

APPENDIX A

INITIAL STUDY

Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066



353 Sacramento Street, Suite 1000
San Francisco, CA 94111
(415) 362-1500

September 16, 2002

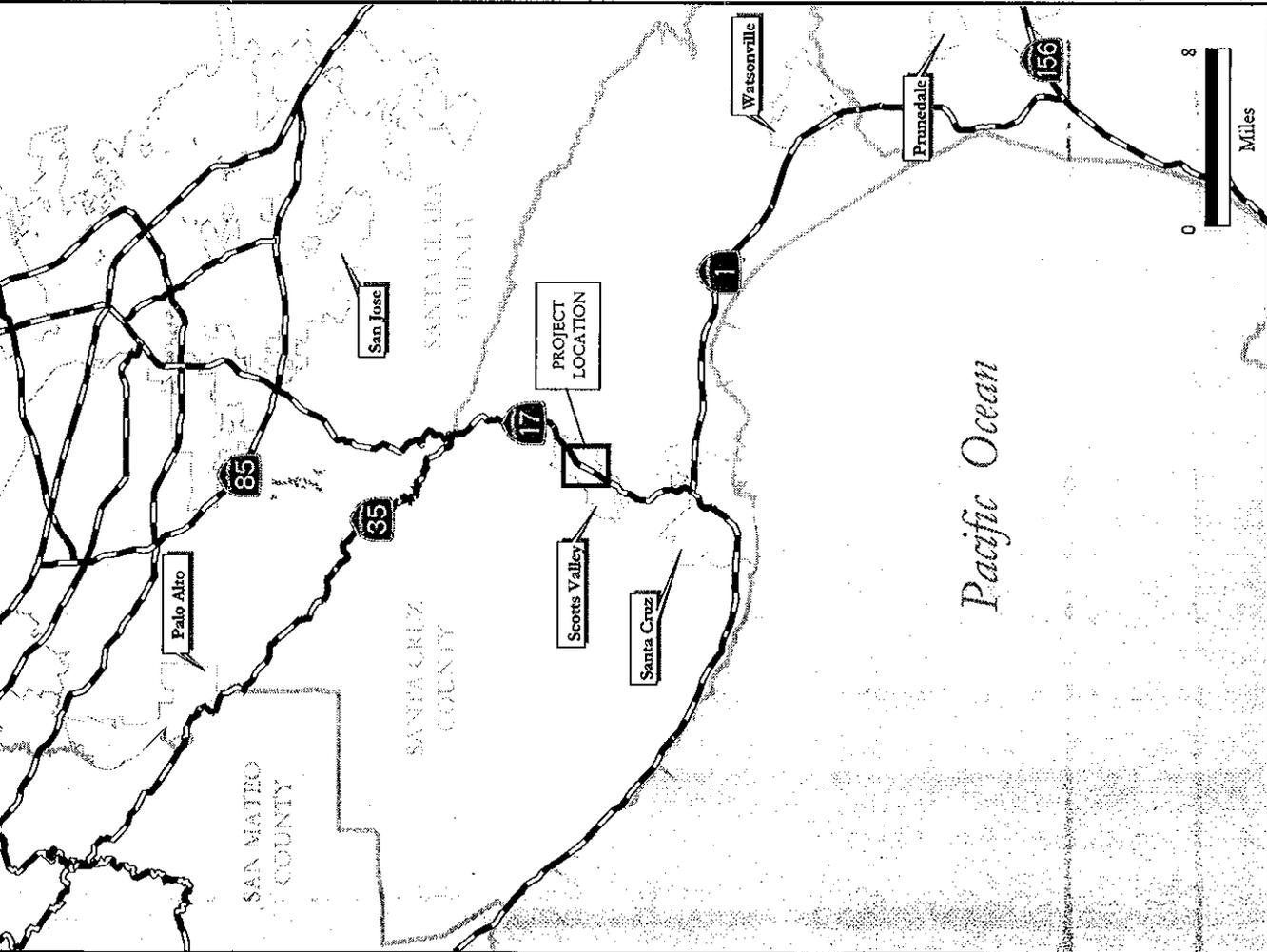
INITIAL STUDY AND ENVIRONMENTAL REVIEW CHECKLIST

1. **Project Title** Gateway South Office Building and Fire Station
2. **Lead Agency Name and Address** City of Scotts Valley
Planning and Building Department
One Civic Center Drive
Scotts Valley, CA 95066
3. **Contact Person and Phone Number** Jackie Young, Principal Planner
(831) 440-5630
4. **Project Location** The site is located on the west side of State Highway 17 in Scotts Valley on La Madrona Drive, generally southwest of the Mt. Hermon Road exit (see Figure 1, Vicinity Map). The office building/open space site is adjacent to the Hilton Hotel and the Monte Fiore gated community and the fire station site is between La Madrona Drive, the State Highway 17 southbound on-ramp, and a proposed retail center.
5. **Project Sponsor's Name and Address** Debra Stein, Partner
GCA Strategies
655 Montgomery Street, Suite 1700
San Francisco, CA 94111
6. **General Plan Designations** Office Building Parcel: C-S Commercial Service and Open Space
Fire Station Parcel: C-S Commercial Service
7. **Zoning** Office Building Parcel: C-S Commercial Service and Open Space
Fire Station Parcel: C-S Commercial Service
8. **Description of the Project**

The proposed project is an amendment to the Gateway South Specific Plan (City of Scotts Valley, 1995) to allow the construction of: 1) the Gateway South Office Building, and 2) a fire station for the Scotts Valley Fire District. Both proposed developments and the Specific Plan Amendment are considered the "project," although they are referred to separately for purposes of clarification. Each project element is described below.

Gateway South Office Building

The Gateway South Office Building would be built on a 17.6-acre parcel west of La Madrona Drive and southwest of the Mt. Hermon Road/State Highway 17 interchange. Approximately 6.6



Source: DES Architects/Engineers, Parcels, September 2001; US Census Bureau, City Boundaries, December 2000; ESRI, Major Roads, September 1999; and EIP Associates, GIS Program, June 6, 2002.



NOT TO SCALE

FIGURE 1: VICINITY MAP

Gateway South Office Building
and Fire Station
Scotts Valley, CA

acres or 38% of the site would be developed, and approximately 11.0 acres or 62.5% of the site would remain as natural or landscaped open space, including the heavily wooded slope on the western side of the property. Table 1 provides a summary of the office building site data.

Table 1. Office Building Site Data

	Area (sq. ft.)	Area (acres)	% of Gross Site Area
Gross Site Area	767,478	17.6	100%
Building Footprint	67,870	1.5	8.8%
Parking Stalls/driveways	193,716	4.4	25.2%
Landscape Hardscape	28,665	0.65	3.7%
Landscape Planting	181,892	4.2	23.7%
Open Space	295,335	6.8	38.5%
Gross Building Area	136,000	N/A	N/A

Source: DES Architects, 2001.

The front, or east-facing façade, would include a semi-octagon entry feature connecting two larger wings set back from the entrance in an articulated plan which forms a modified V-shape (see Figure 2, Site Plan). The entrance would contain a semi-circular trellis feature surrounding a circular forecourt. Exterior stair towers would be located on the northern and southern wings. Two employee plazas would be located toward the rear of the building; one located to the northwest would be approximately 4,000 square feet, and the other located to the southwest would be approximately 3,700 square feet.

Parking areas would surround the building on all sides, providing parking for approximately 550 automobiles, including 10 handicap spaces (see Figure 2, Site Plan). Two access driveways leading to the parking areas would be located on La Madrona Drive. Parking areas would be a series of interconnected lots with an internal loop road on the periphery. A pedestrian bridge would connect the upper parking lot on the west side of the building to the second floor of the west-facing, façade, through a rear entrance doorway. A pedestrian walkway through the parking lot would connect the office building property with the adjacent Hilton Hotel property, located immediately to the north of the site.

The site would be graded to accommodate the building pad and parking areas (see Figure 3, Grading Plan). Building and parking area pads would be terraced into the slope. Slopes on the developable portion of the site range from 0% to 39%, sloping generally from west to east. Development would be concentrated on the lower, flatter portions of the site. Estimated earthwork quantities include approximately 50,000 cubic yards (cy) of excavated soils, approximately 60,500 cy of fill, of which approximately 10,500 cy would be imported soils. Concrete retaining walls would be utilized in various locations around the property, including the front (east) elevation along La Madrona Drive between the road and the first parking area, between the first and second

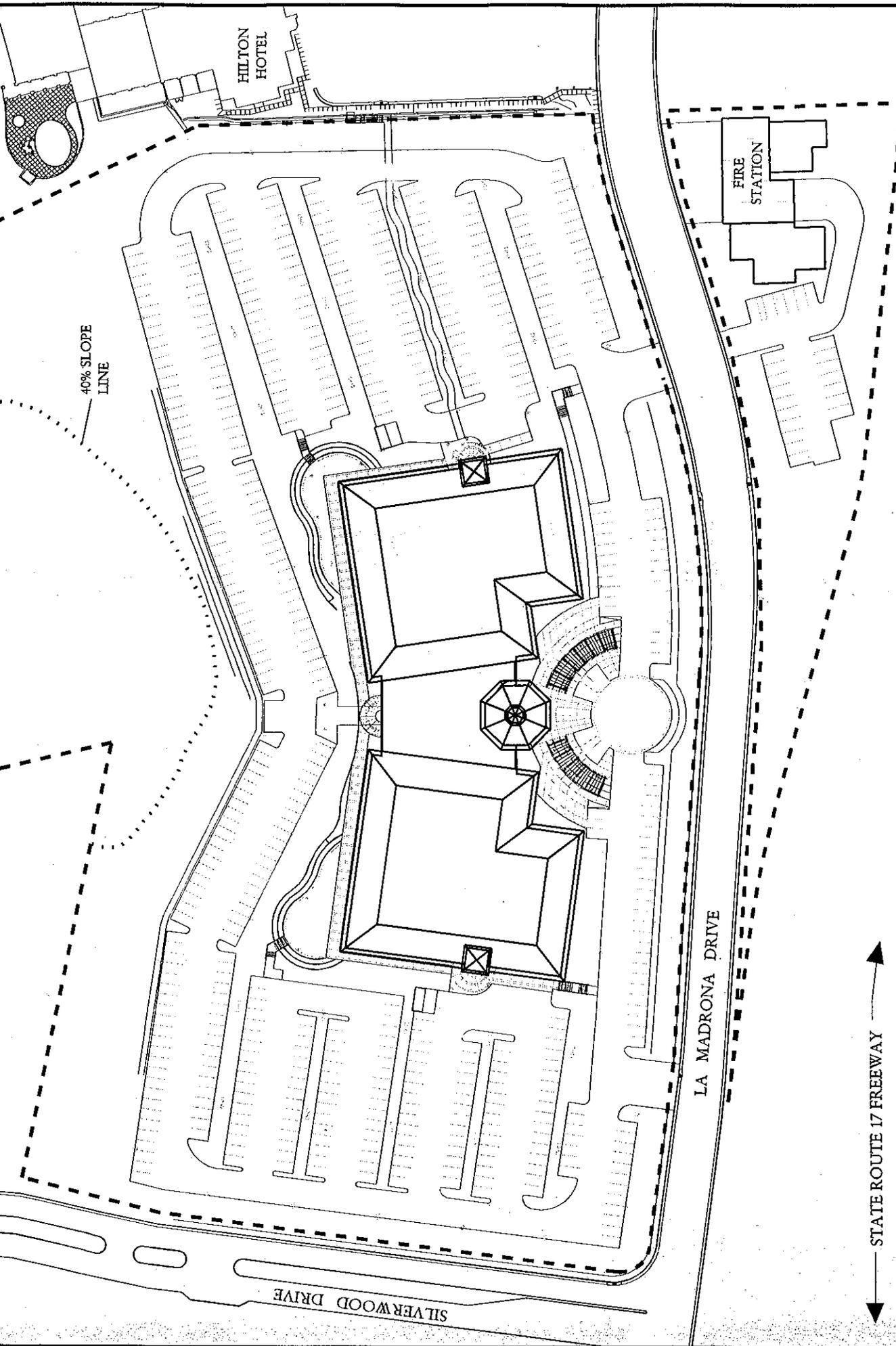
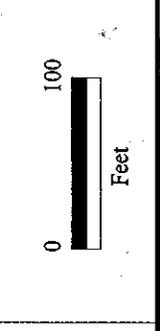


FIGURE 2: SITE MAP
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

--- Property Line



Source: DES Architects/Engineers,
 Site Plan, September 2001; and
 EIP Associates, GIS Program,
 June 5, 2002.



STATE ROUTE 17 FREEWAY

LA MADRONA DRIVE

SILVERWOOD DRIVE

40% SLOPE
 LINE

HILTON
 HOTEL

FIRE
 STATION

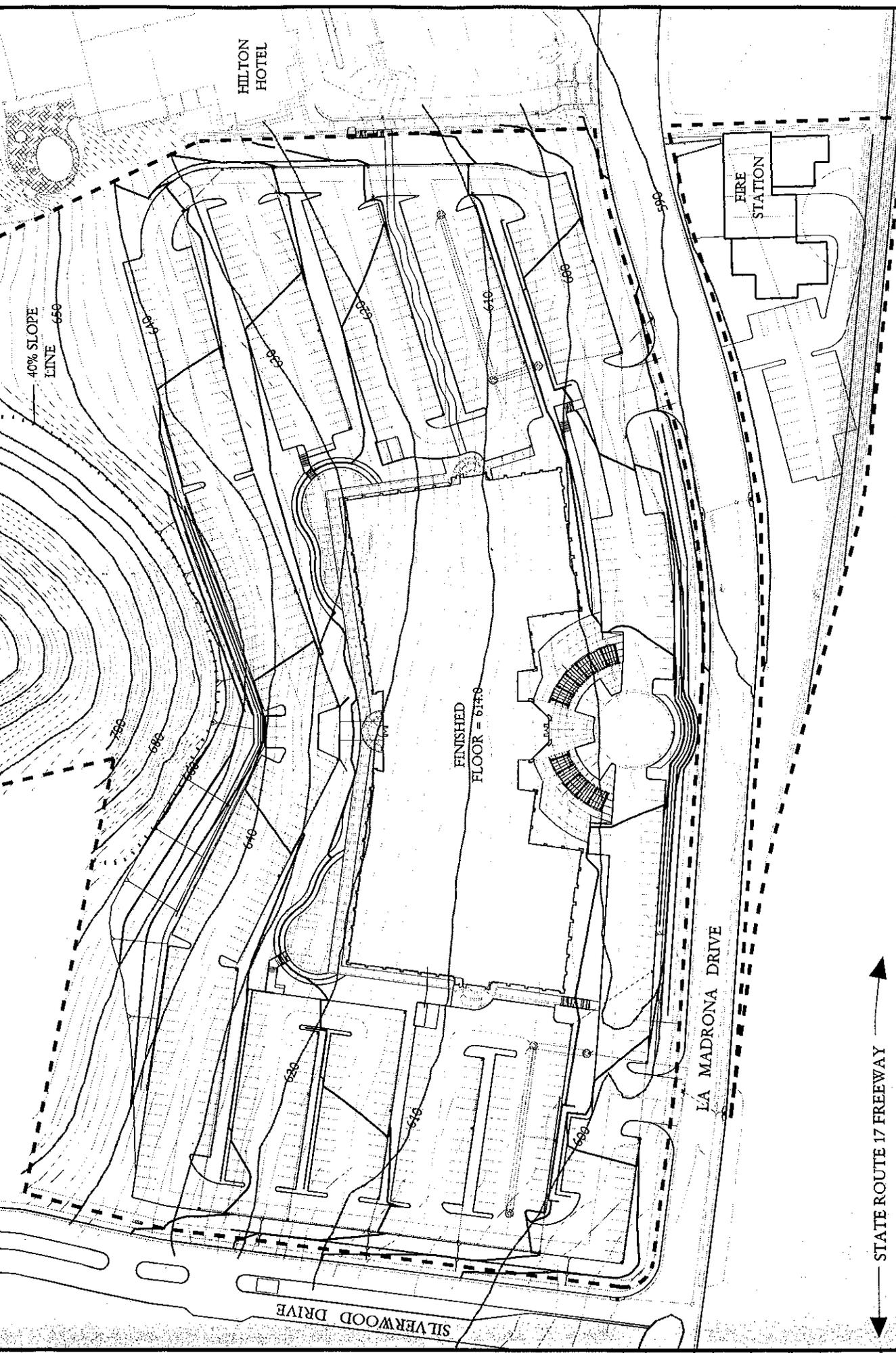
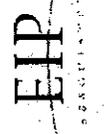


FIGURE 3: GRADING PLAN
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

--- Property Line



Source: DES Architects/Engineers,
 Grading Plan, September 2001; and
 EIP Associates, GIS Program,
 June 5, 2002.



STATE ROUTE 17 FREEWAY

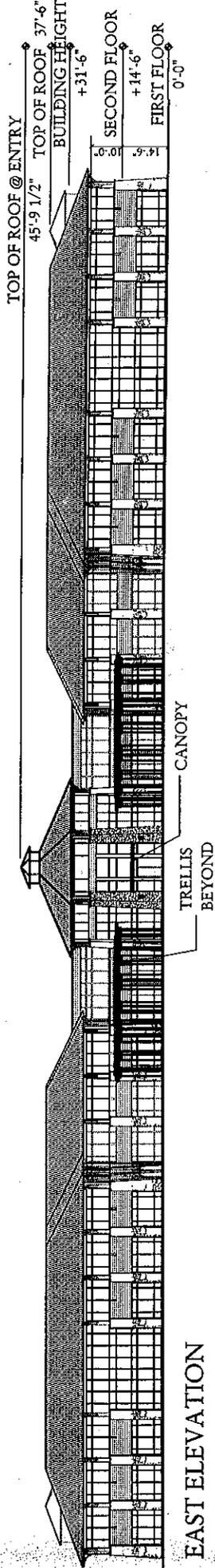
parking areas to the north and south of the building, behind the building between the employees plazas and the upper parking lot, along portions of the northern and southern borders, and above portions of the upper parking lot along the toe of the slope. None of the grading work would breach the 40% slope line located on the western side of the property (see Figure 3). This portion of the property contains steep slopes and is heavily vegetated. It would remain undeveloped and would be designated as open space.

Although designs are preliminary, project plans call for a two-story building approximately 136,000 square feet (sq. ft.) constructed with a steel structure on a poured concrete slab. Exterior details would include pilasters clad in stone, stained horizontal wood spandrels, tinted glazing in anodized aluminum window frames, and wooden eave brackets (see Figure 4, Elevations). The hipped parapet roof would be clad in composite slate roofing. The building would be approximately 460 feet long, 190 feet wide, approximately 38 feet tall to the top of the roof (main portion), and approximately 46 feet tall to the peak of the entrance portion of the roof.

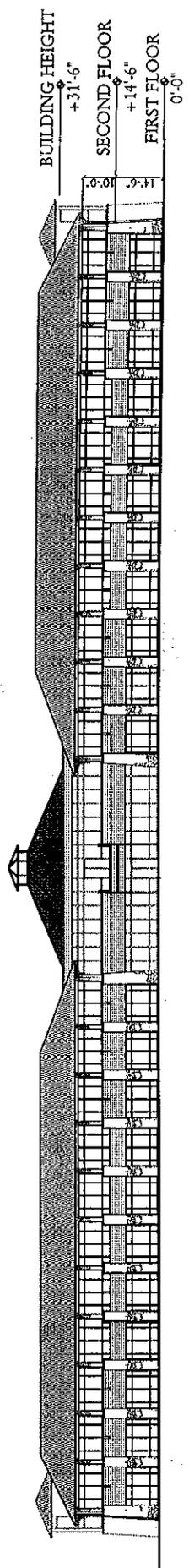
Although the landscape plan is conceptual in nature, the property would be heavily landscaped with London Plane trees and shrubs along La Madrona Drive, and a mixture of maples, fruit trees, oaks, and redwoods throughout the development (see Figure 5, Landscape Plan). A landscaped buffer would be located between the project and the adjacent properties to the north and south. Redwoods and ornamental trees would be concentrated at the entrance and front façade of the building. Other landscaping would include groundcovers, shrubs, and vines (primarily along the retaining walls). All areas between and around the parking lots would be landscaped. Native restoration planting located along the upper, graded slopes of the project would include redwoods, oaks, manzanita, and native hydroseed plantings. Other landscape features include paved walkways and plazas, lighting (pedestrian-scale poles and bollard lights), and a timber trellis with masonry columns and benches at the entrance.

Fire Station

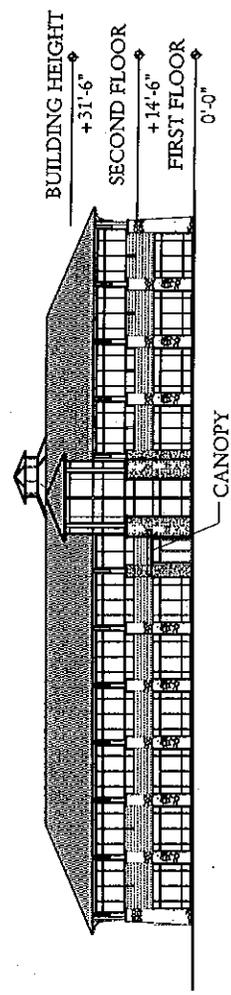
The proposed fire station would be located to the east of the office development on a 1.5-acre site known as the "teardrop" parcel, between La Madrona Drive and the State Highway 17 southbound on-ramp (See Figure 6). This parcel has been sold by the developer of the office building project to the Scotts Valley Fire District who would eventually develop a fire station on the site. Although site plans for the fire station are preliminary, the project would include a single-story administration and training building, a two-story living quarters and operations building, five fire truck bays, and 23 parking spaces, including two handicap spaces. The building footprint would be approximately 9,500 sq. ft., with a total gross building area of approximately 12,000 sq. ft. The building would be located on the northern end of the parcel with parking on the southern end. Access to the site for both fire trucks and automobile parking would be from La Madrona Drive, with a loop driveway for returning fire trucks at the rear of the building to avoid the longer fire trucks from having to back into the truck bays from La Madrona Drive (see Figure 6).



EAST ELEVATION



WEST ELEVATION



NORTH/SOUTH ELEVATION

FIGURE 4: ELEVATIONS

Gateway South Office Building
and Fire Station
Scotts Valley, CA



Source: DES Architects/Engineers,
Exterior Elevation, September 2001,
and EIP Associates, GIS Program,
June 6, 2002.



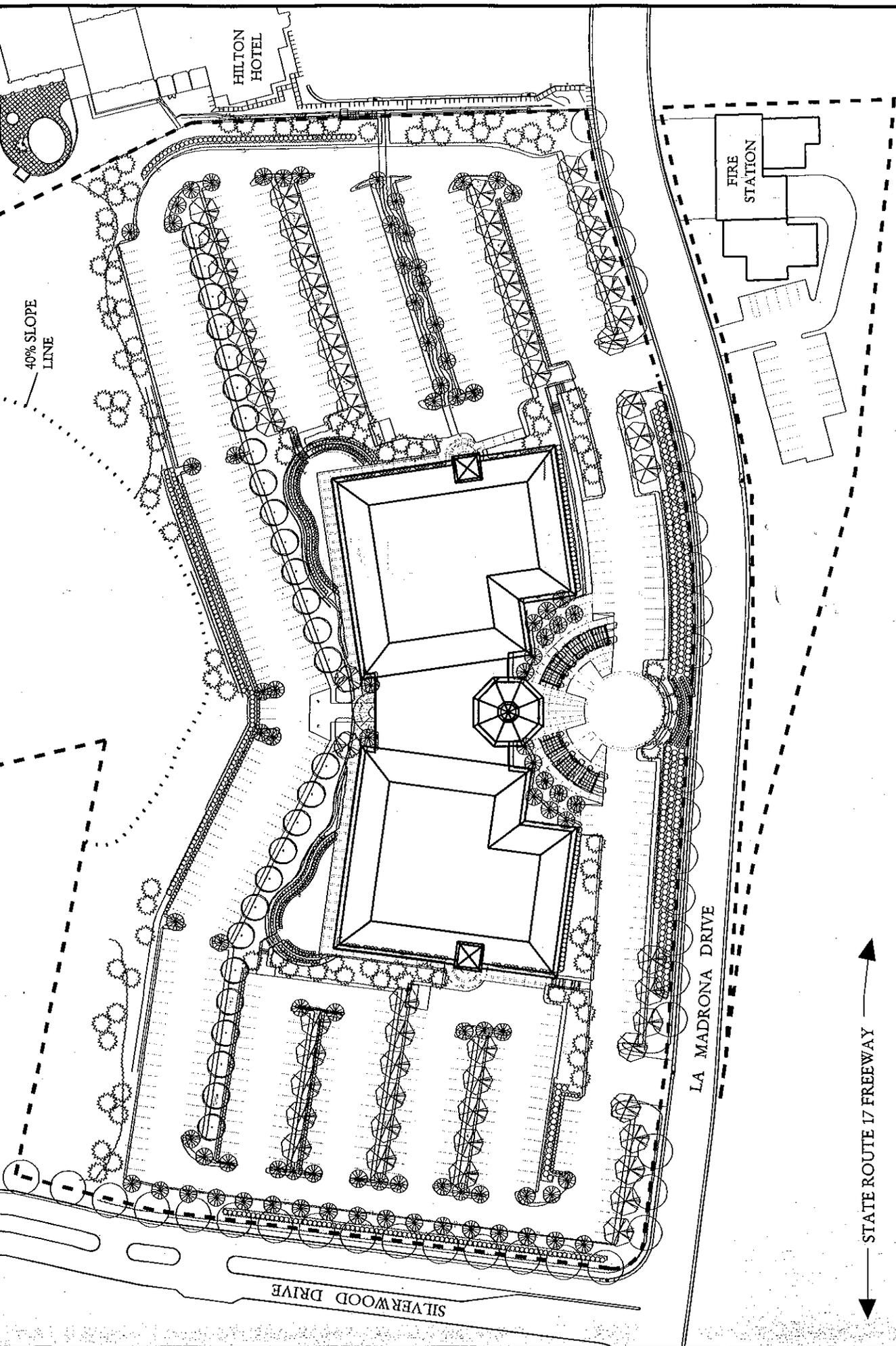
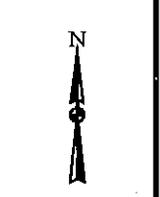
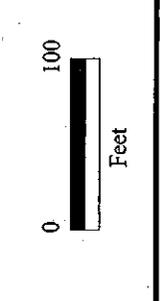
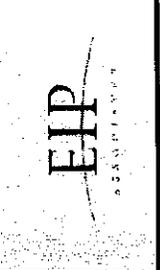


FIGURE 5: LANDSCAPE PLAN
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

--- Property Line



Source: DES Architects/Engineers, Site Plan, September 2001; The Guzzardo Partnership, Landscape Plan, September 2001; and EIP Associates, GIS Program, June 5, 2002.

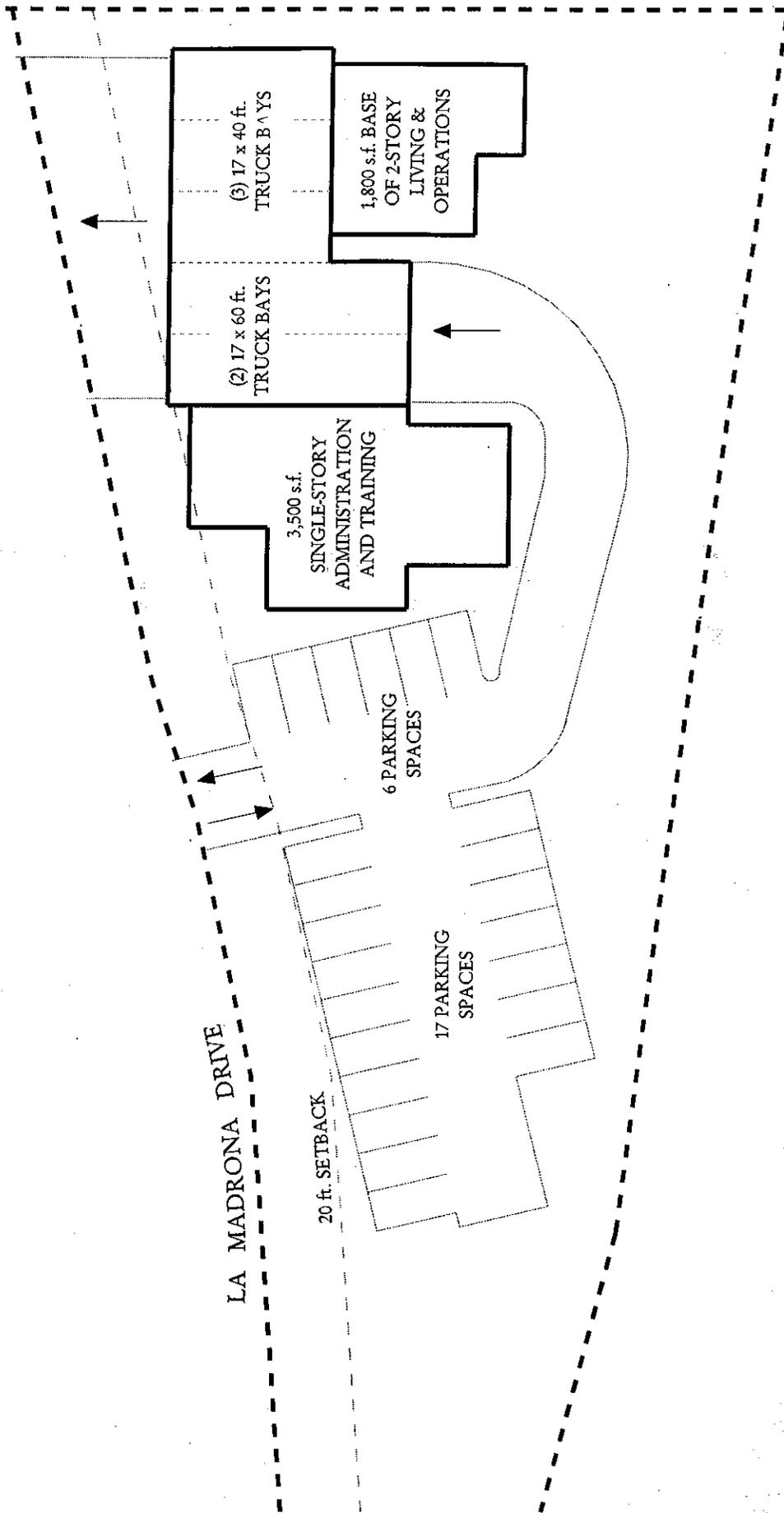


STATE ROUTE 17 FREEWAY

LA MADRONA DRIVE

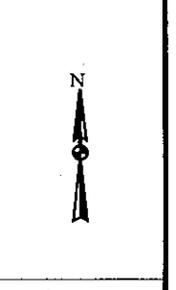
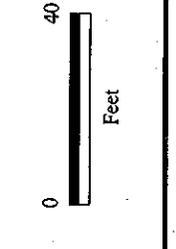
SILVERWOOD DRIVE

40% SLOPE LINE



**FIGURE 6: FIRE STATION
SITE PLAN**
Gateway South Office Building
and Fire Station
Scotts Valley, CA

--- Property Line



Source: C3 Design Alliance,
Concept Site and Building Layout,
October 4, 2001; and EIP
Associates, GIS Program, July 31,
2002.

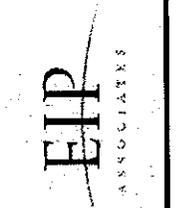


Table 2. Fire Station Site Data

	Area (sq. ft.)	Area (acres)	% of Gross Site Area
Net Site Area	64,838	1.5	100%
Building Footprint	9,500	0.2	14.7%
Parking Stalls/Driveways	18,042	0.41	27.8%
Landscape Hardscape/Plantings	37,296	0.86	57.5%
Gross Fire Station Area	12,000	N/A	N/A

Source: DES Architects

Specific Plan Amendment

Both projects would be built within Planning Area B of the Gateway South Specific Plan (Scotts Valley, 1995). The proposed project would require a specific plan amendment, as it would be a more intensive development than that envisioned under the Specific Plan, and evaluated under the Gateway Specific Plan EIR (Scotts Valley, 1995). Policy 6.3 of the Specific Plan states that the maximum total building area in Planning Area B shall be 151,000 square feet, and that any proposal to exceed this limitation shall require a Specific Plan amendment. The newly constructed Hilton Hotel, located to the north of the project site, totaled 124,000 sq. ft., leaving 27,000 sq. ft. of developable space in Planning Area B. The proposed office building and fire station would total 148,000 sq. ft. of development, or 121,000 sq. ft. above the maximum development envisioned for Planning Area B of the Gateway South Specific Plan. As a result, a Specific Plan Amendment would be required to allow an additional 121,000 sq. ft. of construction associated with the proposed Gateway South Office Building and Fire Station project. For purposes of this environmental review, the Specific Plan Amendment is considered part of the project.

The Specific Plan Amendment allowing development of an additional 121,000 sq. ft. will be evaluated in a Supplemental EIR (SEIR) which supplements the environmental analysis completed for the Gateway Specific Plan EIR. The SEIR will determine the extent to which the proposed additional development would create significant new environmental effects not previously evaluated in the Gateway Specific Plan EIR.

9. Project Setting and Surrounding Land Uses

The City of Scotts Valley is located within Santa Cruz County, in the south-central Santa Cruz Mountains. It is located off State Highway 17, six miles north of the City of Santa Cruz and 25 miles south of the City of San Jose. The proposed office building/open space site is bound by the Hilton Hotel to the north, Silverwood Drive and open space to the south, residential uses to the west, and La Madrona Drive to the east. The proposed fire station site is bound by an approved but un-built retail center to the north, La Madrona Drive/State Highway 17 at the southern tip, the State Highway 17 southbound on-ramp to the east, and La Madrona Drive to the west. La Madrona Drive is the frontage road along State Highway 17.

10. Other Public Agencies Whose Approval Is Required

Regional Water Quality Control Board
Caltrans District 5
California Department of Fish and Game
US Fish and Wildlife Service

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project as indicated by the checklist on the following pages.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems
- Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

I find that the proposed project **MAY** have a "potentially significant impact" or "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. A **SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Jackie Young, Principal Planner

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

CEQA requires that an explanation of all answers except "No Impact" answers be provided along with this checklist, including a discussion of ways to mitigate any significant effects identified. As defined here, a significant effect is considered a substantial adverse effect.

	<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
I. AESTHETICS -- Would the project: (Sources: 1, 2)				
a) Have a substantial adverse effect on a scenic vista?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:

a-d) The project site is located adjacent to Mt. Hermon Road and State Highway 17 at the southern entrance to Scotts Valley. State Highway 17 is identified as a scenic road corridor in the Scotts Valley General Plan, and the project site is located within this corridor. The proposed office building and fire station would change views within this scenic corridor from undeveloped open space to a two-story, 136,000-sq.ft. structure surrounded by surface parking, and a two-story, 12,000-sq.ft. fire station. This change could affect scenic vistas in the area, and would alter views within a state scenic highway. The project would also increase light levels in the area. As a result, the proposed project may have an adverse aesthetic impact. The SEIR will further evaluate the proposed project's potential impact on aesthetic resources, including effects on scenic vistas, scenic resources, visual character of the surroundings, as well as effects related to light, glare, and nighttime views. The SEIR will additionally include computer-generated 'before' and 'after' simulations of the office building development from various public vantage points.

	<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
II. AGRICULTURAL RESOURCES -- Would the project: (Sources: 2, 3)				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

a-c) The proposed office building site appears to have been in agricultural production at some point in the past, although the site is not currently used for agricultural purposes. The site is zoned for commercial service uses and is not considered prime or unique farmland, or farmland of statewide importance. The project site is not on, or adjacent to, any active farmland. Timberland production is the only form of agriculture designated on the General Plan Land Use map and it occurs in two areas, both just outside the city limits. The project would therefore have no impact on farmland or agricultural resources. This issue will not be discussed further in the SEIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or violate any applicable air quality plan or air quality standard, or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:

a-d) The proposed project would have operational activities (primarily from additional mobile source emissions, such as automobiles), as well as construction activities (such as dust-generation and heavy

equipment fumes) which could have adverse effects on air quality. Diesel fuel emissions from emergency backup generators proposed for the fire station site may additionally contribute to air quality impacts. These issues will be evaluated further in the SEIR. The SEIR will primarily utilize the findings of the traffic study to evaluate whether the proposed project would violate existing air quality plans or standards, result in a cumulatively considerable net increase in criteria pollutants, or expose sensitive receptors to pollutant concentrations above the state and federal ambient air quality standards. As project-related air quality impacts are unknown until further study, they are considered potentially significant.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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IV. BIOLOGICAL RESOURCES -- Would the project:

- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) 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 U.S. Fish and Wildlife Service? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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 (see also IX. c.)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a-e) A biological resources report is currently being prepared by EIP Associates which will evaluate the proposed project's effects on biological resources, including candidate, sensitive, special status species, and sensitive natural communities, such as wetlands. The report will also evaluate the project's effects relative to the City of Scotts Valley's biological protection ordinances (including the City's tree preservation ordinance), and wetland seeps which may exist on site. The findings of the biological resources report will be summarized in the SEIR. As specific biological impacts to the site are unknown until the report is completed, they are considered potentially significant, and will be fully addressed in the SEIR.

f) The City of Scotts Valley does not currently have any habitat conservation plans or natural community conservation plans, although consultation with the US Fish and Wildlife Service frequently occurs with species-related issues within the zayante sandhills habitat and buffer zones. As such, development of the site would not conflict with the provisions of any such plans and no impact is expected. This will not be discussed further in the SEIR.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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V. CULTURAL RESOURCES -- Would the project:
(Source: 4, 15)

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:

a) The Gateway South Specific Plan EIR found no present historical resources in the project area. The California Inventory of Historical Resources, California Historical Landmarks, and the National Register of Historic Places were reviewed for the existence of historical resources on this site, as well as others in the Specific Plan area, but no historical resources were identified. No structures currently exist on either project site, although some remnants of a demolished wood structure and an associated cement driveway are located on the southeastern corner of the proposed office building site. As such, the proposed project would have no anticipated impact on historical resources, and this issue will not be discussed in the SEIR.

b and d) A cultural resources reconnaissance was conducted for the Gateway South Specific Plan EIR, which consisted of a "general surface reconnaissance" of all areas that could reasonably be expected to contain visible cultural resources, and that could be viewed without major vegetation removal or excavation. None of the materials frequently associated with prehistoric cultural resources in the Scotts Valley/Santa Cruz area (shell fragments, dark soil, broken or fire-altered rocks, bone or bone fragments, flaked or ground stone, etc.) were noted during the survey. However, it is possible that previously undiscovered resources could be unearthed during the excavation process. This would be a potentially significant impact unless mitigation is incorporated. The following measures would reduce the potential to disturb significant subsurface cultural resources to a less-than-significant level.

Mitigation Measures:

1. If potential historical or unique archaeological resources are discovered during construction, suspend all work in the immediate vicinity (within approximately 50 feet) and avoid altering the materials and their context pending site investigation by a qualified archaeological or cultural resources consultant retained by the project applicant. Construction work shall not commence again until the archaeological or cultural resources consultant has been given an opportunity to examine the findings, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of, and/or mitigation of adverse impacts to, any potential historical resources or unique archaeological resources that have been encountered.
2. If the find is determined to be an historical or unique archaeological resource, and if avoidance of the resource would not be feasible, the archaeological or cultural resources consultant shall prepare a plan for the methodical excavation of those portions of the site that would be adversely affected. The plan shall be designed to result in the extraction of sufficient volumes of non-redundant archaeological data to address important regional research considerations. The work shall be performed by the archaeological or cultural resources consultant, and shall result in detailed technical reports. Such reports shall be deposited with the California Historical Resources Regional Information Center. Construction in the vicinity of the find shall be accomplished in accordance with current professional standards and shall not recommence until this work is completed.
3. The project applicant shall assure that project personnel are informed that collecting significant historical or unique archaeological resources discovered during development of the project is prohibited by law. Prehistoric or Native American resources can include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources can include nails, bottles, or other items often found in refuse deposits.
4. 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). In general, these provisions require that the County Coroner shall be notified immediately. If the remains are found to be Native American, the County Coroner shall notify the Native American Heritage Commission within 24 hours. The most likely descendant of the deceased Native American shall be notified by the Commission and given the chance to make recommendations for the remains. If the Commission is unable to identify the most

likely descendent, or if no recommendations are made within 24 hours, remains may be reinterred with appropriate dignity elsewhere on the property in a location not subject to further subsurface disturbance. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.

