COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
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KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

NOTICE OF ENVIRONMENTAL REVIEW PERIOD

SANTA CRUZ COUNTY

APPLICANT: **Powers Land Planning, Inc.**

APPLICATION NO.: **09-0276**

PARCEL NUMBER (APN): **049-481-01**

The Environmental Coordinator has reviewed the Initial Study for your application and made the following preliminary determination:

XX Negative Declaration
(Your project will not have a significant impact on the environment.)

XX Mitigations will be attached to the Negative Declaration.

_____ No mitigations will be attached.

_____ Environmental Impact Report
(Your project may have a significant effect on the environment. An EIR must be prepared to address the potential impacts.)

As part of the environmental review process required by the California Environmental Quality Act (CEQA), this is your opportunity to respond to the preliminary determination before it is finalized. Please contact Matt Johnston, Environmental Coordinator at (831) 454-3201, if you wish to comment on the preliminary determination. Written comments will be received until 5:00 p.m. on the last day of the review period.

Review Period Ends: **April 30, 2010**

Randall Adams, staff planner

Phone: **(831) 454-3218**

Date: **March 30, 2010**

NAME: Brian and Susan Cecy
APPLICATION: 09-0276
A.P.N: 049-481-01

NEGATIVE DECLARATION MITIGATIONS

A. In order to mitigate impacts to maritime chaparral (MC) and San Andreas oak woodland (SAOW), the following mitigation measures shall be made conditions of approval for any development resulting from the proposed lot split:

1. Prior to preparing the parcel map for the final land division, the building envelopes shall staked and reviewed in the field by the project botanist to identify and count any Hooker's manzanita that may have germinated within the defined building envelopes. If Hooker's manzanita is identified within the envelopes, mitigation of impacts at a ratio of 3 to 1 will take place (i.e. 3 Hooker's manzanita planted for ever individual plant impacted). Replacement plantings shall be completed under the supervision of the project botanist.

2. Prior to construction on either building site, construction fencing shall be installed to prevent accidental incursion into MC or SAOW. The fence location shall be verified in the field by the project botanist.

3. Prior to recordation of the Parcel Map, a Declaration of Restriction shall be recorded indicating the property has sensitive habitat. The Declaration shall include a map of the parcel that identifies the areas of MC and SAOW, and shall include specific uses and restrictions of activities within the MC/SAOW habitat areas, as defined in the biotic report dated July 2009, by Patti Kreiberg of Sunset Coast Nursery.

4. Landscaping around the building envelopes shall consider native vegetation propagated from plants on site, and shall not include invasive non-native species.

B. In order to mitigate impacts to California red-legged frogs (CRLF), the following mitigation measures shall be implemented:

1. A US Fish and Wildlife Service (USFWS) approved biologist (Biologist) will conduct preconstruction surveys of all ground disturbance areas within riparian habitats to determine if California red-legged frogs are present prior to the start of construction.

2. Prior to construction, the Biologist will conduct training sessions to familiarize all construction personnel with the following: identification of California red-legged frogs, their habitat, measures implemented to protect the species, and measures to be taken should a CRLF be encountered during the course of construction.

    i. At the training session the Biologist may appoint and train crewmembers to be responsible for monitoring the site in the absence of the Biologist. The monitor shall not be authorized to handle any special status species, and shall contact the Biologist should any questions arise regarding any animals encountered.

3. The Biologist shall be present for all land clearing and grubbing activities.

4. If any CRLF are observed in the project vicinity, all work in that area shall cease until the frog has left the area, and the USFWS shall be consulted regarding the adequacy of the monitoring to prevent any disturbance to the frog.

Environmental Review
Initial Study

Application Number: 09-0276

Date: 3/22/10
Staff Planner: Randall Adams

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Powers Land Planning **APN**: 049-481-01

OWNER: Brian & Susan Cecy **SUPERVISORAL DISTRICT**: 2

LOCATION: Property located on the north side of Trabing Road about 1 mile west of Buena Vista Drive (820 Trabing Road). (Attachment 1)

SUMMARY PROJECT DESCRIPTION:

Proposal to divide a 41.98 acre parcel into two parcels of 19.26 acres and 22.72 acres.

Requires a Minor Land Division, Biotic Report Review, and Soils Report Review.

ALL OF THE FOLLOWING POTENTIAL ENVIRONMENTAL IMPACTS ARE EVALUATED IN THIS INITIAL STUDY. CATEGORIES THAT ARE MARKED HAVE BEEN ANALYZED IN GREATER DETAIL BASED ON PROJECT SPECIFIC INFORMATION.

X	Geology/Soils	____	Noise
____	Hydrology/Water Supply/Water Quality	____	Air Quality
X	Biological Resources	____	Public Services & Utilities
____	Energy & Natural Resources	____	Land Use, Population & Housing
____	Visual Resources & Aesthetics	____	Cumulative Impacts
____	Cultural Resources	____	Growth Inducement
____	Hazards & Hazardous Materials	____	Mandatory Findings of Significance
____	Transportation/Traffic		

DISCRETIONARY APPROVAL(S) BEING CONSIDERED

____ General Plan Amendment	____ Grading Permit
_X_ Land Division	____ Riparian Exception
____ Rezoning	____ Other:
____ Development Permit	____
____ Coastal Development Permit	____

NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations:

None

ENVIRONMENTAL REVIEW ACTION

On the basis of this Initial Study and supporting documents:

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

_X_ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the attached 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.

