td>20</td>
<td></td>
<td>Light brown Silty SAND, medium-coarse grain dense - very dense, moist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Boring terminated at 16.5 feet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HARO, KASUNICH AND ASSOCIATES, INC.

BY: DK

FIGURE NO. 4
<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Sample No. and type</th>
<th>Soil Description</th>
<th>Unified Soil Classification</th>
<th>Blows/foot 350 ft. lbs.</th>
<th>Compress. Penetrometer P.C.F.</th>
<th>Moisture % dry wt.</th>
<th>Misc. Lab Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6-1 (L)</td>
<td>Fill, orange Silty SAND fine-medium grain with 3/4 inch Granite gravels</td>
<td>SM</td>
<td>34</td>
<td>107</td>
<td>7.7</td>
<td>Direct Shear: C = 1000 psf, phi = 34 degrees</td>
</tr>
<tr>
<td>5</td>
<td>6-2 (L)</td>
<td>Native, Light brown Silty SAND fine-medium grain, medium dense, damp</td>
<td>SM</td>
<td>27</td>
<td>107</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6-3 (L)</td>
<td>Light brown Silty SAND medium-coarse grain, medium dense, damp</td>
<td>SM</td>
<td>14</td>
<td>116</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>6-4 (T)</td>
<td>Light brown Silty SAND medium-fine grain, medium dense, damp - moist</td>
<td>SM</td>
<td>15</td>
<td>19.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>6-5 (T)</td>
<td>Light brown Silty SAND medium-coarse grain, medium dense-dense, damp-moist</td>
<td>SM</td>
<td>29</td>
<td>14.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Boring terminated at 21.5 feet

**Haro, Kasunich and Associates, Inc.**

**By: DK**
SAMPLE DATA

DESCRIPTION: Dark brown Silty SAND with small gravels

BORING NO.: B-5
DEPTH OF SAMPLE: 18" BG
RING SAMPLES NO.: 5-1-2
ELEVATION (FT): 0.0

IN-SITU DIRECT SHEAR TEST RESULTS

APPARENT COHESION (C): 300 psf
APPARENT ANGLE OF INTERNAL FRICTION (φ): 45

TEST DATA

<table>
<thead>
<tr>
<th>TEST NUMBER</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORMAL PRESSURE (KSF)</td>
<td>1.0</td>
<td>2.0</td>
<td>4.0</td>
<td>8.0</td>
</tr>
<tr>
<td>SHEAR STRENGTH (KSF)</td>
<td>0.997</td>
<td>3.213</td>
<td>5.171</td>
<td>9.358</td>
</tr>
<tr>
<td>MOISTURE SOAKED (%)</td>
<td>8.3</td>
<td>6.7</td>
<td>7.0</td>
<td>9.2</td>
</tr>
<tr>
<td>MOISTURE RECEIVED (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOISTURE CHANGE (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FINAL DRY DENSITY (PCF)</td>
<td>89.7</td>
<td>101.2</td>
<td>101.7</td>
<td>95.5</td>
</tr>
</tbody>
</table>

Project No.: SC8998
Date: 23 September 2005

Erba Lane
Santa Cruz County, California
Haro, Kauhunen & Associates, Inc.