The project sponsor intends to incorporate these mitigation measures as part of the proposed project. No further evaluation of potential effects to cultural resources will be included in the SEIR.

c) Certain geologic layers within the Santa Cruz Mountains contain remnants of an ancient ocean basin that existed in this area approximately 7 to 10 million years ago. This area is known to contain significant paleontological resources, such as the remains of fossilized birds, mastodon, camel, horses, bony fish and sharks, whales, and dolphins. Many significant paleontological resources have been discovered in Scotts Valley during project construction efforts which involved subsurface excavation. For this reason, a paleontological resources report was prepared by Petra Paleontology which evaluated the sites' potential for significant paleontological resources. The report stated that the project site contains no known or listed paleontological resources. However, the Santa Margarita Sandstone which underlies the lower, flatter portions of the project site has a high paleontological sensitivity. In addition, the Santa Cruz Mudstone which underlies the steeper portions of the office building parcel has a moderate paleontological sensitivity. The proposed project could potentially affect paleontological resources if extant within either the Santa Margarita Sandstone or the Santa Cruz Mudstone. The following measures would reduce the potential to disturb significant subsurface paleontological resources to a less-than-significant level.

Mitigation Measures:

The project applicant shall retain the services of a qualified paleontologist to conduct the following activities:

1. The paleontologist shall attend a pre-grade meeting with project contractors to discuss the monitoring, collecting, and safety procedures for the project;
2. The paleontologist shall conduct full-time monitoring during any earth moving activities within the Santa Margarita Sandstone. The length of monitoring time is tied directly to the length of time for earth moving activities in the sensitive geologic unit. All recovered specimens would be donated to the designated repository.

The Santa Cruz Mudstone, if encountered on the proposed office building parcel, will require intermittent monitoring. If the Santa Cruz Mudstone proves to be without significant fossil material on the project, the monitoring time can be lowered or eliminated at the discretion of the qualified project paleontologist. The Recent alluvium/colluvium, and fill materials and diorite on the site will not require paleontological monitoring.

3. During the grading or trenching activities in the Santa Margarita Sandstone, the paleontologist or a paleontological monitor(s) under his or her direct supervision, shall conduct sediment screening as part of monitoring effort. To save time, reduce costs, and allow the project to continue on schedule, a matrix sample, earmarked by the paleontologist, could be moved by the contractor to one side of the project. The paleontological monitor(s) could then process the matrix for fossils and collect scientifically significant specimens. This allows the construction schedule to continue as planned while allowing paleontological mitigation.

4. The paleontological monitor shall have the authority to temporarily divert or redirect grading to allow time to evaluate any exposed fossil material. The term "temporarily" in this context is interpreted as within one working day for the evaluation process.
5. During monitoring and salvage, any scientifically significant specimens shall be properly collected after evaluation by, and under the supervision of, the paleontologist. During collecting activities, contextual stratigraphic data shall also be collected. This will include lithologic descriptions, photographs, a measured stratigraphic section(s), and field notes.
6. Specimens shall be prepared to the point of identification (not exhibition), stabilized, identified, and curated in a suitable repository that has a retrievable storage system, such as the University of California Museum of Paleontology, Berkeley (UCMP). The UCMP is specifically recommended as the repository for this project.
7. A final report shall be prepared at the end of earth moving activities, and shall include an itemized inventory of recovered fossils and appropriate stratigraphic and locality data. This report shall be sent to the City of Scotts Valley, signifying the end of mitigation. Another copy shall accompany any recovered fossils, along with field logs and photographs, to the designated repository.

No further evaluation of potential effects to paleontological resources will be discussed in the SEIR.

Potentially Significant <u>Impact</u>	Potentially Significant Unless Mitigation <u>Incorporated</u>	Less Than Significant <u>Impact</u>	No <u>Impact</u>
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VI. GEOLOGY AND SOILS -- Would the project:

(Sources: 4, 5)

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map for the area or based on other substantial evidence of a known fault?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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ii) Strong seismic ground shaking?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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iii) Seismic-related ground failure, including liquefaction?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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iv) Landslides?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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b) Result in substantial soil erosion or the loss of topsoil?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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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?

d) Be located on expansive soil creating substantial risks to life or property?

Discussion:

a.i and ii) The project site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Map, and no known active or potentially active faults exist on the site. The closest major faults include the San Andreas, San Gregorio, Hayward and Calaveras Faults. The greatest potential for ground shaking is posed by the San Andreas Fault, located about eight miles northeast of the project site. During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the project site. However, the proposed project would be designed and constructed to conform to existing building codes, which are designed to minimize exposure of people or structures to the risks associated with seismic activities. Therefore, a less-than-significant impact is expected.

a.iii) A geotechnical report for the project site was prepared by Treadwell & Rollo in 2001 to determine the potential for earthquake-related ground failure, such as liquefaction, lateral spreading, and ground settlement. Based on field investigations by Treadwell & Rollo, soils encountered beneath the site were found to be granular and dense enough to resist liquefaction. Therefore, the potential for liquefaction or liquefaction-induced ground failure at the site is very low. The potential for ground-surface settlement was found to be very low as well. However, because the possibility still exists for settlement, mitigation measures, such as special structural detailing, including stiffening of foundation elements or overexcavation of native material beneath the rear of the building pad, should be utilized to minimize damage in the cut/fill zone in the event of a major earthquake on a nearby fault. Implementation of such measures would reduce the impact to less than significant. The project sponsor intends to implement all recommended mitigation measures provided in the geotechnical report.

a.iv) The ground surface on the office building site generally rises from east to west, with ground surface elevations in the project area ranging from 590 feet on the east to 660 feet on the west. Within the portion of the parcel to be developed, the inclination of the existing ground surface varies between about 8:1 and 10:1 (horizontal to vertical) in the north and east portions of the site, and between 5:1 and 8:1 in the south and west portions of the site. There is evidence of a small landslide in the southwest area of the site, above the 40% slope line. Areas above the 40% slope line would remain as undeveloped open space, and would therefore not be affected by the development of the parking lot and building. According to project plans, areas beneath the toe of the slope will be retained using a system of concrete retaining walls. Native restoration plantings would also be utilized on all graded and finished slopes to the rear (western) portion of the building/parking lot area. As a result, the potential for future landslides in this area would be minimized to a less-than-significant level.

The fire station site, located downhill of the office building site, is relatively flat with a ground surface elevation of approximately 590 feet. Because landslides are unlikely where slopes are less than 3%, a less-than-significant impact is expected on the fire station site. The issue of landslide potential will not be discussed in the SEIR.

b - d) The project site is currently characterized by grass, weeds, and shrubs, with some individual clusters of trees. The upper portion of the parcel (above the 40% slope line) is relatively steep and heavily wooded, and is not proposed for development. Field investigations found that soil at the site consists of a heterogeneous mix of stiff to very stiff sandy clay and loose to medium dense sand with varying silt and clay content. The loose surface soils likely contain saturated zones of seepage that are generally about two to four feet below the ground surface. Saturated zones such as these represent weak and compressible zones that could lead to slumping and sliding, particularly during strong ground shaking. However, the potential for these hazards could be lessened considerably by a combination of subsurface drainage from developed areas and re-working of the loose soils. Based on recommendations of the geotechnical report, the developer intends to re-work the soils through project grading activities, and install subsurface drainage systems as necessary to reduce the effects of saturated soils. Tests performed on the soil indicate that it has low expansion potential. The proposed project would have a less-than-significant effect on erosion due to the relatively shallow slopes within the construction area limits. Project effects due to erosion, unstable or expansive soils will not be discussed further in the SEIR.

Based on the findings of the geotechnical investigation conducted by Treadwell & Roll in 2001, localized areas of perched groundwater may be located at the project site, associated with the layers of Santa Margarita Sandstone which occur less than 20 feet below the ground surface. As a result, groundwater may be encountered during project construction. The hydrology report being prepared by EIP associates will discuss the potential effects of perched groundwater. The findings of the report will be summarized in the hydrology section of the SEIR.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:

(Sources: 2, 6)

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site that 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Discussion:

a-c) Office building uses typically do not utilize hazardous materials in sufficient quantities, such that their use, transport, or disposal could create a significant public hazard. As such, the proposed office building would have a less-than-significant impact related to hazardous materials. The fire station may employ a back-up generator for use during emergency situations; however, the amount of diesel fuel utilized to run the generator would not likely exceed 50 gallons, and would not constitute a significant hazard to the public during use, transport, or in the event of an accidental release. Effects to air quality from diesel emissions will be evaluated in the air quality section of the SEIR. Other substances routinely utilized within fire stations include fire suppressant materials (such as fire-retardant foam) and pressurized oxygen tanks, that in sufficient quantities could be considered hazardous, but would not generally constitute a substantial hazard to the public. The nearest school is located over 0.5 mile from the project site. As a result, the proposed project would have a less-than-significant impact related to hazardous materials.

d) Past uses of the site were agricultural in nature, and the site is not included on the Hazardous Waste and Substances Sites List as set forth in Government Code § 65962.5. The project site is also not located within ¼ mile of any facility which might reasonably be anticipated to emit hazardous or acutely hazardous air emissions according to the Scotts Valley General Plan. Therefore, no impact is expected at the project site from proximity to hazardous waste facilities.

e-f) The project site is not located within two miles of an airport or private airstrip, and would therefore not result in a safety hazard to those living or working in such an area.

g) The proposed project would not interfere with the Scotts Valley emergency operations plan, called the Multihazard Functional Planning Guidance, or any other emergency response or evacuation plans, because it would not introduce new uses or programs which would impede such plans. Construction of a new fire station would aid in emergency response in the project vicinity. As a result, the proposed project would have no adverse impact.

h) The Scotts Valley General Plan identifies eight fire hazard areas within the City's planning area. The project site does not lie within any of these areas; however, the General Plan indicates that factors commonly associated with wildland fires are present throughout Scotts Valley. These factors include

highly flammable brush, rugged terrain, long arid summers, dry northeast winds, and an expanding population. The proximity of the proposed office building to brush and forested areas suggests that the project would have a greater chance of experiencing a wildland fire. However, forested areas of the site would be located over 100' from the office building structure, separated by a parking lot, effectively creating a barrier between these areas if a wildland fire were to occur. Construction of the new fire station across the street from the office development would allow for enhanced response in the case of a wildfire. The proposed fire station is not in a wildland zone and would therefore not be at risk of wildland fires. The project site would not expose people or structures to significant wildland fire risks.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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VIII. HYDROLOGY AND WATER QUALITY -- Would the project: (Source: 7)

- | | | | | |
|---|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Result in inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a - e) A hydrology report is currently being prepared which will evaluate the proposed project's potential to affect hydrology and water quality, including site drainage, erosion, runoff, and groundwater issues. Because project-related impacts to hydrology and water quality are unknown at this time, they are considered potentially significant, and will be fully addressed in the SEIR. The hydrology and water quality section of the SEIR will be a summary of the hydrology report, that has been prepared by EIP Associates. The SEIR will additionally address potential issues related to perched groundwater, and requirements by the Scotts Valley Water District (SVWD) for providing municipal water service to the project site.

f-i) The Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency (FEMA) identifies flood prone areas in the project vicinity along Carbonera Creek, which is located approximately 900 ft. north from the project site. The project sites are not located within the 100-year flood zone, identified as Zone A, nor is it within the 100 to 500-year flood zone (Zone B). As such, the proposed project would not be located in a 100-year flood zone area and no impact is expected. In addition, the threat of flooding or inundation by dam failure, seiche, tsunamis, or mudflows is considered to be absent at the project site because the site is not located within the coastal zone, nor is it located near a dam or in an area of potential mudflows. No impact is expected and the issue will not be discussed further in the SEIR.

	Potentially Significant Unless Mitigation Incorporated	Potentially Significant	Less Than Significant Impact	No Impact
	<u>Potentially Significant Impact</u>			

IX. LAND USE AND PLANNING -- Would the project:
(Source: 8)

- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a) The proposed project would be constructed on individual parcels accessed by La Madrona Drive. The office building site is adjacent to the Monte Fiore gated residential area, but it would not encroach upon, or in any way divide, this community. The office building project site is zoned Service Commercial (C-S) and Open Space (OS). The fire station project site is zoned CS. The developable portions of these parcels were zoned C-S in anticipation of commercial development in this area. As a result, the proposed project would not physically divide an established community. This issue will not be discussed further in the SEIR.

b) The applicable land use plan in the project area is the Gateway South Specific Plan which sets development standards and requirements in this area of Scotts Valley. Both project sites are within Planning Area B of the Gateway South Specific Plan. According to the Policy 6.3 of the Specific Plan, total building area in Planning Area B shall be no more than 151,000 sq.ft. of commercial service uses. As approximately 124,000 sq.ft. of commercial service development currently exists in this area, the proposed project would exceed the amount of allowable development by approximately 121,000 sq.ft., thereby conflicting with an applicable land use policy. This would be considered a potentially significant impact if the proposed project would create significant new environmental impacts beyond those initially evaluated under the Gateway South Specific Plan EIR. The proposed Specific Plan Amendment would allow the construction of additional, intensified development in this area. These land use issues will be fully evaluated in the SEIR.

c) The City of Scotts Valley does not currently have any habitat conservation plans or natural community conservation plans, although consultation with the US Fish and Wildlife Service frequently occurs with species-related issues within the zayante sandhills habitat and buffer zones. As such, development of the site would not conflict with the provisions of any such plans and no impact is expected. This will not be discussed further in the SEIR.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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X. MINERAL RESOURCES -- Would the project:

(Source: 2)

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a-b) The Scotts Valley General Plan Mineral Resource Zones map indicates that the project site is located within a Mineral Resource Zone-3 (MRZ-3), which is an area where mineral deposits are present, but cannot be evaluated from available data. The only known area of significant mineral deposits in Scotts Valley is located northwest of the project site, and is the site of an active sand quarry. Construction and operation of the project would not involve quarrying, mining, or extraction of any known regionally or locally important mineral, oil, or gas resources on site, nor would it deplete any nonrenewable mineral resource. Consequently, there would be no impact on mineral resources, and there is no need for further discussion of this topic in the SEIR.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XI. NOISE -- Would the project result in: (Sources: 2, 9)

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion:

a) The Scotts Valley General Plan identifies acceptable noise increase levels typically deemed acceptable based on the existing adjacent land use. These levels are presented in Table 3. The City's Noise Ordinance (Scotts Valley Municipal Code, Chapter 5.17) does not establish exterior noise limits

for various land use categories. As such, potential construction, operational, and traffic-related noise impacts of the proposed project will be evaluated against the General Plan noise increase standards. Exposure to noise levels in excess of these standards would be a potentially significant impact unless mitigation were applied. Based on this information, this issue will be discussed further in the SEIR.

Table 3. Noise Increase Standards

Proposed new use location of dBA reading	Maximum noise increase in dBA adjacent to existing:			
	Sensitive	Residential	Commercial	Industrial
Sensitive at property line	3	5	5	5
50' from property line	3	3	--	--
Residential at property line	3	5	5	5
50' from property line	3	3	--	--
Commercial at property line	3	5	5	5
50' from property line	3	3	--	--
Industrial at property line	3	5	5	5
50' from property line	3	3	--	--

Source: City of Scotts Valley General Plan, 1995.

b) Both the office building and fire station would be constructed using a concrete mat foundation, and would not require pile driving or other construction techniques likely to cause perceptible off-site groundborne noise or vibration. Occupation of the project site would not involve use of any sources of groundborne noise or vibration. Consequently, groundborne noise or vibration impacts are not considered an impact of this project, and need not be discussed further in the SEIR.

c) Noise levels within the project vicinity would change as a result of increased traffic traveling to and from the project site. The area that would primarily be affected by this traffic is located along Mt. Hermon Road, since the majority of vehicles traveling to and from the site would access it from this roadway. Significant noise impacts associated with traffic typically require at least a doubling of traffic volumes on area roadways. The findings of the traffic studied currently being prepared for this project by Fehr & Peers Associates, Inc. will identify the project-generated increase in traffic volumes. As this information is currently unknown, it is considered potentially significant, and will be examined further in the SEIR.

d) Construction activities at the project sites have the potential to create a substantial temporary increase in ambient noise levels in the project vicinity, unless mitigation were applied. As the noise generated from specific construction activities is unknown at this point, it is considered potentially significant, and will be discussed further in the SEIR.

e - f) The project site is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. Consequently, airport-related noise impacts do not apply at this project site, and will not be discussed further in the SEIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XII. POPULATION AND HOUSING -- Would the project:
(Sources: 1, 10)

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Induce substantial 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a) The proposed Gateway South Office Building would create approximately 495 jobs¹. Another 12 fire station personnel would be located at the fire station site, diverted from an existing fire station in Scotts Valley, and would therefore not constitute new population growth. The addition of 495 new office workers would not be considered a substantial concentration of population growth since the employment intensity is generally consistent with the area's Specific Plan land use designation and zoning, although at somewhat higher intensity than originally envisioned under the Plan. In terms of inducing new housing demand, these 495 workers can be categorized into those that are currently living in Scotts Valley, those that would be commuting from neighboring cities, and those that would relocate to Scotts Valley from other areas. Only the third category would result in population growth in Scotts Valley. If all 495 workers are conservatively assumed to relocate from other areas to Scotts Valley, this new population would place a demand on housing, community services, and public infrastructure. However, according to AMBAG forecasts between 2000 and 2020, approximately 1,500 new households and approximately 4,000 new jobs are expected in Scotts Valley. Accordingly, the new employees/households potentially associated with the project would not induce a substantial increase beyond the City's already projected growth rate. Furthermore, the General Plan requires that new development participate in a Capital Improvement Financing Program such that development projects will not create excess demand for community services and public utilities.

The potential population growth in Scotts Valley due to the proposed project would not result in significant adverse impacts. The need for a balanced jobs/housing ratio is a primary goal of the General Plan Housing Element. The employment generated by the proposed project would assist the City in achieving an improved jobs/housing ratio. Consequently, this topic need not be discussed further in an SEIR.

b and c) The project does not contain any residential components nor encroach onto private residential property. It would therefore neither create new housing nor displace existing housing.

¹ Using an accepted ratio of 1 employee per 275 gross sq.ft. of office use.

The proposed project would have no impact on housing or population growth other than that identified in item a, above.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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XIII. PUBLIC SERVICES -- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: (Sources: 1, 4, 13)

- | | | | | |
|-----------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a and b) Both project sites are currently served by the Scotts Valley Fire District for fire service and the Scotts Valley Police Department for police protection. Due to increased use at the office building site, the police and fire departments may receive an increased number of calls for service. However, these additional calls would not likely result in the requirement of new or expanded fire or police stations, the construction of which could cause significant environmental effects. In addition, the proposed project includes a new fire station for the Scotts Valley Fire District, which would be located directly across the street from the office development, allowing for enhanced response in the event of an emergency. Construction of the new fire station would allow for greater citywide response, and would alleviate the pressure for existing fire stations to expand at their current locations. According to the Scotts Valley Water District, there is available water pressure for adequate fire protection in the project area. The proposed office building project would be required to pay the appropriate fire district capital service fee as well as a police department impact fee to mitigate the potential increase in service to the project site. The proposed project would therefore have a less-than-significant impact on fire and police services and will not be discussed in the SEIR.

c) The proposed project does not include any housing elements and is not a growth-inducing project. As office and public safety uses, the project would not add to the number of school-age children in Scotts Valley. Therefore, no impact to schools is expected.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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XIV. RECREATION -- Would the project: (Source: 1)

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion:

a and b) Development of the project site would have no impact on neighborhood, community, or regional parks and other recreational facilities because the proposed project would not include residential uses that generate a demand for these facilities. The office building project would include approximately 8,000 sq.ft. of outdoor plazas for on-site employees, but these areas would not be considered publicly-accessible recreational facilities. Neither project site would require the construction or expansion of existing recreational facilities. Therefore, the topic need not be discussed further in the SEIR.

<u>Potentially Significant Impact</u>	<u>Potentially Significant Unless Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
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XV. TRANSPORTATION/TRAFFIC -- Would the project:

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:

a-b) The proposed project would generate additional traffic which could create a substantial individual or cumulative increase in intersection congestion, potentially exceeding the intersection Level of Service (LOS) threshold set by the Santa Cruz County Regional Transportation Commission and the City of Scotts Valley. This will be discussed further in the SEIR. A traffic report by Fehr & Peers Associates, Inc. is currently being prepared, and will be summarized in the SEIR.

c) The proposed project involves an office building and fire station, and would thus have no perceptible effect on air traffic patterns. This issue will not be discussed in the SEIR.

d - g) Hazardous design features of the proposed project, emergency access, parking capacity, and alternative transportation policies will be discussed in the traffic study and SEIR. Because these issues are unknown until the traffic study is completed, they are considered potentially significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project: (Sources: 4, 11, 12, 13)

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion:

a and b) Water, wastewater, and stormwater drainage utilities are located within La Madrona Drive and would serve both development sites. Wastewater treatment services to the project site would be provided by the Scotts Valley Wastewater Treatment Plant (WWTP), located approximately one-half mile from the project site. The WWTP has a 1.5 million gallon per day (mgd) capacity and provides for a reserve capacity of 0.7 mgd (700,000 gallons per day). The proposed office building is expected to generate approximately 19,000 gallons of wastewater per day and the fire station would generate approximately 1,300 gallons of wastewater per day (figures based on a generation factor of 0.14 gallons/day/square foot) (personal communication with Ken Anderson, Public Works Department, May 29, 2002). The average dry-weather flow (ADWF) to the WWTP is 1,500,000 gallons. The addition of project wastewater is not expected to be a significant addition to the current flow to the WWTP, and a less-than-significant impact is expected. This issue will not be discussed in the SEIR.

c, e) Storm drain facilities on La Madrona Drive have been sized in anticipation of commercial development in the project area, and could accommodate the additional 148,000 square feet of proposed development because on-site storm water detention facilities would be incorporated into the office building project that would limit the amount of new runoff to the storm drain facilities on La Madrona Drive, according to city staff. As a result, it is not expected that new or expanded off-site facilities would be required. The hydrology section of the SEIR will provide a discussion of runoff rates at the project site.

d) The City's primary water supply source is the Scotts Valley groundwater basin. There are two principal groundwater aquifers. Scotts Valley Water District would provide service to the site via a 10-inch water main along Mt. Hermon Road from Glen Canyon Road to La Madrona Drive and a 12-

inch water main along La Madrona Drive from Mt. Hermon Road to Silverwood Drive. These water lines were designed to accommodate 148,000 square feet or more of future commercial development at the project sites, and as a result, it is not expected that the proposed project would create a significant adverse impact to water infrastructure.

The developer would be required to obtain water entitlements from the Scotts Valley Water District, as well as a "will-serve" letter from the District prior to SEIR certification. The Scotts Valley aquifers produce approximately 2,000 acre-feet (af) per year, 250 af of which is currently available for new development (personal communication with Jon Sansing, Hydrologist, Scotts Valley Water District, June 5, 2002). One acre-foot of water is the equivalent of 325,850 gallons. As such, the City of Scotts Valley has approximately 223,180 gallons per day (gpd) available for new development. C2G/Civil Consultants Group prepared a report on the projected water demand of the Gateway South Office Building using water supply records for eight representative commercial projects in Scotts Valley. Relevant data, including water usage, land area and building size from the commercial developments were accumulated and water use profiles were determined. According to the study, the office building would require an average of 5,477 gpd. Although the proposed fire station was not analyzed in this study, it would be expected to use approximately 1,200 gpd (based on the accepted generation factor of 100 gallons per day per 1,000 gross sq. ft. of office/public service use). It is estimated that both parcels would require a total of approximately 6,677 gpd, or 3% of the total average gpd available for new development in Scotts Valley. As such, the Water District would be able to provide water to the site within its existing water supply and would not require the construction of new water facilities. Although no impacts are anticipated, water supply and Water District requirements for a "will-serve" letter will be discussed in the hydrology section of the SEIR.

f-g) The project site would continue to be served by Santa Cruz County Waste Management Company, which collects waste on a weekly basis in Scotts Valley. The proposed project would generate additional solid waste which would be taken to the Buena Vista Landfill in Watsonville, but it would not result in significant solid waste disposal effects, because it would not require the development of additional landfills or waste facilities. As such, the proposed project would have a less-than-significant impact on solid waste collection and disposal.

	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Potentially Significant Impact			

XVII.MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to 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, 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?

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a

project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Discussion:

a) The proposed project has the potential to threaten or eliminate a plant community or sensitive habitat, such as wetland seeps and protected trees on the project site. This issue will be addressed in the biology section of the SEIR.

b) The proposed project may contribute to traffic impacts that could be cumulatively significant. This issue will be addressed in the traffic section of the SEIR.

c) The proposed project would not likely have a substantial adverse effect on human beings, either directly or indirectly. However, noise effects on humans are unknown at this point, and are therefore considered potentially significant. This issue will be discussed in the noise section of the SEIR.

XVIII. SOURCES

Earlier analyses has been used, pursuant to the CEQA Initial Study process, to indicate effects that have been analyzed adequately in an earlier study, EIR, or negative declaration. Section 15063 (c)(3)(D). Information sources and earlier documents prepared and used in this analysis are listed below:

<u>Reference #</u>	<u>Document Title</u>
1	Project plans, DES Architects/Engineers, September, 2001.
2	City of Scotts Valley, <i>City of Scotts Valley General Plan</i> , 1994.
3	EIP Associates site visit, May 21, 2002.
4	City of Scotts Valley, <i>Final Environmental Impact Report, Gateway South Specific Plan</i> , June 1995.
5	Treadwell & Rollo, <i>Draft Geotechnical Report, Gateway South Development</i> , June 29, 2001.
6	Environmental Data Resources, Inc., <i>The EDR Radius Map with GeoCheck, Gateway South Project</i> , Inquiry Number 795186.1s, June 7, 2002.
7	FEMA Flood Insurance Rate Map, 1983.
8	City of Scotts Valley, <i>Gateway South Specific Plan</i> , June 1995.
9	City of Scotts Valley Municipal Code, September 2001.
10	Association of Monterey Bay Area Governments, <i>Tools for Assessing Jobs-Housing Balance and Commute Patterns in the Monterey Bay Region</i> , May 2001.

- 11 Ken Anderson, Director, Public Works Department, personal communication, May 30, 2002.
- 12 Mike Torrecias, Buena Vista Landfill, personal communication, June 5, 2002.
- 13 Jon Sansing, Scotts Valley Water District, personal communication, May 30, 2002 and June 5, 2002.
- 14 Title Two Investment Corporation, *Projected Water Demand, Proposed Gateway South Office Park*, July 2001.
- 15 Petra Paleontology, *Paleontological Resources Assessment, Gateway South Office Building and Fire Station Project, City of Scotts Valley, Santa Cruz, California*, July 7, 2002.

APPENDIX B

Biology Technical Report

Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066



353 Sacramento Street, Suite 1000
San Francisco, CA 94111
(415) 362-1500

July 2002

1.0 Summary of Findings and Recommendations

Developers propose to construct an office building and fire station within the City of Scotts Valley, Santa Cruz County, California. EIP Associates was contracted to conduct a survey and prepare this report on sensitive species and habitat that may occur within the proposed project area. Most of the proposed project "footprint" area is limited to the grassy lower slopes of the site. Three potential impacts to biological resources have been identified. All three identified potential impacts can be reduced to a less-than-significant level through design modifications, mitigation, and appropriate construction practices.

2.0 Project Description

The City of Scotts Valley requires the preparation of environmental documentation for the Gateway South Office Building and Fire Station project. The proposed office project would be approximately 136,000 square feet on two levels with about 550 parking spaces, an entry court and trellis feature at the front of the building, and two employee plazas toward the rear of the building. Two access driveways would be located on La Madrona Drive. The flatter portions of the grassy site closest to La Madrona Drive would be developed, while the more wooded upper slopes would remain undeveloped. Approximately 60% of the site would be developed, with the remaining 40% of the site left as open space.

The Fire Station project would be located to the east of the office development on a 1.5-acre site known as the "teardrop" parcel on the opposite side of La Madrona Drive. This site would be dedicated by the developer to the Scotts Valley Fire District for eventual development as a fire station. Although designs for this project have not been finalized, the project would be approximately 12,000 square feet in size with parking for about 23 vehicles.

3.0 Field Survey Methods

EIP biologists, Brent Spencer and Ellen Piazza conducted a reconnaissance level field survey on May 21, 2002, with a follow up visit by Brent Spencer on June 10th 2002. The purpose of this survey was to determine the presence of any sensitive species or sensitive habitat within the proposed project area. The weather on May 21st was partly cloudy, with temperatures in the low 60's (Fahrenheit), and winds less than 5 miles per hour (mph). The weather on June 10th was clear with temperatures in the 80's and 15 to 20 mph winds. The surveys were conducted on foot with binoculars. Sensitive and native resources were mapped using field maps and a handheld Garmin global positioning (GPS) unit. A list of wildlife and plant species observed within the study area was prepared and included in Table 1, Appendix C.

4.0 Setting

For the purposes of this report the Gateway South study area has been divided into two sub-sections: Gateway South Office Building Site, and the Fire Station Site (Appendix A, Figure 1). The following is a discussion of the biological resources located within the two sites.

4.1 Gateway South Office Building Site

The proposed site for the Gateway South Office Building project is located on a 17.6-acre parcel to the west of La Madrona Drive southwest of the Mount Hermon Road/Highway 17 exit in the

City of Scotts Valley, Santa Cruz County, California (Appendix A, Figure 2). This parcel contains three vegetation series, annual grasslands, mixed forest, and freshwater seeps. Adjacent land uses include, undeveloped/open space, roadways, residential, and hotel.

The annual grassland habitat type is found on the lower slopes of the site (Appendix B, Photo 1). The vegetation of this series includes native and non-native species of grasses and annuals. Non-native plant species found in this series includes Bermuda grass (*Cynodon dactylon*), Italian ryegrass (*Lolium multiflorum*), and French broom (*Genista monspessulana*). Native plant species observed includes California poppy (*Eschscholzia californica*), purple needlegrass (*Nassella pulchra*), and California brome (*Bromus carinatus*) (Appendix C, Table 1).

Within the project area, the mixed forest habitat type is found almost exclusively on slopes greater than 40 percent (Appendix A, Figure 2 and Appendix B, Photo 1), with the exception of two large coast live oaks (*Quercus agrifolia* var. *agrifolia*.) and a stand of Coastal redwoods (*Sequoia sempervirens pterophyta*) (Appendix B, Photo 2). The mixed forest habitat located on the site consists of dense stands of: coast live oak, coastal redwood, ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), and California bay (*Umbellularia californica*). The vegetative ground cover within the areas of mixed forest includes poison oak (*Toxicodendron diversilobum*), and fountain miners-lettuce (*Montia Fontana*).

Approximately 0.12 acres of freshwater seep habitat is located within the project site¹ (Appendix A, Figure 3). This habitat area consists of shallow depressions with saturated soils and hydrophytic vegetation. The hydrophytic vegetation present includes dock (*Rumex conglomeratus*), curly dock (*R. crispus*), sheep sorrel (*R. acetosella*), bristly sedge (*Carex comosa*), brown-headed rush (*Juncus Phaeocephalus*), and rattlesnake grass (*Briza maxima*).

Wildlife or evidence of wildlife observed within this segment includes black-tailed deer (*Odocoileus hemionus*), black-tailed jackrabbit (*Lepus californicus*), racer (*Coluber constrictor*), southern alligator lizard (*Gerrhonotus multicarinatus*), brewer's blackbird (*Euphagus cyanocephalus*), and California quail (*Callipela californica*) (Appendix C, Table 1). Other common species of wildlife that would be expected to occur on the site include raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), gopher snake (*Pituophis catenifer*), red-shouldered hawk (*Buteo platypterus*), and red-tailed hawk (*B. jamaicensis*).

4.2 Fire Station Site

The Fire Station would be located to the east of the office development on a 1.5-acre site known as the "teardrop" parcel on the opposite side of La Madrona Drive (Appendix A, Figure 1). This parcel is a narrow graded portion of land that lies between La Madrona and Highway 17. Adjacent land uses include, undeveloped, freeway, residential, and hotel.

The vegetation of this segment consists almost entirely of annual grasslands dominated by non-native invasive species. Dominant plant species observed in the highly altered area include, French broom, Bermuda grass, native coyote bush (*Baccharis pilularis*), and wild radish (*Raphanus sativus*). Wildlife observed within this segment was limited to a single mourning dove (*Zenaida macroura*) (Appendix C, Table 1).

¹ Please see discussion of freshwater seeps (potential jurisdictional wetlands) in Section 6.0, Impacts and Mitigations.

5.0 Special Status or Sensitive Species and Habitats

Special-status species include those that are formally listed as threatened, endangered, or rare (in the case of plants) by the Federal government or the State of California, candidates for listing, and species of concern, which could become candidates for listing in the future. Species of local concern, heritage or specimen trees, and migratory birds also may be considered to be special-status species.

Information on special-status species is based on review of the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDDB) RareFind Report for the U.S. Geological Survey Felton 7.5-minute quadrangle. Information on the habitat requirements of native plant species occurring in the Millbrae area was obtained from the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (Electronic version 2.1.2, 2002). In addition, a request has been made of the U.S. Fish and Wildlife Service (USFWS) to provide a list of endangered and threatened species that may occur in or be affected by projects in Santa Cruz County (to date this list has not been received). The CDFG also provided information regarding sensitive species potentially occurring within the proposed project area (Appendix D). Common and scientific names, status, habitat requirements, and an evaluation of the potential for the occurrence of each species in and adjacent to the project area has been compiled from all of these sources (Appendix C, Table 2). The following is a discussion of select species that have a greater potential to occur within the project area.

5.1 Invertebrates

Special status invertebrate species are discussed in detail in the report titled Habitat Assessment Report on the Mount Hermon June Beetle, Zayante Band Winged Grasshopper, Ohlone Tiger Beetle, and Opler's Longhorn Moth at the Gateway South Project Site on La Madrona Drive in Scotts Valley, California, by Richard A. Arnold, PhD., Entomological Consulting Services, Ltd. Dr. Arnold's survey did not result in the observance of any of the sensitive invertebrate species that may potentially occur within the project sites (Appendix B, Table 2), or their habitats. Therefore, no impacts to sensitive invertebrate species or their habitat are expected to occur as a result of the project.

5.2 Amphibians and Reptiles

California red-legged frog (Rana aurora draytonii)-Federally Threatened, CDFG Species of Special Concern and Fully Protected.

The California red-legged frog is a sensitive species of amphibian which is highly aquatic (Appendix C, Table 2). The study area contains several small ephemeral wetlands located in the gateway South Office Building Site. However, these wetlands lack any suitable ponded water or aquatic riparian habitat for California red-legged frogs.

5.3 Birds

Tricolored blackbird (Agelaius tricolor)-CDFG Species of Special Concern.

The tricolored blackbird nests in freshwater emergent wetlands, dominated by tules (Appendix C, Table 2). The proposed study area does not contain suitable nesting habitat for the tricolored blackbird. Therefore, the proposed project is not expected to pose any significant impacts to

nesting tricolored blackbirds. The EIP survey did not result in the observation of tricolored blackbirds within the proposed study area.

Cooper's Hawk (Accipiter cooperii)-CDFG Species of Special Concern.

The Cooper's hawk is a medium sized hawk that prefers thickly wooded forest and riparian corridors with adjacent open grasslands for foraging. The Gateway South Office Building site contains suitable nesting, perching, and foraging habitat in the mixed forest and annual grassland habitats. However, the CNDDDB does not report the occurrence of Cooper's hawk within the project vicinity (CNDDDB 2002). Additionally, the EIP surveys did not result in any observations of Cooper's hawk individuals. Therefore, the Gateway South Office Building and Fire Station sites are not expected to pose significant impacts to the species.

5.4 Mammals

Pallid bat (Antrozous pallidus)-CDFG Species of Special Concern.

Townsend's western big-eared bat (Corynorhinus townsendii townsendii)-Federally Species of Special Concern, CDFG Species of Special Concern.

Western mastiff bat (Eumops perotis californicus)-Federally Species of Special Concern, CDFG Species of Special Concern.

Long-eared myotis bat (Myotis evotis)-Federally Species of Special Concern.

Fringed myotis bat (Myotis thysanodes)-Federally Species of Special Concern.

Five species of bats, pallid bat, Townsend's western big-eared bat, western mastiff bat, long-eared myotis bat, and fringed myotis bat may potentially occur within the proposed project site (Appendix C, Table 2). Suitable foraging habitat for most of these species exists throughout the project area, most notably in the marsh east of Highway 101. No species of bats or evidence of bats was observed during the EIP site survey. The CNDDDB does not report the occurrence of any of the above species of bats as occurring within the proposed project area (CNDDDB 2002). The proposed project is not expected to impact any species of bats as there will be no loss of foraging habitat and no buildings or structures in the area will be removed.

5.5 Plants

Santa Cruz Tarplant (Holocarpha macradenia)- Federally Threatened, State Endangered, and CNPS 1B Species.

The Santa Cruz Tarplant is an annual herb that tends to grow in coastal prairies and valley and foothill grasslands in clay and sandy soils. The project site contains grassland habitat with clay and sandy soils. However, the EIP field surveys, during the optimal blooming season, did not result in the observance of Santa Cruz Tarplants within the project site. The CNDDDB does not report the occurrence of Santa Cruz Tarplants within the project area (CNDDDB 2002).

5.6 Sensitive Habitat

Maritime Coast Range Ponderosa Pine Forest- CDFG S1.1.

Maritime coast range ponderosa pine forest is a habitat series dominated by ponderosa pine (*Pinus ponderosa*) trees. The CDFG lists this habitat series as "S1.1", meaning that maritime coast range ponderosa pine forest is very threatened in California. The mixed forest that is

located on the upper slopes of the Gateway South Office Building site contains a few specimens of ponderosa pine, which would not constitute maritime coast range ponderosa pine forest. Thus, the Gateway South Office Building and Fire Station sites do not contain any sensitive maritime coast range ponderosa pine forest habitat.

6.0 Standards of Significance

The project sites would have a significant adverse effect on biological resources if they:

- Substantially affect, 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.
- Substantially affect riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Substantially affect federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of 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.
- Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

7.0 Impacts and Mitigation

7.1 Gateway South Office Building Site

The proposed Gateway South Office Building is not expected to result in impacts to any of the sensitive species listed in Appendix C, Table 2. Primary areas of potential impacts are to freshwater seep habitats (wetlands) and species associated with them, and to nesting birds through the removal of trees. The following discusses each potential impact specifically, and recommends mitigation to reduce impacts to a *less-than-significant level*.

- **Impact GOB-1-** Impacts may potentially occur to approximately 0.12 acres of freshwater seep wetlands located on the upper grassy slopes of the office building site (Appendix A, Figure 2² and Appendix B, Photo 3). Project plans call for these areas to be graded for the construction of the office building and the adjacent parking lots. These freshwater seeps meet the criteria for wetlands (hydrophytic vegetation, wetland soils, and

² Please note, Figure 2, Appendix A should be used as a general guide only. The AutoCAD files provided by DES Architects/Engineers are not geo-referenced. Therefore, the full extent of potential wetland impacts cannot be determined.

hydrologic indicators) under Section 404 of the Clean Water Act and subject to jurisdiction by the United States Army Corps of Engineers (COE). Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. However, due to the size, type, and fragmentation, of these wetlands, there would not have habitat value for any of the sensitive species listed in Table 2 (Appendix C). Additionally, these wetlands are "isolated intrastate wetlands." A recent court case "SWANCC" (Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers), has set the precedent that the COE can not base jurisdiction over "isolated intrastate wetlands" solely on migratory bird use. A subsequent memorandum from the COE and the U.S. Environmental Protection Agency states that there are many other criteria that would allow the COE's to take jurisdiction over "isolated intrastate wetlands" (*Potentially Significant*).

Mitigation GOB-1- A Routine Section 404 Clean Water Act Jurisdictional Delineation should be conducted and submitted for COE verification. Following verification a wetland mitigation plan should be developed to replace any impacted wetlands at a one to one ratio as discussed in the Gateway South Specific Plan EIR³. The portion of the property that is immediately adjacent to the Hotel Site wetland mitigation area would lend itself to the creation of "in kind, no net loss" mitigation. Implementation of these measures and lack of habitat value for sensitive species will reduce this impact to a *less-than-significant* level.

- **Impact GOB-2** –The trimming or removal of trees and other vegetation, necessary for the construction of the gateway South Office Building and parking areas could result in potential disturbances to nesting birds (typically February 1 to August 31) throughout the proposed project area. Nesting birds, their nests, and eggs are fully protected by CDFG Game Codes 3503, 3503.5, and The Migratory Bird Treaty Act of 1918. If vegetation is removed outside the nesting season, there is no direct impact (*Potentially Significant*).