Matt Johnston
Matt Johnston

3/25/10
Date

For: Claudia Slater
Environmental Coordinator

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS

Parcel Size: 41.98 acres
Existing Land Use: Rural residential home site
Vegetation: Grasses, trees, and shrubs
Slope in area affected by project: _X_ 0 - 30% ___ 31 – 100%
Nearby Watercourse: Upper reaches of Gallighan Slough
Distance To: 2000 feet (across Highway 1)

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Groundwater Supply: Adequate quantity/quality
Water Supply Watershed: Not mapped
Groundwater Recharge: Mapped GW recharge
Timber or Mineral: Not mapped
Agricultural Resource: Not mapped
Biologically Sensitive Habitat: Mapped Special Forest - San Andreas Oak Woodland
Fire Hazard: Mapped Critical Fire Hazard
Floodplain: Not mapped
Erosion: Not mapped
Landslide: Not mapped

Liquefaction: Low potential
Fault Zone: Not mapped
Scenic Corridor: Highway 1
Historic: N/A
Archaeology: Not mapped
Noise Constraint: N/A

Electric Power Lines: N/A
Solar Access: Adequate
Solar Orientation: South
Hazardous Materials: N/A

SERVICES

Fire Protection: CalFire (County Fire)
School District: PVUSD
Sewage Disposal: Septic

Drainage District: None
Project Access: Trabing Road
Water Supply: Well

PLANNING POLICIES

Zone District: SU
General Plan: R-R
Urban Services Line: ___ Inside _X_ Outside
Coastal Zone: ___ Inside _X_ Outside

Special Designation: None

PROJECT SETTING AND BACKGROUND:

The project site is located on the north side of Trabing Road in a community of rural residential home sites. There is an existing driveway that serves the existing residence on the proposed Parcel A. A second unit was previously located to the west of the existing driveway on the proposed Parcel B. The second unit and much of the property was burned during the Trabing Fire of 2008.

The topography of the project site drops down from Trabing Road to a small valley across the center of the property and rises into taller hills on the northern side of the property. The vegetation on the project site transitions from native shrubs and small trees on the southern portion and non-native grasses in the valley area and partially up the hills to the north. Native shrubs and trees surround the grassy slopes and tall stands of eucalyptus (burned, but sprouting new growth) are located in various locations throughout the property. The parcel is identified in County GIS maps as potentially containing San Andreas Oak Woodland and San Andreas Maritime Chaparral. The potential for San Andreas Oak Woodland is also identified as a Special Forest in the County GIS mapping system.

DETAILED PROJECT DESCRIPTION:

The applicant proposes to divide a 41.98-acre parcel into two parcels of 19.26 acres and 22.72 acres for the purposes of constructing an additional single family residence and accessory dwelling. (Attachment 2) Access to the property would be from the existing driveway to Trabing Road. Minor widening and improvements to the existing driveway are proposed to achieve a minimum width of 18 feet. A development envelope has been identified on the proposed Parcel B to limit potential impacts to biotic resources and native vegetation. Two potential building sites exist within the development envelope on Parcel B, an upper site to the north and a lower site to the southwest. Both sites are located within existing disturbed areas and are accessed by existing dirt/gravel roads. Total grading for driveway improvements will be less than 100 cubic yards of earth.

III. ENVIRONMENTAL REVIEW CHECKLIST

A. Geology and Soils

Does the project have the potential to:

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
1. Expose people or structures to potential adverse effects, including the risk of material loss, injury, or death involving:				
A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or as identified by other substantial evidence?	____	____	X	____
B. Seismic ground shaking?	____	____	X	____
C. Seismic-related ground failure, including liquefaction?	____	____	X	____
D. Landslides?	____	____	X	____

All of Santa Cruz County is subject to some hazard from earthquakes. However, the project site is not located within or adjacent to a county or State mapped fault zone. A geotechnical investigation for the proposed project was performed by Dees & Associates, dated 5/12/09, 12/21/09 & 1/28/10 (Attachment 3). The report concluded that seismic shaking and seismic induced soil settlement can be managed through proper foundation design, that landslides are not a potential hazard, and that the potential for liquefaction. The report has been reviewed and accepted by Environmental Planning staff (Attachment 4). The implementation of the additional recommendations to conform to the requirements of the California Building Code for foundation design, as described in the review letter prepared by Environmental Planning staff, will serve to further reduce the potential risk of seismic shaking and soil settlement on the proposed development.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
2. Subject people or improvements to damage from soil instability as a result of on- or off-site landslide, lateral spreading, to subsidence, liquefaction, or structural collapse?			X	

See response A-1 above.

3. Develop land with a slope exceeding 30%?				X

There are slopes that exceed 30% on the property. However, no improvements are proposed on slopes in excess of 30%.

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

Some potential for erosion exists during the construction phase of the project; however, this potential is minimal because standard erosion controls are a required condition of the project. Prior to approval of a grading or building permit, the project must have an approved Erosion Control Plan, which will specify detailed erosion and sedimentation control measures. The plan will include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion.

5. Be located on expansive soil, as defined in section 1802.3.2 of the California Building Code, creating substantial risks to property?			X	

The geotechnical report for the project did not identify any elevated risk associated with expansive soils.

6. Place sewage disposal systems in areas dependent upon soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems?			X	

The proposed project would use an onsite sewage disposal system, and County Environmental Health Services has determined that site conditions are appropriate to support such a system (Attachment 5).

7. Result in coastal cliff erosion?				X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

B. Hydrology, Water Supply and Water Quality

Does the project have the potential to:

1. Place development within a 100-year flood hazard area?			X	

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated March 2, 2006, no portion of the project site lies within a 100-year flood hazard area.

2. Place development within the floodway resulting in impedance or redirection of flood flows?			X	

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated March 2, 2006, no portion of the project site lies within a 100-year flood hazard area.

3. Be inundated by a seiche or tsunami?				X
4. Deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit, or a significant contribution to an existing net deficit in available supply, or a significant lowering of the local groundwater table?			X	

The project will rely on private well water. The existing well (at 40 gallons per minute) has adequate flow to serve both parcels (Attachment 6). The parcel contains areas that are mapped groundwater recharge and future development will be required, per County Design Criteria, to use Best Management Practices to minimize impervious surface area and to filter and recharge runoff to the extent feasible on the project site.

5. Degrade a public or private water supply? (Including the contribution of urban contaminants, nutrient enrichments, or other agricultural chemicals or seawater intrusion).			X	

Runoff from this project may contain small amounts of chemicals and other household contaminants. No commercial or industrial activities are proposed that would contribute a significant amount of contaminants to a public or private water supply. Potential siltation from the proposed project will be mitigated through implementation of

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
standard erosion control measures.				
6. Degrade septic system functioning?	____	____	X	____

There is no indication that existing septic systems in the vicinity would be affected by the project.

7. Alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which could result in flooding, erosion, or siltation on or off-site?	____	____	X	____

The proposed project is not located near any watercourses, and would not alter the existing overall drainage pattern of the site. Department of Public Works Drainage Section staff has reviewed and approved the proposed drainage plan (Attachment 7).

8. Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems, or create additional source(s) of polluted runoff?	____	____	X	____

Drainage Calculations prepared by C2G/Civil Consultants Group, dated 11/17/09, utilizing the runoff retention by slope infiltration method (Attachment 8), have been reviewed and accepted by the Department of Public Works (DPW) Drainage Section staff. Department of Public Works Drainage staff have determined that existing storm water facilities are adequate to handle the increase in drainage associated with the project. Future development will be required, per County Design Criteria, to use Best Management Practices to minimize impervious surface area and to filter and recharge runoff to the extent feasible on the project site.

9. Contribute to flood levels or erosion in natural water courses by discharges of newly collected runoff?	____	____	X	____

See response B-8 above.

10. Otherwise substantially degrade water supply or quality?	____	____	X	____

See responses B-5 & B-8 above. No other potential impacts to water supply or quality have been identified.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
C. Biological Resources Does the project have the potential to:				
1. Have an adverse effect 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?	_____	X	_____	_____

The subject property is located within a mapped biotic resource area and is designated as a special forest in the County GIS mapping system, potentially containing San Andreas Oak Woodland and San Andreas Maritime Chaparral sensitive habitat areas. The site is also mapped in the California Natural Diversity Database as having the potential for Hooker's Manzanita and California Red-Legged Frog, both special status species.

A biotic report was prepared for this project, dated 7/09 (Attachment 9). The biotic report included a vegetation survey prepared by Patti Krieberg, Sunset Coast Nursery and a wildlife assessment prepared by Dana Bland, Wildlife Biologist. These reports evaluated existing and historic site conditions and investigated the site for the presence of special status plant and animal species. The reports identified the presence of San Andreas Maritime Chaparral and San Andreas Oak Woodland, although historic disturbance, non-native grassland, and eucalyptus forest are also present on the property. Hooker's manzanita (a protected special status species) was identified; with many seedlings sprouting after the 2008 Trabing Fire, and one California Red-Legged Frog (a protected special status species) was also identified on the property. As summarized in the reports, the proposed development envelopes will be located outside of San Andreas Maritime Chaparral and San Andreas Oak Woodland areas and the subject property does not provide suitable habitat for long-term breeding and survival of special status wildlife species. The property owners are also actively engaged in the removal of invasive, non-native plant species (eucalyptus forest and pampas grass) to improve the conditions for the native chaparral and woodland plant communities. The reports recommend measures to protect and enhance existing plant communities (through the placement of temporary fencing and continued removal of non-native, invasive species) and to protect the existing California Red-Legged Frog (through on-site monitoring during construction).

The first iteration of the project plans included an upper building site that would have potentially impacted existing chaparral vegetation if fire clearance had been maintained from structures built in the future. The project plans have since been revised, and the upper building site has been located away from the existing chaparral vegetation on the subject property. The biotic reports have been reviewed and accepted by the Planning Department's Environmental Planning Section and an independent third party

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

biologist (Attachment 10). The recommendations contained in the biotic reports and the review and acceptance letter prepared by Environmental Planning staff will adequately mitigate potential impacts to special status species and sensitive habitat areas. Further ongoing monitoring and removal of non-native, invasive species will ensure long term survival of the sensitive plant communities and will increase the functional capacity of the biotic resources on the subject property.

2. Have an adverse effect on a sensitive biotic community (riparian corridor), wetland, native grassland, special forests, intertidal zone, etc.)?	____	X	____	____

See response C-1 above.

3. Interfere 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 or migratory wildlife nursery sites?	____	____	X	____

The proposed project does not involve any activities that would interfere with the movements or migrations of fish or wildlife, or impede use of a known wildlife nursery site.

4. Produce nighttime lighting that will illuminate animal habitats?	____	____	X	____

Development of the proposed Parcel B will result in a small, incremental increase in night time lighting. This small, incremental increase in nighttime lighting will not result in an impact to surrounding wildlife habitat areas.

5. Make a significant contribution to the reduction of the number of species of plants or animals?	____	X	____	____

See response C-1 above.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
6. Conflict with any local policies or ordinances protecting biological resources (such as the Significant Tree Protection Ordinance, Sensitive Habitat Ordinance, provisions of the Design Review ordinance protecting trees with trunk sizes of 6 inch diameters or greater)?			X	

See response C-1 above. General Plan policy 5.1.5(b) (Land Division and Density Requirements in Sensitive Habitats - Special Forests) prohibits land divisions on parcels that are mapped with a special forest designation, unless the land division is at the lowest end of the General Plan density range and the building sites are clustered and located outside of the sensitive habitat areas. In this proposal, the land division will be at the lowest end of the 2.5-20 acre density range (at 20 net developable acres per parcel), the building sites are clustered (accessed via one driveway, utilizing a shared well, and located towards the center of the existing parcel) and will be located outside of sensitive habitat areas.

7. Conflict with the provisions of an adopted Habitat Conservation Plan, Biotic Conservation Easement, or other approved local, regional, or state habitat conservation plan?				X

D. Energy and Natural Resources

Does the project have the potential to:

1. Affect or be affected by land designated as "Timber Resources" by the General Plan?				X
2. Affect or be affected by lands currently utilized for agriculture, or designated in the General Plan for agricultural use?				X

The project site is not currently being used for agriculture and no agricultural uses are proposed for the site or surrounding vicinity.

3. Encourage activities that result in the use of large amounts of fuel, water, or energy, or use of these in a wasteful manner?				X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
4. Have a substantial effect on the potential use, extraction, or depletion of a natural resource (i.e., minerals or energy resources)?				X

E. Visual Resources and Aesthetics

Does the project have the potential to:

1. Have an adverse effect on a scenic resource, including visual obstruction of that resource?			X	

Although the southern portion of the subject property is located within the viewshed of Highway 1, all proposed development will be outside of the mapped scenic resource area and the project would not directly impact any public scenic resources, as designated in the County's General Plan (1994), or obstruct any public views of these visual resources.