116 East Lake Avenue, Watsonville, California 95076
(831) 722-4175 ~ Fax (831) 722-3202

HKA Project No: SC8998
Date: November 2005
Scale: N/A

Erba Lane
Santa Cruz County, California

GRANULAR SIZE DISTRIBUTION

Boring No. 1, Sample 1-3-2
Soil Description: Dark to light brown Silty SAND

PERCENT FINER BY WEIGHT

U.S. STANDARD SIEVE OPENING IN INCHES

0 10 20 30 40 50 60 70 80 90 100

PERCENT COARSER BY WEIGHT

U.S. STANDARD SIEVE NUMBERS

COARSE
FINE
COARSE
MEDIUM
FINE
SAND
GRAVEL

GRAVEL CONTENT: 2.0%
SAND CONTENT: 85.7%
FINES CONTENT: 12.3%

Figure No.
### Compaction Test

<table>
<thead>
<tr>
<th>Project:</th>
<th>Erba Lane</th>
<th>Project #</th>
<th>Date:</th>
<th>September 8, 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descrip'n:</td>
<td>Dk Brn Sl/Sa Fine/Med Grain</td>
<td>Import Orange Sl/Sa Med Grain W/3/4&quot; Granite</td>
<td>Tested By:</td>
<td>JR</td>
</tr>
<tr>
<td>Type:</td>
<td>4&quot; mold</td>
<td>Curve:</td>
<td>1</td>
<td>Sample Wt.</td>
</tr>
<tr>
<td>Moisture</td>
<td>0</td>
<td>+2</td>
<td>+4</td>
<td>+6</td>
</tr>
<tr>
<td>Wt. Mold+Comp. Soil</td>
<td>4041.1</td>
<td>4101.9</td>
<td>4215.9</td>
<td>4199.7</td>
</tr>
<tr>
<td>Wt. of Mold</td>
<td>2127.0</td>
<td>2127.0</td>
<td>2127.0</td>
<td>2127.0</td>
</tr>
<tr>
<td>Vol. Factor:</td>
<td>0.066</td>
<td>0.066</td>
<td>0.066</td>
<td>0.066</td>
</tr>
<tr>
<td>Tare No.:</td>
<td>182</td>
<td>451</td>
<td>108</td>
<td>400</td>
</tr>
<tr>
<td>Wet Wt.+Tare:</td>
<td>851.8</td>
<td>894.7</td>
<td>944.1</td>
<td>821.7</td>
</tr>
<tr>
<td>Dry Wt.+Tare:</td>
<td>818.2</td>
<td>842.5</td>
<td>877.7</td>
<td>751.2</td>
</tr>
<tr>
<td>Wt. Comp. Soil</td>
<td>1914.1</td>
<td>1974.9</td>
<td>2088.9</td>
<td>2072.7</td>
</tr>
<tr>
<td>Tare Wt.</td>
<td>72.1</td>
<td>73.6</td>
<td>76.2</td>
<td>72.4</td>
</tr>
<tr>
<td>Net Dry Wt.</td>
<td>746.1</td>
<td>768.9</td>
<td>801.5</td>
<td>678.8</td>
</tr>
<tr>
<td>Wt. of Water</td>
<td>33.6</td>
<td>52.2</td>
<td>66.4</td>
<td>70.5</td>
</tr>
<tr>
<td>Wet Density</td>
<td>126.3</td>
<td>130.3</td>
<td>137.9</td>
<td>136.8</td>
</tr>
<tr>
<td>Water Content</td>
<td>0.045</td>
<td>0.068</td>
<td>0.083</td>
<td>0.104</td>
</tr>
<tr>
<td>Water Content %</td>
<td>4.5%</td>
<td>6.8%</td>
<td>8.3%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Dry Density</td>
<td>120.9</td>
<td>122.1</td>
<td>127.3</td>
<td>123.9</td>
</tr>
</tbody>
</table>

#### Maximum Compaction

**Laboratory**

- Max D.D. | 127.3
- Opt Moist. | 8.3%

**Corrected**

- Max D.D. | 127
- Opt Moist. | 8.0%
PRELIMINARY STORM WATER CONTROL PLAN

For

Scotts Valley Housing, LLC
Erba Lane
Scotts Valley, California

Prepared for Scotts Valley Housing, LLC

Date: September 10, 2018

Job No. 26390
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Table x. Self-Treating Areas  x
Table x. Self-Retaining Areas  x
Table x. Areas Draining to Self- Retaining Areas  x
I. Project Data

Project Name: Scotts Valley Housing, LLC
Application Submittal Date: 
Project Location: Erba Lane easterly parking lot south of Ridgecrest Lane
Assessor’s Parcel Number: APN 022-481-18
Project Description: Replace existing parking lots along Erba Lane with 12 Residential Homes.
Total Project Site Area (acres): 1.0386
Total New Impervious Surface Area (Sq.Ft.): 4,345
Total Replaced Impervious Surface Area (Sq.Ft.): 21,579
Total Pre-Project Impervious Surface Area (Sq.Ft.): 32,280
Total Post-Project Impervious Surface Area (Sq.Ft.): 25,924
Net Impervious Area (Sq.Ft.): 19,568
Watershed Management Zone(s): 1
Design Storm Frequency and Depth: 95th Percentile and 2.6 inches
Urban Sustainability Area: N/A
Project Tier: 4