Mitigation GOB-2- Construction activities should be timed to avoid vegetation removal during nesting season. If this cannot be accomplished, then a qualified biologist should conduct pre-construction nesting surveys no more than two weeks prior to construction to determine if nesting birds are present. If nesting birds are present, a 150-foot buffer zone should be observed and construction activities should be suspended in this zone until future surveys indicate that the chicks have fully fledged. Completion of pre-construction surveys would result in a *less-than-significant* impact to nesting birds.

7.2 Fire Station Site

The proposed Fire Station site is not expected to result in impacts to any of the sensitive species listed in Appendix C, Table 2. Potential impacts are limited to nesting birds through the removal of trees and other vegetation. The following discusses each potential impact specifically, and recommends mitigation to reduce impacts to a *less-than-significant level*.

- **Impact FS-1** –The trimming or removal of trees and other vegetation, necessary for the construction of the fire station could result in potential disturbances to nesting birds

³ Gateway South Specific Plan, Final Environmental Impact Report, City of Scotts Valley, June 1995.

(typically February 1 to August 31) throughout the proposed project area. Nesting birds, their nests, and eggs are fully protected by CDFG Game Codes 3503, 3503.5, and The Migratory Bird Treaty Act of 1918. If vegetation is removed outside the nesting season, there is no direct impact (*Potentially Significant*).

Mitigation FS-1 -Construction activities should be timed to avoid vegetation removal during nesting season. If this cannot be accomplished, then a qualified biologist should conduct pre-construction nesting surveys no more than two weeks prior to construction to determine if nesting birds are present. If nesting birds are present, a 150-foot buffer zone should be observed and construction activities should be suspended in this zone until future surveys indicate that the chicks have fully fledged. Completion of pre-construction surveys would result in a *less-than-significant* impact to nesting birds.

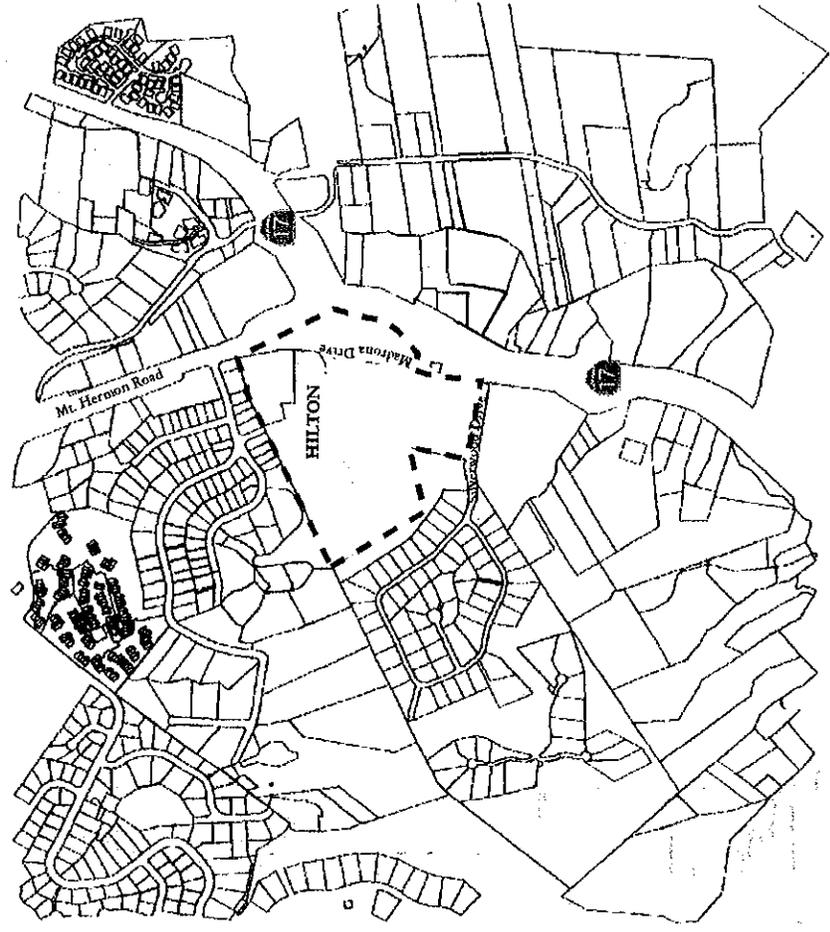
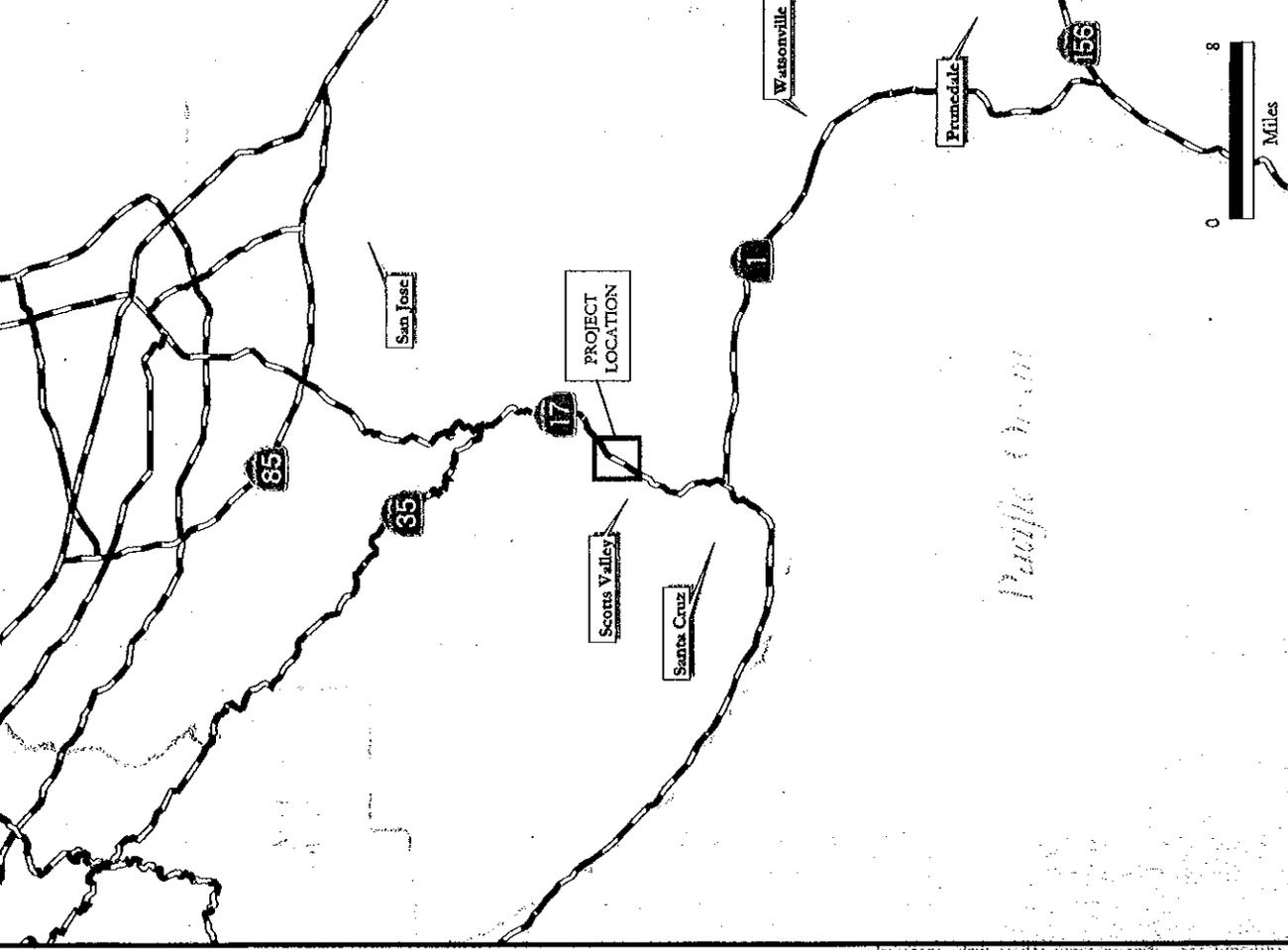
8.0 Literature Cited

CNDDDB 2002. Natural Diversity Data Base, Information dated January 4, 2002. Commercial Version 2.1.2. Published by the California Department of Fish and Game.

9.0 Appendices

Appendix A

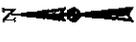
Figures



NOT TO SCALE

FIGURE 1: VICINITY MAP
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

Project Site
 Planning Area



Source: DES Architects/Engineers, Parcels, September 2001; US Census Bureau, City Boundaries, December 2000; ES&U, Major Roads, September 1999; and EIP Associates, GIS Program, December 2, 2003.

EIP

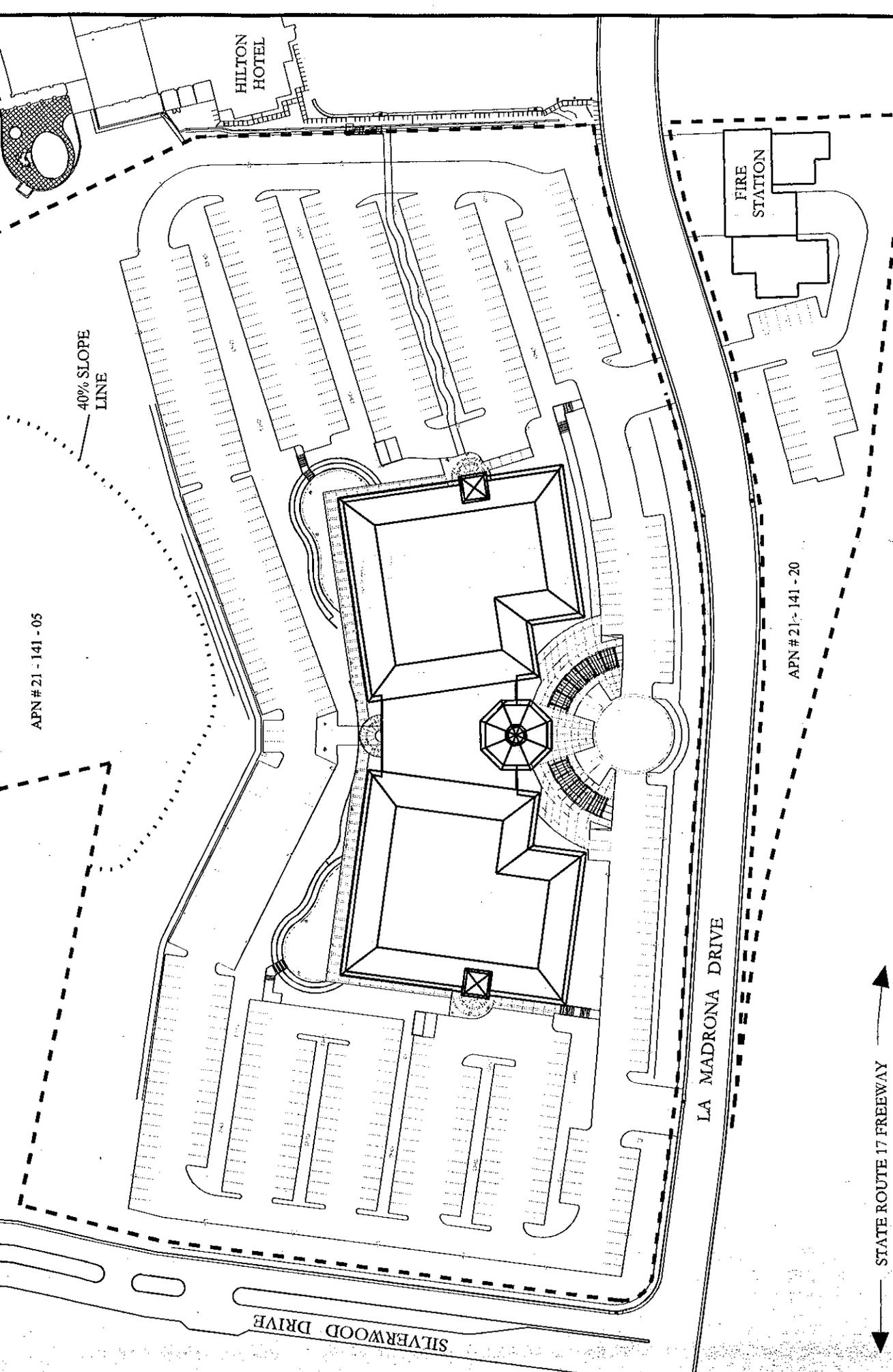


FIGURE 2: SITE MAP
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

--- Property Line



Source: DES Architects/Engineers,
 Site Plan, September 2001; and
 EIP Associates, GIS Program,
 June 5, 2002.



STATE ROUTE 17 FREEWAY

LA MADRONA DRIVE

HILTON HOTEL

FIRE STATION

40% SLOPE LINE

APN # 21 - 141 - 05

APN # 21 - 141 - 20

SILVERWOOD DRIVE

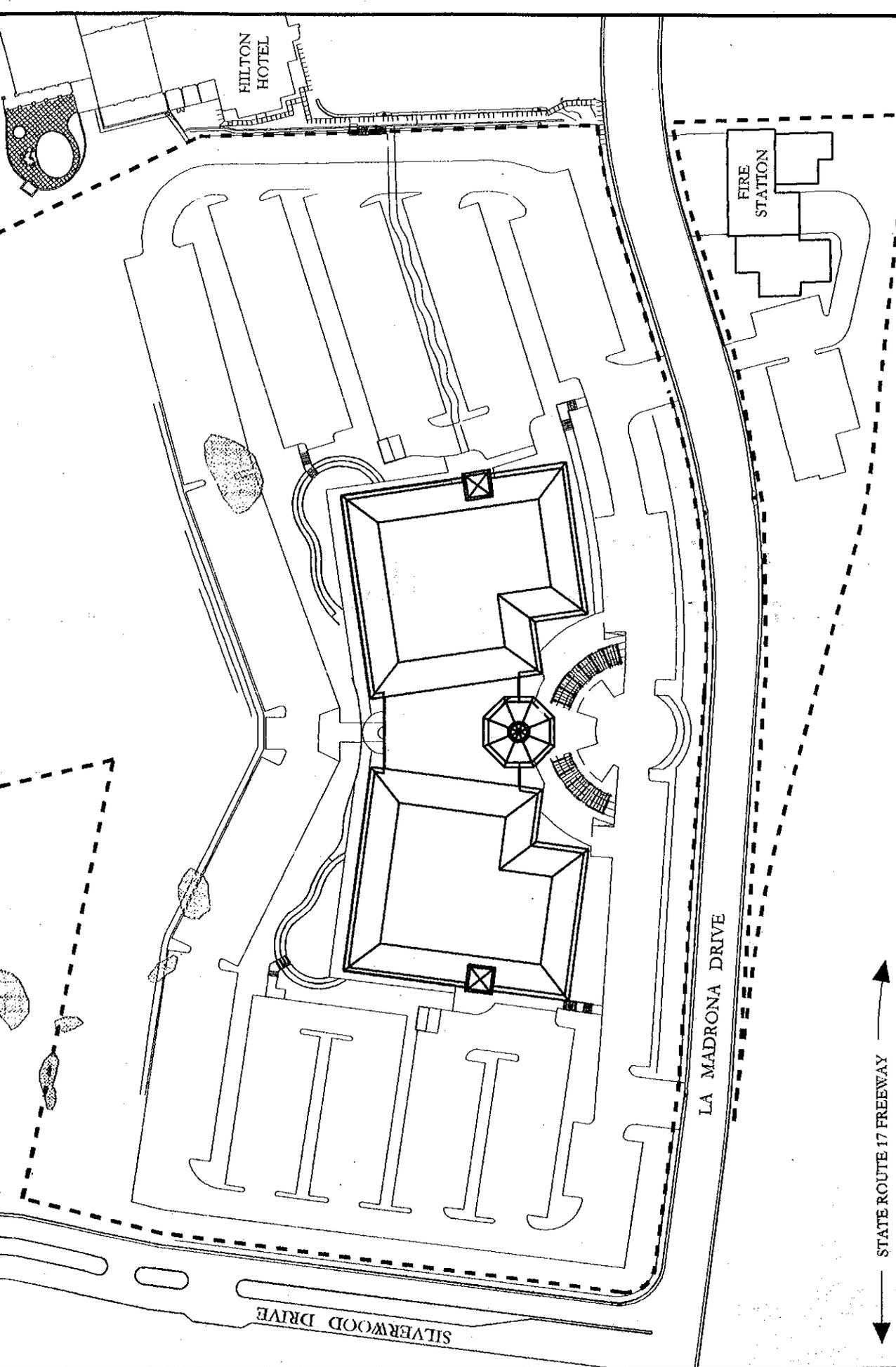


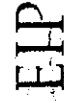
FIGURE 3: PRELIMINARY WETLAND LOCATIONS
 Gateway South Office Building and Fire Station
 Scotts Valley, CA

 Property Line
 Preliminary Wetlands

 0 100 Feet

 N

Source: DES Architects/Engineers, Site Plan and Contours, September 2001; and EIP Associates, Preliminary Wetlands, Tree Line, and GIS Program, July 8, 2002.

 EIP

(S:\Projects\GatewaySouth\fig3\preliminary_wetlands_report.mxd)

Appendix B
Photos



Photo 1: Photo looking west with Hotel in background. Note the annual grasslands in the foreground and forest on the hillside above.



Photo 2: One of two large Coast Live Oaks that may potentially be impacted by the Gateway South Office Building.



Photo 3: Photo showing one of many freshwater seeps on the upper slopes of the Gateway Office Building Site.

Appendix C

Tables

**Table 1- Plant and Wildlife species observed within the Proposed Gateway
South Office Building and Fire Station Project Area.**

Plants

Scientific Name	Common Name
<i>Coniferophyta Pinaceae</i>	
<i>Pinus ponderosa</i>	Ponderosa pine
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Taxodiaceae</i>	
<i>Sequoia sempervirens</i>	Coastal redwood
<i>Pterophyta</i>	
<i>Dryopteridaceae</i>	
<i>Polystichum munitum</i>	Western swordfern
<i>Anthrophyta Dicotyledonae</i>	
<i>Anacardiaceae</i>	
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Apiaceae</i>	
<i>Sanicula bipinnatifida</i>	Purple sanicle
<i>Asteraceae</i>	
<i>Achillea millefolium</i>	Yarrow
<i>Baccharis pilularis</i>	Coyote brush
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cynara cardunculus</i>	Artichoke thistle
<i>Brassicaceae</i>	
<i>Brassica nigra</i>	Black mustard
<i>Raphanus sativus</i>	Wild radish
<i>Caryophyllaceae</i>	
<i>Silene gallica</i>	Windmill pink
<i>Cucurbitaceae</i>	
<i>Marah sp.</i>	Manroot
<i>Ericaceae</i>	
<i>Arbutus menziesii</i>	Pacific madrone
<i>Fabaceae</i>	
<i>Acacia sp.</i>	Acacia
<i>Genista monspessulana</i>	French broom
<i>Lupinus bicolor</i>	Miniature lupine

Table 1- Plant and Wildlife species observed within the Proposed Gateway South Office Building and Fire Station Project Area (Continued).

<i>Medicago polymorpha</i>	California burclover
<i>Trifolium fragiferum</i>	Strawberry clover
<i>Trifolium incarnatum</i>	Crimson clover
<i>Trifolium wormskioldii</i>	Coast clover
<i>Vicia sativa</i>	Vetch
Fagaceae	
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak
Geraniaceae	
<i>Geranium dissectum</i>	Cut-leaved geranium
Lamiaceae	
<i>Stachys bullata</i>	California hedgenettle
Lauraceae	
<i>Umbellularia californica</i>	California bay
Lythraceae	
<i>Lythrum hyssopifolium</i>	Loosestrife
Papaveraceae	
<i>Eschscholzia californica</i>	California poppy
Plantaginaceae	
<i>Plantago lanceolata</i>	English plantain
Polygonaceae	
<i>Rumex acetosella</i>	Sheep sorrel
<i>Rumex conglomeratus</i>	Dock
<i>Rumex crispus</i>	Curly dock
Portulacaceae	
<i>Montia fontana</i>	Fountain miners-lettuce
Primulaceae	
<i>Anagallis arvensis</i>	Scarlet pimpernel
Rubiaceae	
<i>Galium</i> sp.	Bedstraw
Scrophulariaceae	
<i>Castilleja exserta</i> ssp. <i>exserta</i>	Purple owl's-clover

Table 1- Plant and Wildlife species observed within the Proposed Gateway South Office Building and Fire Station Project Area (Continued).

Monocotyledonae

Cyperaceae

<i>Carex comosa</i>	Bristly sedge
<i>Carex densa</i>	Dense sedge
<i>Cyperus</i> sp.	Nutsedge
<i>Carex unilateral</i>	

Juncaceae

<i>Juncus bufonius</i>	Toad rush
<i>Juncus phaeocephalus</i>	Brown-headed rush

Liliaceae

<i>Allium uniflimum</i>	One-leaved onion
<i>Chlorogalum. pomeridianum</i>	Common soap plant
<i>Kniphofia uvaria</i>	Red-hot poker

Poaceae

<i>Aira caryophyllea</i>	Silver European hairgrass
<i>Avena barbata</i>	Slender oat
<i>Briza maxima</i>	Rattlesnake grass
<i>Briza minor</i>	Little quaking grass
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft brome
<i>Cynodon dactylon</i>	Bermuda grass
<i>Danthonia californica</i>	Oatgrass
<i>Hordeum brachyantherum</i>	Meadow barley
<i>Hordeum marinum</i> var. <i>gussoneanum</i>	Mediterranean barley
<i>Lolium multiflorum</i>	Italian ryegrass
<i>Lolium perenne</i>	Perennial rye grass
<i>Melica californica</i>	California oniongrass
<i>Nassella pulchra</i>	Purple needlegrass
<i>Poa secunda</i>	Bluegrass

* Denotes non-native species.

Animals

Scientific Name

Euphagus cyanocephalus
Callipela californica

Common Name

Brewer's Blackbird
California quail

**Table 1- Plant and Wildlife species observed within the Proposed Gateway
South Office Building and Fire Station Project Area (Continued).**

<i>Coluber constrictor</i>	Racer
<i>Gerrhonotus multicarinatus</i>	Southern Alligator Lizard
<i>Hirundo rustica</i>	Barn Swallow
<i>Lepus californicus</i>	Black-tailed Jackrabbit
<i>Odocoileus hemionus</i>	Black-tailed Deer
<i>Sturnus vulgaris</i> *	European Starling
<i>Zenaida macroura</i>	Mourning Dove
<i>Zonotrichia atricapilla</i>	White-crowned Sparrow

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station.

Status ⁽¹⁾							Potential Project Affect
Species Name	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat	Habitat Present	
INVERTEBRATES							
Mount Hermon June Beetle <i>Polyphylla barbata</i>	Endangered	None	None	N/A	Only known from sand hills of Mt. Hermon, Santa Cruz County.	No	None
Zayante Band Winged Grasshopper <i>Trimerotropis infantilis</i>	Endangered	None	None	N/A	Endemic to isolated sandstone deposits in the San Cruz Mountains.	No	None
Smith's Blue Butterfly <i>Euphilotes enoptes smithi</i>	Endangered	None	None	N/A	Most commonly associated with coastal dunes and coastal sage scrub plant communities of the Santa Cruz Mountains.	No	None
FISH							
Coho Salmon -- Central Coast ESU <i>Oncorhynchus kisutch</i>	Threatened	Endangered	(Special Concern)	N/A	Coastal streams with stable water supply, clean gravels, and good-quality riparian habitat.	No	None
Steelhead-Central California Coast ESU <i>Oncorhynchus mykiss</i>	Threatened	None	(Special Concern)	N/A	Coastal streams with stable water supply, clean gravels, and good quality riparian habitat.	No	None

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station.

Species Name	Status ⁽¹⁾				Habitat	Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾				
INVERTEBRATES								
Mount Hermon June Beetle <i>Polyphylla barbata</i>	Endangered	None	None	N/A	Only known from sand hills of Mt. Hermon, Santa Cruz County.	No	No	None
Zayante Band Winged Grasshopper <i>Trimerotropis infantilis</i>	Endangered	None	None	N/A	Endemic to isolated sandstone deposits in the San Cruz Mountains.	No	No	None
Smith's Blue Butterfly <i>Euphilotes enoptes smithi</i>	Endangered	None	None	N/A	Most commonly associated with coastal dunes and coastal sage scrub plant communities of the Santa Cruz Mountains.	No	No	None
FISH								
Coho Salmon – Central Coast ESU <i>Oncorhynchus kisutch</i>	Threatened	Endangered	(Special Concern)	N/A	Coastal streams with stable water supply, clean gravels, and good quality riparian habitat.	No	No	None
Steelhead-Central California Coast ESU <i>Oncorhynchus mykiss</i>	Threatened	None	(Special Concern)	N/A	Coastal streams with stable water supply, clean gravels, and good quality riparian habitat.	No	No	None

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾					Habitat	Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat				
AMPHIBIANS AND REPTILES									
Santa Cruz Long-toed Salamander <i>Ambystoma macrodactylum croceum</i>	Endangered	Endangered	Fully Protected	N/A	Wide variety of habitats. Found primarily in yellow pine, mixed conifer, and red fir forests associated with mountain meadows.	Yes, limited to mixed conifer forest above project footprint. No breeding habitat present.	No	None	None
Southwestern Pond Turtle <i>Clemmys marmorata pallida</i>	(Special Concern)	None	(Special Concern), Fully Protected	N/A	Ponds, lakes, slow moving streams areas with multiple aerial and aquatic basking sites are preferred (Jennings and Hayes 1994).	No	No	None	None
California Red-legged Frog <i>Rana aurora draytonii</i>	Threatened	None	(Special Concern), Fully Protected	N/A	Pools in slow-moving streams and ponds with well-developed emergent freshwater marsh vegetation (Jennings and Hayes 1994).	No	No	None	None

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

		Status ⁽¹⁾							
Species Name	Federal (Special Concern)	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat	Habitat Present	Observed	Potential Project Affect	
Coast Horned Lizard <i>Phrynosoma coronatum</i>	(Special Concern)	None	(Special Concern), Fully Protected	N/A	Inhabits open country, especially sandy areas, washes, flood plains and wind-blown deposits in a wide variety of habitats.	No	No	None	
BIRDS									
Cooper's Hawk <i>Accipiter cooperii</i>	None	None	(Special Concern)	N/A	Woodlands	Yes	No	Very Low	
Bald Eagle <i>Haliaeetus leucocephalus</i>	Threatened - Proposed for de-listing	Endangered	Fully Protected	N/A	Shorelines, lakes, large rivers. Nests in large open trees.	No	No	None	
MAMMALS									
Pallid Bat <i>Antrozous pallidus</i>	None	None	(Special Concern)	N/A	Roosts in dry rocky habitat and man-made structures. Found in a variety of vegetative communities.	Yes	No	Very Low	

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾						Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat	Habitat Present			
Townsend's Western Big-eared Bat <i>Corynorhinus townsendii townsendii</i>	(Special Concern)	None	(Special Concern)	N/A	Well distributed throughout a variety of habitats (coniferous forests, oak woodlands, broad-leaf forests, grasslands, etc). Roosts in caves, buildings, tunnels, and other human structures (Williams 1986).	Yes	No	Very Low	
Western Mastiff Bat <i>Eumops perotis californicus</i>	(Special Concern)	None	(Special Concern)	N/A	Roost in cracks on cliff faces and buildings. They may forage quite some distance from the roosting locations (Williams 1986)	Yes	No	Very Low	
Long-eared Myotis Bat <i>Myotis evotis</i>	(Special Concern)	None	None	N/A	Found in all brush, woodland, and forest habitats from sea-level to 9000 feet.	Yes	No	None	
Fringed Myotis Bat <i>Myotis thysanodes</i>	(Special Concern)	None	None	N/A	Found in a wide variety of habitats. Uses caves, mines, buildings, or crevices for roosts.	Yes	No	Very Low	
Long-legged Myotis Bat <i>Myotis volans</i>	(Special Concern)	None	None	N/A	Most common in woodland and forest habitats above 4000 feet.	No	No	None	

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾					Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat			
Santa Cruz Kangaroo Rat <i>Dipodomys venustus</i>								
Yuma Myotis Bat <i>Myotis yumanensis</i>	(Special Concern)	None	(Special Concern)	N/A	Optimal habitats are open forest and woodlands with sources of water for feeding.	Yes	No	Very Low
PLANTS								
<i>Anompbryum filiforme</i>	None	None	None	2	Broadleaf upland forest, lower montane coniferous forest, and north coast coniferous forest.	Yes	No	Very Low
Ben Lomond Buckwheat <i>Eriogonum nudum</i> var <i>decurrens</i>	None	None	None	1B	Ponderosa pine sand-hills of Santa Cruz County.	Yes	No	Very Low
Ben Lomond Spineflower <i>Chorizanthe pungens</i> var <i>hartwegiana</i>	Endangered	None	None	1B	Lower montane coniferous forest.	Yes	No	Very Low
Bonny Doon Manzanita <i>Arctostaphylos sibiricola</i>	None	None	None	1B	Closed cone coniferous forest, and Lower montane coniferous forest.	Yes	No	Very Low

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾						Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat	Habitat Present			
Deceiving Sedge <i>Carex saliniiformes</i>	None	None	None	IB	Coastal prairie, seeps, and scrubs.	Yes	No	Very Low	
Kellogg's Horkelia <i>Horkelia cuneata</i> ssp <i>sericea</i>	None	None	None	IB	Closed cone coniferous forest.	No	No	None	
Marsh Sandwort <i>Arenaria paludicola</i>	Endangered	Endangered	None	IB	Marshes and swamps.	No	No	None	
Robust Spineflower <i>Chorizanthe robusta</i> var <i>robusta</i>	Endangered	None	None	IB	Cismontane woodland, coastal dunes, coastal scrub.	No	No	None	
San Francisco Popcorn Flower <i>Plagiobothrys diffusus</i>	None	Endangered	None	IB	Valley and foothill grasslands, and coastal prairie.	Yes	No	Very Low	
Santa Cruz Clover <i>Trifolium buckwestiorum</i>	None	None	None	IB	Coastal prairie and upland forest.	Yes	No	Very Low	
Santa Cruz Cypress <i>Cupressus abramsiana</i>	Endangered	Endangered	None	IB	Coniferous forest	Yes	No	Very Low	

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾					Habitat	Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat				
Santa Cruz Manzanita <i>Arctostaphylos andersonii</i>	None	None	None	IB	Upland forest	Yes	No	Very Low	
Santa Cruz Mountains Beardtongue <i>Penstemon rattanii</i> var <i>kleei</i>	None	None	None	IB	Chaparral and lower montane coniferous forest.	Very little coniferous forest	No	Very Low	
Santa Cruz Tarplant <i>Holocarpha Macradenia</i>	Threatened	Endangered	None	IB	Coastal prairie and valley and foothill grasslands.	Yes	No	Very Low	
Santa Cruz Wallflower <i>Erysimum teretifolium</i>	Endangered	Endangered	None	IB	Lower montane coniferous forest.	Yes	No	Very Low	
Scotts Valley Polygonum <i>Polygonum hickmanii</i>	Proposed Endangered	None	None	IB	Valley and foothill grasslands.	Yes	No	Very low	
Scotts Valley Spineflower <i>Chorizanthe robusta</i> var <i>hartwegii</i>	Endangered	None	None	IB	Valley and foothill grasslands.	Yes	No	Very low	

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾					Habitat Present	Observed	Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	Habitat			
Swamp Harebell <i>Campanula Californica</i>	None	None	None	IB	Freshwater marshes, meadows, and coastal prairie.	Yes	No	Very Low
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i>	Endangered	Endangered	None	IB	Valley and foothill grasslands.	Yes	No	Very Low
HABITAT								
Maritime Coast Range Ponderosa Pine Forest	None	None	S1.1	None		Individual Ponderosa Pines present	No	None
North Central Coast Drainage Sacramento Sucker/Roach River	None	None	None	None		No	No	None
Northern maritime Chaparral	None	None	None	None		No	No	None

Table 2. Special status species and their potential occurrence within the Proposed Gateway South Office Building and Fire Station (Continued).

Species Name	Status ⁽¹⁾				Potential Project Affect
	Federal	State	CDFG ⁽²⁾	CNPS ⁽³⁾	
<p>Footnotes:</p> <p>[1] Endangered and threatened are a species status under the California or Federal Endangered Species Act, Federal species of concern and candidate species do not receive any statutory protection under the Federal ESA.</p> <p>[2] California Department of Fish and Game. Species designated as Species of Concern by CDFG are to be mitigated for under CEQA. A protected designation indicates that these species are fully protected under the Fish and Game Code and cannot be taken or possessed without a permit from the Fish and Game Commission or CDFG.</p> <p>[3] California Native Plant Society. Species on List 1A are believed to be extinct within California. Species on List 1B are rare or endangered in California and elsewhere in their range.</p>					
<p>Element Rankings, California Department of Fish and Game, 1993:</p> <p>S1.1 Very Threatened in California</p> <p>S2.1 Very Threatened in California</p> <p>S3.1 Very Threatened in California</p> <p>S3.2 Threatened in California</p>					
<p>References:</p> <p>CNDDDB (California Natural Diversity Data Base), 2001. Commercial version, information dated 07/03/2001. California Department of Fish and Game</p> <p>Jennings, M.R. and M.P. Hayes, 1994. Amphibian and reptile species of Special Concern in California. Final Report, Inland Fisheries Division, California Department of Fish and Game. 255 pp.</p> <p>Williams, D.F., 1986. Mammal species of Special Concern in California. Administrative Report 86-1, Wildlife Management Division, California Department of Fish and Game. 112 pp.</p>					

Appendix D
Attachments



DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

July 5, 2002



Mr. Brent Spencer
EIP Associates
601 Montgomery Street, Suite 500
San Francisco, CA 94111

Gateway South Development
La Madrona Drive and Highway 17, Scotts Valley,
County of Santa Cruz
EIP Project # 10656-00

Dear Mr. Spencer:

This letter is in response to your inquiry of June 5, 2002, regarding information pertaining to the presence or absence of sensitive plant and animal species and/or habitats on the above referenced project site.

This area of Santa Cruz County contains significant extents of a grouping of rare habitats collectively identified as Zayante Sandhills ecosystems, and it is very possible that some of the plant or animal species found in those habitats might be found on site. The California Natural Diversity Data Base notes the following species in the vicinity:

PLANTS

Scott's Valley spineflower (*Chorizanthe robusta hartwegii*), robust spineflower (*Chorizanthe robusta robusta*), Ben Lomond spineflower (*Chorizanthe pungens hartwegiana*), Bonny Doon manzanita (aka silver leaf) (*Arctostaphylos silvicola*), Kellogg's horkelia (*Horkelia cuneata sericea*), San Francisco popcorn-flower (*Plagiobothrys diffusus*), Santa Cruz tarplant (*Holocarpha macradenia*) [please note that Department personnel have observed tarplant in the immediate vicinity of this project, but were not able to determine if it was this species], Santa Cruz wallflower (*Erysimum teretifolium*), Ben Lomond buckwheat (*Eriogonum nudum decurrens*), deceiving sedge (*Carex saliniformis*), marsh sandwort

Mr. Brent Spencer
July 5, 2002
Page 2

(*Arenaria paludicola*), and swamp harebell (*Campanula californica*). In addition, you should survey for coast range ponderosa pine (*Pinus ponderosa*) and Santa Cruz cypress (*Cupressus abramsiana*).

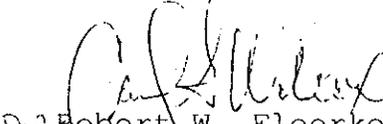
Protocol-level surveys, following a complete floristic analysis, should be completed to determine the potential for presence or absence of any of these species.

ANIMALS

Zayante band-winged grasshopper (*Trimerotropis infantilis*) and Mt. Hermon June beetle (*Polyphylla barbata*) may occur in the area. In addition, while not noted in the vicinity and less likely in this area, Santa Cruz kangaroo rat and coast horned lizard are found in similar habitats at other places in the county.

Questions regarding this letter and further coordination on these issues should be directed to Dave Johnston, Environmental Scientist, at (831) 475-9065; or Scott Wilson, Habitat Conservation Supervisor, at (707) 944-5584.

Sincerely,


Robert W. Floerke
Regional Manager
Central Coast Region

cc: U. S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003
Attn: Colleen Scully

APPENDIX C

Section 404 Clean Water Act Jurisdictional Delineation, Gateway South Office Building and Fire Station Project Area, City of Scotts Valley, Santa Cruz County, California.

Prepared for:

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



353 Sacramento Street, Suite 1000
San Francisco, CA 94111
(415) 362-1500

January 2004

SECTION 404 CLEAN WATER ACT JURISDICTIONAL
DELINEATION, GATEWAY SOUTH OFFICE BUILDING AND
FIRE STATION PROJECT AREA, CITY OF SCOTTS VALLEY,
SANTA CRUZ COUNTY, CALIFORNIA.

Prepared for:

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

Prepared by:

EIP Associates
353 Sacramento Street, Suite 1000
San Francisco, CA 94111
(415) 362-1500

January 2004

SUMMARY

In November 2003, EIP Associates was contracted by The City of Scotts Valley to conduct a delineation of wetlands and other waters of the United States within the Gateway South Office Building and Fire Station Project Area. The Project Area is located in the City of Scotts Valley, Santa Cruz County, California. A jurisdictional determination is required to determine the extent of Section 404 jurisdiction under the Clean Water Act for the proposed project area.

Within the Gateway South Office Building and Fire Station Project Area, there are approximately 0.10 acres of "freshwater seeps" that may be subject to Corps jurisdiction under Section 404 of the Clean Water Act.

INTRODUCTION

EIP Associates was contracted by the City of Scotts Valley to conduct a routine Section 404 Clean Water Act (CWA) jurisdictional delineation of the Gateway South Office Building and Fire Station Project Area (Project Area). The Project Area is located in Scotts Valley, Santa Cruz County, California (Appendix A, Figure 1). The information in this delineation will be used to develop development plans for the Project Area that will minimize impacts to potential wetlands. Additionally, this information will be incorporated into the Draft Environmental Impact Report (DEIR) currently in preparation for the Project Area by EIP Associates to quantify impacts and define suitable mitigation measures.

The proposed office project would be approximately 136,000 square feet on two levels with about 550 parking spaces, an entry court and trellis feature at the front of the building, and two employee plazas toward the rear of the building. Two access driveways would be located on La Madrona Drive. The flatter portions of the grassy site closest to La Madrona Drive would be developed, while the more wooded upper slopes would remain undeveloped. Approximately 60% of the site would be developed, with the remaining 40% left as open space. The Fire Station site would be dedicated by the developer to the Scotts Valley Fire District for eventual development as a fire station. Although designs for this project have not been finalized, the project would be approximately 12,000 square feet in size with parking for about 23 vehicles.

The "freshwater seeps" that have been mapped on the site are located on the upper slopes of the site. These seeps meet the Corps criteria to be considered wetlands but may not be considered adjacent to other water bodies or creeks. The nearest water body or creek to the site is Carbonera Creek, approximately 400 to 465 feet down slope from any of the mapped "freshwater seeps". These seeps are further isolated from Carbonera Creek by La Madrona Drive and possibly by its storm drains. No direct connection between the storm drains and Carbonera Creek was observed.

METHODS AND LIMITATIONS

A survey of the entire Project Area was conducted by EIP Associates biologist Brent Spencer on November 5, 2003 (Appendix A, Figure 1). All distinct plant communities were described and all plant species occurring within the Office Building and Fire station Sites that were identifiable were recorded (Appendix B).

To determine if the freshwater seeps located on the upper slopes of the Office Building Site are seasonal wetlands, a routine wetlands delineation was performed in accordance with the procedures outlined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987). Field indicators of hydric soils, hydrophytic vegetation, and wetland hydrology were collected at sample points throughout the Office Building portion of the Project Area to determine the extent of potential wetlands. Soils data was collected from ten sample pits based on dominant plant species and the abrupt nature of the observed wetland boundaries. The Corps Wetlands Delineation Manual (1987) states that when dominants are obligate (OBL) or facultative wet (FACW) and the wetland boundary is abrupt, hydric soils can be assumed present. Field observations were recorded on datasheets (Appendix B). Soils information was compared with descriptions in the Santa Cruz County soil survey (SCS 1980) (Appendix C and Appendix A, Figure 2). The extent of all potential wetlands were measured and mapped and the locations of all sample points were recorded with Global Positioning System (GPS) technology.