2. Substantially damage scenic resources, within a designated scenic corridor or public view shed area including, but not limited to, trees, rock outcroppings, and historic buildings?			X	

See response E-1 above.

3. Degrade the existing visual character or quality of the site and its surroundings, including substantial change in topography or ground surface relief features, and/or development on a ridge line?			X	

The existing visual setting is a rural residential property with rolling hills and natural vegetation. The proposed project is sited and designed to fit into this setting.

4. Create a new source of light or glare which would adversely affect day or nighttime views in the area?			X	

Development of the proposed Parcel B will result in a small, incremental increase in night time lighting. This small, incremental increase in nighttime lighting will not adversely affect day or nighttime views in the area.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
5. Destroy, cover, or modify any unique geologic or physical feature?			X	

There are no unique geological or physical features on or adjacent to the site that would be destroyed, covered, or modified by the project.

F. Cultural Resources

Does the project have the potential to:

1. Cause an adverse change in the significance of a historical resource as defined in CEQA Guidelines 15064.5?			X	

The existing structure on the property is not designated as a historic resource on any federal, State or local inventory.

2. Cause an adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines 15064.5?			X	

No archeological resources have been identified in the project area. Pursuant to County Code Section 16.40.040, if at any time in the preparation for or process of excavating or otherwise disturbing the ground, any human remains of any age, or any artifact or other evidence of a Native American cultural site which reasonably appears to exceed 100 years of age are discovered, the responsible persons shall immediately cease and desist from all further site excavation and comply with the notification procedures given in County Code Chapter 16.40.040.

3. Disturb any human remains, including those interred outside of formal cemeteries?			X	

Pursuant to Section 16.40.040 of the Santa Cruz County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this project, human remains are discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the sheriff-coroner and the Planning Director. If the coroner determines that the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established.

4. Directly or indirectly destroy a unique paleontological resource or site?				X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

G. Hazards and Hazardous Materials

Does the project have the potential to:

1. Create a significant hazard to the public or the environment as a result of the routine transport, storage, use, or disposal of hazardous materials, not including gasoline or other motor fuels?			X	

The proposed project will not involve handling or storage of hazardous materials.

2. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	

The project site is not included on the 2/17/10 list of hazardous sites in Santa Cruz County compiled pursuant to the specified code.

3. Create a safety hazard for people residing or working in the project area as a result of dangers from aircraft using a public or private airport located within two miles of the project site?			X	

The subject property is located within two miles of the Watsonville Airport, however, the subject property is located outside of designated Airport Safety Compatibility Zones and no hazards are anticipated.

4. Expose people to electro-magnetic fields associated with electrical transmission lines?				X
5. Create a potential fire hazard?			X	

The project design incorporates all applicable fire safety code requirements and will include fire protection devices as required by the local fire agency.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
6. Release bio-engineered organisms or chemicals into the air outside of project buildings?				X

H. Transportation/Traffic

Does the project have the potential to:

1. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			X	

The project would create a small incremental increase in traffic on nearby roads and intersections. However, given the small number of new trips created by the project (one additional peak trip), this increase is less than significant. Further, the increase would not cause the Level of Service at any nearby intersection to drop below Level of Service D.

2. Cause an increase in parking demand which cannot be accommodated by existing parking facilities?			X	

The project meets the code requirements for the required number of parking spaces and therefore new parking demand would be accommodated on site.

3. Increase hazards to motorists, bicyclists, or pedestrians?			X	

The proposed project would comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians.

4. Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level of service standard established by the county congestion management agency for designated intersections, roads or highways?			X	

See response H-1 above.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

I. Noise

Does the project have the potential to:

1. Generate a permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	

The project would create an incremental increase in the existing noise environment. However, this increase would be small, and would be similar in character to noise generated by the surrounding existing uses.

2. Expose people to noise levels in excess of standards established in the General Plan, or applicable standards of other agencies?			X	

Per County policy, average hourly noise levels shall not exceed the General Plan threshold of 50 L_{eq} during the day and 45 L_{eq} during the nighttime. Impulsive noise levels shall not exceed 65 db during the day or 60 db at night. The proposed residential development would be located approximately 750-1000 feet from the northbound lane of Highway 1. Additionally, the subject property drops down to a valley below the grade of the highway. For these reasons, it is unlikely that people will be exposed to noise in excess of the specified range.

3. Generate a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	

Noise generated during construction would increase the ambient noise levels for adjoining areas. Construction would be temporary, however, and given the limited duration of this impact it is considered to be less than significant.

J. Air Quality

Does the project have the potential to:
(Where available, the significance criteria established by the MBUAPCD may be relied upon to make the following determinations).

1. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	

The North Central Coast Air Basin does not meet State standards for ozone and

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

particulate matter (PM10). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors (Volatile Organic Compounds [VOCs] and nitrogen oxides [NOx]), and dust.
Given the minimal amount of new traffic that would be generated by the project there is no indication that new emissions of VOCs or NOx would exceed Monterey Bay Unified Air Pollution Control District (MBUAPCD) thresholds for these pollutants and therefore there would not be a significant contribution to an existing air quality violation.
Project construction may result in a short-term, localized decrease in air quality due to generation of dust. However, standard dust control best management practices, such as periodic watering, will be required during construction to reduce impacts to a less than significant level.

2.	Conflict with or obstruct implementation of an adopted air quality plan?			X	

The project would not conflict with or obstruct implementation of the regional air quality plan. See J-1 above.

3.	Expose sensitive receptors to substantial pollutant concentrations?				X
4.	Create objectionable odors affecting a substantial number of people?				X

K. Public Services and Utilities
Does the project have the potential to:

1.	Result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
	a. Fire protection?			X	
	b. Police protection?			X	
	c. Schools?			X	

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
d. Parks or other recreational activities?			X	
e. Other public facilities; including the maintenance of roads?			X	

While the project represents an incremental contribution to the need for services, the increase would be minimal. Moreover, the project meets all of the standards and requirements identified by the local fire agency and school, park, and transportation fees paid by the applicant will be used to offset the incremental increase in demand for school and recreational facilities and public roads.

2. Result in the need for construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	

See responses B-7 & B-8 above.