II. Setting

II.A. Project Location and Description: The site is the existing parking that fronts the easterly right of way of Erba Lane and south of Ridgecrest Lane. It has been re-zoned for High Density residential housing and to be subdivided into 14 lots. The subdivision will be made up of 12 residential lots and 2 common area lots. The common area lots will consist of 2 parking stalls at the northerly end of the site just south of Ridgecrest Lane and a new access road on the southerly portion of the site that services 5 of the 12 residential lots. The residential units will be setback 25 feet from the 100-year storm flood boundary of existing intermittent drainage swale to the east the site.
II.B. Existing Site Features and Conditions: The site is trapezoidal in shape, it’s longest length 320 feet +/- which runs north and south and is approximately 1.0387 more or less acres in size. The westerly two-thirds of the site consist of two existing asphalt concrete parking lots. The two parking lots are not conjoined but are accessible from Erba Lane and separated by a small slope bank with an approximately grade of 3 to 1. The easterly portion of the site gradually slopes towards the existing intermittent drainage swale. The site is made up of a fill wedge varying in depth starting from the south and increase to approximate 5 feet of fill depth at the northern limits of the site. The Geotechnical investigation has deemed the fill material unsuitable for structural support at its current condition and has called for it to removed and recompacted. According the USDA Web Soil Survey the southwesterly portion of the site adjacent to Erba Lane is Zayante Coarse Sand with a Ksat of 5.95 to 19.98 inches per hour and remainder of the site adjacent to the drainage swale is Soquel Loam with a Ksat of 0.20 to 0.57 inches per hour.

II.C. Opportunities and Constraints for Stormwater Control: The proposed road that services the proposed sub-division will be comprised of permeable pavers section and asphalt concrete section. The permeable paver section of the road, adjacent to Erba Lane will contain a retention storage basin beneath it. The retention basin resides where the Zayante Coarse Sand is shown on-site according to the USDA soils survey and thus providing moderate percolation rates for the proposed site BMP. Stormwater overflow runoff from the proposed drainage system will be conveyed to the existing public storm drainage system by installing a new manhole, curb inlet and 18” storm drainage line running south approximately 425 linear feet in Erba Lane to the existing storm drainage system.

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout:

III.B. Use of Permeable Pavements: Permeable pavers will be used to mitigate driveway runoff at each residential lot, common area parking lot and portion of the road serving lots 8 through 12. The driveways and common area parking lot stormwater runoff will be captured in individual perforated sub-drain pipes which will be connected to 12” collector pipe running north and south and parallel to Erba Lane. The common road servicing the interior lots will have a permeable pavement section adjacent to Erba Lane and downstream of the asphalt concrete pavement section portion of roadway. Stormwater runoff from the upstream paved section of roadway will surface flow and infiltrate into the permeable section downstream.

III.C. Dispersal of Runoff of Pervious Areas: All hardscape stormwater runoff will be directed directly to the retention system below the access (Sams Lane) road. The decomposed granite pathway from the northern parking lot to the intermittent drainage swale will have some stormwater runoff being directed overland to the existing swale. The majority of the lots stormwater runoff bordering the existing drainage swale will be routed to
the on-site retention system. The intent is to avoid dispersion of site drainage to the existing drainage swale to the west.

**III.D. Stormwater Control Measures:** The post development impervious surface will be less than the pre-development thus post development peak flows discharge from the site for the 10 year 24 hour event. Hence no peak management will be required for the project. With permeable pavers and storm chambers beneath the common service road our goal is to retain the 95th percentile storm event. Individual lots’ roofs, driveways, and hardscape stormwater runoff will be conveyed via storm drain pipe network to the sized retention storage basin beneath the road.