All data was incorporated in to a Geographic Information System for further mapping and calculation of acreages.

Plant, soils, and hydrological data from previous EIP field visits, May 21 and June 10, 2002, has been combined with the current data to develop a clear understanding of the Project Area. For example, the November 5, 2003 survey was conducted after the optimal blooming period therefore, many species of plants no longer had flower parts present to aid in their identification. Therefore, the species lists from the prior investigations were utilized for the identification of these species.

General Setting

This section describes the vegetation communities, soils, and hydrology of the Project Area. Vegetation communities observed within the Project Area include annual grasslands, mixed coniferous forests, and seasonal wetlands (freshwater seeps). Wildlife observed during all three EIP field visits includes black-tailed deer (*Odocoileus hemionus*), black-tailed jackrabbit (*Lepus californicus*), racer (*Coluber constrictor*), southern alligator lizard (*Gerrhonotus multicarinatus*), brewer's blackbird (*Euphagus cyanocephalus*), and California quail (*Callipela californica*) (Appendix D, Table D-1). Other common species of wildlife that would be expected to occur on the site include raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), gopher snake (*Pituophis catenifer*), red-shouldered hawk (*Buteo platypterus*), and red-tailed hawk (*B. jamaicensis*).

Vegetation

Annual Grasslands

Annual grasslands cover the largest portion of the site. The vegetation present within this series includes native and non-native species of grasses and annuals. Non-native plant species found in this series includes Bermuda grass (*Cynodon dactylon*), Italian ryegrass (*Lolium multiflorum*), and French broom (*Genista monspessulana*). Native plant species observed includes California poppy (*Eschscholzia californica*), purple needlegrass (*Nassella pulchra*), and California brome (*Bromus carinatus*) (Appendix D, Table D-2).

Mixed Coniferous Forests

Within the Project Area, the mixed forest habitat type is found almost exclusively on slopes greater than 40 percent (Appendix A, Figure 1 and Appendix E, Photo 1), with the exception of two large coast live oaks (*Quercas agrifolia* var. *agrifolia*.) and a stand of Coastal redwoods (*Sequoia sempervirens pterophyta*) (Appendix E, Photo 1). The mixed forest habitat located on the site consists of dense stands of coast live oak, coastal redwood, ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), and California bay (*Umbellularia californica*). The vegetative ground cover within the areas of mixed forest includes poison oak (*Toxicodendron diversilobum*) and fountain miners-lettuce (*Montia fontana*).

Seasonal Wetlands

For the purposes of this document the term "seasonal wetland" will apply to freshwater seeps which meet all three required criteria (hydrophilic vegetation, wetlands hydrology, and hydric soils) under the 1987 Corps of Engineers Wetlands Delineation Manual. This habitat area consists of shallow depressions with saturated soils and hydrophytic vegetation. Some plant species found associated with this habitat type include dock (*Rumex conglomeratus*), curly dock

(*R. crispus*), sheep sorrel (*R. acetosella*), bristly sedge (*Carex comosa*), brown-headed rush (*Juncus phaeocephalus*), and rattlesnake grass (*Briza maxima*). These seasonal wetlands occur in a few small patches totaling 0.10 acre on the upper slopes of the Project Area (Appendix A, Figure 3; Appendix E, Photo 2).

Soils

The United States Department of Agriculture maps three soil units, Ben Lomond-Felton Complex (50 to 75 percent slopes), Elkhorn sandy loam (15 to 30 percent slopes), and Pfeifer gravely sandy loam (15 to 30 percent slopes) as occurring within the Project Area (SCS 1980) (Appendix A, Figure 2; Appendix C).

Ben Lomond-Felton Complex, 50 to 75 percent slopes, is a soil complex that is found near drainages. The Ben Lomond-Felton complex is a deep well drained soil composed of sandstone or granitic rock (SCS 1980) (Appendix C). Within the Project Area, this soil complex is mapped as occurring on the upper tree-lined slopes (Appendix A, Figure 2). The Ben Lomond-Felton complex is not listed as a hydric soil by the SCS (SCS 1991).

The Elkhorn sandy loam, 15 to 30 percent slopes, soil complex is a well-drained soil found on old marine terraces and alluvial fans. Due to its relatively slow permeability, runoff is rapid leading to a high erosion hazard (SCS 1980) (Appendix C). Included within this soil series is areas of Watsonville loam which is listed as a hydric soil series. However, Elkhorn sandy loam, 15 to 30 percent slopes is not listed as a hydric soil (SCS 1991).

Pfeifer gravely sandy loam, 15 to 30 percent slopes, is a deep well-drained soil found on hillsides and terraces consisting of weathered granite or sandstone. Typically, the surface layer is a dark gray soil up to 24 inches deep (SCS 1980). Pfeifer gravely sandy loam, 15 to 30 percent slopes, is not listed as a hydric soil (SCS 1991).

PRELIMINARY FINDINGS

Hydrophytic Vegetation

Hydrophytic vegetation includes those plant species that possess physiological features or reproductive adaptations that allow them to persist in soils subject to prolonged inundation and anaerobic soil conditions. Plant species are classified by their probability of being associated with wetlands or uplands. Obligate (OBL) species almost always (over 99 percent of the time) occur in wetlands. Facultative Wetland (FACW) species occur in wetlands 67-99 percent of the time. Facultative (FAC) species have an equal probability 33-66 percent to occur in wetlands or uplands. Facultative Upland (FACU) and Obligate Upland (UPL) species occur in wetlands 1-33 percent and <1 percent of the time, respectively. For a sample point to meet the vegetation criterion to be classified as a wetland, more than 50 percent of the dominant plant species in each of the strata must be OBL, FACW, or FAC indicator species.

All plant species in the vicinity of each sampling (Appendix A, Figure 3) point were identified, their percent absolute cover estimated, and their wetland indicator status recorded (Table 1). The wetland indicator status of each was obtained from the National List of Plant Species that Occur in Wetlands, Region 0, California (Reed 1988). Dominant plant species were determined using the "50/20 Rule". The "50/20 Rule" states that for each stratum in the plant community, dominant species are the most abundant plant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species that individually comprise

20 percent or more of the total dominance measure for the stratum (Environmental Laboratory 1987). Within the Project Area, dominant vegetation was determined to meet the hydrophytic vegetation criterion at sample points one, three, six, eight, and ten (Appendix C).

Table 1 Wetland indicator status of dominant and subdominant plant species observed at data sample points.

Scientific Name	Common Name	Indicator Status ¹	Data Point Occurrence
<i>Avena</i> ssp.	Wild oats	Not Listed	2, 4,5,7, and 9
<i>Briza maxima</i>	Rattlesnake Grass	Not Listed	1,2,3,4,5,6,7, 8,9, and 10
<i>Solidago canadensis</i> ssp. <i>elongata</i>	Canada Goldenrod	FACU	1
<i>Hypochaeris radicata</i>	Rough Cat's-ear	Not Listed	1
<i>Cyperus eragrostis</i>	Nutsedge	FACW	1
<i>Epilobium angustifolium</i> ssp. <i>circumvagum</i>	Fireweed	FAC	2
<i>Carex comosa</i>	Bristly Sedge	FACW	1,3,6,8, and 10
<i>Gnaphalium luteo-album</i>	Everlasting Cudweed	FACW-	1,3,6,8, and 10

(1) Reed 1988
 (-) = Used in FAC category to describe frequency towards the drier end of the category.

Hydric Soils

Hydric soils include non-drained organic soils, mineral soils with a high water table, ponded soils, and flooded soils. During field reconnaissance, soils in areas exhibiting characteristics of wetlands were examined to a depth of 18 inches and field indicators of hydric conditions were recorded on the datasheets (Appendix B). Various indicators were considered in determining whether or not the soil at a given sample point met the definition and criteria for classification as hydric (i.e., subjected to anaerobic conditions). If any of these indicators were present, the soil was considered hydric. Indicators commonly used include the presence of: sulfidic material; reducing soil conditions; gleyed soils or soils with a low matrix chroma and high value, with or without bright mottles; iron or manganese concretions (Appendix E, Photo 3); and soils listed as hydric by the Soil Conservation Service (SCS 1992). Soils data collected in the field was compared with the Santa Cruz County Soil Survey information (SCS 1980). Field indicators of hydric soil conditions were found at sample points one, three, six, eight, and ten (Appendix C).

Wetland Hydrology

In order for the hydrology parameter to be met, a site must be seasonally inundated or saturated for at least 12.5 percent of the growing season; areas inundated or saturated for 5 to 12.5 percent of the growing season may or may not meet the wetland hydrology criterion. In the Santa Cruz

area, the growing season is roughly defined as February through November (SCS 1980). Primary field indicators of wetland hydrology include visual observation of inundation or saturation, watermarks, drift and debris lines, sediment deposits, and drainage patterns. Secondary indicators include oxidized root channels, water stained leaves, local soil survey data, and the FAC-neutral test (a predominance of hydrophytic vegetation).

Field indicators of wetland hydrology observed in the Project Area consisted of soils that were saturated with 12 inches of the surface, and obvious drainage patterns. Based on the FAC-neutral test and previous observation, sample points one, three, six, eight, and ten were found to exhibit indicators of wetland hydrology (Appendix B).

CONCLUSIONS

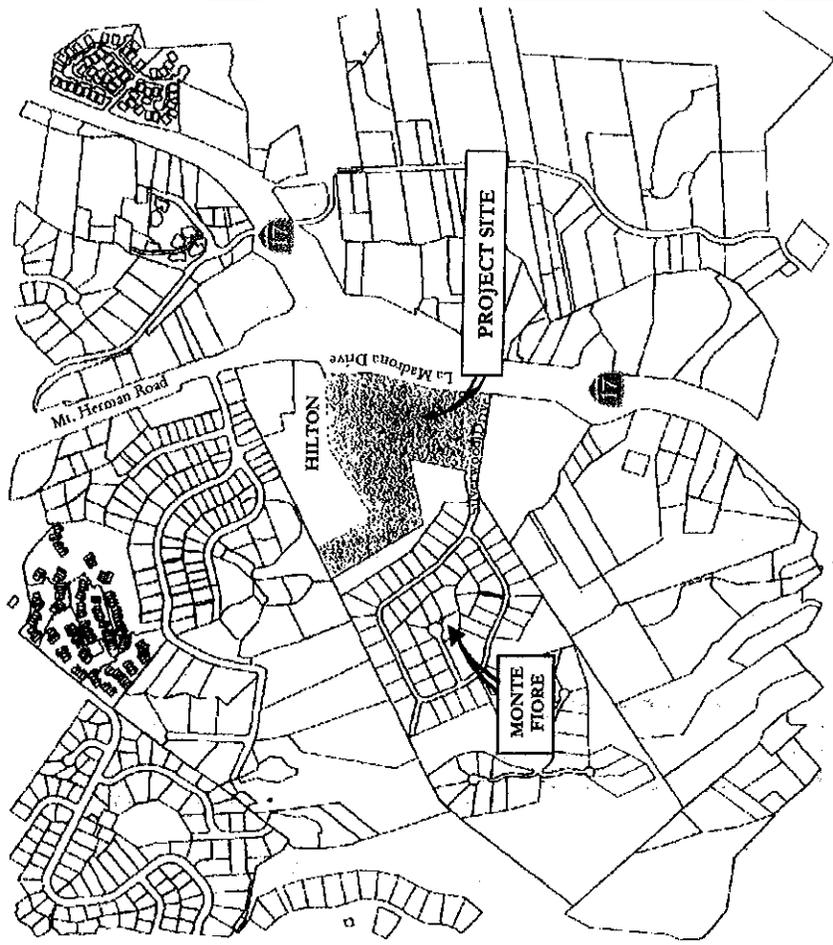
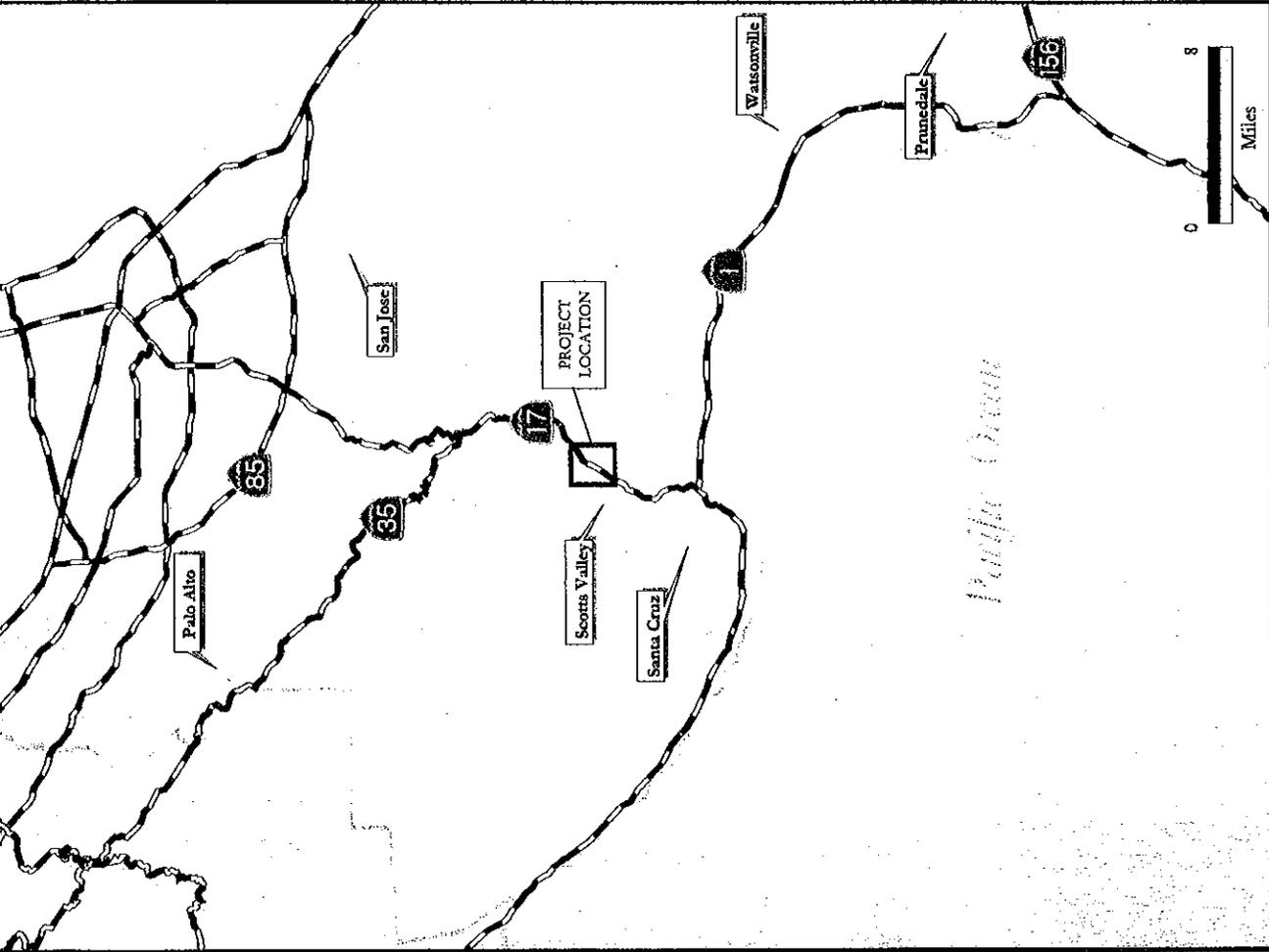
Within the Project Area, there are approximately 0.10 acres of "freshwater seeps" that may be subject to Corps jurisdiction under Section 404 of the CWA. These wetlands meet Corps criteria to be considered wetlands but may not be considered adjacent to other water bodies or creeks. The nearest water body or creek to the site is Carbonera Creek, approximately 400 to 465 feet from any of the mapped "freshwater seeps" (Appendix A, Figure 3). Therefore the "freshwater seeps" may be considered isolated wetlands and not currently under the Corps jurisdiction.

LITERATURE CITED

- Environmental Laboratory, 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. January. 100 pp.
- SCS (United States Department of Agriculture, Soil Conservation Service) 1980. Soil Survey of Santa Cruz County, California. August 1980.
- SCS (United States Department of Agriculture, Soil Conservation Service) 1991. Hydric soils of Santa Cruz County. U.S. Department of Agriculture (NRCS). June 1991.
- Reed, P.B. 1988. National List of plants species that occur in wetlands; California (Region 0).

APPENDIX A

FIGURES

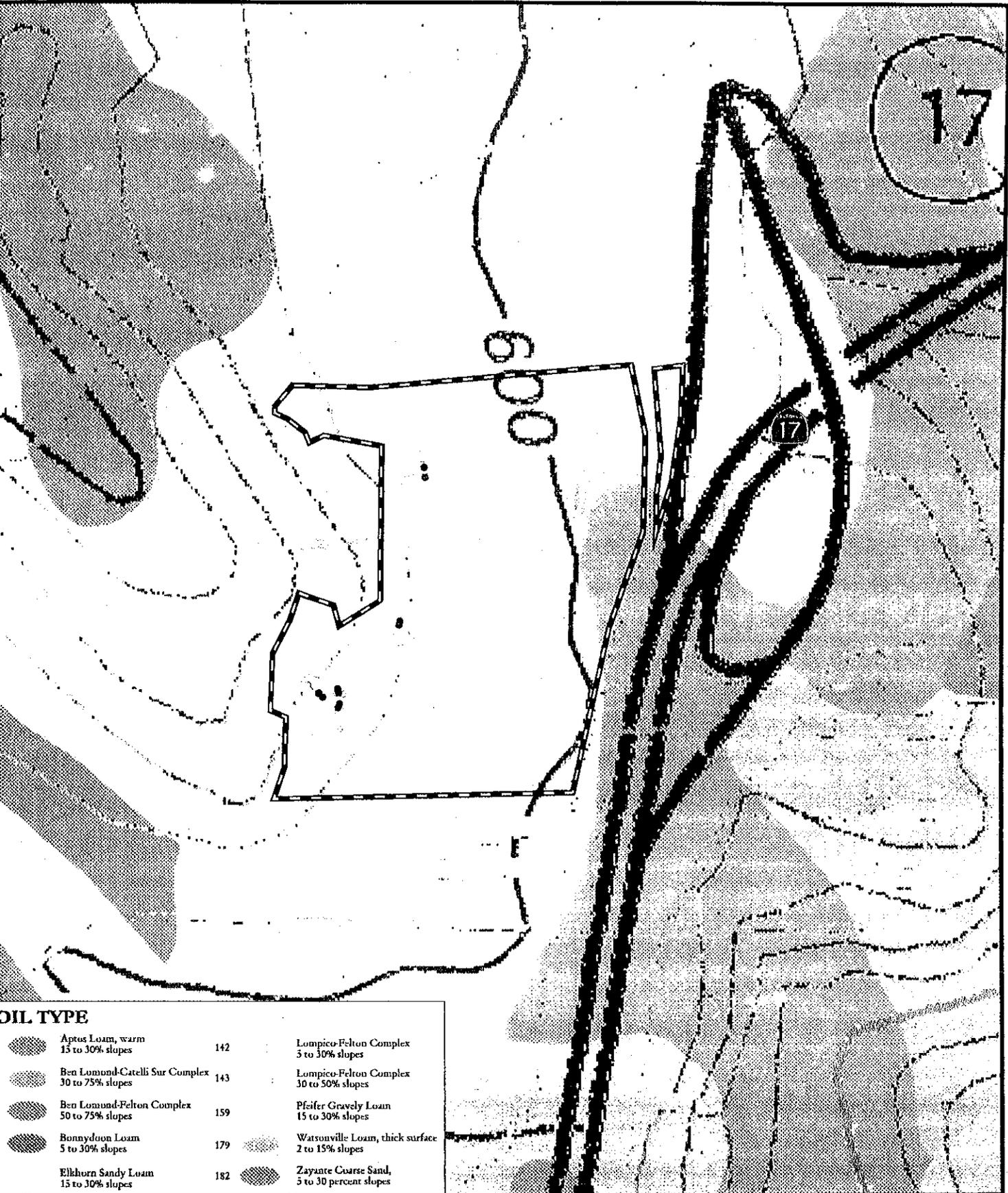


NOT TO SCALE

FIGURE 1: PROJECT LOCATION MAP
 Gateway South Office Building and Fire Station
 Scotts Valley, CA

Source: DES Architects/Engineers, Parcels, September 2001; US Census Bureau, City Boundaries, December 2000; ESRI, Major Roads, September 1999; and EIP Associates, GIS Program, June 6, 2002.

EIP



SOIL TYPE

	Aptos Loam, warm 15 to 30% slopes	142	Lompico-Felton Complex 5 to 30% slopes
	Ben Lomond-Catelli Sur Complex 30 to 75% slopes	143	Lompico-Felton Complex 30 to 50% slopes
	Ben Lomond-Felton Complex 50 to 75% slopes	159	Pfeifer Gravelly Loam 15 to 30% slopes
	Bonnydoon Loam 5 to 30% slopes	179	Watsonville Loam, thick surface 2 to 15% slopes
	Elkhorn Sandy Loam 15 to 30% slopes	182	Zayante Coarse Sand, 5 to 30 percent slopes

EIP
ASSOCIATES

Source: USGS, 7.5' Quadrangle, Felton 1991; USDA, Natural Resources Conservation Service, Soil Survey Data, 1991; and EIP Associates, Project Boundary, Dec. 2003; and GIS Program, December 2, 2003.

Project Boundary*

Wetlands

Waypoints

*Project boundary is approximate

FIGURE 2
PROJECT SOILS

Gateway South
Scott's Valley, CA.

[Insert Figure 3- Delineation Map]

APPENDIX B
DATASHEETS

Project/Site: <u>Gateway South SEIR</u> Permittee/Owner: _____ Investigator(s): <u>Spencer</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>CALIFORNIA</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Freshwater Seep</u> Transect ID: <u>1</u> Plot ID: <u>1</u>

VEGETATION					
Dominant Plant Species	Strata (H, S, T or V)	1988 Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. <u>Rattleshake Grass</u>	<u>NLRP</u>	<u>H</u>			
2. <u>Cannula Goldenrod</u>	<u>H</u>	<u>FACU</u>			
3. <u>Rough Cut's-ear</u>	<u>NLRP</u>	<u>H</u>			
4. <u>Nut sedge</u>	<u>H</u>	<u>FACW</u>			
5. <u>Ca Blackberry</u>	<u>S</u>	<u>FACW*</u>			
6.					
7.					
8.					

Observations & Remarks:

1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 20 %; shrub 10 %; tree 0 %; vine 0 %

2. Assume presence of wetland vegetation? Yes No; or,

3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No

4. Taxonomic Reference(s): Jepson, 1993

HYDROLOGY	
<p><input type="checkbox"/> Recorded Data (Attached):</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs: Dates: _____</p> <p><input type="checkbox"/> Other</p> <p style="margin-left: 20px;">a. _____</p> <p style="margin-left: 20px;">b. _____</p> <p style="margin-left: 20px;">c. _____</p> <p>Comment: <input checked="" type="checkbox"/> No Recorded Data Found</p>	<p>Corps Wetland Hydrology Indicators within upper 12" of soil profile:</p> <p>Corps Primary Indicators (current conditions):</p> <p style="margin-left: 20px;"><input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded</p> <p style="margin-left: 20px;"><input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile</p> <p>Corps Primary Indicators (Historic conditions):</p> <p style="margin-left: 20px;"><input type="checkbox"/> Water Marks</p> <p style="margin-left: 20px;"><input type="checkbox"/> Drift Lines</p> <p style="margin-left: 20px;"><input type="checkbox"/> Sediment Deposits</p> <p style="margin-left: 20px;"><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Corps Secondary Indicators (2 or more required; historic conditions):</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: <input checked="" type="checkbox"/> Upper 12" of Soil Profile</p> <p style="margin-left: 20px;"><input type="checkbox"/> Water-Stained Leaves</p> <p style="margin-left: 20px;"><input type="checkbox"/> Local Soil Survey Data</p> <p style="margin-left: 20px;"><input type="checkbox"/> FAC-Neutral Test</p> <p style="margin-left: 20px;">Other, if Necessary (Explain)</p> <p>Comment(s): <u>5' steeper less slope than surrounding Hillside</u></p>
<p>Current Field Observations with upper 12" of soil profile:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.) <u>N/A</u></p> <p>Depth to Saturated Soil: _____ (in.)</p> <p><input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence</p> <p>Comment(s):</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> Landscape Position "Drains"</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> Landscape Position "Ponds"</p> <p style="margin-left: 20px;">c. <input checked="" type="checkbox"/> Landscape Position "Saturates"</p>	

Observations and Remarks:

1. Filamentous or sheet forming algae present? Yes No

2. Matted vegetation Yes No

3. Surface Sediment with Bedding Planes Yes No

4. Encrusted detritus Yes No

5. Slope: 0-2%; or > 2%

6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none

7. Flooding: none, flooding not probable; are, unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.

8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS

9. Ponding? Yes No

10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS

11. Saturation? Yes No under wet conditions, previous springtime observations.

12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS

Comment(s):

SOILS

Map Unit Name (Series and Phase): Pfeiffer gravelly loam, 15 to 30%					Drainage Class ¹ : MWD		
Taxonomy (Subgroup):					Permeability ² : slow		
Profile Description (Surface 0" to 12"):					Run off ³ : M		
					Field Observations Confirm NRCS Mapping? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ ⁴ Contrast		Texture ⁵ / Concretions/ ⁶ Structures	
Surface (0) to 6"	A	10YR 3/2	None	—	—	Sandy loam	—
6 to 10"	B	7.5YR 3/2	None	—	—	Sandy loam	—
10 to 18"	C	5YR 2.5/1	None	—	—	clay	—

Hydric Soil Indicators:
 Historic: Histosol Concretions (Redoximorphic Feature) **see photo**
 Histic Epipedon High Organic Content in Surface Layer in Sandy Soils
 Organic Streaking in Sandy Soils Gleyed or Low-Chroma Colors (chroma ≤ 2)
 Listed on National Hydric Soils List Listed on Local Hydric Soils List
 Listed on County Hydric Soils List Redoximorphic Feature Along Dead Root Channel (Halo)
 Mottles Present (Redoximorphic features) Other: _____

Comment(s): _____

Current: Sulfidic Odor **slight** Aquic Moisture Regime (nearly free of dissolved oxygen periodically)
 Reducing Conditions (Environment) Peraquic Moisture Regime (near permanent)
 Conductive to the removal of oxygen & chemical reduction of ions) Other _____

Comment(s): _____

Observations and Remarks:
 1. Smell: Neutral; Slightly Fresh; Freshly Plowed Field Smell, or Sulfidic Odor **slight**
 2. Site has been: Irrigated; Land Leveled; Ditch Drained; Tile Drained; Pumped; Graded to drain via slope
 3. Soils Currently are: Flooded; Ponded; Saturated⁸
 4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations: (> 30 days) during the growing season: Unknown
 5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater; unknown
 6. Comment(s): _____

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? Yes No
 Wetland Hydrology Conditions Present? Yes No
 Hydric Soils Conditions Currently Present? Yes No

Is this Sampling Point Within a Wetland? Yes No

Signature: *Butler*

NOTES:

- 1. Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
- 2. Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
- 3. Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
- 4. Mottle abundance: Few (F), Common (C), or Many (M).
- 5. Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
- 6. Texture: Sand, loamy sand, sandy loam, loam, silt, silt clay, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
- 7. Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.
- 8. Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

Photos: 1 + 2 - Overall shots of wetland.
 #3 - Redoxymorphic features.
 #4 - Datapoint #1 (shot at pit)

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SEIR</u> Permittee/Owner: _____ Investigator(s): <u>Spencer</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Amal Grassland</u> Transect ID: <u>1</u> Plot ID: <u>2</u>

VEGETATION

Dominant Plant Species	Strata (H, S, T or V)	1998 Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. <u>Rough Cut's-ear</u>	<u>H</u>	<u>NL</u>			
2. <u>Rattlesnake grass</u>	<u>H</u>	<u>NL</u>			
3. <u>Fireweed</u>	<u>H</u>	<u>FAC</u>			
4.					
5.					
6.					
7.					
8.					

Observations & Remarks:

1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 10 %; shrub 0 %; tree 0 %; vine 0 %
 2. Assume presence of wetland vegetation? Yes No; or
 3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No
 4. Taxonomic Reference(s): Jepson, 1993

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Attached): Stream, Lake, or Tide Gauge <u>N/A</u> Aerial Photographs: Dates: _____ Other _____ a. _____ b. _____ c. _____</p> <p>Comment: <input checked="" type="checkbox"/> No Recorded Data Found</p>	<p>Corps Wetland Hydrology Indicators within upper 12" of soil profile:</p> <p>Corps Primary Indicators (current conditions): <input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded <input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile</p> <p>Corps Primary Indicators (Historic conditions): <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Corps Secondary Indicators (2 or more required; historic conditions): <input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: <input type="checkbox"/> Upper 12" of Soil Profile <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other, If Necessary (Explain)</p> <p>Comment(s): <u>None</u></p>
<p>Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) <u>N/A</u> Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)</p> <p><input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence</p> <p>Comment(s): a. <input checked="" type="checkbox"/> Landscape Position "Drains" b. _____ Landscape Position "Ponds" c. _____ Landscape Position "Saturates"</p>	

Observations and Remarks:

1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: _____ 0-2%; or > 2%
 6. Oxidized rhizospheres: _____ new roots only; _____ old roots only; _____ new and old roots, or none
 7. Flooding: none, flooding not probable; _____ rare, unlikely but possible under unusual weather conditions; _____ occasional, occurs on an average of once or less in 2 years, or _____ frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; _____ very brief, if < 2 days; _____ brief, if < 5% growing season (GS); _____ long, if ≥ 5% to 12.5% GS; or _____ very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; _____ very brief, if < 2 days; _____ brief, < 5% growing season (GS); _____ long, if ≥ 5% to 12.5% GS or; _____ very long, if > 12.5% GS
 11. Saturation? Yes No
 12. Continuous duration of Saturation: None; _____ very brief, if < 2 days; _____ brief, < 5% growing season (GS); _____ long, if ≥ 5% to 12.5% GS; or _____ very long, if > 12.5% GS

Comment(s):

SOILS

Map Unit Name (Series and Phase): Pecker Gravelly Loam, 15 to 30%
 Taxonomy (Subgroup):
 Drainage Class¹: WD
 Permeability²: MOD slow
 Run off³: R
 Field Observations Confirm NRCs Mapping? (Yes) No N/A

Profile Description (Surface 0" to 12"):

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast ⁵		Texture ⁴ / Concretions/ Structure ⁶	
Surface (0) to <u>10</u>	<u>A</u>	<u>7.5YR 4/2</u>	<u>7.5YR 4/1</u>	<u>F</u>	<u>D</u>	<u>Sandy loam</u>	<u>---</u>
<u>10</u> to <u>18</u>	<u>B</u>	<u>7.5YR 4/2</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>Sandy clay</u>	<u>---</u>
<u>18</u> to <u>---</u>							

Hydric Soil Indicators:
 Historic: Histosol Concretions (Redoximorphic Feature)
 Histic Epipedon High Organic Content in Surface Layer in Sandy Soils
 Organic Streaking in Sandy Soils Gleyed or Low-Chroma Colors (chroma ≤ 2)
 Listed on National Hydric Soils List Listed on Local Hydric Soils List
 Listed on County Hydric Soils List Redoximorphic Feature Along Dead Root Channel (Halo)
 Mottles Present (Redoximorphic features) Other: _____
 Comment(s): 2 Few Dark Mottles

Current: Sulfidic Odor Aquic Moisture Regime (nearly free of dissolved oxygen periodically)
 Reducing Conditions: Environment Peraquic Moisture Regime (near permanent)
 Conductive to the removal of oxygen & chemical reduction of ions: Other
 Comment(s):

Observations and Remarks:
 1. Smell: Neutral; Slightly Fresh; Freshly Plowed Field Smell; or Sulfidic Odor
 2. Site has been: Irrigated; Land Leveled; Ditch Drained; Tile Drained; Pumped; Graded to drain via slope
 3. Soils Currently are: Flooded; Ponded; Saturated⁸
 4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations (> 30 days) during the growing season; Unknown
 5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater; unknown
 6. Comment(s):

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? Yes No
 Wetland Hydrology Conditions Present? Yes No
 Hydric Soils Conditions Currently Present? Yes No
 Is this Sampling Point Within a Wetland? Yes No
 Signature: [Signature]

NOTES:
 1 Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
 2 Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
 3 Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
 4 Mottle abundance: Few (F), Common (C), or Many (M).
 5 Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
 6 Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
 7 Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.
 8 Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

photos: 5,6,7

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: Gateway South SEIR
 Permittee/Owner: _____
 Investigator(s): Spencer
 Date: 11/5/03
 City: Scotts Valley
 State: California
 Community ID: Freshwater seep
 Transect ID: 2 Plot ID: 3

Do Normal Circumstances exist on the site? Yes No
 Is the site significantly disturbed (Atypical Situation)? Yes No
 Is the area a potential Problem Area? Yes No
 (If needed, explain answer on reverse or attach separate sheet.)

VEGETATION					
Dominant Plant Species	Strata (H, S, T or V)	1988 Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. California Blackberry	S	FACW*	9.		
2. Carex Sp. (Sedge)	H	FACW	10.		
3. Pothosnick Grass	H	NL	11.		
4. James Bond (rudweed)	H	FACW-	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Observations & Remarks:
 1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 95 %; shrub 10 %; tree 0 %; vine 0 %
 2. Assume presence of wetland vegetation? Yes No; or,
 3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No not currently saturated
 4. Taxonomic Reference(s): Jepson, 1993

HYDROLOGY

Recorded Data (Attached):
 Stream, Lake, or Tide Gauge
 Aerial Photographs: Dates: _____
 Other:
 a. _____
 b. _____
 c. _____

Comment: No Recorded Data Found

Corps Wetland Hydrology Indicators within upper 12" of soil profile:
 Corps Primary Indicators (current conditions):
 Inundated: Flooded Ponded
 Saturated: In Upper 12" of Soil Profile
 Corps Primary Indicators (Historic conditions):
 Water Marks
 Drift Lines
 Sediment Deposits
 Drainage Patterns in Wetlands
 Corps Secondary Indicators (2 or more required; historic conditions):
 Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: Upper 12" of Soil Profile
 Water-Stained Leaves
 Local Soil Survey Data
 FAC-Neutral Test
 Other, if Necessary (Explain)

Current Field Observations with upper 12" of soil profile:
 Depth of Surface Water: _____ (in.)
 Depth to Free Water in Pit: _____ (in.) None
 Depth to Saturated Soil: _____ (in.)
 Tidal Influence Non-Tidal Influence

Comment(s):
 a. Landscape Position "Drains": _____
 b. Landscape Position "Ponds": _____
 c. Landscape Position "Saturates" previous visits

Observations and Remarks:
 1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: 0-2%; or > 2%
 6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none
 7. Flooding: none, flooding not probable; rare, unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS
 11. Saturation? Yes No not currently
 12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS

Comment(s):
Found to be saturated during previous spring time surveys

SOILS

Map Unit Name (Series and Phase): Pfe. fe Grandy loam, 15 to 30 %
 Taxonomy (Subgroup):
 Drainage Class¹: MWD
 Permeability²: MS
 Run off³: R
 Field Observations Confirm NRCS Mapping? Yes No N/A

Profile Description (Surface 0" to 12"):

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance* / Contrast	Texture ⁴ / Concretions / Structures
Surface (0) to <u>18"</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>	<u>---</u>	<u>Sandy clay</u>
to					
to					

Hydric Soil Indicators:
 Historic: Histosol Concretions (Redoximorphic Feature)
 Histic Epipedon High Organic Content in Surface Layer in Sandy Soils
 Organic Streaking in Sandy Soils Gleyed or Low-Chroma Colors (chroma ≤ 2)
 Listed on National Hydric Soils List Listed on Local Hydric Soils List
 Listed on County Hydric Soils List Redoximorphic Feature Along Dead Root Channel (Halo)
 Mottles Present (Redoximorphic features) Other: _____
 Comment(s): _____

Current: Sulfidic Odor Aquic Moisture Regime (nearly free of dissolved oxygen periodically)
 Reducing Conditions (Environment) Peraquic Moisture Regime (near permanent)
 Conductive to the removal of oxygen & chemical reduction of ions Other _____
 Comment(s): Only one distinct horizon present. High clay content in soil.

Observations and Remarks:
 1. Smell: Neutral; Slightly Fresh; Freshly Plowed Field Smell; or Sulfidic Odor
 2. Site has been: Irrigated; Land Leveled; Ditch Drained; Tile Drained; Pumped; Graded to drain via slope
 3. Soils Currently are: Flooded; Ponded; Saturated⁵
 4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations (> 30 days) during the growing season: Unknown
 5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater; unknown
 6. Comment(s): _____

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? Yes No
 Wetland Hydrology Conditions Present? Yes No
 Hydric Soils Conditions Currently Present? Yes No
 Is this Sampling Point Within a Wetland? Yes No
 Signature: [Signature]

NOTES:
 1. Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
 2. Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
 3. Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
 4. Mottle abundance: Few (F), Common (C), or Many (M).
 5. Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
 6. Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
 7. Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.
 8. Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SRIR</u> Permittee/Owner: _____ Investigator(s): <u>SPENCER</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Annual Grassland</u> Transect ID: <u>2</u> Plot ID: <u>4</u>

VEGETATION					
Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. Wild Oat (<i>Avena</i> sp.)	H	NL	9.		
2. Rattlesnake Grass	H	NL	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Observations & Remarks:

1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 0 %; shrub 0 %; tree 0 %; vine 0 %
 2. Assume presence of wetland vegetation? Yes No; or
 3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No
 4. Taxonomic Reference(s): Jepson, 1993

HYDROLOGY	
<p><input type="checkbox"/> Recorded Data (Attached): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs: Dates: _____ <input type="checkbox"/> Other a. _____ b. _____ c. _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Found</p> <p>Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) <u>None</u> Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)</p> <p><input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence</p> <p>Comment(s): a. <input checked="" type="checkbox"/> Landscape Position "Drains" b. _____ Landscape Position "Ponds" c. _____ Landscape Position "Saturates"</p>	<p>Corps Wetland Hydrology Indicators within upper 12" of soil profile:</p> <p>Corps Primary Indicators (current conditions): <input type="checkbox"/> Inundated: _____ Flooded _____ Ponded _____ <input type="checkbox"/> Saturated: _____ In Upper 12" of Soil Profile _____</p> <p>Corps Primary Indicators (Historic conditions): <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Corps Secondary Indicators (2 or more required; historic conditions): <input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: _____ Upper 12" of Soil Profile <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test</p> <p>Other, if Necessary (Explain) <u>N/A</u></p> <p>Comment(s):</p>

Observations and Remarks:

1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: 0-2%; or > 2%
 6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none
 7. Flooding: none, flooding not probable; rare, unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS
 11. Saturation? Yes No
 12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS

Comment(s):

SOILS

Map Unit Name (Series and Phase): Pfe fer bravelly loam 15 to 30%				Drainage Class: WD	
Taxonomy (Subgroup):				Permeability: MS	
Profile Description (Surface 0" to 12"):				Run off: R	
				Field Observations Confirm NRCS Mapping? <input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture ¹ / Concretions/ Structures ²
Surface (0) to 18	A	10YR 3/2	none	---	Sandy loam
to _____					
to _____					

***Only one distinct horizon present**

Hydric Soil Indicators:

<p><i>Historic:</i></p> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Listed on County Hydric Soils List <input type="checkbox"/> Mottles Present (Redoximorphic features) Other: _____	<input type="checkbox"/> Concretions (Redoximorphic Feature) <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors (chroma ≤ 2) <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Redoximorphic Feature Along Dead Root Channel (Halo)
--	--

Comment(s): _____

Current:

<input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Reducing Conditions (Environment <input type="checkbox"/> Conductive to the removal of oxygen & chemical reduction of ions)	<input type="checkbox"/> Aquic Moisture Regime (nearly free of dissolved oxygen periodically) <input type="checkbox"/> Perallic Moisture Regime (near permanent) <input type="checkbox"/> Other
---	---

Comment(s): _____

Observations and Remarks:

1. Smell: Neutral; Slightly Fresh; Freshly Plowed Field Smell; or Sulfidic Odor
2. Site has been: Irrigated; Land Levelled; Ditch Drained; Tile Drained; Pumped; Graded to drain via slope
3. Soils Currently are: Flooded; Ponded; Saturated⁴
4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations; (>30 days) during the growing season; Unknown
5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater; unknown
6. Comment(s):

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Conditions Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Hydric Soils Conditions Currently Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Signature: <u>Burt E. [Signature]</u>	

NOTES:

- 1 Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
- 2 Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
- 3 Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
- 4 Mottle abundance: Few (F), Common (C), or Many (M).
- 5 Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
- 6 Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
- 7 Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.
- 8 Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SEIR</u> Permittee/Owner: _____ Investigator(s): <u>Spencer</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Annual Grassland</u> Transect ID: <u>3</u> Plot ID: <u>5</u>

VEGETATION

Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. Wild oat (Avena sp.)	H	NL	9.		
2. Rattlesnake Grass	H	NL	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Observations & Remarks:

1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 0 %; shrub 0 %; tree 0 %; vine 0 %
2. Assume presence of wetland vegetation? Yes No; or
3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No
4. Taxonomic Reference(s): Jepson, 1993

HYDROLOGY

<input type="checkbox"/> Recorded Data (Attached): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs: Dates: _____ <input type="checkbox"/> Other: a. _____ b. _____ c. _____ Comment: <input checked="" type="checkbox"/> No Recorded Data Found	Corps Wetland Hydrology Indicators within upper 12" of soil profile: Corps Primary Indicators (current conditions): <input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded <input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile Corps Primary Indicators (Historic conditions): <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Corps Secondary Indicators (2 or more required; historic conditions): <input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: <input type="checkbox"/> Upper 12" of Soil Profile <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other, if Necessary (Explain) <u>N/A</u> Comment(s):
Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) <u>None</u> Depth to Saturated Soil: _____ (in.) <input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence Comment(s): a. <input checked="" type="checkbox"/> Landscape Position "Drains" b. _____ Landscape Position "Ponds" c. _____ Landscape Position "Saturates"	

Observations and Remarks:

1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: 0-2% or > 2%
 6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none
 7. Flooding: none, flooding not probable; rare unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS
 11. Saturation? Yes No
 12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
- Comment(s):

SOILS

Map Unit Name (Series and Phase): Pfeifer brackly loam, 15 to 30%
 Taxonomy (Subgroup):
 Drainage Class¹: WD
 Permeability²: MS
 Run off³: R
 Field Observations Confirm NRCS Mapping?
 Yes No N/A

Profile Description (Surface 0" to 12"):

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast ⁴	Texture ⁵ /Concretions/Structures ⁶
Surface (0) to <u>18</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>		<u>Sandy loam</u>
to					
to					

* Only one distinct soil horizon present

Hydric Soil Indicators:
 Historic: Histosol Concretions (Redoximorphic Feature)
 Histic Epipedon High Organic Content in Surface Layer in Sandy Soils
 Organic Streaking in Sandy Soils Gleyed or Low-Chroma Colors (chroma ≤ 2)
 Listed on National Hydric Soils List Listed on Local Hydric Soils List
 Listed on County Hydric Soils List Redoximorphic Feature Along Dead Root Channel (Halo)
 Mottles Present (Redoximorphic features) Other: _____

Comment(s):

 Current: Sulfidic Odor Aquic Moisture Regime (nearly free of dissolved oxygen periodically)
 Reducing Conditions (Environment) Perallic Moisture Regime (near permanent)
 Conductive to the removal of oxygen & chemical reduction of ions Other
 Comment(s):

Observations and Remarks:
 1. Smell: Neutral; Slightly Fresh; Freshly Plowed-Field Smell, or Sulfidic Odor
 2. Site has been: Irrigated; Land Levelled; Ditch Drained; Tile Drained; Pumped; Graded to drain via slope
 3. Soils Currently are: Flooded; Ponded; Saturated
 4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations: (> 30 days) during the growing season; Unknown
 5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater; unknown
 6. Comment(s):

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? Yes No
 Wetland Hydrology Conditions Present? Yes No
 Hydric Soils Conditions Currently Present? Yes No
 Is this Sampling Point Within a Wetland? Yes No
 Signature: Burt E. S.