3. Result in the need for construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	

The project would rely on sharing the well with the existing residence for water supply. Public water delivery facilities would not have to be expanded.

The project would be served by an on-site sewage disposal system, which would be adequate to accommodate the relatively light demands of the project.

4. Cause a violation of wastewater treatment standards of the Regional Water Quality Control Board?			X	

The project's wastewater flows would not violate any wastewater treatment standards.

5. Create a situation in which water supplies are inadequate to serve the project or provide fire protection?			X	

The existing well serving the project site and additional water tanks as required by the

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

local fire agency will provide adequate water for fire suppression. Additionally, the fire agency has reviewed and approved the project plans, assuring conformity with fire protection standards that include minimum requirements for water supply for fire protection.

6.	Result in inadequate access for fire protection?	____	____	X	____

The project's road access meets County standards and has been approved by the local fire agency or California Department of Forestry, as appropriate.

7.	Make a significant contribution to a cumulative reduction of landfill capacity or ability to properly dispose of refuse?	____	____	X	____

The project would make an incremental contribution to the reduced capacity of regional landfills. However, this contribution would be relatively small and would be of similar magnitude to that created by existing land uses around the project.

8.	Result in a breach of federal, state, and local statutes and regulations related to solid waste management?	____	____	____	X

L. Land Use, Population, and Housing

Does the project have the potential to:

1.	Conflict with any policy of the County adopted for the purpose of avoiding or mitigating an environmental effect?	____	____	X	____

The proposed project does not conflict with any policies adopted for the purpose of avoiding or mitigating an environmental effect.

2.	Conflict with any County Code regulation adopted for the purpose of avoiding or mitigating an environmental effect?	____	____	X	____

The proposed project does not conflict with any regulations adopted for the purpose of avoiding or mitigating an environmental effect.

3.	Physically divide an established community?	____	____	____	X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

The project does not include any element that would physically divide an established community.

4.	Have a potentially significant growth inducing effect, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	_____	_____	X	_____

The proposed project is designed at the density and intensity of development allowed by the General Plan and zoning designations for the parcel. Additionally, the project does not involve extensions of utilities (e.g., water, sewer, or new road systems) into areas previously not served. Consequently, it is not expected to have a significant growth-inducing effect.

5.	Displace substantial numbers of people, or amount of existing housing, necessitating the construction of replacement housing elsewhere?	_____	_____	X	_____

The proposed project would entail a net gain in housing units.

M. Non-Local Approvals

Does the project require approval of federal, state, or regional agencies? Yes ____ No X

N. Mandatory Findings of Significance

1. 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, substantially reduce the number or restrict the range of a rare or endangered plant, animal, or natural community, or eliminate important examples of the major periods of California history or prehistory? Yes ____ No X

2. Does the project have the potential to achieve short term, to the disadvantage of long term environmental goals? (A short term impact on the environment is one which occurs in a relatively brief, definitive period of time while long term impacts endure well into the future) Yes ____ No X

3. 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, and the effects of reasonably foreseeable future projects which have entered the Environmental Review stage)? Yes ____ No X

All new construction will comply with the County's Green Building ordinance to reduce greenhouse gas emissions. The maximum increase in development potential would be one additional primary dwelling unit and one accessory dwelling unit. As a result, cumulative impacts resulting from the project would be less than significant.