**IV. Documentation of Drainage Design**

**IV.A. Description of Drainage Management Area:** This site has one drainage management area for entire sub-division:

**IV.A.1. Drainage Management Area Tabulation**

<table>
<thead>
<tr>
<th>DMA#1</th>
<th>Impervious Surfaces 22,206 Square Feet / 0.5098 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMA#1</td>
<td>Permeable Surfaces  6,147 Square Feet / 0.1423 Acres</td>
</tr>
</tbody>
</table>

**IV.A.2. Drainage Management Area Descriptions:**

DMA#1 Totaling 25,924* Square Feet, drains to site retention storage area beneath common roadway servicing lots 8 through 12.

*Table 4-6 Correction Factor for Use in Calculating Equivalent Impervious Surface Area (EISA) per Scotts Valley Stormwater Technical Guide, EISA for permeable pavement is 0.60.
IV.B. Tabulation and Size Calculations

<table>
<thead>
<tr>
<th>PRE-DEVELOPMENT AREA</th>
<th>POST DEVELOPMENT AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE IMPERVIOUS SURFACES</td>
<td>SITE IMPERVIOUS SURFACES</td>
</tr>
<tr>
<td>EXISTING SQ. FT.</td>
<td>NEW SQ. FT.</td>
</tr>
<tr>
<td>32,280</td>
<td>3,604</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EQUIVALENT IMPERVIOUS SURFACE FACTOR</th>
<th>EQUIVALENT IMPERVIOUS SURFACE ADJUSTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6</td>
<td>663</td>
</tr>
</tbody>
</table>

NEW AND REPLACE CREDIT ADJUSTMENTS FOR RETENTION*

<table>
<thead>
<tr>
<th>ADJUSTED POST DEVELOPMENT IMPERVIOUS AREAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,604</td>
</tr>
</tbody>
</table>

TOTAL ADJUSTED POST DEVELOPMENT IMPERVIOUS SURFACES FOR RETENTION CALCULATIONS

<table>
<thead>
<tr>
<th>TOTAL ADJUSTED IMPERVIOUS SURFACE AREA</th>
<th>15,010 SQ. FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>95TH PERCENTILE RAIN EVENT</td>
<td>2.6 INCHES / 24 HRS</td>
</tr>
</tbody>
</table>

RETENTION STORAGE VOLUME REQUIRED 3,252 CUBIC FEET

*REPLACED IMPERVIOUS SQUARE FOOTAGE MAY BE MULTIPLIED BY 0.5 BEFORE ENTERING INTO BMP SIZING CALCULATION
<table>
<thead>
<tr>
<th><strong>RETENTION VOLUME NEEDED</strong></th>
<th>3252 CUBIC FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERMEABLE PAVER AREA</strong></td>
<td>1957 FEET</td>
</tr>
<tr>
<td><strong>ADS STORMTECH CHAMBER</strong></td>
<td></td>
</tr>
<tr>
<td>CHAMBER MC-3500</td>
<td></td>
</tr>
<tr>
<td>FOOT PRINT</td>
<td>703 SQUARE FEET</td>
</tr>
<tr>
<td>CHAMBER COVERAGE</td>
<td>24 &quot;</td>
</tr>
<tr>
<td>CHAMBER ROCK COVERAGE</td>
<td>21 &quot;</td>
</tr>
<tr>
<td>CALCULATED VOLUME</td>
<td>2454 CUBIC FEET</td>
</tr>
<tr>
<td>ROW 1</td>
<td>5 CHAMBERS</td>
</tr>
<tr>
<td>ROW 2</td>
<td>5 CHAMBERS</td>
</tr>
<tr>
<td>DRAIN ROCK VOID RATIO</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>PERMEABLE PAVER SECTION</strong></td>
<td></td>
</tr>
<tr>
<td>80 mm PAVERS</td>
<td></td>
</tr>
<tr>
<td>2 &quot; MIN THICKNESS OF 3/8&quot; DRAIN ROCK</td>
<td></td>
</tr>
<tr>
<td>19 &quot; MIN THICKNESS OF 3/4&quot; DRAIN ROCK</td>
<td></td>
</tr>
<tr>
<td>40 PERCENT VOID RATIO</td>
<td></td>
</tr>
<tr>
<td>21 &quot; TOTAL DRAIN ROCK THICKNESS (TO MATCH STORMTECH ROCK COVERAGE)</td>
<td></td>
</tr>
<tr>
<td><strong>PERMEABLE PAVER SECTION STORAGE VOLUME</strong></td>
<td>878 CUBIC FEET</td>
</tr>
<tr>
<td>1.75 MINIMUM DEPTH IN FEET OF DRAIN ROCK BENEATH PAVER SECTION</td>
<td></td>
</tr>
<tr>
<td>0.4 DRAIN ROCK VOID RATIO</td>
<td></td>
</tr>
<tr>
<td>1254 PAVER AREA OUTSIDE OF STORMTECH CHAMBER FOOT PRINT</td>
<td></td>
</tr>
<tr>
<td>(STORMTECH CHAMBER VOLUME CALCULATIONS INCLUDE PAVER AREA ABOVE)</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL STORAGE VOLUME CALCULATED</strong></td>
<td>3332 CUBIC FEET</td>
</tr>
<tr>
<td>STORAGE VOLUME NET GAIN</td>
<td>80 CUBIC FEET</td>
</tr>
</tbody>
</table>
V. Source Control Measures