NOTES:
 1 Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
 2 Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
 3 Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
 4 Mottle abundance: Few (F), Common (C), or Many (M).
 5 Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
 6 Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
 7 Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.
 8 Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SEIR</u> Permittee/Owner: _____ Investigator(s): <u>Spencer</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Freshwater seep</u> Transect ID: <u>3</u> Plot ID: <u>6</u>

VEGETATION

Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. <u>Carex sp. (Sedge)</u>	<u>H</u>	<u>FACW</u>	9.		
2. <u>Rattlesnake Grass</u>	<u>H</u>	<u>NL</u>	10.		
3. <u>James Bond (Cudweed)</u>	<u>H</u>	<u>FACW-</u>	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Observations & Remarks:

- Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 95 %; shrub 0 %; tree 0 %; vine 0 %
- Assume presence of wetland vegetation? Yes No; or,
- Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No not currently saturated
- Taxonomic Reference(s): Jepson, 1993

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Attached): Stream, Lake, or Tide Gauge Aerial Photographs: Dates: _____ Other _____ a. _____ b. _____ c. _____</p> <p>Comment: <input checked="" type="checkbox"/> No Recorded Data Found</p> <p>Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) <u>None</u> Depth to Saturated Soil: _____ (in.)</p> <p><input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence</p> <p>Comment(s): a. Landscape Position "Drains" b. Landscape Position "Ponds" c. <input checked="" type="checkbox"/> Landscape Position "Saturates" - <u>previous visits</u></p>	<p>Corps Wetland Hydrology Indicators within upper 12" of soil profile:</p> <p>Corps Primary Indicators (current conditions): <input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded <input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile</p> <p>Corps Primary Indicators (Historic conditions): <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Corps Secondary Indicators (2 or more required; historic conditions): <input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: _____ Upper 12" of Soil Profile <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>Other, if Necessary (Explain)</p> <p>Comment(s):</p>
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Observations and Remarks:

- Filamentous or sheet forming algae present? Yes No
 - Matted vegetation Yes No
 - Surface Sediment with Bedding Planes Yes No
 - Encrusted detritus Yes No
 - Slope: 0-2%; or > 2%
 - Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none
 - Flooding: none, flooding not probable; are, unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.
 - Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 - Ponding? Yes No
 - Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS
 - Saturation? Yes No not currently
 - Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
- Comment(s): Found to be saturated during previous springtime surveys.

SOILS

Map Unit Name (Series and Phase): <u>Pfeifer Gravelly loam, 15 to 30%</u> Taxonomy (Subgroup): _____				Drainage Class ¹ : <u>MWD</u> Permeability ² : <u>MS</u> Run off ³ : <u>R</u> Field Observations Confirm NRCS Mapping? Yes No N/A																									
Profile Description (Surface 0" to 12"): <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Depth (inches)</th> <th style="width:15%;">Horizon</th> <th style="width:15%;">Matrix Color (Munsell Moist)</th> <th style="width:15%;">Mottle Colors (Munsell Moist)</th> <th style="width:10%;">Mottle Abundance/ Contrast</th> <th style="width:10%;">Texture⁴/ Conc. ations/ Structures</th> </tr> </thead> <tbody> <tr> <td>Surface (0) to <u>18"</u></td> <td><u>A</u></td> <td><u>10YR 3/2</u></td> <td><u>none</u></td> <td><u>—</u></td> <td><u>Sandy clay</u></td> </tr> <tr> <td>to _____</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>to _____</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture ⁴ / Conc. ations/ Structures	Surface (0) to <u>18"</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>	<u>—</u>	<u>Sandy clay</u>	to _____						to _____					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture ⁴ / Conc. ations/ Structures																								
Surface (0) to <u>18"</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>	<u>—</u>	<u>Sandy clay</u>																								
to _____																													
to _____																													
Hydric Soil Indicators: Historic: _____ Histosol _____ Concretions (Redoximorphic Feature) _____ Histic Epipedon _____ High Organic Content in Surface Layer in Sandy Soils _____ Organic Streaking in Sandy Soils _____ Gleyed or Low-Chroma Colors (chroma ≤ 2) _____ Listed on National Hydric Soils List _____ Listed on Local Hydric Soils List _____ Listed on County Hydric Soils List _____ Redoximorphic Feature Along Dead Root Channel (Halo) _____ Mottles Present (Redoximorphic features) Other: _____																													
Comment(s): <u>* only one distinct soil horizon present</u>																													
Current: _____ Sulfidic Odor _____ Aquic Moisture Regime (nearly free of dissolved oxygen periodically) _____ Reducing Conditions (Environment) _____ Peroxic Moisture Regime (near permanent) _____ Conductive to the removal of oxygen & chemical reduction of ions) _____ Other _____																													
Comment(s): <u>High Clay Content</u>																													
Observations and Remarks: 1. Smell: <input checked="" type="checkbox"/> Neutral; _____ Slightly Fresh; _____ Freshly Plowed Field Smell, or _____ Sulfidic Odor 2. Site has been: _____ Irrigated; _____ Land Levelled; _____ Ditch Drained; _____ Tile Drained; _____ Pumped; _____ Graded to drain via slope 3. Soils Currently are: _____ Flooded; _____ Ponded; _____ Saturated 4. Soils: _____ do <input checked="" type="checkbox"/> do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations: (> 30 days) during the growing season: _____ Unknown 5. Soils: <input checked="" type="checkbox"/> do _____ do not, become continuously saturated, under normal conditions, for 14 days or greater; _____ unknown 6. Comment(s): _____																													

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? <input checked="" type="checkbox"/> Yes _____ No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes _____ No Signature: <u>[Signature]</u>
Wetland Hydrology Conditions Present? <input checked="" type="checkbox"/> Yes _____ No	
Hydric Soils Conditions Currently Present? <input checked="" type="checkbox"/> Yes _____ No	

- NOTES:
- Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
 - Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
 - Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
 - Mottle abundance: Few (F), Common (C), or Many (M).
 - Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
 - Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
 - Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than nonzontal), columnar (prismatic with rounded tops), blocky (angular or subangular), or granular.
 - Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SRIR</u> Permittee/Owner: _____ Investigator(s): <u>Spencer</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u> Community ID: <u>Annual Grassland</u> Transect ID: <u>4</u> Plot ID: <u>7</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	

Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
W. Id Out (Avene sp.)	H	NL			
Rattlesnake grass	H	NL			

Observations & Remarks:
 Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 0%; shrub 0%; tree 0%; vine 0%.
 Assume presence of wetland vegetation? Yes No; or,
 Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No
 Taxonomic Reference(s): Jepson, 1993

HYDROLOGY	Corps Wetland Hydrology Indicators within upper 12" of soil profile:
Recorded Data (Attached): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs: Dates: _____ <input type="checkbox"/> Other: _____ a. _____ b. _____ c. _____ Comment: <input checked="" type="checkbox"/> No Recorded Data Found	Corps Primary Indicators (current conditions): <input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded <input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile Corps Primary Indicators (Historic conditions): <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Corps Secondary Indicators (2 or more required; historic conditions): <input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: <input type="checkbox"/> Upper 12" of Soil Profile <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other, if Necessary (Explain) <u>N/A</u> Comment(s):
Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) <u>None</u> Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.) Tidal Influence <input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence	
Comment(s): a. <input checked="" type="checkbox"/> Landscape Position "Drains" b. _____ Landscape Position "Ponds" c. _____ Landscape Position "Saturates"	

Observations and Remarks:
 1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: _____ 0-2%; or > 2%
 6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none
 7. Flooding: none, flooding not probable; rare, unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS
 11. Saturation: Yes No
 12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 Comment(s):

SOILS

Map Unit Name (Series and Phase): <u>Pfeifer Gravelly loam, 15 to 30%</u> Taxonomy (Subgroup):				Drainage Class: <u>WD</u> Permeability: <u>MS</u> Run off: <u>R</u> Field Observations Confirm NRCS Mapping? Yes No N/A	
Profile Description (Surface 0" to 12"):					
Depth (inches)	Horizon	Matrix Color (Munsell M- s1)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture/ Concretions/ Structures
Surface (0) to <u>18</u>	<u>A</u>	<u>10 YR 3/2</u>	<u>none</u>	<u>---</u>	<u>Sandy loam</u> <u>-</u> <u>-</u>
to _____					
to _____					
* Only one distinct soil horizon					
Hydric Soil Indicators: Historic: <input type="checkbox"/> Histosol <input type="checkbox"/> Concretions (Redoximorphic Feature) <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors (chroma ≤ 2) <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on County Hydric Soils List <input type="checkbox"/> Redoximorphic Feature Along Dead Root Channel (Hato) <input type="checkbox"/> Mottles Present (Redoximorphic features) Other: _____					
Comment(s): _____					
Current: <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime (nearly free of dissolved oxygen periodically) <input type="checkbox"/> Reducing Conditions (Environment) <input type="checkbox"/> Peraquic Moisture Regime (near permanent) <input type="checkbox"/> Conductive to the removal of oxygen & chemical reduction of ions <input type="checkbox"/> Other: _____					
Comment(s): _____					
Observations and Remarks: 1. Smell: <input checked="" type="checkbox"/> Neutral; <input type="checkbox"/> Slightly Fresh; <input type="checkbox"/> Freshly Plowed Field Smell, or <input type="checkbox"/> Sulfidic Odor 2. Site has been: <input type="checkbox"/> Irrigated; <input type="checkbox"/> Land Leveled; <input type="checkbox"/> Ditch Drained; <input type="checkbox"/> Tile Drained; <input type="checkbox"/> Pumped; <input type="checkbox"/> Graded to drain via slope 3. Soils Currently are: <input type="checkbox"/> Flooded; <input type="checkbox"/> Ponded; <input type="checkbox"/> Saturated 4. Soils: <input type="checkbox"/> do <input checked="" type="checkbox"/> do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations: (> 30 days) during the growing season; <input type="checkbox"/> Unknown 5. Soils: <input type="checkbox"/> do <input checked="" type="checkbox"/> do not, become continuously saturated, under normal conditions, for 14 days or greater; <input type="checkbox"/> unknown 6. Comment(s): _____					

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Conditions Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Conditions Currently Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Signature: <u><i>[Signature]</i></u>
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- NOTES:
1. Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).
 2. Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).
 3. Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).
 4. Mottle abundance: Few (F), Common (C), or Many (M).
 5. Mottle contrast: Faint (F), Distinct (D), or Prominent (P).
 6. Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
 7. Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than nonhorizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.
 8. Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SEIR</u> Permittee/Owner: _____ Investigator(s): <u>Spence</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Freshwater seep</u> Transect ID: <u>4</u> Plot ID: <u>8</u>

VEGETATION						
Dominant Plant Species	Strata (H, S, T or V)	1988 Regional NWI Indicator Status		Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. <u>Carex Sp. (Sedge)</u>	<u>H</u>	<u>FACW</u>	<u>9</u>			
2. <u>Rattlesnake Grass</u>	<u>H</u>	<u>NL</u>	<u>10</u>			
3. <u>James Bond (ewilushy cud weed)</u>	<u>H</u>	<u>FACW-</u>	<u>11</u>			
4.			<u>12</u>			
5.			<u>13</u>			
6.			<u>14</u>			
7.			<u>15</u>			
8.			<u>16</u>			

Observations & Remarks:

1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 95 %; shrub 0 %; tree 0 %; vine 0 %

2. Assume presence of wetland vegetation? Yes No; or,

3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No

4. Taxonomic Reference(s): Jepson, 1993 not currently

HYDROLOGY	
<p>Recorded Data (Attached):</p> <p><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs: Dates: _____</p> <p><input type="checkbox"/> Other _____</p> <p>a. _____</p> <p>b. _____</p> <p>c. _____</p> <p>Comment:</p> <p><input checked="" type="checkbox"/> No Recorded Data Found</p> <p>Current Field Observations with upper 12" of soil profile:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.) <u>None</u></p> <p>Depth to Saturated Soil: _____ (in.)</p> <p><input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence</p> <p>Comment(s):</p> <p>a. Landscape Position "Drains",</p> <p>b. Landscape Position "Ponds",</p> <p>c. <input checked="" type="checkbox"/> Landscape Position "Saturates" <u>Previous visits</u></p>	<p>Corps Wetland Hydrology Indicators within upper 12" of soil profile:</p> <p>Corps Primary Indicators (current conditions):</p> <p><input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded</p> <p><input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile</p> <p>Corps Primary Indicators (Historic conditions):</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Corps Secondary Indicators (2 or more required; historic conditions):</p> <p><input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: <input type="checkbox"/> Upper 12" of Soil Profile</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p>Other, if Necessary (Explain)</p> <p>Comment(s):</p>

Observations and Remarks:

1. Filamentous or sheet forming algae present? Yes No

2. Matted vegetation Yes No

3. Surface Sediment with Bedding Planes Yes No

4. Encrusted detritus Yes No

5. Slope: 0-2%; or > 2%

6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none

7. Flooding: none, flooding not probable; rare, unlikely but possible under unusual weather conditions; occasional, occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.

8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS

9. Ponding? Yes No

10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS

11. Saturation? Yes No not currently

12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS

Comment(s): Found to be saturated during previous Springtime visits.

SOILS

Map Unit Name (Series and Phase): <u>?fero Granely loam, 15 to 30%</u>				Drainage Class ¹ : <u>MWD</u>	
Taxonomy (Subgroup):				Permeability ² : <u>MS</u>	
Profile Description (Surface 0" to 12"):				Run off ³ : <u>R</u>	
				Field Observations Confirm NRCS Mapping? Yes No N/A	
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture ⁴ / Concretions/ Structures
Surface (0) to <u>18"</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>	<u>---</u>	<u>sandy clay</u>
to _____					
to _____					

* Only one distinct soil horizon present

Hydric Soil Indicators:

Historic: Histosol Concretions (Redoximorphic Feature)
 Histic Epipedon High Organic Content in Surface Layer in Sandy Soils
 Organic Streaking in Sandy Soils Gleyed or Low-Chroma Colors (chroma ≤ 2)
 Listed on National Hydric Soils List Listed on Local Hydric Soils List
 Listed on County Hydric Soils List Redoximorphic Feature Along Dead Root Channel (Halo)
 Mottles Present (Redoximorphic features) Other: _____

Comment(s): _____

Current: Sulfidic Odor Aquic Moisture Regime (nearly free of dissolved oxygen periodically)
 Reducing Conditions (Environment) Peraquic Moisture Regime (near, permanent)
 Conductive to the removal of oxygen & chemical reduction of ions Other _____

Comment(s): _____

Observations and Remarks:

1. Smell: Neutral; Slightly Fresh; Freshly Plowed Field Smell, or Sulfidic Odor
 2. Site has been: Irrigated; Land Leveled; Ditch Drained; Tile Drained; Pumped; Graded to drain via slope
 3. Soils Currently are: Flooded; Ponded; Saturated
 4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (> 7 to 30 days) to very long durations (> 30 days) during the growing season; Unknown
 5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater. unknown
 6. Comment(s): _____

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? Yes No
 Wetland Hydrology Conditions Present? Yes No
 Hydric Soils Conditions Currently Present? Yes No

Is this Sampling Point Within a Wetland? Yes No

Signature: B. B. B.

NOTES:

1. Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).

2. Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).

3. Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).

4. Mottle abundance: Few (F), Common (C), or Many (M).

5. Mottle contrast: Faint (F), Distinct (D), or Prominent (P).

6. Texture: Sand, loamy sand, sandy oam, loam, silt, silt cam, sandy clay loam, clay oam, silty clay loam, sandy clay, silty clay, or clay.

7. Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.

8. Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Gateway South SBIR</u> Permittee/Owner: _____ Investigator(s): <u>SPENCE</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach separate sheet.)	Community ID: <u>Annual Grassland</u> Transect ID: <u>5</u> Plot ID: <u>9</u>

VEGETATION

Dominant Plant Species	Strata (H, S, T or V)	1988 Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. Wild Oat (<i>Avena</i> sp.)	H	NL	9.		
2. Rattlesnake grass	H	NL	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Observations & Remarks:

1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 0 %; shrub 0 %; tree 0 %; vine 0 %
2. Assume presence of wetland vegetation? Yes No; or,
3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No
4. Taxonomic Reference(s): Jepson, 1993

HYDROLOGY

Recorded Data (Attached): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs: Dates: _____ <input type="checkbox"/> Other: a. _____ b. _____ c. _____ Comment: <input checked="" type="checkbox"/> No Recorded Data Found	Corps Wetland Hydrology Indicators within upper 12" of soil profile: Corps Primary Indicators (current conditions): <input type="checkbox"/> Inundated: <input type="checkbox"/> Flooded <input type="checkbox"/> Ponded <input type="checkbox"/> Saturated: <input type="checkbox"/> In Upper 12" of Soil Profile Corps Primary Indicators (Historic conditions): <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Corps Secondary Indicators (2 or more required; historic conditions): <input type="checkbox"/> Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: <input type="checkbox"/> Upper 12" of Soil Profile <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test Other, If Necessary (Explain) <u>N/A</u> Comment(s):
Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) <u>None</u> Depth to Saturated Soil: _____ (in.) <input type="checkbox"/> Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence Comment(s): a. <input checked="" type="checkbox"/> Landscape Position "Drains" b. <input type="checkbox"/> Landscape Position "Ponds" c. <input type="checkbox"/> Landscape Position "Saturates"	

Observations and Remarks:

1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: 0-2%; or > 2%
 6. Oxidized rhizospheres: new roots only; old roots only; new and old roots, or none
 7. Flooding: none, flooding not probable; are, unlikely but possible under unusual weather conditions. occasional; occurs on an average of once or less in 2 years, or frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; very brief, if < 2 days; brief, if < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS or; very long, if > 12.5% GS
 11. Saturation? Yes No
 12. Continuous duration of Saturation: None; very brief, if < 2 days; brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or very long, if > 12.5% GS
- Comment(s):

SOILS

Map Unit Name (Series and Phase): <u>Pfeifer Gravelly loam, 15 to 30%</u> Taxonomy (Subgroup): _____				Drainage Class ¹ : <u>WD</u> Permeability ² : <u>MS</u> Run off ³ : <u>R</u>																									
Profile Description (Surface 0" to 12"): <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Depth (inches)</th> <th style="width:15%;">Horizon</th> <th style="width:15%;">Matrix Color (Munsell Moist)</th> <th style="width:15%;">Mottle Colors (Munsell Moist)</th> <th style="width:15%;">Mottle Abundance⁴/ Contrast⁵</th> <th style="width:15%;">Texture⁶/ Concretions/ Structures⁷</th> </tr> </thead> <tbody> <tr> <td>Surface (0) to <u>18"</u></td> <td><u>A</u></td> <td><u>10YR 3/2</u></td> <td><u>none</u></td> <td><u>—</u> <u>—</u></td> <td><u>Sandy loam</u> <u>—</u> <u>—</u></td> </tr> <tr> <td>to _____</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>to _____</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance ⁴ / Contrast ⁵	Texture ⁶ / Concretions/ Structures ⁷	Surface (0) to <u>18"</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>	<u>—</u> <u>—</u>	<u>Sandy loam</u> <u>—</u> <u>—</u>	to _____						to _____						Field Observations Confirm NRCS Mapping? Yes No N/A	
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance ⁴ / Contrast ⁵	Texture ⁶ / Concretions/ Structures ⁷																								
Surface (0) to <u>18"</u>	<u>A</u>	<u>10YR 3/2</u>	<u>none</u>	<u>—</u> <u>—</u>	<u>Sandy loam</u> <u>—</u> <u>—</u>																								
to _____																													
to _____																													
Hydric Soil Indicators: Historic: _____ _____ Concretions (Redoximorphic Feature) _____ Histc Epipedon _____ High Organic Content in Surface Layer in Sandy Soils _____ Organic Streaking in Sandy Soils _____ Gleyed or Low-Chroma Colors (chroma ≤ 2) _____ Listed on National Hydric Soils List _____ Listed on Local Hydric Soils List _____ Listed on County Hydric Soils List _____ Redoximorphic Feature Along Dead Root Channel (Halo) _____ Mottles Present (Redoximorphic features) Other: _____																													
Comment(s): _____ _____ _____																													
Current: _____ _____ Sulfidic Odor _____ Reducing Conditions Environment _____ Conductive to the removal of oxygen & chemical reduction of ions _____ Aquic Moisture Regime (nearly free of dissolved oxygen periodically) _____ Peraquic Moisture Regime (near permanent) _____ Other: _____																													
Comment(s): _____ _____ _____																													
Observations and Remarks: 1. Smell: <input checked="" type="checkbox"/> Neutral; <input type="checkbox"/> Slightly Fresh; <input type="checkbox"/> Freshly Plowed Field Smell, or <input type="checkbox"/> Sulfidic Odor 2. Site has been: <input type="checkbox"/> Irrigated; <input type="checkbox"/> Land Leveled; <input type="checkbox"/> Ditch Drained; <input type="checkbox"/> Tile Drained; <input type="checkbox"/> Pumped; <input type="checkbox"/> Graded to drain via slope 3. Soils Currently are: <input type="checkbox"/> Flooded; <input type="checkbox"/> Ponded; <input type="checkbox"/> Saturated 4. Soils: _____ do <input checked="" type="checkbox"/> do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations: (> 30 days) during the growing season; _____ Unknown 5. Soils: _____ do <input checked="" type="checkbox"/> do not, become continuously saturated, under normal conditions, for 14 days or greater; _____ unknown 6. Comment(s): _____																													

** only one distinct soil horizon detected.*

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Conditions Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Conditions Currently Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Signature: <u>[Signature]</u>
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NOTES:

1 Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).

2 Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).

3 Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).

4 Mottle abundance: Few (F), Common (C), or Many (M).

5 Mottle contrast: Faint (F), Distinct (D), or Prominent (P).

6 Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.

7 Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular, or subangular), or granular.

8 Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

DATA FORM - ROUTINE WETLAND DETERMINATION
(Adapted From 1987 Corps Methodology Wetlands Delineation Manual)

Project/Site: <u>Interway South SRP</u> Permittee/Owner: _____ Investigator(s): <u>Spencer</u>	Date: <u>11/5/03</u> City: <u>Scotts Valley</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain answer on reverse or attach a separate sheet.)	Community ID: <u>Freshwater seep</u> Transect ID: <u>5</u> Plot ID: <u>10</u>

VEGETATION

Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status	Dominant Plant Species	Strata (H, S, T or V)	Regional NWI Indicator Status
1. <u>Carex Sp. (Sedge)</u>	<u>H</u>	<u>FACW</u>			
2. <u>Rattlesnake Grass</u>	<u>H</u>	<u>NL</u>			
3. <u>James Bond (Eriophorum endweed)</u>	<u>H</u>	<u>FACW-</u>			
4.					
5.					
6.					
7.					
8.					

Observations & Remarks:
 1. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): herb 95 %; shrub 0 %; tree 0 %; vine 0 %
 2. Assume presence of wetland vegetation? Yes No; or,
 3. Visually observed rooted emergent vegetation growing in flooded, ponded and/or saturated soils: Yes No
 4. Taxonomic Reference(s): Jepson, 1993 not currently

HYDROLOGY

Recorded Data (Attached): Stream, Lake, or Tide Gauge _____ Aerial Photographs: Dates: _____ Other _____ a. _____ b. _____ c. _____ Comment: <input checked="" type="checkbox"/> No Recorded Data Found	Corps Wetland Hydrology Indicators within upper 12" of soil profile: Corps Primary Indicators (current conditions): Inundated: _____ Flooded _____ Ponded _____ Saturated: _____ In Upper 12" of Soil Profile _____ Corps Primary Indicators (Historic conditions): Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands _____ Corps Secondary Indicators (2 or more required; historic conditions): Oxidized Root Channels (Living Roots with Oxidized Rhizospheres) in: _____ Upper 12" of Soil Profile _____ Water-Stained Leaves _____ Local Soil Survey Data _____ <input checked="" type="checkbox"/> FAC-Neutral Test Other, if Necessary (Explain) _____ Comment(s): _____
Current Field Observations with upper 12" of soil profile: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) <u>None</u> Depth to Saturated Soil: _____ (in.) Tidal Influence <input checked="" type="checkbox"/> Non-Tidal Influence	
Comment(s): a. Landscape Position "Drains" _____ b. Landscape Position "Ponds" _____ c. <input checked="" type="checkbox"/> Landscape Position "Saturates" <u>previous visits</u>	

Observations and Remarks:
 1. Filamentous or sheet forming algae present? Yes No
 2. Matted vegetation Yes No
 3. Surface Sediment with Bedding Planes Yes No
 4. Encrusted detritus Yes No
 5. Slope: 0-2%: or > 2%
 6. Oxidized rhizospheres: new roots only: _____ old roots only: _____ new and old roots, or none
 7. Flooding: none, flooding not probable; _____ rare, unlikely but possible under unusual weather conditions; _____ occasional, occurs on an average of once or less in 2 years, or _____ frequent, occurs on an average of more than once in 2 years.
 8. Continuous flooding duration: None; _____ very brief, if < 2 days; _____ brief, if < 5% growing season (GS); _____ long, if ≥ 5% to 12.5% GS; or _____ very long, if > 12.5% GS
 9. Ponding? Yes No
 10. Continuous ponding duration: None; _____ very brief, if < 2 days; _____ brief, < 5% growing season (GS); _____ long, if ≥ 5% to 12.5% GS or; _____ very long, if > 12.5% GS
 11. Saturation? Yes No not currently
 12. Continuous duration of Saturation: _____ None; _____ very brief, if < 2 days; _____ brief, < 5% growing season (GS); long, if ≥ 5% to 12.5% GS; or _____ very long, if > 12.5% GS

Comment(s): Found to be saturated during previous visits.

SOILS

Map Unit Name (Series and Phase): <u>Pfe. lo Gravelly loam, 15 to 30%</u>				Drainage Class ¹ : <u>MWD</u>	
Taxonomy (Subgroup):				Permeability ² : <u>MS</u>	
Profile Description (Surface 0" to 12"):				Run off ³ : <u>R</u>	
Field Observations Confirm NRCS Mapping? Yes No N/A					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture ⁴ / Concretions/ Structures
Surface (0) to <u>18"</u>	<u>A</u>	<u>10 YR 3/2</u>	<u>none</u>	<u>—</u>	<u>Sandy Clay</u>
to					
to					

*** only one soil horizon detected.**

Hydric Soil Indicators:

Historic: <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Listed on County Hydric Soils List <input type="checkbox"/> Mottles Present (Redoximorphic features)	<input type="checkbox"/> Concretions (Redoximorphic Feature) <input checked="" type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors (chroma ≤ 2) <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Redoximorphic Feature Along Dead Root Channel (Halo)
---	---

Other: _____

Comment(s): _____

Current: Sulfidic Odor Aquic Moisture Regime (nearly free of dissolved oxygen periodically)
 Reducing Conditions (Environment) Peraquic Moisture Regime (near permanent)
 Conductive to the removal of oxygen & chemical reduction of ions Other _____

Comment(s): _____

Observations and Remarks:

1. Smell: Neutral; Slightly Fresh; Freshly Plowed Field Smell, or Sulfidic Odor
 2. Site has been: Irrigated; Land Leveled; Dutch Drained; Tile Drained; Pumped; Graded to drain via slope
 3. Soils Currently are: Flooded; Ponded; Saturated⁵
 4. Soils: do do not, become continuously flooded or ponded, under normal conditions, for long (≥ 7 to 30 days) to very long durations; (> 30 days) during the growing season; Unknown
 5. Soils: do do not, become continuously saturated, under normal conditions, for 14 days or greater; unknown
 6. Comment(s): _____

WETLAND DETERMINATION

Hydrophytic Vegetation Conditions Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Signature: <u>B. M. S.</u>
Wetland Hydrology Conditions Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Hydric Soils Conditions Currently Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

NOTES:

1 Drainage class: Excessively drained (ED), Somewhat excessively drained (SED), Well drained (WD), Moderately well drained (MWD), Somewhat poorly drained (SPD), Poorly drained (PD), Very poorly drained (VPD), or Variable (V).

2 Permeability: Very slow (VS-less than 0.06 inch), slow (S-0.06 to 0.20 inch), moderately slow (MS-0.2 to 0.6 inch), moderate (M-0.6 to 2.0 inches), moderately rapid (MR-2.0 to 6.0 inches), rapid (R-6.0 to 20 inches), very rapid (VR-more than 20 inches), or Variable (V).

3 Runoff: Very slow (VS) Slow (S), Moderate (M), Rapid (R), or Variable (V).

4 Mottle abundance: Few (F), Common (C), or Many (M).

5 Mottle contrast: Faint (F), Distinct (D), or Prominent (P).

6 Texture: Sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.

7 Structure: Platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), or granular.

8 Reliance on visual observation of flooding, or ponding is required, or the use of indicators other than factors such as soil color, the presence of mottles, or hydric soil classification.

APPENDIX C

SOIL SURVEY OF SANTA CRUZ COUNTY, AUGUST 1980

ese soils are poorly suited to building site development and onsite sewage disposal because of their steep very steep slopes. Capability subclass VIIe(4), nonirrigated; Storie index 20.

—Ben Lomond-Felton complex, 30 to 50 percent slopes. This complex consists mainly of soils in concave areas near drainageways. Elevation ranges from 400 to 2,000 feet but is dominantly less than 2,000 feet. The annual precipitation is about 45 inches, and the annual air temperature is about 56 degrees F. The frost-free season ranges from 220 to 245 days. This complex is about 35 percent Ben Lomond sandy loam and 35 percent Felton sandy loam.

Included with these soils in mapping are areas of Nisene loam, Aptos sandy loam, and Lompico loam. Also included are small areas of Catelli sandy loam, Hecker gravelly sandy loam, and soils that are similar to these Ben Lomond and Felton soils but have slopes of less than 30 percent or more than 50 percent.

Ben Lomond soil is deep and well drained. It formed in residuum derived from sandstone or granitic rock. Typically, the soil is covered by a 2-inch mat of partially decomposed needles and twigs. The surface layer is dark brown, slightly acid and neutral sandy loam about 19 inches thick. The subsoil is brown, medium acid sandy loam about 11 inches thick. The substratum is pale brown, medium acid sandy loam about 16 inches thick. Weathered sandstone is at a depth of 46 inches.

Permeability of the Ben Lomond soil is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water capacity is 4.0 to 7.5 inches. Runoff is rapid, and the hazard of erosion is high.

Felton soil is deep and well drained. It formed in residuum derived from sandstone, shale, schist, or siltstone. Typically, the surface layer is dark grayish brown and brown, slightly acid sandy loam about 11 inches thick. The subsoil is brown and yellowish red, slightly acid and strongly acid sandy clay loam and clay loam about 32 inches thick. The substratum is variegated light brownish gray and light olive brown, strongly acid loam and sandy loam about 20 inches thick. Weathered sandstone is at a depth of 63 inches.

Permeability of the Felton soil is moderately slow. Effective rooting depth is 40 to 72 inches. Available water capacity is 5.5 to 10.0 inches. Runoff is rapid, and the hazard of erosion is high.

These soils are used mainly for timber, recreation, wildlife habitat, and watershed. They are also used for firewood production and as homesites.

This complex is well suited to the production of redwood. It is capable of producing 13,360 cubic feet, or 70,000 board feet (International rule), of merchantable redwood per acre from a fully stocked, even-aged stand of old trees.

This complex provides habitat for band-tailed pigeon, quail, deer, raccoon, coyote, bobcat, rabbit, squirrel, salamander, tree frog, lizard, and snake.

These soils are poorly suited to building site development and onsite sewage disposal because they have steep slopes. Capability subclass VIe(4), nonirrigated; Storie index 32.

115—Ben Lomond-Felton complex, 50 to 75 percent slopes. This complex is dominantly in concave areas near drainageways. Elevation ranges from 400 to 3,000 feet. The mean annual precipitation is about 45 inches, and the mean annual air temperature is about 56 degrees F. The frost-free season ranges from 220 to 245 days.

This complex is about 35 percent Ben Lomond sandy loam and 35 percent Felton sandy loam.

Included with these soils in mapping are areas of Nisene loam, Aptos sandy loam, and Lompico loam. Also included are small areas of Catelli sandy loam, Hecker gravelly sandy loam, and soils that are similar to the Ben Lomond and Felton soils but have slopes of 75 to 90 percent slopes.

The Ben Lomond soil is deep and well drained. It formed in residuum derived from sandstone or granitic rock. Typically, the soil is covered by a 2-inch mat of partially decomposed needles and twigs. The surface layer is dark grayish brown, slightly acid and neutral sandy loam about 19 inches thick. The subsoil is brown, medium acid sandy loam about 11 inches thick. The substratum is pale brown, medium acid sandy loam about 16 inches thick. Weathered sandstone is at a depth of 46 inches.

Permeability of the Ben Lomond soil is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water capacity is 4.0 to 8.5 inches. Runoff is very rapid, and the hazard of erosion is very high.

The Felton soil is deep and well drained. It formed in residuum derived from sandstone, shale, schist, or siltstone. Typically, the surface layer is dark grayish brown and brown, slightly acid sandy loam about 11 inches thick. The subsoil is brown and yellowish red, slightly acid and strongly acid sandy clay loam and clay loam about 32 inches thick. The substratum is variegated light brownish gray and light olive brown, strongly acid loam and sandy loam about 20 inches thick. Weathered sandstone is at a depth of 63 inches.

Permeability of the Felton soil is moderately slow. Effective rooting depth is 40 to 70 inches. Available water capacity is 5.5 to 10.0 inches. Runoff is very rapid, and the hazard of erosion is very high.

These soils are used mainly for timber, recreation, wildlife habitat, and watershed. They are also used for firewood production.

These soils are well suited to the production of redwood and Douglas-fir. From a fully stocked, even-aged stand of 80-year-old trees, the soils are capable of producing about 13,360 cubic feet, or 70,000 board feet (International rule) of merchantable redwood timber. The production of merchantable Douglas-fir timber is slightly lower on these soils.

This complex provides habitat for band-tailed pigeon, jay, hawk, deer, raccoon, coyote, bobcat, rabbit, squirrel, mice, salamander, tree frog, lizard, and snake.

These soils are poorly suited to building site development and onsite waste disposal because of their very steep slopes. Capability subclass VIIe(4), nonirrigated; Storie index 20.

116—Bonnydoon loam, 5 to 30 percent slopes. This shallow, somewhat excessively drained soil is mainly on south-facing side slopes of hills and mountains. It formed in residuum derived from sandstone, mudstone, or shale. Elevation ranges from about 100 to 2,100 feet. Slopes are convex. The mean annual precipitation is about 30 inches, and the mean annual air temperature is about 58 degrees F. The frost-free season ranges from 220 to 245 days.

Typically, the surface layer is grayish brown, slightly acid and medium acid loam about 11 inches thick. Weathered sandstone is at a depth of 11 inches.

Included with this soil in mapping are areas of a soil that is similar to this Bonnydoon soil but is loam and sandy loam and is less than 18 percent clay and areas of a soil that is similar to this Bonnydoon soil but has bedrock at a depth of 20 to 40 inches. Also included are small areas of Elkhorn sandy loam, Aptos loam, warm, Los Osos loam, Tierra sandy loam, Watsonville loam, and soils that are similar to this Bonnydoon soil but have slopes of more than 30 percent.

Permeability of this Bonnydoon soil is moderate. Effective rooting depth is 10 to 20 inches. Available water capacity is 1.5 to 3.5 inches. Runoff is medium or rapid, and the hazard of erosion is moderate to high.

This soil is used for range, but rapid population growth in the county has created a demand for homesites.

The vegetation on this soil should be managed to increase the production of soft chess, purple needlegrass, and clover. If overgrazed, the range deteriorates; the proportion of desirable forage plants decreases, and the proportion of undesirable plants increases. Control of California buckwheat, poison-oak, and coyotebrush improves the condition of the range.

The potential is fair for habitat for deer, rabbit, squirrel, bobcat, coyote, gray fox, quail, dove, meadowlark, hawk, and owl. Small areas of natural brush should be maintained for wildlife habitat.

This soil is severely limited for use as homesites by slope and depth to rock. Only the part of the site necessary for construction should be disturbed. Topsoil should be stockpiled and used to reclaim areas disturbed by cutting and filling. Capability subclass VIIe(4), nonirrigated; Storie index 30.

117—Bonnydoon loam, 30 to 50 percent slopes. This shallow, somewhat excessively drained soil is on hills and mountains. It is mostly on south-facing side slopes. It formed in residuum derived from sandstone, mudstone, or shale. Slopes are convex. Elevation ranges from about 100 to 2,100 feet. The mean annual precipitation is about 30 inches, and the mean annual air temperature is about 58 degrees F. The frost-free season ranges from 220 to 245 days.

Typically, the surface layer is grayish brown, slightly acid and medium acid loam about 11 inches thick. Weathered sandstone is at a depth of 11 inches.

Included with this soil in mapping are areas of a soil that is similar to this Bonnydoon soil but is less than 18 inches deep to bedrock, a soil that is similar but has bedrock at a depth of 20 to 40 inches, and a soil that is similar but is loam and sandy loam and is less than 18 percent clay. Also included are small areas of Aptos loam, warm; Los Osos loam; Tierra sandy loam; Watsonville loam; and soils that are similar to this Bonnydoon soil but have slopes of less than 30 percent or more than 50 percent.