4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Yes ____ No X

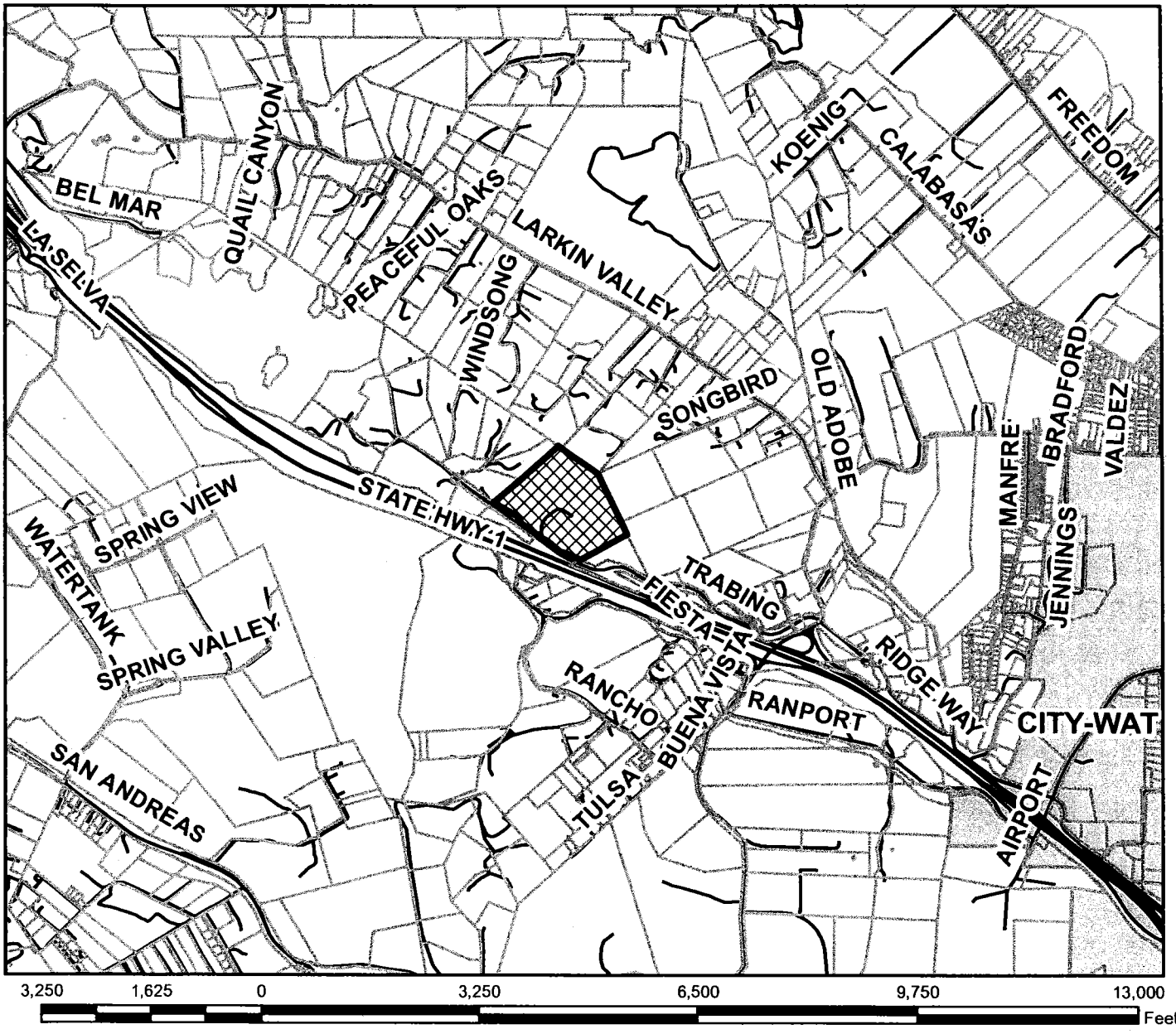
TECHNICAL REVIEW CHECKLIST

	REQUIRED	COMPLETED	N/A
Agricultural Policy Advisory Commission (APAC) Review			X
Archaeological Review			X
Biotic Report/Assessment		XXX	
Geologic Hazards Assessment (GHA)			X
Geologic Report			X
Geotechnical (Soils) Report		XXX	
Riparian Pre-Site			X
Septic Lot Check		XXX	
Well Pumping Test		XXX	

Attachments:

1. Vicinity Map, Map of Zoning Districts, Map of General Plan Designations, Assessors Parcel Map
2. Tentative Map & Preliminary Improvement Plans prepared by C2G/Civil Consultants Group, Inc., revised 1/13/10.
3. Geotechnical Investigation (Conclusions and Recommendations) prepared by prepared by Dees & Associates, dated 5/12/09, 12/21/09 & 1/28/10.
4. Geotechnical Review Letter prepared by Carolyn Banti, dated 2/12/10.
5. Septic Site Evaluation prepared by Environmental Health Services, dated 8/4/09.
6. Application for Individual Water System (including well pumping test, dated 7/31/09).
7. Discretionary Application Comments, dated 3/2/10.
8. Drainage Calculations prepared by C2G/Civil Consultants Group, dated 11/17/09.
9. Biotic Report (Summary and Recommendations) including vegetation survey prepared by Patti Krieberg, Sunset Coast Nursery, dated 7/09, and wildlife assessment prepared by Dana Bland, Wildlife Biologist, dated 07/09.
10. Biotic Report Review Letters prepared by Matthew Johnston, dated 10/14/09 and Ecosystems West, dated 10/5/09.

Location Map



LEGEND

- APN: 049-481-01
- Assessors Parcels
- Streets
- State Highways
- WATSONVILLE

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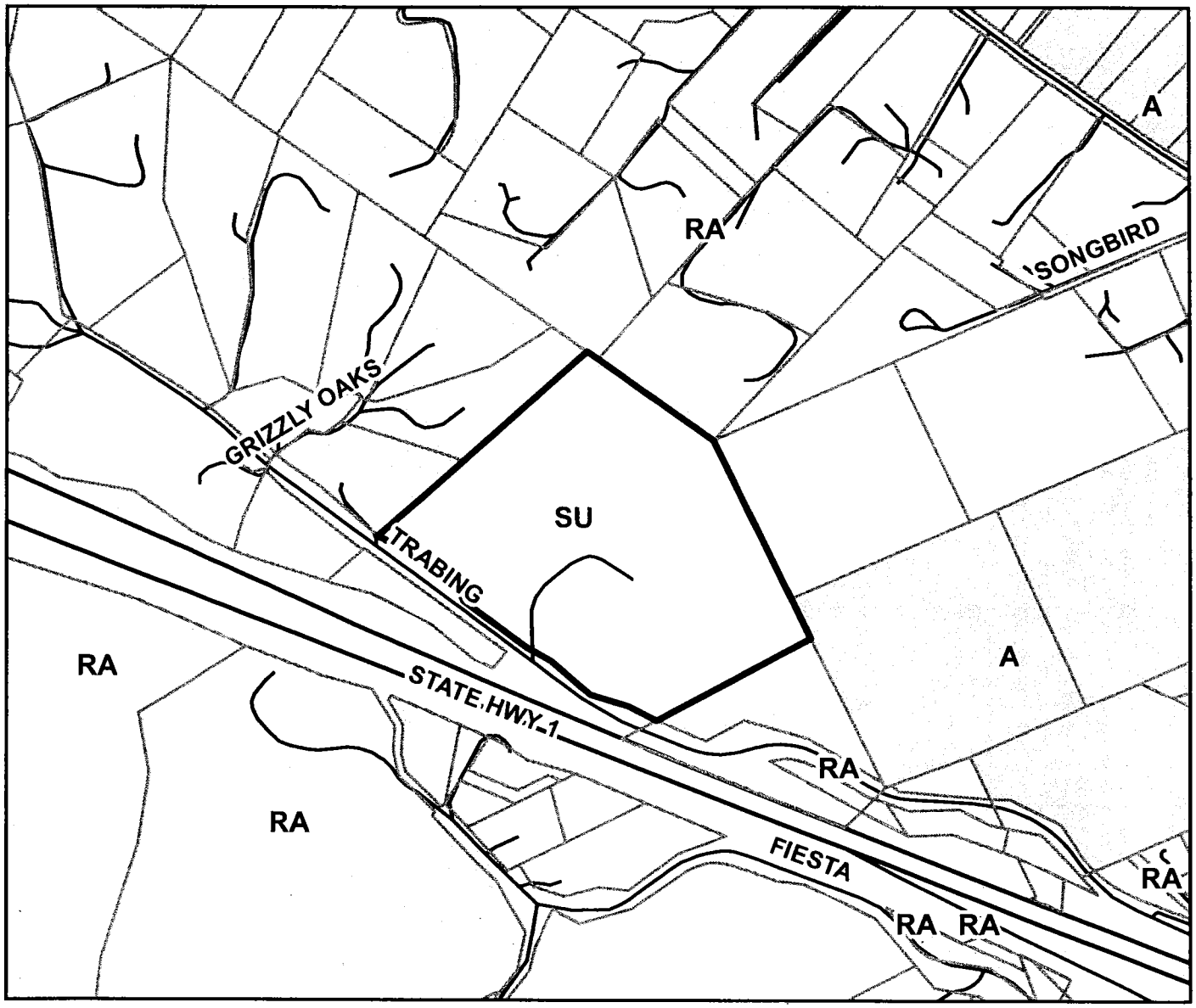
Map Created by
County of Santa Cruz
Planning Department
March 2010