V.A. Site activities and potential sources of pollutants

The proposed project will be a single family home development. Potential sources of pollutants will be runoff from activities such as car washing, fertilizers, pesticides etc…

V.B. Table 4, Sources and Source Control Table

<table>
<thead>
<tr>
<th>Potential Source of Pollutants</th>
<th>Permanent Source Control BMP’s</th>
<th>Operational Source Control BMP’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site storm drain inlets</td>
<td>Mark all inlets with the words “No Dumping! Flows to Bay”</td>
<td>Maintain and periodically replace inlet markings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide stormwater pollution prevention information to new site owners &amp; lessees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Include the following in lease agreements: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a></td>
</tr>
<tr>
<td>Need for future indoor &amp; structural pest control</td>
<td>Note building design features that discourage entry of pests.</td>
<td>Provide Integrated Pest Management information to owners, lessees, and operators.</td>
</tr>
<tr>
<td>Landscape/Outdoor Pesticide Use/Building and Grounds Maintenance</td>
<td>State that final landscape plans will accomplish all of the following: 1. Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.</td>
<td>Maintain landscaping using minimum or no pesticides.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2. Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution</td>
<td>3. Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.</td>
<td>Maintainance,” in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a> Provide IPM information to new owners, lessees and operators.</td>
</tr>
<tr>
<td>4. Consider using pest-resistant plants, especially adjacent to hardscape.</td>
<td>5. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.</td>
<td></td>
</tr>
</tbody>
</table>

| Roofing, gutters, and trim. | Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. |   |
| Plazas, sidewalks, and parking lots. | Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain. |   |

**V.C. Features, Materials and Methods of Construction of Source Control BMP’s**

Permanent source control BMP’s will consist mainly of marking storm drain inlets with “No Dumping! Drains to Bay”. Stencils or metal placards will be used to mark all site catch basins.
VI. Stormwater Facility Maintenance

VI.A. Owner and Responsibility for Maintenance in Perpetuity

The project will require the formation of a Homeowners Association for maintaining the driveway and drainage. The Homeowners Association CC&R’s will have specific language as to maintenance of the stormwater treatment facilities.

The applicant accepts responsibility for the operation and maintenance of stormwater treatment and flow-control facilities for the life of the project. Any future change or alteration, or the failure to maintain any feature described herein can result in penalties including but not limited to fines, property liens, and other actions for enforcement of a civil judgment.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

VI.B.1. Periodic Vacuuming and sweeping of permeable pavers. Inspection of joints and replenish joint aggregate material to lip of paver.

VI.B.2. Inspect storm drain outlet control structure and clear orifice, riser pipe, connection pipes and control struction of accumulated debris by hand or light equipment. Orifice shall be inspected after major storm events and control structure to be inspected and clean prior to October 15th of each year and after major rain events.