Permeability of this Bonnydoon soil is moderate. Effective rooting depth is 10 to 20 inches. Available water capacity is 1.5 to 3.5 inches. Runoff is rapid, and the hazard of erosion is high.

The soil is used mainly for range, but rapid growth of population in the county has resulted in a demand for homesites.

If this soil is used for range, the native vegetation should be managed to increase the production of chess, purple needlegrass, and clover. If overgrazed, the range deteriorates; the proportion of desirable forage plants decreases, and the proportion of undesirable plants increases. Control of California buckwheat, poison-oak, and coyotebrush improves the condition of the range. Areas treated by burning or by chemical or mechanical methods to remove brush may be susceptible to erosion.

The potential is fair for habitat for deer, rabbit, squirrel, bobcat, coyote, quail, dove, meadowlark, hawk, and owl. Small areas of natural brush cover should be maintained for wildlife habitat.

This soil is severely limited for use as homesites because of slope and depth to rock. Only the part of the site necessary for construction should be disturbed. Topsoil should be stockpiled and used to reclaim areas disturbed by cutting and filling. Capability subclass VIIe(4), nonirrigated; Storie index 13.

118—Bonnydoon-Rock outcrop complex, 50 to 85 percent slopes. This complex is on hills and mountains. Elevation ranges from about 100 to 2,100 feet. The mean annual precipitation is about 30 inches, and the mean annual air temperature is about 58 degrees F. The frost-free season ranges from 220 to 245 days.

This complex is about 45 percent Bonnydoon loam and 20 percent Rock outcrop.

Included with this complex in mapping are areas of a soil that is similar to this Bonnydoon soil but has more than 35 percent rock fragments in the profile and is less than 40 inches deep to bedrock. Also included are small areas of Baywood loamy sand; Aptos loam, warm; Los Osos loam; a soil that is similar to this Bonnydoon soil but has bedrock at a depth of 20 to 40 inches deep to bedrock; a soil that is similar but has less than 18 percent clay and is 20 to 40 inches deep to bedrock; and soils that are similar but have slopes of more than 50 percent or more than 85 percent.

The Bonnydoon soil is shallow and somewhat excessively drained. It formed in residuum derived from sandstone, mudstone, or shale. Typically, the surface layer is grayish brown, slightly acid and medium acid loam about 11 inches thick. It is underlain by weathered sandstone.

If this soil is used for range, the native vegetation should be managed to increase the production of soft chess and wild oats. If the range deteriorates, the proportion of desirable plants decreases and the proportion of undesirable plants increases. Removal of tarweed, thistle, and poison-oak makes this site more suitable for livestock grazing.

The potential is good for habitat for deer, opossum, rabbit, squirrel, bobcat, skunk, coyote, gray fox, band-tailed pigeon, quail, dove, meadowlark, hawk, and owl.

Very rapid growth of population along the coast has resulted in extensive construction of homes on this soil. The moderate shrink-swell potential of the subsoil, moderately slow permeability, and slope are the main limitations to use of this soil as homesites. The moderate shrink-swell potential of the subsoil should be considered in designing building pads, roads, or other structures. Because of the moderately slow permeability, problems can arise with septic tank absorption fields. Borings to a depth of 20 to 30 feet have located sand strata. Onsite investigations should be made to confirm the presence of sand strata before construction is started. Community sewage systems should be used where the density of the population is medium to high. To control erosion, only the part of the site necessary for construction should be disturbed. Topsoil should be stockpiled and used to reclaim areas disturbed by cutting and filling. Capability units IVE-1(14), irrigated, and IIIe-1(14), nonirrigated; Storie index 59.

135—Elkhorn sandy loam, 15 to 30 percent slopes. This very deep, well drained soil is on old alluvial fans and marine terraces. Elevation ranges from about 20 to 800 feet. The mean annual precipitation is about 28 inches, and the mean annual air temperature is about 58 degrees F. The frost-free season ranges from 245 to 275 days.

Typically, the surface layer is very dark grayish brown and brown, slightly acid and medium acid sandy loam about 21 inches thick. The subsoil to a depth of 61 inches is pale brown and variegated light gray and very pale brown, neutral sandy clay loam. In cultivated areas, much of the surface layer has been removed by sheet and rill erosion.

Included with this soil in mapping are areas of Pfeiffer sandy loam, Baywood loamy sand, Tierra sandy loam, and Watsonville loam. Also included are small areas of soils that are similar to this Elkhorn soil but have slopes of less than 15 percent or more than 30 percent.

Permeability of the Elkhorn soil is moderately slow. Effective rooting depth is 60 inches or more. Available water capacity ranges from 8.5 to 10.0 inches. Runoff is rapid, and the hazard of erosion is high.

About one-half the acreage of this soil is cultivated. The main crop is apples, but some strawberries and bushberries are grown. Areas where slopes are more than 20 percent are best suited to pasture or rangeland.

This soil generally is suited to the production of apples and strawberries. Use of diversions, contour farming, and

grade stabilization help to control erosion. Use of nitrogen and phosphate fertilizer and careful use of crop residue help to maintain fertility and organic matter content. Sprinkler irrigation is suitable for apples, and sprinkler irrigation combined with a level furrow system is suitable for strawberries.

High production of irrigated pasture requires the use of a rotation grazing system supplemented by proper use of water and fertilizer.

If this soil is used as rangeland, the native vegetation should be managed to increase the production of soft chess and wild oats. If the condition of the range deteriorates because of overgrazing, the proportion of desirable plants decreases and the proportion of undesirable plants increases. Control of tarweed, thistle, and poison-oak improves the range forage and improves the value of the soil for hydrologic, wildlife habitat, and recreational uses. Areas where brush is managed by prescribed burning or mechanical methods may be susceptible to soil erosion. Poor distribution of grazing on those slopes may require the application of a number of range practices to obtain proper use of forage.

The potential is good for habitat for deer, opossum, rabbit, squirrel, bobcat, skunk, coyote, gray fox, band-tailed pigeon, quail, dove, meadowlark, hawk, and owl.

Very rapid growth of population along the coast has resulted in extensive construction of homes on this soil. Slope severely limits the use of this soil as homesites. The soil is limited for use as septic tank absorption fields by excessive slope and moderately slow permeability. Borings to a depth of 20 to 30 feet have located sand strata. Onsite investigations should be made to confirm the presence of sand strata before construction is started. Because of the moderately steep slopes and the high hazard of erosion, community sewage systems are needed where density of the population is medium to high. Only the part of the site used for construction should be disturbed. Topsoil should be stockpiled and used to reclaim areas disturbed by cutting and filling. Capability units VIe-1(14), irrigated, and IVE-1(14), nonirrigated; Storie index 49.

136—Elkhorn-Pfeiffer complex, 30 to 50 percent slopes. This complex is on dissected marine terraces and hills. Elevation ranges from about 100 to 800 feet. The mean annual precipitation is about 28 inches, and the mean annual air temperature is about 58 degrees F. The frost-free season ranges from about 245 to 275 days.

This complex is about 45 percent Elkhorn sandy loam and 25 percent Pfeiffer gravelly sandy loam. Elkhorn soils are on marine terraces. Pfeiffer soils are in deep cuts on marine terraces and hills.

Included with this complex in mapping are areas of Baywood loamy sand, Tierra sandy loam, and Pinto loam. Also included are areas of a soil that is similar to the Pfeiffer soil but is less than 40 inches deep to weathered bedrock, and soils that are similar to the soils in this complex, but have slopes of less than 30 percent.

loam. Also included are small areas of Catelli sandy loam, Maymen stony loam, Zayante coarse sand, and soils that are similar to those in this complex but have slopes of less than 50 percent.

The Nisene soil is deep and well drained. It formed in residuum derived from sandstone or shale. Typically, a 2-inch mat of partially decomposed leaves, needles, and twigs covers the surface. The surface layer is dark grayish brown and yellowish brown, slightly acid clay loam and gravelly loam about 48 inches thick. Weathered, fine-grained sandstone is at a depth of about 58 inches.

Permeability of the Nisene soil is moderate. Effective rooting depth is 40 to 60 inches. Available water capacity is 5.5 to 10.5 inches. Runoff is very rapid, and the hazard of erosion is very high.

The Aptos soil is moderately deep and well drained. It formed in residuum derived from sandstone, siltstone, or shale. Typically, a 1-inch mat of partially decomposed twigs and leaves covers the surface. The surface layer is dark grayish brown and grayish brown, slightly acid and medium acid fine sandy loam about 23 inches thick. The subsoil is brown, very strongly acid clay loam about 6 inches thick. Weathered, fine-grained sandstone is at a depth of about 29 inches.

Permeability of the Aptos soil is moderate. Effective rooting depth is about 20 to 40 inches. Available water capacity is 2.5 to 6.5 inches. Runoff is very rapid, and the hazard of erosion is very high.

These soils are used mainly for timber, recreation, wildlife habitat, and watershed. They are also used for firewood production.

These soils are well suited to the production of Douglas-fir. The Aptos soil is capable of producing 12,800 cubic feet, or 65,800 board feet (International rule), of merchantable timber per acre from a fully stocked, even-aged stand of 80-year-old trees. The Nisene soil is capable of producing 14,990 cubic feet, or 78,000 board feet (International rule), of merchantable timber per acre from a fully stocked, even-aged stand of 80-year-old trees. The Nisene soil produces more timber than the Aptos soil because the Aptos soil has bedrock at a depth of 20 to 40 inches.

This complex provides habitat for band-tailed pigeon, jay, hawk, deer, raccoon, coyote, bobcat, rabbit, squirrel, mice, salamander, tree frog, lizard, and snake.

These soils are poorly suited to use as homesites or for the installation of onsite sewage disposal systems because of their very steep slopes. Capability subclass VIIe(4), nonirrigated; Storie index 20.

159—Pfeiffer gravelly sandy loam, 15 to 30 percent slopes. This deep, well drained soil is on hills and dissected terraces. It formed in material weathered from granitic rock or sandstone or in marine sediment. Elevation ranges from about 100 to 800 feet. The mean annual precipitation is about 30 inches, and the mean annual air temperature is about 58 degrees F. The frost-free season ranges from 245 to 270 days.

Typically, the surface layer is dark grayish brown and brown, slightly acid gravelly sandy loam about 24 inches thick. The subsoil is brown, slightly acid gravelly sandy loam and cobbly sandy loam about 29 inches thick. The substratum is brown, slightly acid gravelly sandy loam about 13 inches thick. Weathered granodiorite is at a depth of 66 inches. In a few areas the surface layer is thinner because of sheet and rill erosion.

Included with this soil in mapping are areas of a soil that is similar to this Pfeiffer soil but is less than 15 percent pebbles, areas of Elkhorn sandy loam, and areas of a soil that is similar to this Pfeiffer soil but is less than 15 percent pebbles and has weathered bedrock at a depth of less than 40 inches. Also included are small areas of Baywood loamy sand, Elder sandy loam, and soils that are similar to those in this complex but have slopes of less than 15 percent or more than 30 percent.

Permeability of this Pfeiffer soil is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water capacity is 3 to 6 inches. Runoff is rapid, and the hazard of erosion is high.

This soil is used mostly for range.

If this soil is used for range, the native vegetation should be managed to increase the production of soft chess and purple needlegrass. Continuous overgrazing and other poor management practices create a less favorable plant composition and reduce the inherent productivity of the site. Control of undesirable plants, such as bracken-fern, poison-oak, California live oak, and blackberry, improves the range.

The potential is good for habitat for deer, opossum, rabbit, squirrel, bobcat, coyote, gray fox, band-tailed pigeon, quail, meadowlark, dove, and hawk. Small areas of natural brush should be maintained for wildlife food and cover.

Rapid growth of population in the county has resulted in increased construction of homes on this soil. Slope is the main limitation in homesite development. Because of excessive slope, effluent from septic tank filter fields can surface in downslope areas and create a hazard to health. Excessive slope also increases the hazard of erosion. Only the part of the site used for construction should be disturbed. Topsoil should be stockpiled and used to reclaim areas disturbed by cutting and filling. Capability unit IVE-1(15), nonirrigated; Storie index 49.

160—Pfeiffer gravelly sandy loam, 30 to 50 percent slopes. This deep, well drained soil is on hills. It formed in material weathered from granitic rock, sandstone, or marine sediment. Elevation ranges from 100 to 800 feet. The mean annual precipitation is about 30 inches, and the annual air temperature is about 58 degrees F. The frost-free season ranges from 240 to 270 days.

Typically, the surface layer is dark grayish brown and brown, slightly acid gravelly sandy loam about 24 inches thick. The subsoil is brown, slightly acid gravelly sandy loam and cobbly sandy loam about 29 inches thick. The substratum is brown, slightly acid gravelly sandy loam about 13 inches thick. Weathered granodiorite is at a

Soil Survey Area No.: CA087
 Soil Survey Name: SANTA CRUZ COUNTY, CALIFORNIA

March 27, 1992

Map Symbol	Map Unit Name (C) Component (I) Inclusion	Hyd?	Hydric Criteria	Hydric Landforms	FSA Items	Foot-notes
108	BAYWOOD VARIANT LOAMY SAND (C) BAYWOOD VARIANT	N				
109	BEACHES (C) BEACHES	Y	2B1,4	Beach	4,5	
110	BEN LOMOND SANDY LOAM, 5 TO 15 PERCENT SLOPES (C) BEN LOMOND	N				
111	BEN LOMOND SANDY LOAM, 15 TO 50 PERCENT SLOPES (C) BEN LOMOND	N				
112	BEN LOMOND SANDY LOAM, 50 TO 75 PERCENT SLOPES (C) BEN LOMOND	N				
113	BEN LOMOND-CATELLI-SUR COMPLEX, 30 TO 75 PERCENT SLOPES (C) BEN LOMOND (C) CATELLI (C) SUR	N N N				
114	BEN LOMOND-FELTON COMPLEX, 30 TO 50 PERCENT SLOPES (C) BEN LOMOND (C) FELTON	N N				
115	BEN LOMOND-FELTON COMPLEX, 50 TO 75 PERCENT SLOPES (C) BEN LOMOND (C) FELTON	N N				

March 27, 1992

Soil Survey Area No.: CA087

Soil Survey Name: SANTA CRUZ COUNTY, CALIFORNIA

Map Symbol	Map Unit Name (C) Component (I) Inclusion	Hyd? Hyd?	Hydric Cri- teria	Hydric Landforms	FSA Items	Foot- notes
133	ELKHORN SANDY LOAM, 2 TO 9 PERCENT SLOPES (C) ELKHORN	N				
134	ELKHORN SANDY LOAM, 9 TO 15 PERCENT SLOPES (C) ELKHORN (I) WATSONVILLE	N Y	283	Marine Terrace	1,5	1
135	ELKHORN SANDY LOAM, 15 TO 30 PERCENT SLOPES (C) ELKHORN (I) WATSONVILLE	N Y	283	Marine Terrace	1,5	1
136	ELKHORN-PFEIFFER COMPLEX, 30 TO 50 PERCENT SLOPES (C) ELKHORN (C) PFEIFFER	N N				
137	FAGAN LOAM, 30 TO 50 PERCENT SLOPES (C) FAGAN	N				
138	FELTON SANDY LOAM, 5 TO 9 PERCENT SLOPES (C) FELTON	N				
139	FLUVAQUENTIC HAPLOXEROLLS-AQUIC XEROFLUVENTS COMPLEX, 0 TO 15 PERCENT SLOPES (C) AQUIC XEROFLUVENTS (C) FLUVAQUENTIC HAPLOXE	N Y	4	Flood Plain	4,5	1
140	HECKER GRAVELLY SANDY LOAM, 30 TO 50 PERCENT SLOPES (C) HECKER	N				

APPENDIX D

TABLES

Table D-1 Plant and Wildlife species observed within the Proposed Gateway South Office Building and Fire Station Project Area.

Plants

Scientific Name	Common Name
<i>Coniferophyta Pinaceae</i>	
<i>Pinus ponderosa</i>	Ponderosa pine
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Taxodiaceae</i>	
<i>Sequoia sempervirens</i>	Coastal redwood
<i>Dryopteridaceae</i>	
<i>Polystichum munitum</i>	Western swordfern
<i>Anthrophyta Dicotyledonae</i>	
<i>Anacardiaceae</i>	
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Apiaceae</i>	
<i>Sanicula bipinnatifida</i>	Purple sanicle
<i>Asteraceae</i>	
<i>Achillea millefolium</i>	Yarrow
<i>Baccharis pilularis</i>	Coyote brush
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cynara cardunculus</i>	Artichoke thistle
<i>Brassicaceae</i>	
<i>Brassica nigra</i>	Black mustard
<i>Raphanus sativus</i>	Wild radish
<i>Caryophyllaceae</i>	
<i>Silene gallica</i>	Windmill pink
<i>Cucurbitaceae</i>	
<i>Marah sp.</i>	Manroot
<i>Ericaceae</i>	
<i>Arbutus menziesii</i>	Pacific madrone
<i>Fabaceae</i>	
<i>Acacia sp.</i>	Acacia
<i>Genista monspessulana</i>	French broom
<i>Lupinus bicolor</i>	Miniature lupine

Table D-1 Plant and Wildlife species observed within the Proposed Gateway South Office Building and Fire Station Project Area (Continued).

<i>Medicago polymorpha</i>	California burclover
<i>Trifolium fragiferum</i>	Strawberry clover
<i>Trifolium incarnatum</i>	Crimson clover
<i>Trifolium wormskioldii</i>	Coast clover
<i>Vicia sativa</i>	Vetch
Fagaceae	
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak
Geraniaceae	
<i>Geranium dissectum</i>	Cut-leaved geranium
Lamiaceae	
<i>Stachys bullata</i>	California hedgenettle
Lauraceae	
<i>Umbellularia californica</i>	California bay
Lythraceae	
<i>Lythrum hyssopifolium</i>	Loosestrife
Papaveraceae	
<i>Eschscholzia californica</i>	California poppy
Plantaginaceae	
<i>Plantago lanceolata</i>	English plantain
Polygonaceae	
<i>Rumex acetosella</i>	Sheep sorrel
<i>Rumex conglomeratus</i>	Dock
<i>Rumex crispus</i>	Curly dock
Portulacaceae	
<i>Montia fontana</i>	Fountain miners-lettuce
Primulaceae	
<i>Anagallis arvensis</i>	Scarlet pimpernel
Rubiaceae	
<i>Galium</i> sp.	Bedstraw
Scrophulariaceae	
<i>Castilleja exserta</i> ssp. <i>exserta</i>	Purple owl's-clover

Table D-1 Plant and Wildlife species observed within the Proposed Gateway South Office Building and Fire Station Project Area (Continued).

Monocotyledonae

Cyperaceae

<i>Carex comosa</i>	Bristly sedge
<i>Carex densa</i>	Dense sedge
<i>Cyperus</i> sp.	Nutsedge
<i>Carex unilateral</i>	

Juncaceae

<i>Juncus bufonius</i>	Toad rush
<i>Juncus phaeocephalus</i>	Brown-headed rush

Liliaceae

<i>Allium unifolium</i>	One-leaved onion
<i>Chlorogalum. pomeridianum</i>	Common soap plant
<i>Kniphofia uvaria</i>	Red-hot poker

Poaceae

<i>Aira caryophyllea</i>	Silver European hairgrass
<i>Avena barbata</i>	Slender oat
<i>Briza maxima</i>	Rattlesnake grass
<i>Briza minor</i>	Little quaking grass
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft brome
<i>Cynodon dactylon</i>	Bermuda grass
<i>Danthonia californica</i>	Oatgrass
<i>Hordeum brachyantherum</i>	Meadow barley
<i>Hordeum marinum</i> var.	Mediterranean barley
<i>gussoneanum</i>	
<i>Lolium multiflorum</i>	Italian ryegrass
<i>Lolium perenne</i>	Perennial rye grass
<i>Melica californica</i>	California oniongrass
<i>Nassella pulchra</i>	Purple needlegrass
<i>Poa secunda</i>	Bluegrass

Animals

Scientific Name	Common Name
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird
<i>Callipela californica</i>	California quail
<i>Coluber constrictor</i>	Racer

**Table D-1 Plant and Wildlife species observed within the Proposed Gateway
South Office Building and Fire Station Project Area (Continued).**

<i>Gerrhonotus multicarinatus</i>	Southern Alligator Lizard
<i>Hirundo rustica</i>	Barn Swallow
<i>Lepus californicus</i>	Black-tailed Jackrabbit
<i>Odocoileus hemionus</i>	Black-tailed Deer
<i>Sturnus vulgaris</i> *	European Starling
<i>Zenaida macroura</i>	Mourning Dove
<i>Zonotrichia atricapilla</i>	White-crowned Sparrow

* Denotes non-native wildlife species.

APPENDIX E

PHOTOS



Photo 1. Mixed coniferous forest located on the upper slopes of the Gateway South Office Building Site.

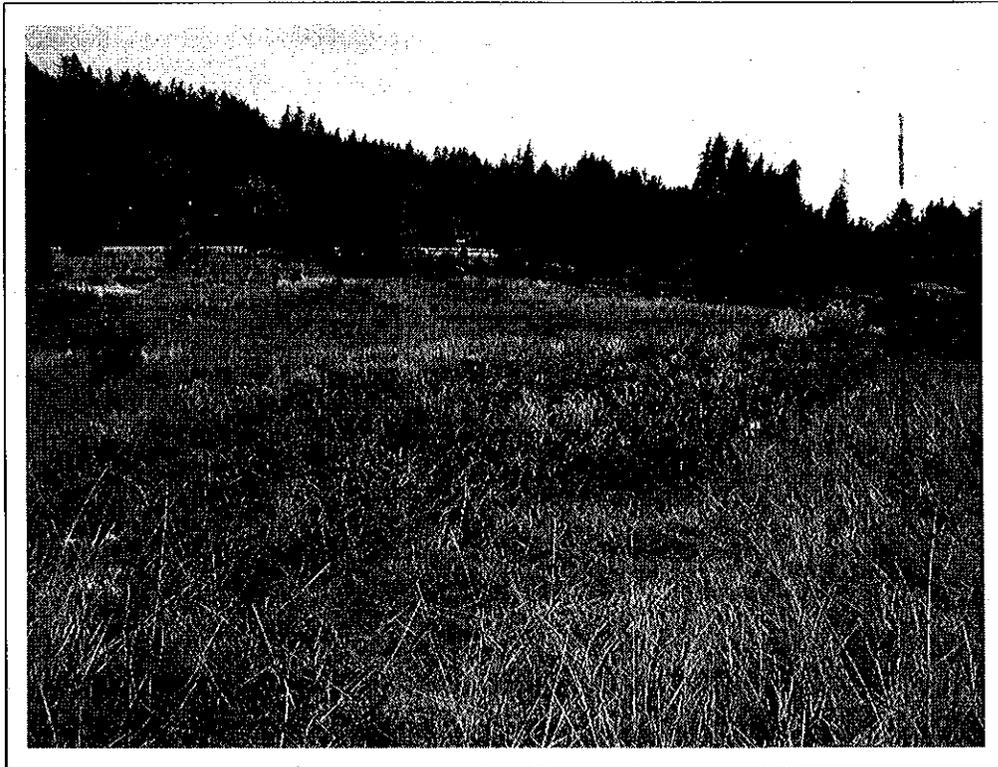


Photo 2. View of seasonal wetland looking southeast towards La Madrona Road. This seasonal wetland is the location of data point 3.

APPENDIX D

Tree Survey Technical Report

Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066



353 Sacramento Street, Suite 1000
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July 2002

**Tree Survey of the Proposed Gateway South Office Building
and Fire Station Project Area, City of Scotts Valley, Santa
Cruz County, California.**

Prepared for:

The City of Scotts Valley

January 2004

EIP
ASSOCIATES

**Tree Survey of the Proposed Gateway South Office Building
and Fire Station Project Area, City of Scotts Valley, Santa
Cruz County, California.**

Prepared for:

The City of Scotts Valley

January 2004

Prepared by:

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1.0 Summary of Findings and Recommendations

Developers propose to construct an office building and fire station within the City of Scotts Valley, Santa Cruz County, California. EIP Associates was contracted to conduct a survey and prepare this report on sensitive tree species that may occur within the proposed project area. The purpose of this survey was to determine the presence of any heritage or protected trees as defined by the City of Scotts Valley Tree Protection Ordinance 17.44.080. Most of the proposed project "footprint" area is limited to the grassy lower slopes of the site. Potential impacts are limited to protected trees on the Gateway South Office Building Site. These impacts can be reduced to a *less-than-significant* level through avoidance or obtaining a permit for removal and developing a mitigation plan to offset any potential losses of protected trees.

2.0 Project Description

The City of Scotts Valley requires the preparation of environmental documentation for the Gateway South Office Building and Fire Station project. The proposed office project would be approximately 136,000 square feet on two levels with about 550 parking spaces, an entry court and trellis feature at the front of the building, and two employee plazas toward the rear of the building. Two access driveways would be located on La Madrona Drive. The flatter portions of the grassy site closest to La Madrona Drive would be developed, while the more wooded upper slopes would remain undeveloped. Approximately 60% of the site would be developed, with the remaining 40% of the site left as open space.

The Fire Station project would be located to the east of the office development on a 1.5-acre site known as the "teardrop" parcel on the opposite side of La Madrona Drive. This site would be dedicated by the developer to the Scotts Valley Fire District for eventual development as a fire station. Although designs for this project have not been finalized, the project would be approximately 12,000 square feet in size with parking for about 23 vehicles.

3.0 Field Survey Methods

EIP botanist Ellen Piazza conducted a reconnaissance level tree survey on May 21, 2002. The weather on May 21st was partly cloudy, with temperatures in the low 60's (Fahrenheit), and winds less than 5 miles per hour. The surveys were conducted on foot with binoculars. Sensitive and native resources were mapped using field maps and a handheld Garmin global positioning (GPS) unit. A list of wildlife and plant species observed within the study area was prepared and included in Table 1, Appendix C.

4.0 Setting

For the purposes of this report the Gateway South study area has been divided into two sub-sections: Gateway South Office Building Site, and the Fire Station Site (Appendix A, Figure 1). The following is a discussion of the tree resources located within the two sites.

4.1 Gateway South Office Building Site

The proposed site for the Gateway South Office Building project is located on a 17.6-acre parcel to the west of La Madrona Drive southwest of the Mount Hermon Road/Highway 17 exit in the City of Scotts Valley, Santa Cruz County, California (Appendix A, Figure 1). This parcel

contains three vegetation series, annual grasslands, mixed forest, and freshwater seeps. Adjacent land uses include, undeveloped/open space, roadways, residential, and hotel. The forested portions of the site are described below.

Within the project area, the mixed forest habitat type is found almost exclusively on slopes greater than 40 percent (Appendix A, Figure 2 and Appendix B, Photo 1), with the exception of two large coast live oaks (*Quercus agrifolia* var. *agrifolia*.) and a stand of coastal redwoods (*Sequoia sempervirens pterophyta*) (Appendix B, Photo 2). The mixed forest habitat located on the site consists of dense stands of: coast live oak (*Quercus agrifolia* var. *agrifolia*), coastal redwood (*Sequoia sempervirens pterophyta*), ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), and California bay (*Umbellularia californica*). The vegetative ground cover within the areas of mixed forest includes poison oak (*Toxicodendron diversilobum*), and fountain miners-lettuce (*Montia Fontana*).

4.2 Fire Station Site

The Fire Station would be located to the east of the office development on a 1.5-acre site known as the "teardrop" parcel on the opposite side of La Madrona Drive. (Appendix A, Figure 1). This parcel is a narrow graded portion of land that lies between La Madrona and Highway 17. Adjacent land uses include, undeveloped, freeway, residential, and hotel.

The vegetation of this segment consists almost entirely of annual grasslands dominated by non-native invasive species. Dominant plant species observed in the highly altered area include, French broom (*Genista monspessulana*), Bermuda grass (*Cynodon dactylon*), native coyote bush (*Baccharis pilularis*), and wild radish (*Raphanus sativus*). No heritage or protected trees were observed on this parcel.

5.0 Regulatory Setting

The City of Scott's Valley (City) has adopted tree protection regulations¹. These regulations define which trees within the city limits are designated as heritage or protected trees. The City's heritage tree inventory lists no heritage trees on the project sites. However, there are several trees on the Gateway South Office Building Site meeting the requirements of a protected tree. A protected tree is defined as any tree:

- having a main stem or trunk which measures twenty-five inches or greater in circumferences measured forty-eight inches about natural grade, located in a hillside residential zone where the slope of the area within twenty feet of where the tree is located exceeds twenty percent;
- any oak tree having a main stem or trunk which measures twenty-five inches or greater in circumference measured forty-eight inches above natural grade. Any multi-trunk oak with an individual trunk of over twelve inches in circumference measured forty-eight inches above the natural grade; or
- all trees which have a forty-inch or greater circumference of any trunk measured forty-eight inches above the natural grade, or in the case of multi-trunk trees, a total of eighty inches or more of the circumference of all trunks measured forty-eight inches above the

¹ City of Scotts Valley Tree Protection Regulations, 17.44.080, 1994.

natural grade. This provision shall not apply to the following trees: eucalyptus (blue gum), and acacias. It also shall not apply to any bay laurel below and located within the drip line of an established oak tree.

The City's tree protection regulations contain a permitting process for the removal of protected trees. The permit may require onsite replacement for native species at the discretion of the community development director.

6.0 Protected Trees

Within the project area, nearly all trees above the 40% slope line meet the criteria for protected trees (Appendix A, Figure 2)². In addition, there are two large coast live oaks and a cluster of coastal redwoods located in the northwest portion of the parcel, just below the 40% slope line (Appendix B, Photo 2), which meet the criteria for protected trees based on size. These trees exceed forty-inches in circumference.

7.0 Impacts and Mitigation

7.1 Gateway South Office Building Site

The proposed Gateway South Office Building is not expected to result in significant impacts to heritage trees, as the City's Heritage Tree Inventory does not list the occurrence of heritage trees on the project site. In addition, the project is not expected to result in significant impacts to protected trees above the 40% slope line, as this area would remain undeveloped. However, construction of the office-building parking lot in the northwest corner of the site may result in the removal or disturbance of several protected trees. This would be considered a significant impact under the City's tree protection ordinance. The following discusses the potential for impact to protected trees, and recommends mitigation measures to reduce impacts to protected trees to a *less-than-significant level*.

- **Impact GOB-1**- Construction grading for the proposed office-building parking lot may result in the removal or impact to the following trees under the City's tree protection ordinance; two coast live oaks and a cluster of coastal redwoods. (*Potentially Significant*).

Mitigation GOB-1- Revising site plans to avoid protected trees where possible. Construction activities shall not encroach the dripline of these trees plus a buffer of 50-feet. Protective fencing shall be installed prior to construction to protect trees that are to be retained. If removal of these protected trees is unavoidable, the developer shall apply for a removal permit under the City's tree protection ordinance and replace the protected trees with trees of the same number and species. Implementation of these measures would reduce this impact to a *less-than-significant level*.

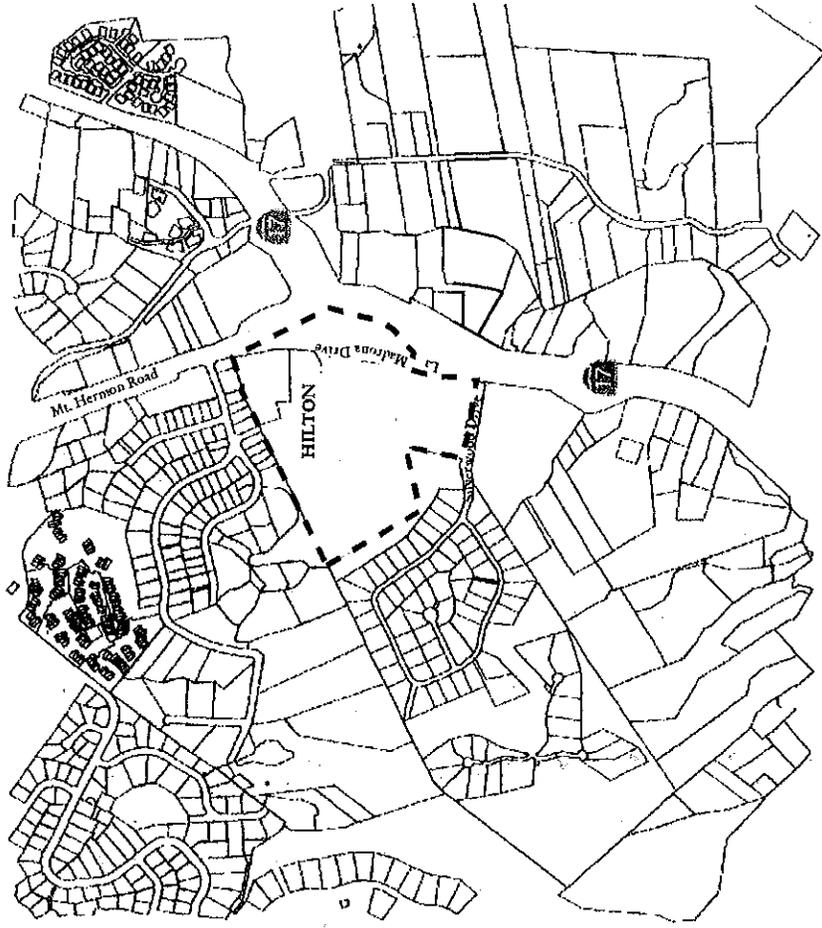
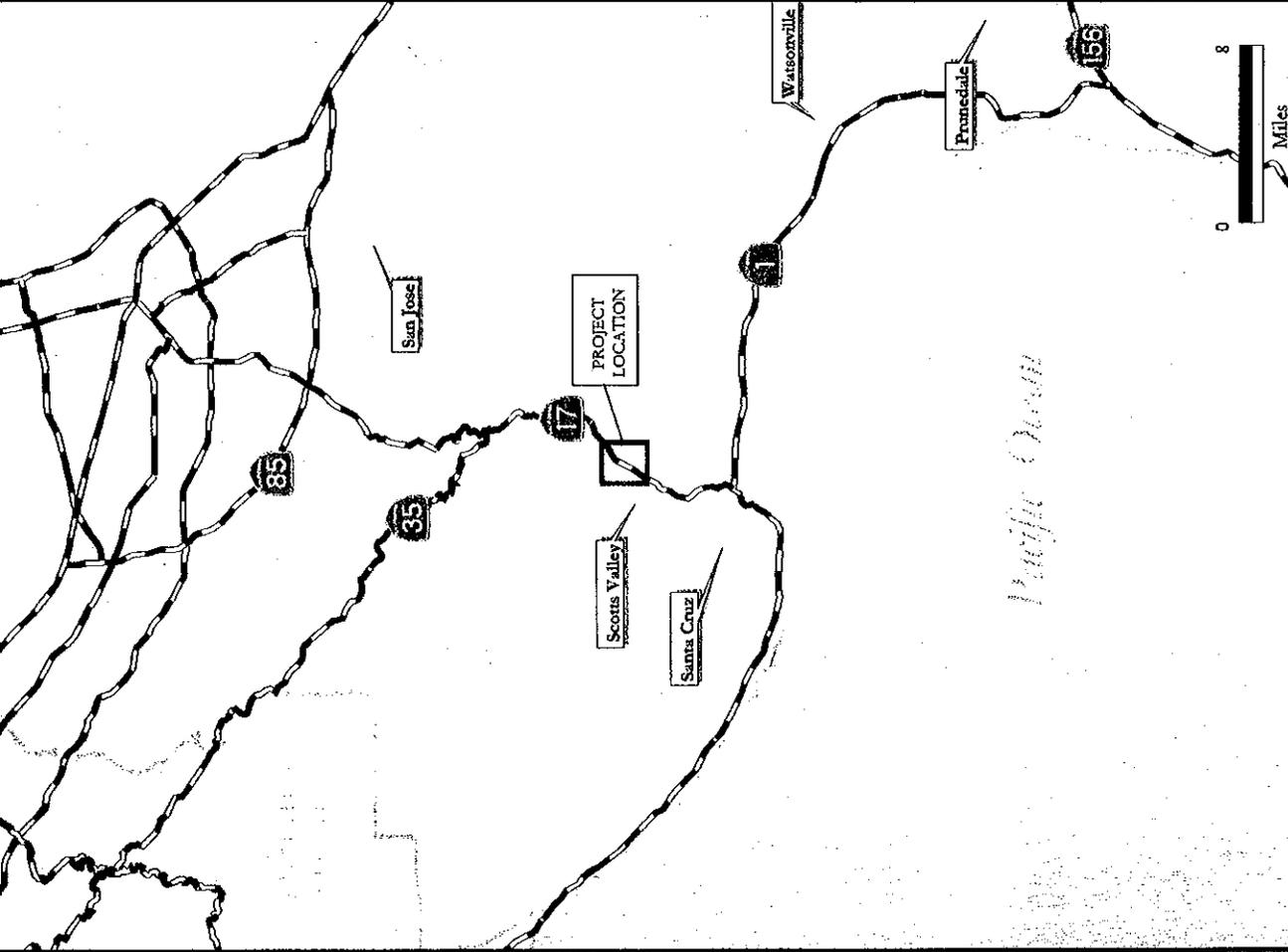
7.2 Fire Station Site

The proposed Fire Station (Teardrop) Site is not expected to result in impacts to any heritage or protected trees.

² Please note, Figure 2, Appendix A should be used as a general guide only. The AutoCAD files provided by DES Architects/Engineers are not geo-referenced. Therefore, the full extent of potential protected tree impacts cannot be determined.

8.0 Appendices

Appendix A
Figures



NOT TO SCALE

FIGURE 1: VICINITY MAP
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

Project Site
 Planning Area



Source: DES Architects/Engineers, Parcels
 September 2001; US Census Bureau, City
 Boundaries, December 2000; ESRI, Major
 Roads, September 1999; and EIP Associates,
 GIS Program, December 2, 2003.

EIP
 ENGINEERS & ARCHITECTS

Appendix B

Photos



Photo 1: Photo looking west with Hotel in background. Note the annual grasslands in the foreground and forest on the hillside above.



Photo 2: One of two large Coast Live Oaks and a cluster of Coastal redwoods that may potentially be impacted by the Gateway South Office Building.