ATTACHMENT 1

Zoning Map



1,000 500 0 1,000 2,000 3,000 4,000 Feet

LEGEND

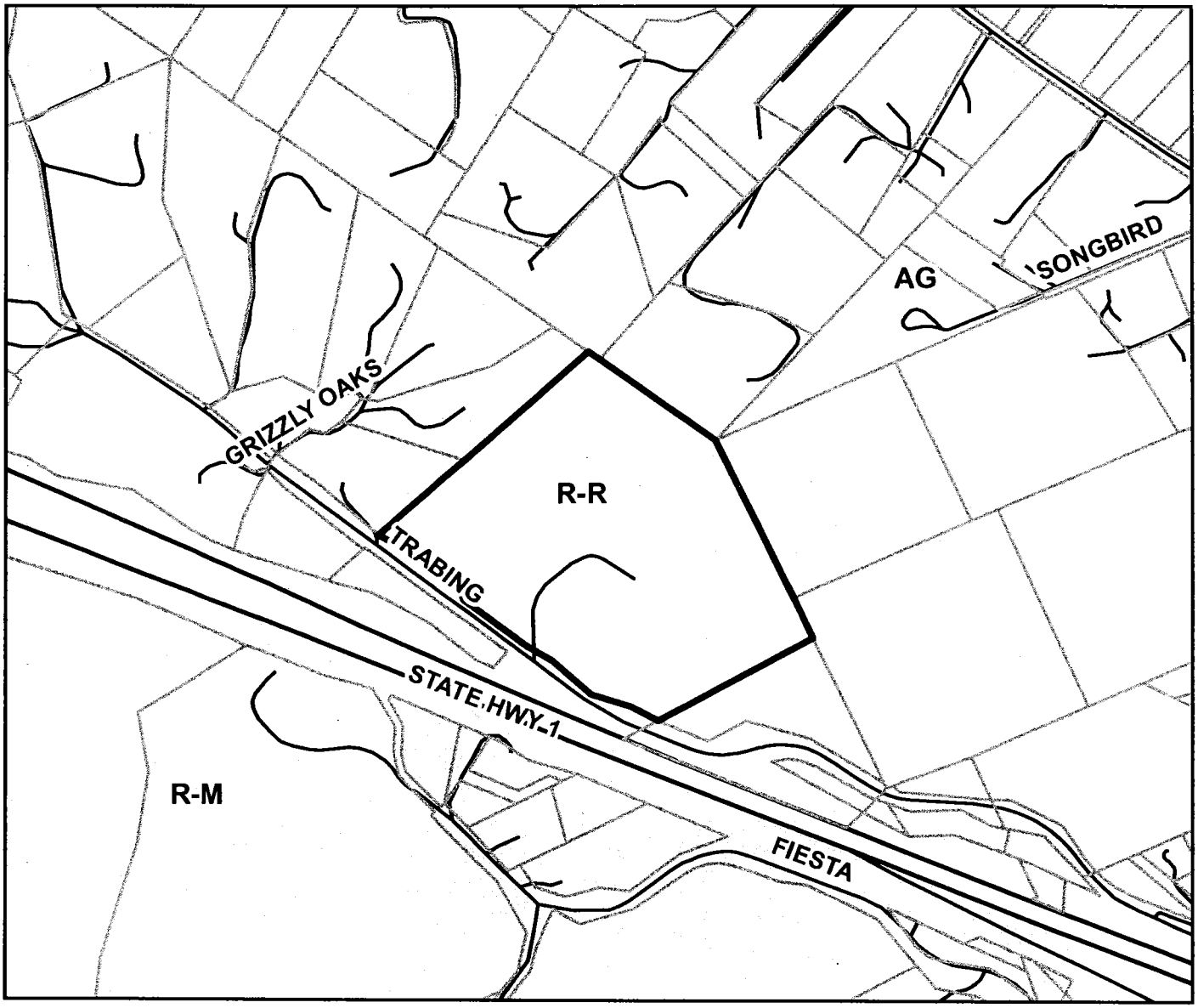
- APN: 049-481-01
- Assessors Parcels
- Streets
- State Highways
- SPECIAL USE
- AGRICULTURE RESIDENTIAL
- AGRICULTURE

N W E S

Map Created by
County of Santa Cruz
Planning Department
March 2010

ATTACHMENT 1

General Plan Designation Map



LEGEND

- APN: 049-481-01
- Assessors Parcels
- Streets
- State Highways
- Residential-Rural
- Agriculture
- Residential-Mountain