VI.B.3. Stormtech Stormwater detention chambers to be inspected every six months for the first year. For subsequent years, inspect sediment level through inspection port. When sediment level nears 3 inches in thickness the inspected chambers are to be cleaned by Jet Vac truck.

VII. Construction Checklist

<table>
<thead>
<tr>
<th>Stormwater Control Plan Page #</th>
<th>BMP Description</th>
<th>See Plan Sheet #s</th>
</tr>
</thead>
<tbody>
<tr>
<td>X,</td>
<td>Use of Pervious Pavement</td>
<td>CX.X</td>
</tr>
<tr>
<td>X,</td>
<td>Use of Stormtech Chambers</td>
<td>CX.X</td>
</tr>
</tbody>
</table>

VIII. Certification

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the City of Scotts Valley Stormwater Technical Guide and have been prepared under the guidance of a Civil Engineer.
Attachment A
(City of Scotts Valley Appendix C, Maintenance Agreement Template)
City of Scotts Valley
Storm Water
Maintenance Agreement Regarding Maintenance of
Structural or Treatment Control
Best Management Practices (BMPs)

For: Address:________________________

I,__________________________________________ , being the owner of the real property, APN No.
__________________________________________, which is located at ________________________________
Scotts Valley, California, consents and agrees to inspect and maintain any and all structural or
treatment control Best Management Practices (BMPs) as outlined in the approved project
Storm Water Operation and Maintenance Plan on the subject property. The structural or
treatment control BMPs on the subject property include(s):____________________________________

I agree to send a letter that provides proof of inspection and maintenance to the City of Scotts
Valley Department of Public Works prior to December 1 of each year. Proof of inspection and
maintenance shall include a log of inspection and maintenance dates for the past year, and
receipts if conducted by a hired service. The log should also indicate any significant
observations or repairs made. The proof of inspection and maintenance should be sent to:
Storm Water Maintenance, Department of Public Works, City of Scotts Valley, 701 Lundy
Lane, Scotts Valley, CA 95066.

You are required herein to pay an annual service charge of $____ to cover the City’s cost of
inspection, oversight, and reporting requirements to the Regional Water Quality Control Board.
The annual service charge is subject to change based on annual inflation adjustments.

As part of this agreement you agree to allow City staff to enter the subject property to inspect
the stormwater facility. In the event that you fail to provide satisfactory inspection and
maintenance reporting by December 1 and/or the stormwater facility on the subject property is
not functioning satisfactorily, you will be charged for for re-inspection.
In the event that the property is sold, transferred, or leased, the obligations hereby imposed on the property owner shall be assumed by subsequent property owners and lessees. To this end, property owner, in any deed transferring an ownership interest in the property or in any lease agreement for the property, shall include a term by which the subsequent property owner or lessee acknowledges his or her understanding of the obligations imposed by this agreement and expressly agrees to accept the assume responsibility for complying with all said obligations imposed by this agreement.

In addition, I will provide printed information to the new property owner or lessee regarding proper BMP inspection and maintenance frequency and methods. The information shall accompany the first deed transfer. This information shall include the following:

1. a description of any and all storm water structural or treatment control BMPs;
2. a map of the property indicating the BMP locations; and
3. a description of how inspections and necessary maintenance can be performed.

The transfer of this information shall also be required with any subsequent sale of property.

Failure to comply with the provisions of the Maintenance Agreement may result in enforcement actions including assessment of civil penalties as allowed by the City’s Municipal Code, Chapter 12.14.060 Storm Water Conveyance Systems.

I have read the above agreement and understand it.

This agreement shall be binding on and shall inure to the benefit of the heirs, executors, administrators, and assigns of owner.

Owner name: ________________________________

Owner signature ________________________________

Date this __________________ day of ____________, ________

Owners address: ________________________________

Phone: ________________________________

Email: ________________________________

(Note: All signatures on this form must be notarized.)
Attachment B
(Pre-Development Impervious & Pervious Surfaces)
Attachment C
(Post-Development Impervious & Pervious Surfaces)
Attachment D
(Drainage Management Areas)