Appendix C Tables

**VASCULAR FLORA RECORDED FROM GATEWAY SOUTH TAXONOMY
FOLLOWS JEPSON (1993)**

Scientific Name	Common Name
Coniferophyta	
Pinaceae	
<i>Pinus ponderosa</i>	Ponderosa pine
<i>Pseudotsuga menziesii</i>	Douglas fir
Taxodiaceae	
<i>Sequoia sempervirens</i>	Coastal redwood
Pterophyta	
Dryopteridaceae	
<i>Polystichum munitum</i>	Western swordfern
Anthrophyta	
Dicotyledonae	
Anacardiaceae	
<i>Toxicodendron diversilobum</i>	Poison oak
Apiaceae	
<i>Sanicula bipinnatifida</i>	Purple sanicle
Asteraceae	
<i>Achillea millefolium</i>	Yarrow
<i>Baccharis pilularis</i>	Coyote brush
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cynara cardunculus</i>	Artichoke thistle
Brassicaceae	
<i>Brassica nigra</i>	Black mustard
<i>Raphanus sativus</i>	Wild radish
Caryophyllaceae	
<i>Silene gallica</i>	Windmill pink
Cucurbitaceae	
<i>Marah</i> sp.	Manroot
Ericaceae	
<i>Arbutus menziesii</i>	Pacific madrone
Fabaceae	
<i>Acacia</i> sp.	Acacia
<i>Genista monspessulana</i>	French broom
<i>Lupinus bicolor</i>	Miniature lupine
<i>Medicago polymorpha</i>	California burclover
<i>Trifolium fragiferum</i>	Strawberry clover
<i>Trifolium incarnatum</i>	Crimson clover
<i>Trifolium wormskioldii</i>	Coast clover
<i>Vicia sativa</i>	Vetch

**VASCULAR FLORA RECORDED FROM GATEWAY SOUTH TAXONOMY
FOLLOWS JEPSON (1993)**

Scientific Name	Common Name
Fagaceae	
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak
Geraniaceae	
<i>Geranium dissectum</i>	Cut-leaved geranium
Lamiaceae	
<i>Stachys bullata</i>	California hedgenettle
Lauraceae	
<i>Umbellularia californica</i>	California bay
Lythraceae	
<i>Lythrum hyssopifolium</i>	Loosestrife
Papaveraceae	
<i>Eschscholzia californica</i>	California poppy
Plantaginaceae	
<i>Plantago lanceolata</i>	English plantain
Polygonaceae	
<i>Rumex acetosella</i>	Sheep sorrel
<i>Rumex conglomeratus</i>	Dock
<i>Rumex crispus</i>	Curly dock
Portulacaceae	
<i>Montia fontana</i>	Fountain miners-lettuce
Primulaceae	
<i>Anagallis arvensis</i>	Scarlet pimpernel
Rubiaceae	
<i>Galium</i> sp.	Bedstraw
Scrophulariaceae	
<i>Castilleja exserta</i> ssp. <i>exserta</i>	Purple owl's-clover
Monocotyledonae	
Cyperaceae	
<i>Carex comosa</i>	Bristly sedge
<i>Carex densa</i>	Dense sedge
<i>Cyperus</i> sp.	Nutsedge
<i>Carex unilateralis</i>	
Juncaceae	
<i>Juncus bufonius</i>	Toad rush
<i>Juncus phaeocephalus</i>	Brown-headed rush
Liliaceae	
<i>Allium unifolium</i>	One-leaved onion

APPENDIX E

Entomological Resources Assessment Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley

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Scotts Valley, CA 95066



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April 2002

**HABITAT ASSESSMENT REPORT ON THE
MOUNT HERMON JUNE BEETLE,
ZAYANTE BAND WINGED GRASSHOPPER,
OHLONE TIGER BEETLE, AND
OPLER'S LONGHORN MOTH AT THE
GATEWAY SOUTH PROJECT SITE
ON LA MADRONA DRIVE IN
SCOTTS VALLEY, CALIFORNIA**

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**Report Date:
April 2002**

INTRODUCTION

An office building, restaurant, and fire station have been proposed to be built on two adjacent parcels, which collectively measure slightly more than 19 acres and are located along La Madrona Drive in Scotts Valley (Santa Cruz County), CA. Four federally-listed, proposed, or range-limited insects are known to occur in Scotts Valley and surrounding areas of Santa Cruz County, including:

- a) Mount Hermon June beetle, *Polyphylla barbata* (Coleoptera: Scarabaeidae);
 - b) Zayante Band Winged grasshopper, *Trimerotropis infantilis* (Orthoptera: Acrididae);
 - c) Ohlone Tiger beetle, *Cicindela ohlone* (Coleoptera: Cicindelidae); and
 - d) Opler's Longhorn moth, *Adela oplerella* (Lepidoptera: Incurvariidae).
- Both beetles and the grasshopper are recognized as endangered species by the U.S. Fish & Wildlife Service (USFWS), while the moth is a federal species of special concern.

Because of the proximity to the project site to locations known to support these insects, a habitat assessment for all four insects was conducted in March 2002 and the results of this survey are described in this report. In addition, pertinent background information on each species is provided.

PROJECT SITE DESCRIPTION

The project site consists of two neighboring parcels that are bisected by La Madrona Drive:

- a) a 17.65-acre, irregularly shaped parcel, located on the northwest corner of the intersection of Silverwood Drive and La Madrona Drive; and
- b) a 1.5-acre, triangular-shaped parcel that lies between Highway 17 and La Madrona Drive.

The lower portion of the larger parcel is roughly rectangular, with a buildable area of about 10.8 acres. The upper portion, approximately 6.85 acres, is relatively steep and heavily wooded. It is not proposed for development. Vegetation in the buildable portion of the site consists primarily of a mixture of non-native and native grassland species, plus scattered shrubs and trees. Vegetation in the upper, non-buildable portion of the larger parcel is a mixed coniferous forest. The smaller parcel has been disturbed by prior land uses and supports a mixture of annual grassland and shrubs.

Soils at both parcels consist of Pfeiffer gravelly sandy loam in the grassland-dominated areas and Ben Lomond-Felton complex in the coniferous forest (Bowman *et al.* 1980). A soils report (Treadwell & Rollo 2001) indicates that the colluvial layer on the larger parcel is approximately 2.5 to 7.5 feet deep and is underlain by Santa Margarita sandstone. The smaller parcel served as a stockpile area during construction of a nearby residential development, so the surface soil conditions are more variable. The smaller parcel is also underlain by Santa Margarita sandstone.

BACKGROUND INFORMATION

This section summarizes pertinent information on the distribution, habitat, biology, and conservation of the four sensitive insects.

Mount Hermon June Beetle and Zayante Band Winged Grasshopper.

Both of these insects were recognized as endangered species by USFWS in 1997 (U.S. Fish & Wildlife Service 1997). They are known only from the greater Scotts Valley – Felton – Ben Lomond area in Santa Cruz County. This portion of the county is characterized by the Zayante sand hills, which are old marine deposits of sand. Native vegetation on the Zayante sands includes a mixture of Ponderosa pine forest, maritime chaparral, and grassland with areas of bare or sparsely vegetated sand. This mixture of plant communities has been referred to as sand parkland vegetation.

Within the Zayante sand hills, the June beetle is known from approximately 70 locations while the grasshopper is known from about 12 locations (BUGGY Data Base 2002). Ponderosa pines grow at all known locations of the June beetle, and for this reason it is a suspected larval food plant. The larval stage of the beetle is fossorial, meaning that it burrows in the ground, where it feeds on roots. At a nearby project site, I observed larvae in association with roots of Ponderosa pine (Arnold, personal observation). As the common name suggests, adult activity begins in mid-June and continues through early August. Adults are active at dusk.

The grasshopper is also associated with sand parkland vegetation, but prefers areas where the tree cover is limited and the understory vegetation is characterized by grasses and forbs. The primary habitat requirement of the grasshopper is barren or sparsely vegetated ground that receives sunlight at ground level. Adult grasshoppers have been observed between July and early November.

Additional information on both of these species can be found in the final ruling to list them (U.S. Fish & Wildlife Service 1997) and their recovery plan (U.S. Fish & Wildlife Service 1998a).

Oholone Tiger Beetle.

The Oholone Tiger beetle (OTB) was described in 1993 by Freitag, Kavanaugh, and Morgan (1993). Their description of this new species was based on specimens collected from three sites in west central Santa Cruz County between 1987 and 1992. Subsequently, the beetle has been found at the Vine Hill Elementary School in Scotts Valley, Pogonip Park next to the UC Santa Cruz campus, and the Kinzli property, located at the south end of Meder Street in Santa Cruz.

This species appears to be restricted to coastal terrace situations, at low to mid-elevations (less than 1,200 feet), located between the crest of the Santa Cruz Mountains and the Pacific Ocean. On these terraces *Cicindela oholone* inhabits areas characterized by remnant stands of native grassland. California oatgrass (*Danthonia californica*) and Purple needlegrass (*Stipa pulchra*) are two native grasses known to occur at all six sites.

Within these grasslands, the beetle has been observed primarily on level ground, where the vegetation is sparse or bare ground is prevalent.

The soil type, as mapped by the Soil Conservation Service (Bowman, et al. 1980), at all six locations known to support the tiger beetle is Watsonville loam, which consists of shallow, poorly drained clay or sandy-clay soils that have accumulated over a layer of bedrock. This soil type has also been referred to as Santa Cruz Mudstone (Freitag, Kavanaugh, and Morgan 1993). Because the larvae and to a lesser degree, the adults of all tiger beetle species live much of their lives in earthen burrows, every species is usually associated with a specific soil type.

The diurnally active adults and larvae of *C. ohlone* are associated with sunny areas of bare or sparsely vegetated ground. Both adults and larvae are voracious predators. Collection records indicate that most adult *C. ohlone* are active from late January through early May (BUGGY Data Base 2001).

The U.S. Fish & Wildlife Service (2001) recently recognized the OTB as an endangered species. Additional information on the OTB is presented in this rulemaking.

Opler's Longhorn Moth.

Adelids are small, brightly colored, day-flying moths with exceptionally long antennae, hence their common name of Longhorn moths. They have been treated both as a family, the Adelidae, and as a subfamily (the Adelinae) of the Incurvariidae. These and other small moths are often referred to as microlepidoptera because of their small size.

Adela oplerella is a small, dark bronze colored moth with antennae only slightly longer than the forewing in the male and shorter than the forewing in the female. Males are approximately 10 mm. in size (i.e., wingspan), while females are slightly larger at approximately 12 mm. The color and maculation pattern of the wings and features of the head appendages and abdominal sclerites are primary characteristics used to distinguish *A. oplerella* from related species (Powell 1969).

This microlepidopteran is known primarily from various localities in Marin, San Francisco, and Santa Clara counties. The population behind the Vine Hill School in Scotts Valley was only recently discovered (U.S. Fish & Wildlife Service 1998b).

Opler's Longhorn moth is known primarily from serpentine grasslands throughout most of its geographic range (U.S. Fish & wildlife Service 1998b). Adult moths are usually found in association with *Platystemon californicus* (Papaveraceae), its presumed larval foodplant (Powell 1969). However, this plant is not strictly limited to serpentine grasslands. Indeed, it grows at locations, such as the Vine Hill School site, where no serpentine is present.

Little specific information is available about the biology and life history of this species. Indeed, none of the 11 Nearctic species of *Adela* have been reared. Information on the biologies of Nearctic species is inferred from information gained from rearing

related European species (Powell 1969).

Larvae of *Adela oplerella* are presumed to feed on *Platystemon californicus* because females have been observed ovipositing on the flowers. Young larvae probably consume the contents of developing seed capsules and then descend to the ground. There they construct a case, in which they feed on the lower or fallen leaves of the same or other plants.

There is only one generation per year. Adults are active in the spring, typically during the flowering period of *Platystemon californicus*, which is early April through mid-May.

The U.S. Fish & Wildlife Service (1991) first recognized *A. oplerella* as a category 2 candidate in response to a petition to recognize the moth as endangered, which was submitted in 1990. Until recently, *A. oplerella* continued to be recognized as a category 2 candidate for endangered or threatened status; however, the U.S. Fish & Wildlife Service (1996) eliminated all category 2 candidates and now considers these taxa, including the moth, to be species of special concern.

SURVEY METHODS

I visited the Gateway South project site on March 28th, 2002, and surveyed the entire project site by hiking throughout it. On this same day, I also briefly visited the Vine Hill School site to confirm that the OTB was active. During my visit to the school site, I observed that *Platystemon californicus*, the presumed food plant of Opler's Longhorn moth, was already in flower. However, I did not see any moths in association with its presumed food plant at the school site.

Even though soils at the project site do not include Watsonville loams, I searched for the OTB and others signs of it, such as adult emergence burrows, larval burrows, and oviposition burrows. Since the OTB is strictly associated with grassland vegetation, I looked for barrens or areas of sparse vegetation, preferably characterized by native bunch grass, that are favored by the OTB, at the project site. Where such areas were found, I then examined the ground for evidence of burrows and adult beetles.

Similarly, since *P. californicus* was observed flowering at the school site, I searched for the moth's food plant at the project site. Although life stages of the Mount Hermon June beetle and Zayante Band Winged grasshopper were not active at the time of my site visit, I focused my survey efforts on identifying features characteristic of suitable habitat for both of these insects, namely loose sandy deposits with sand parkland vegetation.

HABITAT ASSESSMENT RESULTS

Mount Hermon June Beetle and Zayante Band Winged Grasshopper.

Neither sand parkland vegetation or Ponderosa pine forests were observed at the project site. The coniferous woodland at the rear of the larger parcel is dominated by other species of conifers. The closest pines were observed approximately 150 feet from the boundaries of the project site, beyond the gate house at the entrance to the Monte Fiore residential development on Silverwood Drive. Because the pines are growing at a lower elevation than the project site, I doubt that any roots from these trees extend onto the project site. Also, excavation for the roadbed of Silverwood Drive would have previously disturbed the roots of these pines if they extend towards the project site. No areas of loose, sandy soils were observed at either the larger or smaller parcel. All grassland at both parcels is dominated by annuals, which provide nearly complete cover. For these reasons, I did not find any suitable habitat for the Mount Hermon June beetle or Zayante Band Wing grasshopper and would not expect either of these endangered insects to occur at the Gateway South project site.

Ohlone Tiger Beetle.

All known locations of the Ohlone Tiger beetle are characterized by sandy-clay soils known Watsonville loam. Soils in the grassland portions of the project site are Pfeiffer gravelly sandy loams, while those in the coniferous woodland are Ben Lomond-Felton complex (Bowman *et al.* 1980). According to the descriptions provided by Bowman *et al.* 1980, neither of these soil types is known to have inclusions of Watsonville loam. Vegetation at the project site is inappropriate for the OTB. The wooded area does not have any openings with sunlight bare ground and the grassland has nearly complete cover of vegetation. Soil conditions at the smaller parcel exhibit signs of recent disturbance, which would not favor a ground burrowing insect such as the OTB. In addition, since my site visit coincided with the adult activity period, I conducted a search for the beetle at the project site. No life stages of the beetle nor any larval burrows were observed. For these reasons, the Ohlone Tiger beetle is not expected to occur at the Gateway South project site.

Opler's Longhorn Moth.

No specimens of the suspected larval food plant, *Platystemon californicus*, were observed during my survey of the project site. Due to the absence of its presumed larval food plant, the moth is unlikely to occur at the parcel.

RECOMMENDATIONS

Since no suitable habitat was observed at either parcel for the four special-status insects treated in report, I do not anticipate that these insects utilize the Gateway South project site. As no impacts to the insects or their habitat are anticipated, no mitigation actions should be required.

REFERENCES

Bowman, R.H., *et al.* 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 Publication.

BUGGY Data Base. 2002. Report of sensitive insect and invertebrate species and their occurrences in the greater Scotts Valley (Santa Cruz County) area. Data base maintained by Entomological Consulting Services, Ltd., Pleasant Hill, CA.

Freitag, R., D.H. Kavanaugh, and R. Morgan. 1993. A new species of *Cicindela* (*Cicindela*) (Coleoptera: Carabidae: Cicindelini) from remnant native grassland in Santa Cruz County, California. The Coleopterists Bulletin 47:113-120.

Powell, J.A. 1969. A synopsis of nearctic adelid moths, with descriptions of new species (Incurvariidae). Journal of the Lepidopterists' Society 23:211-240.

Treadwell & Rollo. 2001. Geotechnical investigation, Gateway South Development, Scotts Valley, CA. Draft report. 39 pp. & attachments.

U.S. Fish & Wildlife Service. 1991. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species, proposed rule. Federal Register 56:58804-58836.

U.S. Fish & Wildlife Service. 1996. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species, notice of review. Federal Register 61:7596-7613.

U.S. Fish & Wildlife Service. 1997. Endangered and threatened wildlife and plants; determination of endangered status for two insects from the Santa Cruz Mountains of California. Federal Register 62:3616-3628.

U.S. Fish & Wildlife Service. 1998a. Recovery plan for two insects and four plants from the Santa Cruz Mountains. Portland, OR. 63 pp.

U.S. Fish & Wildlife Service. 1998b. Recovery plan for serpentine soil species of the San Francisco Bay area. Portland, OR.

U.S. Fish & Wildlife Service. 2001. Endangered and threatened wildlife and plants; endangered status for the Ohlone Tiger beetle (*Cicindela ohlone*). Federal Register 66: 50340-50349.

APPENDIX F

Hydrology Technical Report

Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley

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January 2004

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INTRODUCTION

This report is a technical support document to a Supplemental Environmental Impact Report (SEIR) for the City of Scotts Valley on a project to allow the construction of the Gateway South Office Building and a fire station for the Scotts Valley Fire District. The project also consists of amending the existing Gateway South Specific Plan to allow an additional 121,000 sq. ft. of construction associated with the proposed Gateway South Office Building and fire station. The purpose of this technical report is to evaluate groundwater, surface water and water quality impacts of the project. This report was prepared based on information contained in the *Gateway South Specific Plan, Final Environmental Impact Report* (June 1995), *Mount Herman Conference Center Draft Environmental Impact Report* (December 1999), *Inn at Scotts Valley Mitigated Negative Declaration* (May 1997) and discussions with the City of Scotts Valley Public Works Director.

SURFACE WATER

Existing Conditions

The project is located in the Carbonera Creek drainage basin, a 7.4 square mile area drained by the perennial, south-flowing Carbonera Creek (Figure 1). Annual rainfall varies between 30 and 42 inches per year, increasing toward the northern (upstream) end of the basin. The vicinity of the project receives average rainfall of approximately 40 inches of rain per year.¹ Runoff from the project site is collected by swales draining directly into Carbonera Creek. According to the Federal Emergency Management Agency² (FEMA), the project site is not in a flood hazard zone. East of the project site, adjacent to Highway 17, an existing storm drain facility collects surface water runoff from the project site and the adjacent Hilton Hotel prior to discharge to the Carbonera Creek.

Carbonera Creek, which drains an area of approximately eight square miles, is the major drainage flowing through the City of Scotts Valley. The watershed is primarily mountainous, with elevations ranging from 30 to 3,200 feet above mean sea level. It is bounded by the Santa Cruz Mountains to the north, the Bean Creek watershed to the west, and the Branciforte Creek watershed to the east. Carbonera Creek flows southwest and discharges to Branciforte Creek in the City of Santa Cruz. Branciforte Creek discharges to the San Lorenzo River approximately one mile downstream from the Carbonera Creek confluence.

The project site is underlain primarily by sedimentary rocks of the Tertiary age (less than 65 million years old) Santa Margarita Sandstone (coarse- to medium-grained, highly permeable sand) overlain by shallow Quaternary (less than 1.5 million years old) alluvium. The Santa Margarita Sandstone and Quaternary alluvium are relatively pervious and are subject to significant infiltration of precipitation. During the reconnaissance of the project site conducted by EIP, outcrops of the Santa Margarita Sandstone were observed at the ground surface in the southwestern portion of the site.

Runoff from the project site generally drains from west to east towards La Madrona Drive. Surface runoff is conveyed over the site via sheetflow and discharges to existing storm drains along La Madrona Drive. Runoff entering the storm drains discharges into an existing storm drain system that is connected directly to Carbonera Creek. No off-site runoff runs through the project site. Older silt fences line a majority of the project site adjacent to the west side of La Madrona Drive and apparently were used to prevent stormwater runoff sedimentation into the existing gutters and storm drains.

GROUNDWATER

Existing Conditions

The water supply for the project site and vicinity is drawn entirely from the Scotts Valley groundwater basin and is produced from two principal groundwater aquifers. These aquifers consist of the Santa Margarita Sandstone (an unconfined aquifer underlying the Scotts Valley area) and the Lompico Sandstone (a semi-confined aquifer separated from the overlying Santa Margarita Sandstone by shales of the Monterey Formation). The Santa Margarita aquifer varies from 0 to approximately 350 feet in thickness and is recharged directly by precipitation and by infiltration along streams. Currently the Santa Margarita Sandstone has limited saturation (on the order of 20 feet with an average formation thickness of approximately 200 feet, or 10% saturation) with several hundred feet of available unsaturated storage space within this highly transmissive aquifer. Flow direction in the saturated section of this aquifer is controlled by the surface of the underlying Monterey Formation. Perched water tables of variable lateral extent may occur within the unsaturated section of this unconfined aquifer, where cemented zones create locally saturated zones.

The Lompico aquifer ranges up to 800 feet in thickness and is recharged by precipitation in its limited outcrops in the northern portion of the groundwater basin and by flows from the overlying geologic units. The Lompico Sandstone is a thickly-bedded, calcareous, arkosic sandstone³, generally considered to be less permeable and a less productive aquifer than the shallower Santa Margarita Sandstone. This aquifer was impacted by accelerated groundwater withdrawals in the Mount Hermon and Scotts Valley areas in the 1990s because of increased water development and declining water levels in some areas of the Santa Margarita aquifer.

Groundwater quality is of major concern in the Scotts Valley groundwater basin, particularly because the principal water producing aquifer is unconfined and directly underlies the most developed portions of the basin. Potentially, any surface or near surface chemical releases have a direct pathway into the public water supply. Four chemical plumes have been identified in the Santa Margarita aquifer. Two of these plumes consist of Trichloroethane (TCE) and a third consists of Chlorobenzene and Dichlorobenzene. The fourth and closest plume to the project site consists of benzene extending northwesterly from the intersection of Scotts Valley Drive and Mt. Hermon Road. This plume has been linked to fuel releases from underground storage tanks at gasoline stations at or near the intersection. Several other sources are suspected or potential sources adding to this plume. Currently, groundwater monitoring and remediation activities are being conducted to mitigate this impact.

IMPACTS AND MITIGATION MEASURES

Potential project-related impacts on hydrological resources include increased surface runoff and soil erosion and impacts to groundwater resources and water quality during construction and occupation of the site. To evaluate potential impacts, background information was collected from topographical maps of the area and reports prepared by the U.S. Geological Survey, the Regional Water Quality Control Board, and the City of Scotts Valley. These data were used to characterize existing land uses on the site, site drainage features, and adjacent stream reach conditions. Impacts of the proposed project were determined by assessing what changes would result in sediment generation, surface drainage, groundwater conditions and potential water quality concerns during construction and operation activities associated with the project. The primary impacts that would be associated with the project are potential declines in water quality during and immediately following the construction period, and increases in surface runoff associated with increases in impermeable surfaces caused by the proposed development.

Standards of Significance

Under the guidelines of the California Environmental Quality Act (CEQA)⁴, hydrology and water quality impacts are considered significant if one or more of the following conditions would result from project construction and/or operation:

- A significant change in rate and amount of surface runoff or change in amount of water in any water body.
- A substantial degradation of water quality.
- The contamination or substantial reduction of a public water supply.
- A substantial degradation or depletion of groundwater resources.
- A substantial interference with groundwater recharge or direction and rate of groundwater flow.
- The location of facilities within a flood-prone area or alterations to the course or flow of floodwater.
- Substantial flooding, erosion or sedimentation.
- The alteration of stream flow characteristics that would result in erosion, sedimentation or flooding downstream.

Evaluation of the significance of the project impacts in relation to these criteria is provided in the following discussion.

Less Than Significant Impacts

The Scotts Valley Water District would serve the project from existing municipal sources. There are no downgradient groundwater uses between the project site and Carbonera Creek. No proposed uses of the site would involve the handling of hazardous materials and/or waste. Based on water use demands calculated by C2G/Civil Consultants Group for the proposed office building project, the project would use an average of approximately 5,477 gallons of water per day.⁵ It is estimated that the proposed fire station would use

another 1,200 gallons per day.⁶ According to the City of Scotts Valley Public Works Director, the City currently has sufficient water available to serve this project.⁷ Therefore, the project would not create a substantial degradation or depletion of groundwater resources.

The implementation of this project would not interfere with groundwater recharge, direction or rate of groundwater flow. Based on the findings of the geotechnical investigation conducted by Treadwell & Rollo⁸, localized areas of perched groundwater are located at the project site. This may be the result of thin beds associated with the Santa Margarita Sandstone less than 20 feet below ground surface of the project site. Groundwater appears to be perched within these thin layers because underlying highly impervious Monterey Formation Shale or other regional bedrock formations prevent further infiltration (recharge). Therefore, the project is located in an area predominantly associated with groundwater discharge as opposed to an area of groundwater recharge.

The project site is not in a flood hazard zone. An engineered drainage plan would be implemented (see *Project Impacts*) so that there would not be a significant alteration to the stream flow characteristics of Carbonera Creek caused by any project-related increase in surface water runoff, erosion or sedimentation; nor would there be a deterioration of water quality from urban runoff (i.e., dirt, oil and grease, and/or other particulate matter washed from the parking area).

Project Impacts

Impact 1. Construction activities for the proposed project could result in short- or long-term increases in erosion and downstream sedimentation.

During the construction period, soils at the construction site would be exposed to the erosive forces of wind and storm runoff to a potentially significant degree. When de-vegetated and excavated, they would be subject to gulying under the influence of moderate to heavy rains, if preventive action were not taken. Grading activities at the construction site could adversely affect downstream water quality through erosion, the transport of sediments and dissolved constituents entering the natural receiving waters and increasing turbidity and contaminant load.

Deposition of eroded soil in Carbonera Creek or other tributary streams would decrease their capacity as drainage facilities. Given the existing slopes in the areas where grading would occur, it would be necessary to control erosion and sedimentation impacts on the project site to prevent downstream damage. The following mitigation measure would reduce the impact of erosion and downstream sedimentation associated with construction to a less-than-significant level.

Mitigation Measure 1.1

- i. To the extent practicable, project excavation and construction shall be scheduled for the dry season (April through September).
- ii. The permit requirements of the RWQCB shall be satisfied prior to granting of a building permit by the City of Scotts Valley. Because the project involves the grading of an area that is greater than five acres it is subject to the conditions of the General Construction Activity NPDES permit from

the RWQCB. This permit requires that the applicant develop a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is required to identify the sources of sediment and other pollutants on-site, and to ensure the reduction of sediment and other pollutants in the stormwater discharged from the site. A monitoring program is required to aid the implementation of, and assure compliance with the SWPPP.

iii. An Erosion and Sedimentation Control Plan shall be submitted to the City of Scotts Valley for the project prior to grading (this may be a portion or subset of the SWPPP). An erosion control professional, or landscape architect, or civil engineer specializing in erosion control shall design the Erosion and Sediment Transport Control Plan. This plan would include, but is not necessarily limited to, the following components:

(1) The Erosion and Sediment Transport Control Plan shall be submitted, reviewed, implemented and inspected as part of the approval process for the grading plan for the project.

(2) The Plan shall be designed by the developer's erosion control consultant, using concepts similar to those formulated by the Scotts Valley Public Works Department, as appropriate, based on the specific erosion and sediment transport control needs of each area in which grading, excavation, and construction is to occur. The possible methods are not necessarily limited to the following items.

- Confine grading and activities related to grading (demolition, excavation, construction, preparation and use of equipment and material storage areas (staging areas), preparation of access roads,) to the dry season, whenever possible.
- Locate staging areas outside major streams and drainage ways.
- Keep the lengths and gradients of constructed slopes (cut or fill) as low as possible.
- Discharge grading and construction runoff into small drainages at frequent intervals to avoid buildup of large potentially erosive flows.
- Prevent runoff from flowing over unprotected slopes.
- Keep disturbed areas (areas of grading and related activities) to the minimum necessary for demolition or construction of the project.
- Keep runoff away from disturbed areas during grading and related activities.
- Stabilize disturbed areas as quickly as possible, either by vegetative or mechanical methods.
- Direct runoff over vegetated areas prior to discharge into public storm drainage systems, whenever possible.
- Trap sediment before it leaves the site with such techniques as check dams, sediment ponds, or siltation fences.
 1. Interceptor ditches, drainage swales, or detention basins shall be used to prevent storm runoff from transporting sediment into local storm drains and drainageways and to prevent sediment-laden runoff from leaving the disturbed area.

2. Replace existing silt fences to prevent sedimentation in adjacent and down gradient areas into drainages. Additional silt fences shall be implemented by the contractor as needed prior to mass grading and other soil disturbing construction activities on-site.
 - Make the contractor responsible for the removal and disposal of all project-related sedimentation in off-site retention ponds.
 - Use landscaping and grading methods that lower the potential for down-stream sedimentation. Modified drainage patterns, longer flow paths, encouraging infiltration into the ground, and slower storm-water conveyance velocities are examples of effective methods.
 - Control landscaping activities carefully with regard to the application of fertilizers, herbicides, pesticides or other hazardous substances. Provide proper instruction to all landscaping personnel on the construction team.
- (3) During the installation of the erosion and sediment transport control structures, the erosion control professional shall be on the site to supervise the implementation of the designs; and the maintenance of the facilities throughout the demolition, grading and construction period.

Impact 2. *Construction of the proposed project would result in an increase in impervious areas and higher levels of surface runoff than was analyzed in the Gateway South Specific Plan EIR, potentially increasing erosion and the flood hazard in downstream drainageways.*

The Gateway South Specific Plan EIR identified that the development of the proposed land uses would cause an increase in impervious surfaces, thus indicating an increase in the amount of surface runoff. As indicated previously, build-out of the project would replace much of the existing undeveloped portions (vegetated and earthen surfaces) of the site with a building and parking areas. The construction and operation of this project would result in a total area of approximately 11.5 acres of impervious surfaces on both project parcels. This is a conservative estimate given that landscaping and irrigated areas would be incorporated into the final site design.

The addition of impermeable surfaces would increase the total amount of surface runoff that currently leaves the area. Approximate calculations of the magnitude of the increase were estimated using the Rational formula. For a 24-hour storm event with a 10-year recurrence interval, the peak flow from the site under existing conditions is 10.3 cubic feet per second (cfs).⁹ A maximum peak of surface runoff of 22.7 cfs would be generated from the site as a result of the increase in impervious area. This increase of 12.4 cfs over existing conditions would primarily affect the storm drainage system that serves the site from La Madrona Drive, where stormwater from the site would be routed and discharged into the existing detention basin.

The development of the proposed project site would be subject to City requirements for the provision of drainage, that storm drainage must be provided such that the depth of storm flow is contained within a street curb height of 4.5 inches or within existing storm drain conduits. The project would be required to connect to the existing storm drainage system in a manner that does not exacerbate existing flooding hazards and/or water quality conditions.

Provided sufficient drainage infrastructure is in place following development, no significant drainage impacts would occur on the project site. However, if unmitigated, the increased volume of runoff could contribute to additional depth or area of flooding along the City's storm drain system making it necessary to modify portions of the drainage channels downstream from the project site.

According to preliminary site plans, two detention facilities would be constructed in the northeastern and southeastern portion of the office building site (Figure 2). Runoff would be channeled to these detention facilities where the water would be metered prior to discharge into the existing storm drains on La Madrona Drive. Runoff from the detention facilities would discharge into the City's existing storm drain system that is in direct connection with Carbonera Creek. The detention system has been sized to attenuate the peak runoff flows of the 10-year/24-hour storm event to level at or below peak flows generated during the 10-year/24-hour storm event for this project.¹⁰ This design, along with the following mitigation measures, would reduce the impact of increased impervious areas and higher levels of surface runoff that potentially could increase erosion and the flood hazard in downstream drainageways to a less-than-significant level.

Preliminary plans for the proposed fire station do not indicate any on-site detention facilities. As runoff impacts from this parcel are unknown, they are considered potentially significant.

Mitigation Measure 2.1

The overall mitigation strategy shall include a project design review focused on the development and inclusion of explicit elements within the final site design to minimize directly connected impervious areas, reduce the proportion of impervious surfaces within the project area, and to allow improved management of stormwater flows generated from the project site.

- i. Incorporate measures into drainage projects (storm drains, conduits, and channel improvements) that maximize infiltration/permeability and trap pollutants and sediment from stormwater runoff.
- ii. Route existing runoff volumes from the site through newly constructed storm drain detention facilities so that the runoff can be metered prior to discharge into the existing storm drain system.
- iii. Verify through consultation with the City of Scotts Valley Public Works Department that there is sufficient capacity within the existing storm drain system to ensure that stormwater generated from the project site would be adequately accommodated by the receiving detention basin located off-site.
- iv. To the extent possible, locate newly planned impervious surfaces to avoid identified wetland and natural recharge areas.
- v. Ensure fire station plans include adequate on-site detention facilities, or ensure that runoff would be directed to the adjacent off-site detention basin to the north, constructed for the Hilton Hotel.

Impact 3. Increased runoff from additional impermeable surfaces could lower the quality of stormwater runoff.

Major contributors of contaminants to runoff in developed areas are the parking lots, streets and gutters and other impervious areas directly connected to streets or storm drains. Between rainstorms materials accumulate on these surfaces in a variety of ways: for example, debris dropped or scattered by individuals;

sidewalk sweepings; debris and other particulate matter washed into streets from yards and other unpaved areas; wastes and dirt from construction, renovation, and demolition; fecal droppings from dogs, birds, and other animals; remnants of household refuse dropped during collection or scattered by animals or wind; dirt, oil, tire, exhaust and other residue contributed by automobiles; and fallout of air-borne particles. Solids tend to build up most rapidly during the first 48 to 72 hours after a major rainfall.

Without mitigation, the accumulation of urban pollutants would be a significant impact because uncontrolled overland flow from paved surfaces and landscaped areas would carry many of the above-listed contaminants, thereby contributing to the deterioration of the quality of storm-water runoff. The eventual result would be the deterioration of water quality in downstream receiving waters. Drainage-ways downstream from the project site, specifically Carbonera Creek, would carry stormwater runoff to San Lorenzo River and eventually to the Pacific Ocean.

Mitigation Measure 3.1

Implement Mitigation Measures 1.1 during construction phase of project and Mitigation Measures 2.1 during operational phase of project. In addition, install easily cleanable sediment catch-basins, debris screens, and grease separators or similar water quality protection devices in the drainage facilities serving the project site (i.e., vegetated swales, buffer strips, detention pond areas). Ensure maintenance of the facilities through in-lieu fees paid to the City, or by other suitable means. Also, label all storm drain inlets to educate the public on the adverse impacts associated with dumping into receiving waters; and require cleaning and/or sweeping of parking areas and adjacent roadways on a monthly basis.

Notes:

- ¹ City of Scotts Valley, *Storm Drainage Master Plan*, City of Scotts Valley Planning Department, 1989.
- ² Federal Emergency Management Agency, *Q3 Flood Data, Disc 1-California*, May 1996.
- ³ Calcareous and arkosic describe the type of sandstone based on mineral content. Calcareous sandstone consist mainly of calcium-rich minerals such as plagioclase, amphibole, and is usually associated with carbonate minerals or rocks such as calcite (limestone) or dolomite. Arkosic sandstone consists mainly of quartz and sodium- and potassium-rich feldspars derived mainly from an alkali-rich granite.
- ⁴ Consulting Engineers and Land Surveyors of California, *2002 California Environmental Quality Act, CEQA Guidelines*, Appendix G, Environmental Checklist Form, Section VIII. Hydrology and Water Quality.
- ⁵ C2G/Civil Consultants Group, *Projected Water Demand, Proposed Gateway Office Park, Scotts Valley, California*, July 2001.
- ⁶ Based on the accepted water consumption ratio for office/public service uses of 100 gallons per day per 1,000 gross square feet.
- ⁷ Telephone conversation with Mr. Ken Anderson, City of Scotts Valley Public Works Director, with Ms. Katie Morange – EIP Associates, May 29th, 2002.
- ⁸ Treadwell & Rollo Environmental and Geotechnical Consultants, *Draft Report, Geotechnical Investigation, Gateway South Development, Scotts Valley, California*, June 29, 2001.

⁹ The Rational Formula, $Q=CIA$
where: C = runoff coefficient of 0.9 for impervious surfaces, and 0.3 for vegetated/open space areas
I = 1.8 inches of precipitation for a 10 year storm of 1 hour duration
A = area, site total of 10 acres
Existing conditions:

$$Q = (0.3)(1.8)(19.1) = 10.3 \text{ cfs}$$

Post-project:

$$Q = (0.9)(1.8)(11.5) + (0.3)(0.96)(7.6) = 22.7 \text{ cfs}$$

¹⁰ Telephone conversation with Mr. Ken Anderson, City of Scotts Valley Public Works Director, with Mr. Cliff Nale - EIP Associates, July 3, 2002, regarding size of proposed on-site detention facilities.

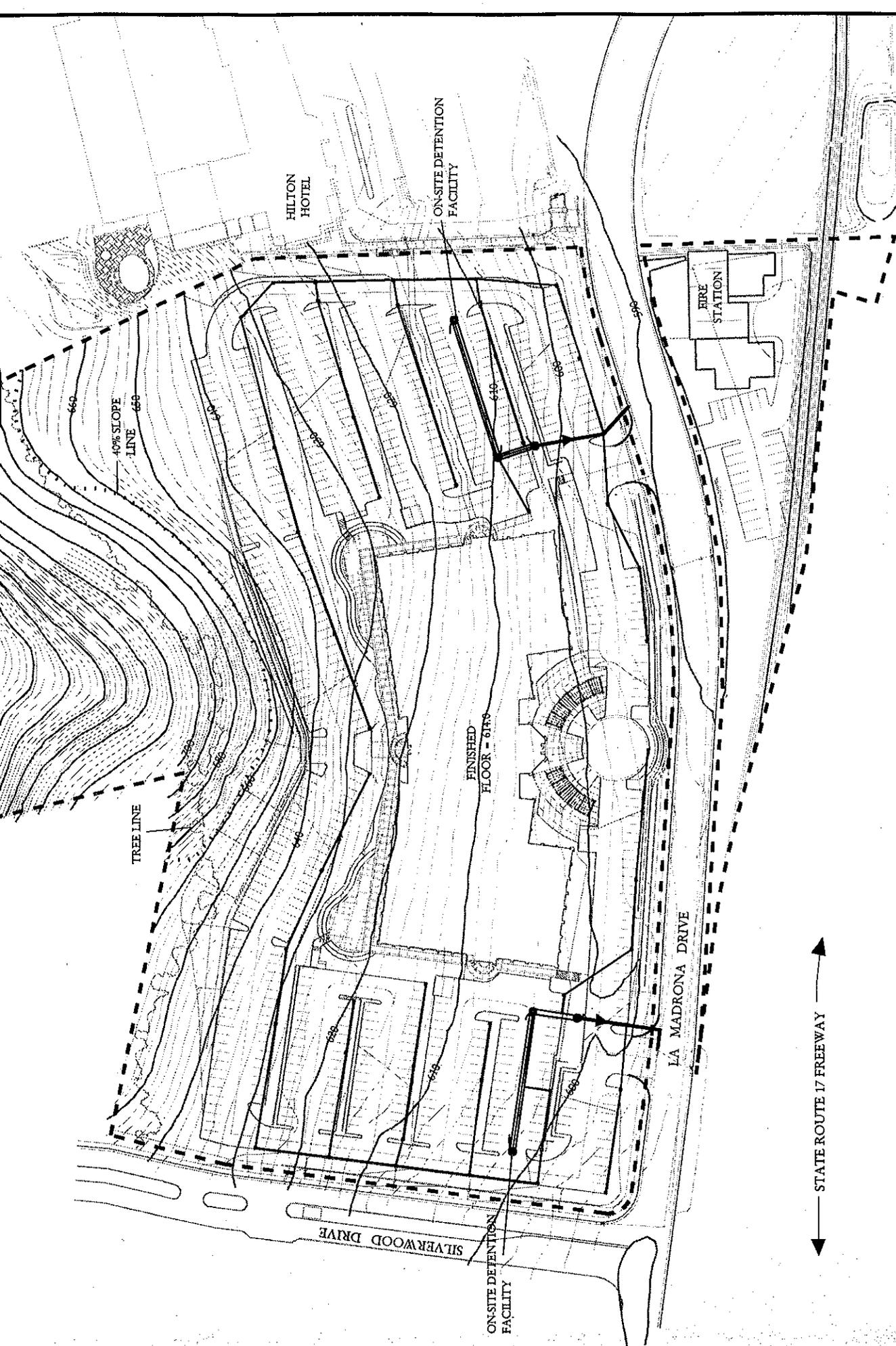
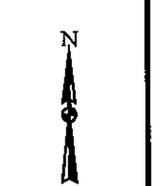
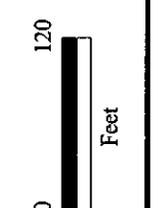


FIGURE 2: DRAINAGE PLAN
 Gateway South Office Building
 and Fire Station
 Scotts Valley, CA

Storm Drain Pipe
 or Channel
 Property Line



Source: DES Architects/Engineers,
 Grading Plan, September 2001; and
 EIP Associates, GIS Program,
 June 5, 2002.



APPENDIX G

Scotts Valley Water District Serve Letter Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066



353 Sacramento Street, Suite 1000
San Francisco, CA 94111
(415) 362-1500

August 30, 2001



Handwritten scribble

Scotts Valley Water District



P.O. BOX 660006 · SCOTTS VALLEY, CALIFORNIA 95067-0006
(831) 438-2363 · FAX (831) 438-6235
E-MAIL: svwd@aol.com

Office Address:
2 CIVIC CENTER DR.
SCOTTS VALLEY, CA

Board of Directors:

WILLIAM KASSIS
President

RICK MADAY
Vice President

PAUL WATKINS

ROGER KERN

MARGO HOBER

JON P. SANSING
General Manager

August 30, 2001

Mr. Craig Raymond, President
Title Two Investment Corporation
P.O. Box 10206
Oakland, California 94610-0206

Re: "Will Serve Letter" for APN 021-141-05, City of Scotts Valley

Dear Mr. Raymond:

This is a "Will Serve Letter" for APN 021-141-05 in the City of Scotts Valley for 28 equivalent water meters. A portion of the value of these water meters was prepaid in the Gateway South Assessment District, however, there is still a balance due the Water District of \$31,500.00. There was an increase in the water meter fees prior to the completion of the assessment district, which was not included in the funding. This balance due is payable upon application for water service, after first obtaining your building permit from the City of Scotts Valley.

Please call me at (831) 438-2363, if you have any questions.

Sincerely,
SCOTTS VALLEY WATER DISTRICT

Jon P. Sansing
Jon P. Sansing
General Manager

cc: Gene Scothorn C2G
Laura Kuhn, City of Scotts Valley
Shary Greenc, O.S./Accountant

C:805 W.F.#165
WillServeLtrLaMadrona93001.wpd
jps

Handwritten notes:
cc - Debra Stein
FR - Allison Stumpe
415-391-8882

APPENDIX H

Paleontological Resources Assessment

Gateway South Office Building and Fire Station

Submitted to: City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066



353 Sacramento Street, Suite 1000
San Francisco, CA 94111
(415) 362-1500

July 7, 2002

**Paleontological Resource Assessment
Gateway South Office Building and
Fire Station Project,
City of Scotts Valley,
Santa Cruz County, California
*Felton 7.5' USGS Quadrangle***

Prepared for:

Brad Brewster
EIP Associates
601 Montgomery Street, Suite 500
San Francisco, CA 94111

Prepared by:

Fran Govean, Ph.D.
Petra Paleontology
1365 Boot Hill Lane
Newcastle, CA 95658
(530) 823-6073

July 7, 2002



Petra Paleontology

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Executive Summary

The Gateway South Office Building and Fire Station Project is a 19.11 acre site divided into two parcels located southwest of Highway 17 and Mt. Hermon Road, City of Scotts Valley, Santa Cruz County, California.

The project area is underlain by the Santa Margarita Sandstone and Santa Cruz Mudstone capped by soils and colluvium, and fill (Treadwell and Rollo 2001) (Bachhuber, 1989). The Santa Margarita Sandstone is scientifically significant because it has yielded 1) additional specimens for comparative paleontological studies, 2) specimens of relatively rare marine mammal groups, and 3) specimens directly applicable to our understanding of marine mammal evolution.

The Santa Cruz Mudstone is rated a moderate sensitivity and will require limited monitoring. The fill, colluvium, and diorite on the project site are not considered paleontologically sensitive and will not require mitigation.

The Santa Margarita Sandstone, which is rated a high paleontologic sensitivity, and the Santa Cruz Mudstone, which is rated a moderate sensitivity, require mitigation under CEQA (Appendix G (j); Appendix I Environmental Checklist XIV(a)). Mitigation recommendations, which follow guidelines for paleontological mitigation provided by the Society of Vertebrate Paleontology (1995), are presented below.

Introduction

This report presents the results of an archival search, literature review, and a field survey for the proposed Gateway South Office Building and Fire Station project. This 19.11 acre project is situated in the City of Scotts Valley, Santa Cruz County, California (Figure 1). More specifically, the project area is located on the USGS *Felton* Quadrangle, 7.5' Series, photo revised 1968 (Figure 2).

Petra Paleontology was retained to undertake this paleontological resource assessment in response to conditions of the project permitting process set forth by the City of Scotts Valley, in compliance with CEQA guidelines.

Project Area Description

The project area is made up of two parcels. The upper parcel, the Office Building site, is 17.6 acres bounded by La Madrona Drive on the east, Silverwood Drive on the south, and the Hilton Hotel parcel on the north (Figures 2, 3). The western boundary is an area not proposed for development. The proposed building area rises towards the west. At the tree line on the west, the slope rise increases steeply.

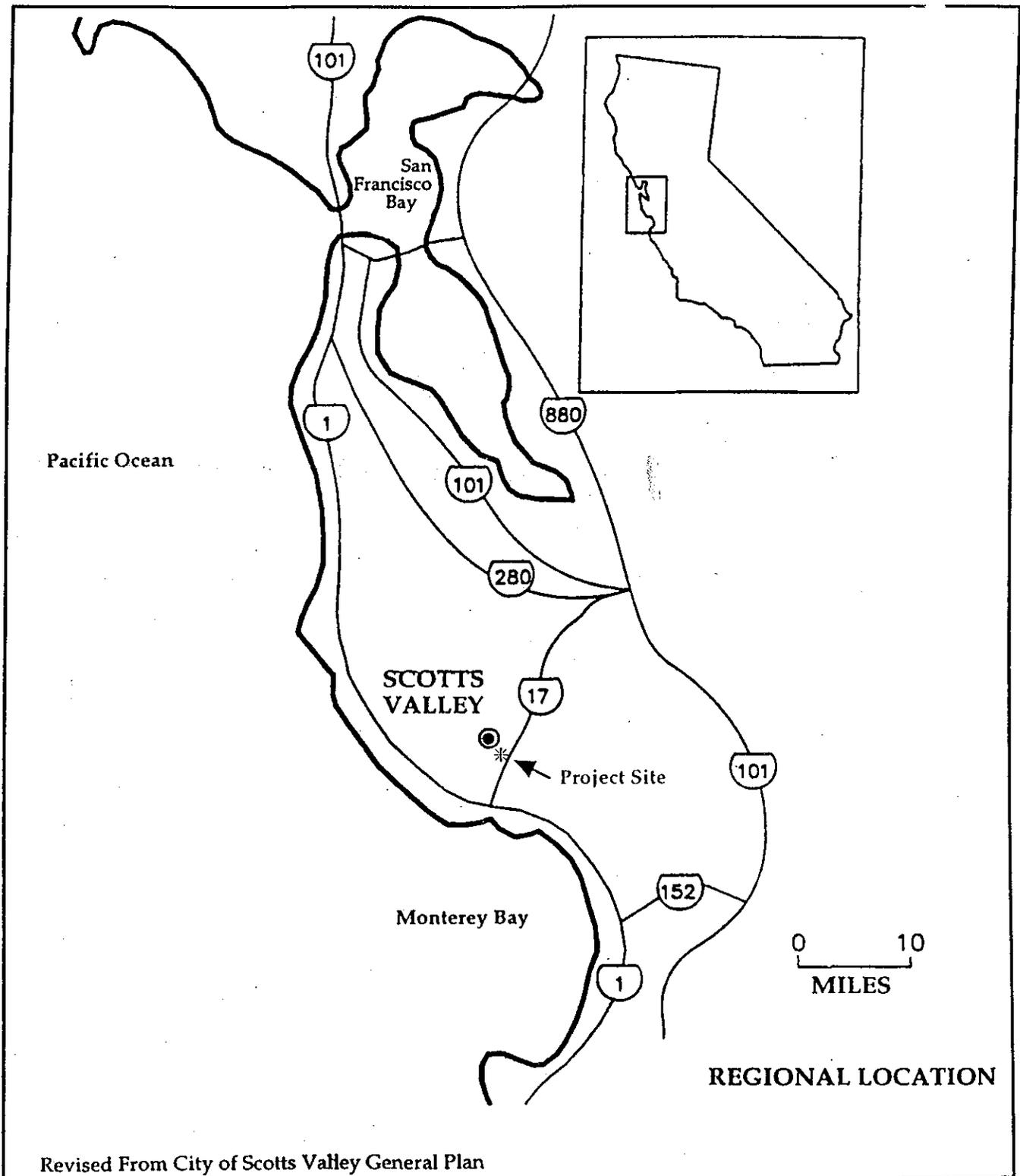
The Fire Station site is a flat 1.5 acre narrow triangle that lies between La Madrona Drive and Highway 17 near the intersection of Mt. Hermon Road and La Madrona Drive (Figures 2, 4).

Methods

Dr. Govean walked the site looking for outcrops and any exposed fossil material. Notes and documentation photos of the field conditions also were taken. She obtained an archival record search for the Santa Margarita Sandstone from the University of California Berkeley Museum of Paleontology (UCMP), reviewed Petra Paleontology in-house records of the Santa Cruz City Museum of Natural History (SCCMNH), and the Los Angeles County Museum of Natural History (LACM), and available resource assessments and mitigation reports.

Geology/Stratigraphy

Geologically, the project area is part of an east-west trending syncline that lies in the California Coast Ranges (1995). The geological history of the area is intricately interwoven with tectonics of the San Andreas Fault (Norris and Webb, 1990). Specifically, the study area is covered by Recent material (colluvium) and fill which overlie the Santa Margarita Sandstone and the Santa Cruz Mudstone which in turn overlies diorite (Treadwell and Rollo 2001) (Bachhuber, 1989). Figure 5 presents the geologic ages of the Santa Margarita Sandstone and the Santa Cruz Mudstone.



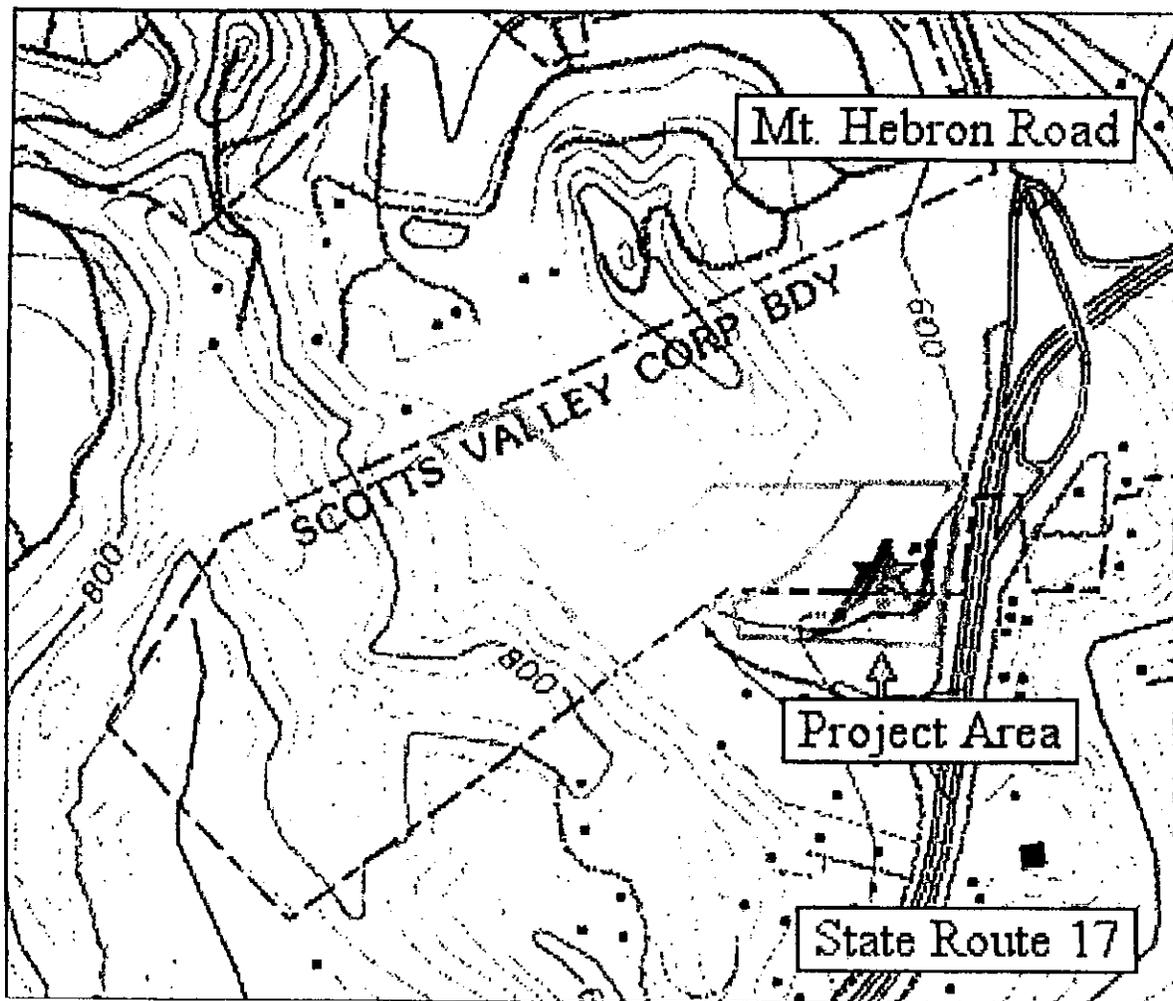


Figure 2. Project Vicinity Map.



Figure 3. Overview of Office Building Site Looking Northeast.

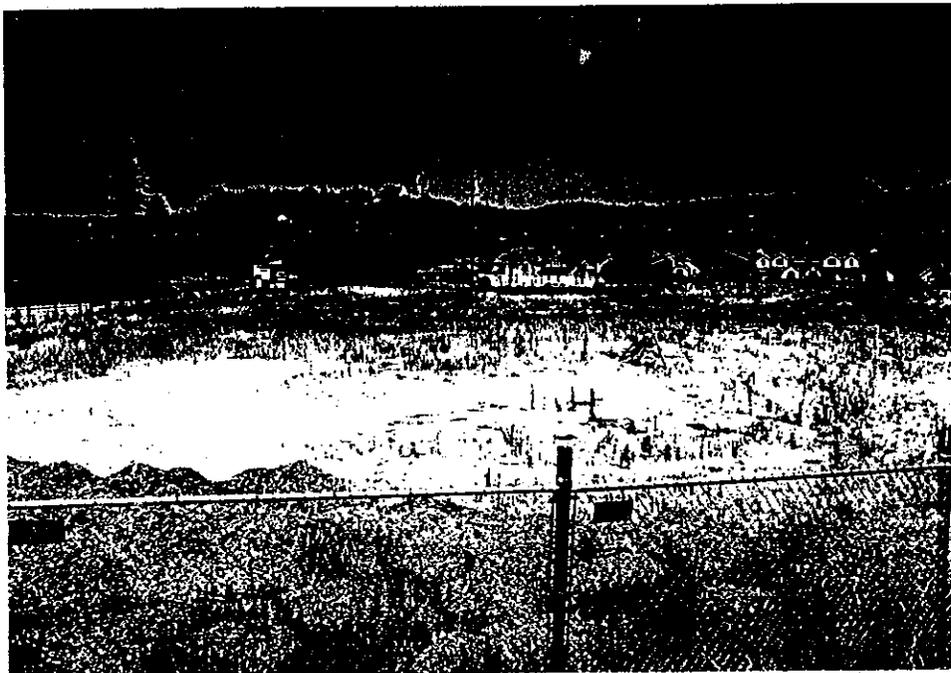


Figure 4. Overview of Fire Station Site Looking East.

Age (Ma)	Epoch	North American Land Mammal Age	California Provincial Stage	Formation Member
.011	Holocene Pleistocene	Rancholabrean	Hallian	Recent Alluvium
		-----.45----- Irvingtonian	Wheelerian	Pleistocene Terraces
	-----1.9-----	-----1.9-----	-----1.7-2.8-----	
	Pliocene	Blancan	Venturian	
5		-----4.8-----	Repettian	Purissima Formation
		Hemphillian	-----5?-----	
	-----5.3-----	-----8.7-----	"Delmontian"	
	Late	11.3	-----?-----	Santa Cruz Mudstone
10		-----?-----	Mohnian	
	-----10.8-----	Clarendonian		Santa Margarita Sandstone
	Miocene	-----12.3-----		
		14.4	Luisian	
15		Barstovian	-----15.4-----	
		-----16.4-----	Relizian	
	Middle		-----16.7-----	
		-----18-----	Hemingfordian	
20	Early	-----21.5-----	Saucesian	
			-----23.1-----	
24.6	Oligocene	Arikareean	Zemorrian	
25		-----24.6-----		

Figure 5. Geologic Time Scale and Rock Units.

Bachuber (1979) mapped the Santa Cruz Mudstone on the upper slopes of the project area along the western edge of the site. During the field survey, Dr. Govean observed a weathered outcrop of Santa Cruz Mudstone on the project site.

Several small quartz diorite boulders were also observed on the property. These boulders appear to have been recently transported onto the site.

Santa Margarita Sandstone

The Santa Margarita Sandstone in the Santa Cruz Mountains is the remnants of an ancient seaway that connected the San Joaquin Basin and the Pacific Ocean during the Late Miocene (Phillips 1983, 1979). This geologic unit represents sediment deposition on a shallow marine shelf in laterally migrating tidal channels containing current ridges (Phillips 1983, 1979; Nilsen and Brabb 1979).

Santa Cruz Mudstone

The Santa Cruz Mudstone in the Santa Cruz Mountains represents a remnant of an ancient ocean basin that existed in this area during the late Miocene Epoch, approximately 7 to 10 million years ago (mya) (Figure 5). Santa Cruz Mudstone was the name proposed by Clark (1981) for the siliceous, organic, mudstone beds that conformably overlay the Santa Margarita Sandstone. The type section (rock exposure designated by the geologist defining the new geologic unit as typical and characterizing the new unit) is at the western limits of the town of Santa Cruz from which the name for the unit was taken. This geologic formation in the project area consists of weathered light-gray to yellowish-gray, fractured, siliceous mudstones. Fresh exposures appear grayish-brown. However, some weathered surfaces can appear pale yellowish-white or brownish-yellow, a result of mineral staining. The Santa Cruz Mudstone exhibits blocky fractures and weathers mechanically where exposed to the elements.

General Paleontology - Santa Margarita Sandstone

The Santa Margarita Sandstone is highly fossiliferous (i.e. containing fossils) in the project vicinity. Over the years both invertebrate and vertebrate fossils have been collected by museum personnel, the US Geological Survey, university groups, and local paleontologists/geologists and collectors. The lower Santa Margarita Sandstone predominantly contains vertebrates. The remains of fossil birds, sirenians, desmostylians, mastodon, camel, horses, bony fish and sharks, a rhino-like animal, whales, dolphins, and pinnipeds have been recovered in the Scotts Valley syncline area (Clark 1981; Perry, oral communication 1997; Goodwin, written communication 1997; Holroyd, written communication 2002). Desmostylians and land-mammal remains are rare in the Santa Margarita Sandstone but have been recovered from the gravel beds in the lower part of the unit in the Bean Creek area of the City of Scotts Valley. Sirenians, pinnipeds and cetaceans have been recovered throughout the Santa Margarita Sandstone and locally consist of entire skeletons. Higher in the section, the Santa Margarita contains abundant invertebrate remains, including *Astrodapsis* shell beds, barnacles, pelecypods, and gastropods (Clark 1981) (Personal experience Govean, 1997).

Results of Paleontologic Archival Search - Santa Margarita Sandstone

University of California Museum of Paleontology (UCMP)

Nineteen vertebrate fossil localities are recorded in the the Santa Margarita Sandstone within five miles of the project site at the University of California Museum of Paleontology. Ms. Patricia Holroyd, Collections Manager at the UCMP, completed a records check for fossil localities in the Santa Margarita on the USGS Felton and Laurel 7.5' quadrangles. Specifically, these localities contain the following taxa that are housed at the UCMP (Holroyd, written communication 2002).

<u>Scientific Name</u>	<u>Common Name</u>
Camelidae	Primitive camel
<i>Hipparion mohavense</i>	Primitive horse
<i>Hipparion forcei</i>	Primitive horse
<i>Allodesmus</i>	Primitive otarid
<i>Liolithax</i>	Dolphin
<i>Dusisiren jordani</i>	Dugong
<i>Paleoparadoxia</i>	Extinct Sea Mammal*
Balaenopteridae	Whale
<i>Carcharinus</i>	Requiem Shark
<i>Galeocerdo</i>	Tiger Shark
<i>Isurus planus</i>	Extinct Hooked Tooth Shark
<i>Isurus hastalis</i>	Extinct Bonito Shark
<i>Carcharodon megalodon</i>	"Great White" Shark
<i>Odontaspis</i>	Sand Shark
<i>Semicossyphus pulcher</i>	Sheepshead
<i>Smilodonichthys rastrosus</i>	Primitive salmon
<i>Praemancalla</i>	Primitive Goose
<i>Imagotaria downsi</i>	Extinct Sea Mammal
<i>Pithanotaria starri</i>	Extinct Sea Mammal
<i>Sula willetti</i>	Booby
<i>Morus lompocanui</i>	Gannet
<i>Scaldicetus grandis</i>	Bony Fish
<i>Squalodon errabundus</i>	NCM
<i>Puffinus puffinus</i>	Shearwater
<i>C helonia</i>	Turtle

Los Angeles County Museum of Natural History (LACM)

The LACM records includes the collections data of the University of California, Los Angeles and the California Institute of Technology (CIT). The specimens at the LACM are casts of teeth, periotics, and skulls of specimens housed at the UCMP (McLeod, written communication 1997). The specimens are:

<u>Family</u>	<u>Scientific Name</u>	<u>Common Name</u>
Kentriodontidae	<i>Liolithax</i>	Dolphin
Desmostylidae	<i>Paleoparadoxia</i>	Extinct Sea Mammal
Desmostylidae	<i>Desmostylus</i>	Extinct Sea Mammal
Odontoceti	<i>Zarhachis</i>	Toothed Whale

Santa Cruz City Museum of Natural History (SCCMNH)

The SCCMNH has a collection of fossil material recovered from the Santa Margarita Sandstone. The material consists of sharks, bony fish, desmostylians, a pecten, borings by either/or molluscs and sponges, dugong, cetacean, and pinniped. The following list of specimens and the Catalog numbers was provided by Ms. Sally Lugakis (Registrar, SCCMNH, written communication 1997).

<u>Specimen</u>	<u>Common Name</u>	<u>Catalog Number</u>
Bivalve borings in bone		9712.1
<i>Pecten</i> sp.		9720.2-9720.3
<i>Carcharodon</i> sp. tooth	"Great White" Shark	9926.72
<i>Isurus planus?</i> teeth	Extinct Hooked Tooth Shark	9929.7-9929.8
<i>Hemipristis</i> sp. tooth	Extinct Bonito Shark	9929.9
<i>Isurus planus</i> tooth	Extinct Hooked Tooth Shark	9931.01
<i>Isurus</i> sp.	Mako Shark	9931.03
Carcharinid tooth	Shark	9931.08
<i>Isurus hastalis</i> tooth	Extinct Bonito Shark	9931.15
<i>Isurus planus</i> teeth	Extinct Hooked Tooth Shark	9931.17-9931.29
<i>Isurus hastalis</i> tooth	Extinct Bonito Shark	9931.30-9931.38
<i>Isurus</i> sp.	Mako Shark	9931.39-9931.49
<i>Isurus?</i> sp.	Mako Shark?	9931.52-9921.89
<i>Isurus planus?</i> tooth	Extinct Hooked Tooth Shark?	9932.02
<i>Carcharodon megalodon</i> teeth	"Great White" Shark	9932-81-9932.82
<i>Pimelometopon</i> sp. teeth		9933.0-9933.2
<i>Pimelometopon</i> sp. tooth		9933.3
Teleost tooth	Bony fish	9941.5
Teleost teeth	Bony fish	9941.51-9941.52
<i>Metaxytherium jordani</i> rib	Dugong	9960.28
Pinniped tooth?		9976.31
Desmostylian teeth fragments		9981.25-9981.29
Cetacean tympanic bulla	Whale	9990.25
Cetacean tympanic bulla	Whale	9990.26

Paleontologic Mitigation V-5555 - City of Scotts Valley

Additional specimens plus taxa new to the site (V-5555) and included in museum collections were recovered during mitigation in the Santa Margarita Sandstone in the City of Scotts Valley. New specimens included bat ray plates, Diodontidae (puffer fish) teeth, the sharks *Hemipristis serra* and *Isurus oxyrinchus*, the turtle *Psephophorus* sp., coprolites, and the teeth of an ungulate.

General Collections

The Santa Margarita Sandstone in the Scotts Valley area has been a focus of fossil collecting for both avocationalists and school children for several years. Avocationalists have brought specimens to the attention of paleontologists and geologists in universities, the U.S. Geological Survey, and museums (Perry, oral communication 1997; Clark, 1981). Also, at this time there are a number of private collections (Perry, oral communication 1997). Some selected specimens collected from the Santa Margarita Sandstone in Scotts Valley include the tooth of a rhino-like animal, sirenian and shark teeth, and cetacean periotics (Perry, oral communication 1997). Clark et. al. (1979) report that several horse teeth were recovered from V-5555. These specimens "compare best with *Hipparion mohavense* and one tooth of the primitive horse *Archaeohippus*" (Clark et. al. 1979).

General Paleontology - Santa Cruz Mudstone

The Santa Cruz Mudstone is fossiliferous in the Scotts Valley vicinity, and Santa Cruz County as a whole. Over the years, SCCMNH personnel and USGS geologists have collected invertebrates, pollen, diatoms, radiolaria, foraminifera, star fish, echinoids, sponge spicules, and fish from this unit over much of its areal extent. Most of these fossils have been recovered in the type section of this unit and along the sea cliffs. The remains of fossil fish and invertebrates have been recovered in the Scotts Valley Syncline area (Clark 1981; Perry, oral communication 1997). Fossil fish remains and marine plankton were observed off Glenwood Drive, north of Vine Hill School (Govean 1998). The following is a listing of the fossil materials recorded within the the Santa Cruz Mudstone taken from Clark (1981), records of the SCCMNH, Clark et al. (1979), Naidu (1997), Perry (1993 and 1994) and personal observation (1998).

Fossil Taxa Listing from the Santa Cruz Mudstone

Scientific Name	Common Name
Planta	
<i>Quercus</i>	Oak pollen
<i>Juglans</i>	Walnut pollen
<i>Carya</i>	Hickory pollen
<i>Pterocarya</i>	No Common Name (NCN)
<i>Alnus</i>	Alder pollen
	Grass pollen

Compositae	Aster family, pollen
Ericaceae	Heath family, pollen
Taxodium-type	Cypress pollen
<i>Pinus</i>	Pine pollen

Foraminifera, benthic and planktic forms

Bolivina obliqua Barbat and Johnson
Bolivina cf. *B. seminuda* Cushman
Bolivina tumida Cushman
Bolivina vaughani Natland
Buliminella dubia Barbat and Johnson
Buliminella elegantissima (d'Orbigny)
Cibicides sp.
Eponides tenera
Globigerina sp.
Nonionella miocenica Cushman
Pulvinulinella pacifica
Valvulinera araucana (d'Orbigny)
Virgulina pontoni Cushman
Virginulina subplana

Diatoms

Arachnoidiscus sp.
Isthmia sp.

Echinoidea

Amphineura sanctaecrucis Arnold
Megapetalus sp.

Pelecypods

Acila cf. *A. semirostrata*
Acila semirostrata
Lucinoma cf. *L. annulata* (Reeve)
Yoldia sp.

Vertebrates

Pisces Teleost fish

Radiolarians

Tests, siliceous

Sponges

Spicules

Field Survey

Dr. Govean conducted a paleontologic field survey on June 27, 2002. She walked the surface area for exposures and fossil remains. Native and nonnative grasses with occasional shrubs covered the gently sloping lower part of the Office Building site. The upper part was steeply rising, and covered with conifers giving way to oaks, fir, and madrona further down the slope. A collapsed building and the remnants of a concrete drive were visible roughly equidistant from La Madrona and Silverwood drives in the lower part of the parcel. No exposures of rock were observed because of heavy slope wash and vegetative cover except the Santa Cruz Mudstone at the base of the tree line along the western boundary of the project. Small boulders of recently transported quartz diorite were also observed on the surface. No fossil material was observed.

The Fire Station site was covered by a combination of fill consisting mostly of gravels and sands, in addition to grasses, some concrete pavement, debris, and piles of wood chips (Figure 4). No underlying bedrock or fossils were observed.

Paleontologic Sensitivity

Paleontological sensitivity is the potential for a geologic unit to produce scientifically significant fossils. This potential, or sensitivity, is determined by the rock type, the past history of the rock unit in producing fossil materials, and what fossil sites are recorded in the unit. A threefold classification of sensitivity is used by many paleontologists working in California and is recommended by the Guidelines of the Society of Vertebrate Paleontologists (1995). A high sensitivity indicates that fossils are currently observed onsite, localities are recorded within the study area, and/or the unit has a history of producing numerous significant fossil remains. (If a highly significant locality is recorded on the project, the sensitivity rating may be raised to very high sensitivity). A low potential indicates significant fossils are not likely to be found because of random fossil distribution pattern, the extreme youth of the rock unit, and/or the method of rock formation, such as alteration by heat and pressure. Unknown or undetermined status indicates that the rock unit has not been sufficiently studied or lacks good rock exposures to warrant a definitive rating. Initially such a unit is treated as having a high sensitivity or potential. After study or monitoring, the unit may fall into one of the other sensitivity categories. Some paleontologists use a fourth category termed no sensitivity for crystalline rock units, such as igneous rocks, where the deposit forms from molten magma which would preclude any fossil preservation.

Conclusions/Impacts

The Santa Margarita Sandstone is rated a high paleontological sensitivity because this geologic unit has known recorded vertebrate localities for scientifically significant fossils in the immediate area, and contains specimens that have contributed to our understanding of the evolution, taxonomy, and time range of marine mammals. The Santa Margarita Sandstone requires paleontologic mitigation.

The Santa Cruz Mudstone is rated a moderate paleontologic sensitivity. It has yielded the remains of fossil fish and invertebrates in the Scotts Valley area. If the Santa Cruz Mudstone is encountered, mitigation will be required.

The Santa Margarita Sandstone underlies both parcels of the project. The Santa Cruz Mudstone, higher stratigraphically than the Santa Margarita Sandstone, is present along the western boundary of the project. Therefore, implementation of the project may impact fossil materials and mitigation is recommended to reduce these potential impacts. A paleontologic sensitivity map is presented in Figure 6. This map reflects the distribution of the geologic units beneath the colluvium and fill. The quartz diorite, because of its molten origin, the fill, and colluvium are rated a no or low sensitivity and will not require monitoring.

The following mitigation measures, which are in compliance with Guidelines of the Society of Vertebrate Paleontologists (1995), will lower both the significant immediate and cumulative impacts on paleontological resources. These strategies have proven elsewhere to allow property development in a timely manner while allowing recovery of paleontological resources.

Mitigation Recommendations

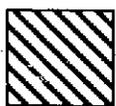
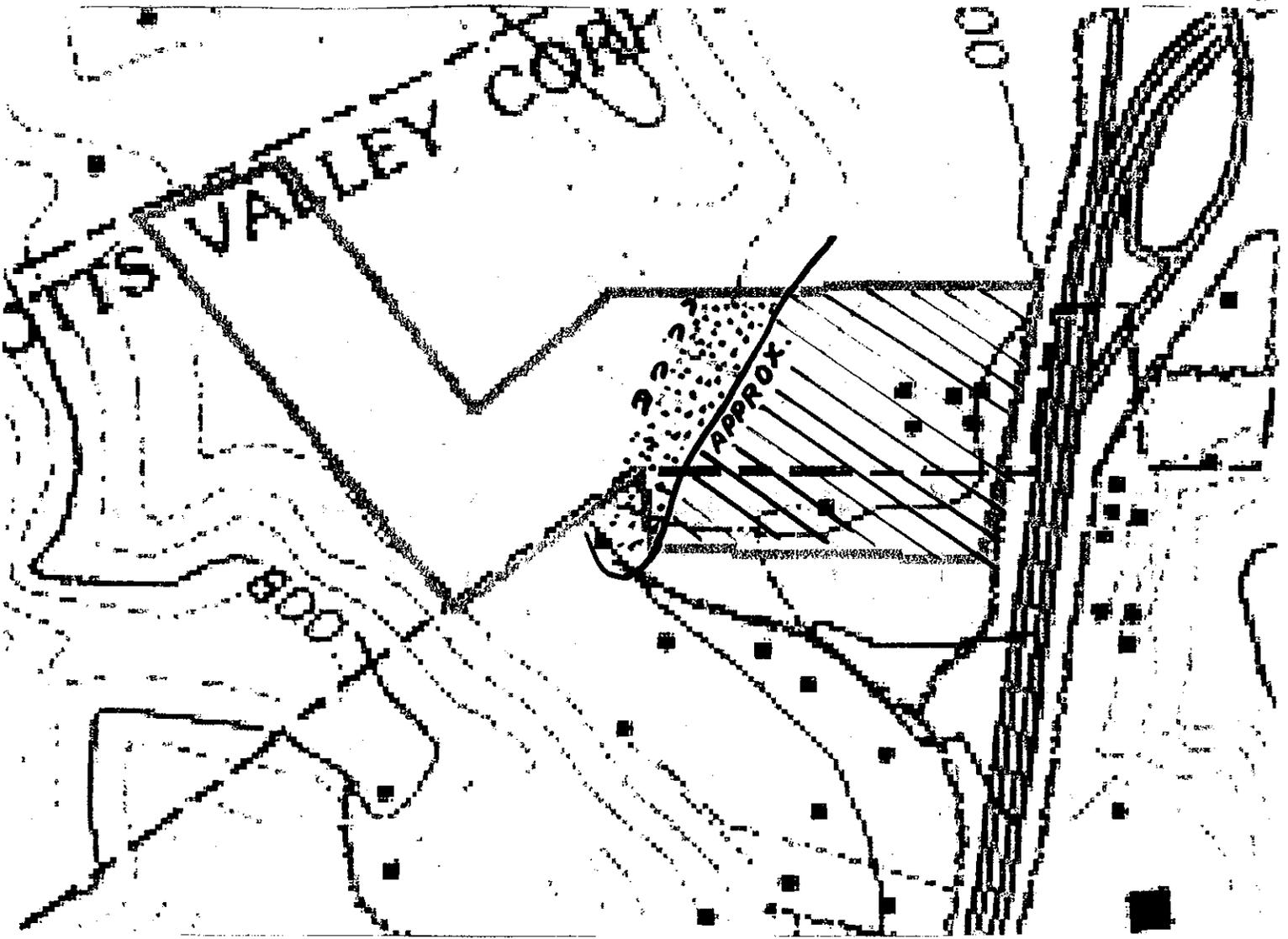
The following paleontological measures shall be implemented when grading, trenching, or other earth moving activities are conducted within the Santa Margarita Sandstone and, if encountered, the Santa Cruz Mudstone on the proposed Gateway South Office Building and Fire Station project area.

1. A qualified paleontologist shall be retained and shall, A) implement the following recommended mitigation for the proposed project; B) attend the pre-grade meeting to discuss the monitoring, collecting, and safety procedures for the project and, C) supervise paleontologic monitoring and collecting during earth moving activities.

A. Full-time monitoring by qualified monitor(s) is required during any earth moving activities within the Santa Margarita Sandstone. The length of monitoring time is tied directly to the length of time for earth moving activities in the sensitive geologic unit. All recovered specimens would be donated to the designated repository.

The Santa Cruz Mudstone, if encountered on the site, will require intermittent monitoring. If the Santa Cruz Mudstone proves to be without significant fossil material on the project, the monitoring time can be lowered or eliminated at the discretion of the qualified project paleontologist. The Recent alluvium/colluvium, and fill materials and diorite on the site will not require paleontological monitoring.

B. During the grading or trenching activities, routine screening of sediments by the monitor in high paleontologic sensitivity strata shall be conducted as a part of the monitoring effort. To save time, reduce costs, and allow the project to continue on schedule, a matrix sample, earmarked by the paleontologist, could be moved by the contractor to one side of the project. A monitor(s), under the direct supervision of the



High Paleontologic Sensitivity



Moderate Paleontologic Sensitivity

Figure 6. Paleontologic Sensitivity Map.

paleontologist, could then process the matrix for fossils and collect scientifically significant specimens. This allows the construction schedule to continue as planned while allowing paleontological mitigation.

C. The paleontological monitor shall have the authority to temporarily divert or redirect grading to allow time to evaluate any exposed fossil material. The term "temporarily" in this context is interpreted as within one working day for the evaluation process.

D. During monitoring and salvage, any scientifically significant specimens shall be properly collected after evaluation by, and under the supervision of, the paleontologist. During collecting activities, contextual stratigraphic data shall also be collected. This will include lithologic descriptions, photographs, a measured stratigraphic section(s), and field notes.

E. Specimens shall be prepared to the point of identification (not exhibition), stabilized, identified, and curated in a suitable repository that has a retrievable storage system, such as the University of California Museum of Paleontology, Berkeley (UCMP). The UCMP is specifically recommended as the repository for this project because a significant fossil collection from the Santa Margarita Sandstone is currently housed there, a full-time curatorial staff is present, the facilities are excellent, and researchers have access to comparative material housed at the same location.

F. A final report shall be prepared at the end of earth moving activities, and shall include an itemized inventory of recovered fossils and appropriate stratigraphic and locality data. This report shall be sent to the Lead Agency, signifying the end of mitigation. Another copy shall accompany any recovered fossils, along with field logs and photographs, to the designated repository.

Implementation of these mitigation measures will reduce impacts to paleontological resources at the project site.

Persons Contacted

Ms. Pat Holroyd, Collections Manager, University of California Museum of Paleontology, June 2002.
Dr. Roberta Smith, Paleontologist/Geologist, Smith-Evernden and Associates, June 2002.

Selected Bibliography

Barnes, Larry

1979 *A Review of Lophocetus and Liolithax and Their Relationship to the Delphinoid Family (Kentriodontidae (Cetacean: Odontoceti))*. Natural History Museum of Los Angeles Science Bulletin 28, June 26, 35 pp. Reference to Specimen UCMP 95984, Right periotic, *Lithiolax*, figures 1L, 2K, and 3; pages 10,11.

Bachhuber, Jeff

1989 *Areal and Engineering Geology Map Scotts Valley, California*. Plate 1. Unpublished Masters Thesis, San Jose State University..

Clark, J.C.

1981 *Stratigraphy, Paleontology, and Geology of the Central Santa Cruz Mountains, California Coast Ranges*. Geological Survey Professional Paper 1168, 51 pp.

Clark, J.C., E.E. Brabb, and W.A. Addicott

1979 *Tertiary Paleontology and Stratigraphy of the Central Santa Cruz Mountains, California Coast Ranges*. Field Trip Guidebook for the Geological Society of America Cordilleran Section Meeting at San Jose, California, April, 1979, 23 pp.

Domning, D.P., Jr.

1978 *Sirenian Evolution in the Northern Pacific Ocean*. University of California Publications in the Geological Sciences, Volume 118, 176 pp.

Govean, F.M.

1997 *Paleontological Resource Assessment, The Storage Depot Project, (Former Graham Quarry), City of Scotts Valley, Santa Cruz County, California, (USGS Felton 7.5')*. Resource Assessment on file at City of Scotts Valley, 14 pp.

 1998 *Paleontological Resource Assessment Mandarin Sand Pit Project, City of Scotts Valley, Felton 7.5' USGS Quadrangle, Santa Cruz County, California*. Resource assessment on file City of S Scotts Valley, 20 pp.

 1998 *Paleontological Resource Assessment for the Glenwood Residential Development Project, City of Scotts Valley, Santa Cruz County, California, Felton and Laurel 7.5' USGS Quadrangles*., Resource Assessment on file City of Scotts Valley.

Mitchell, E.D. and C.A. Repenning

1963 *The Chronologic and Geographic Range of Desmostylians*. Los Angeles County Museum Contributions in Science, Number 78, p. 13.

Nilsen, T.H., E.E. Brabb, D.R. Lowe, L.R. Phillips, and J.C. Tinsley
1979 *Geology of the Santa Cruz Mountains, California*. Field Trip Guidebook for the
Geological Society of America Cordilleran Section Meeting, San Jose, California, 1979, 97 pp.

Norris, R. and R. Webb
1990 *Geology of California*. Wiley and Sons, 2nd edition, New York, 543 pp.

Perry, F.A.
1994 *Fossil Sharks and Rays of the Southern Santa Cruz Mountains, California*. Santa Cruz
Museum Association Natural History Guide No. 2, 48 pp.

Phillips, L.R.
1983 *Late Miocene Tidal Shelf Sedimentation Santa Cruz Mountains, California*. In: (Eds. Larue
and Steel), *Cenozoic Marine Sedimentation Pacific Margin, U.S.A.*, Pacific Section Society of
Economic Paleontologists and Mineralogists Los Angeles, California, p. 43-61.

Reinhart, R.H.
1959 *A Review of the Sirenia and Desmostylia*. University of California Publications in the
Geological Sciences, Volume 36, Number 1, 146 pp.

Repenning, C.A. and R.H. Tedford
1977 *Otarioids of the Neogene*. US Geological Survey Professional Paper 992, 93 pp.

Reynolds, R.E.
1996 *Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources:
Standard Guidelines*. Society of Vertebrate Paleontology News Bulletin, Number 163, p 1-5.

1996 *Society of Vertebrate Paleontology -- Conditions of Receivership For Paleontologic Salvage
Collections (Final Draft)*. Society of Vertebrate Paleontology News Bulletin, Number 166,
February 1996, 1 p.

Treadwell and Rollo
2001 *Draft Report Geotechnical Investigation Gateway South Development, Scotts Valley,
California*, Geotechnical report, on file City of Scotts Valley, pp.