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
March 2010

ATTACHMENT 1

ATTACHMENT 1

- 23 -

FOR TAX PURPOSES ONLY

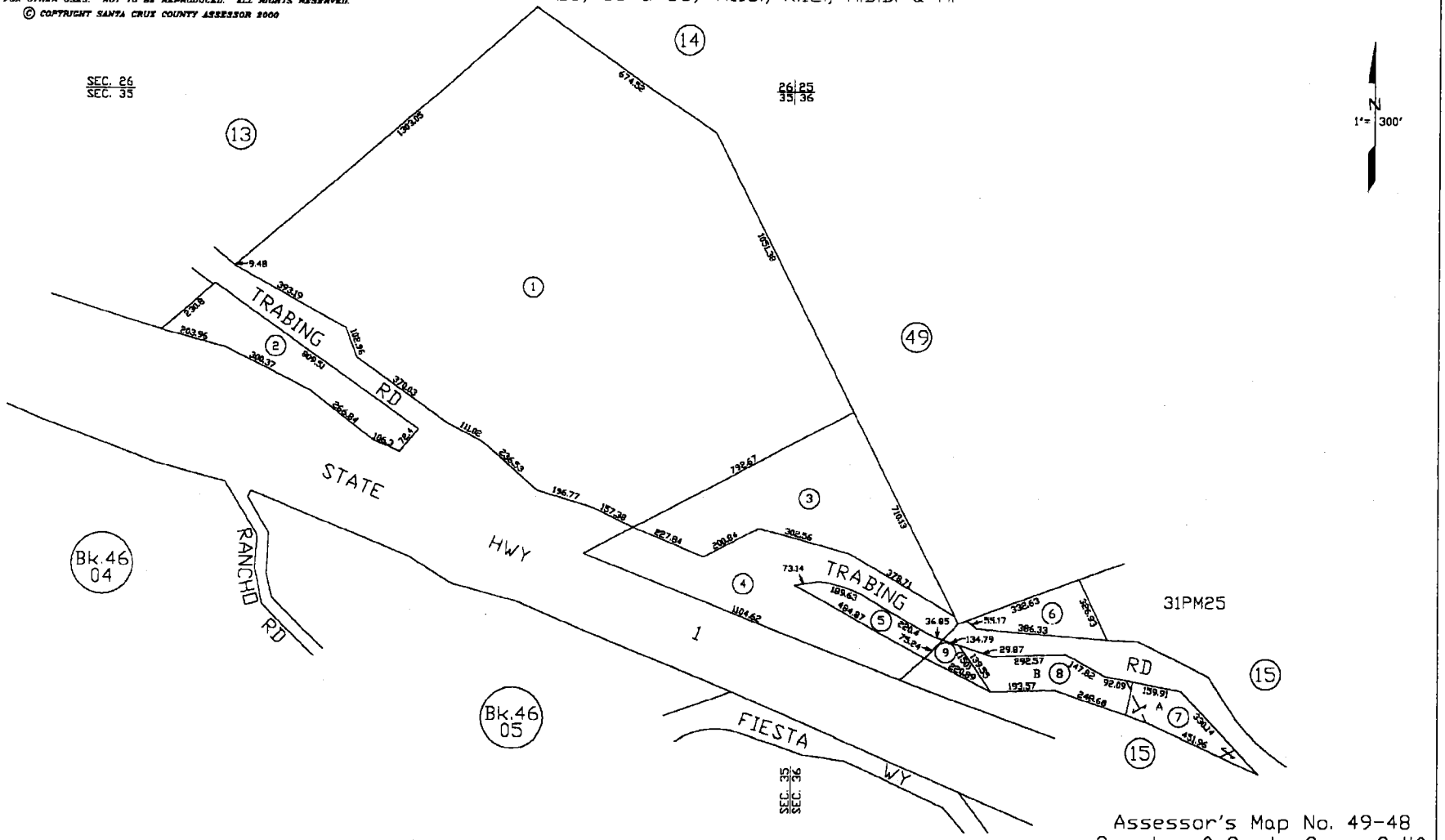
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.

SAN ANDREAS RANCHO

POR. SECS. 26, 35 & 36, T.11S., R.1E., M.D.B. & M.

Tax Area Code
69-264

49-48



Electronically redrawn 3/19/00 KSA
Rev. 3/19/00 KSA (Por. from Pg. 13)
Rev. 6/4/01 nvn (changed page refs)

Note - Assessor's Parcel & Block Numbers Shown In Circles.

Assessor's Map No. 49-48
County of Santa Cruz, Calif.
March 2000

Cecy Residence

Tentative Map

APN 049-481-01
820 Trabing Rd.
Watsonville, Ca 95076

Grading Notes

1. DESIGNATE A "DISTURBANCE COORDINATOR" TO RESPOND TO CITIZEN COMPLAINTS AND INQUIRIES REGARDING CONSTRUCTION NOISE AND DUST. THE NAME PURPOSE AND TELEPHONE NUMBER OF THE DISTURBANCE COORDINATOR SHALL BE POSTED ON A SIGN EASILY VISIBLE FROM THE OFF-SITE DURING THE ENTIRE TIME THE PROJECT GRADING AND CONSTRUCTION OCCURS. THE DISTURBANCE COORDINATOR SHALL INVESTIGATE THE CONCERN AND TAKE REMEDIAL ACTION, IF NECESSARY, WITHIN 24 HOURS OF RECEIVING A COMPLAINT OR INQUIRY.
2. NO LAND CLEARING, GRADING OR EXCAVATING SHALL TAKE PLACE BETWEEN OCTOBER 15 AND APRIL 15 UNLESS A SEPARATE WINTER EROSION CONTROL PLAN IS APPROVED BY THE PLANNING DIRECTOR.
3. NO LAND DISTURBANCE SHALL TAKE PLACE PRIOR TO THE ISSUANCE OF BUILDING PERMITS, EXCEPT THE MINIMUM REQUIRED TO INSTALL STREET IMPROVEMENTS, PROVIDE ACCESS FOR COUNTY REQUIRED TESTS OR TO CARRY OUT OTHER WORK SPECIFICALLY REQUIRED BY ANOTHER OF THESE CONDITIONS.
4. THE CONTRACTOR SHALL APPLY WATER TO ALL EXPOSED EARTH SURFACE AT INTERVALS SUFFICIENT TO PREVENT AIRBORNE DUST FROM LEAVING THE PROJECT SITE. ALL EXPOSED EARTH SHALL BE WATERED DOWN AT THE END OF THE DAY.
5. WHILE IN TRANSIT TO AND FROM THE PROJECT SITE, ALL TRUCK TRANSPORTING FILL SHALL BE EQUIPPED WITH TARPS

Drainage Notes

1. POST-DEVELOPMENT RUNOFF WILL NOT BE GREATER THAN PRE-DEVELOPMET RUNOFF. CONTRACTOR SHALL INSTALL PROPOSED DRAINAGE SYSTEM PER PLANS AND ASSOCIATES GEOTECHNICAL REPORT RECOMMENDATIONS, DATED MAY 2009. ALL ADDITIONAL RUNOFF , FROM BUILDING AND PAVED AREAS, SHALL BE RETAINED ON THE PARCEL.

Fire Department Notes

1. ALL BRIDGES, CULVERTS AND CROSSINGS SHALL BE CERTIFIED BY A REGISTERED ENGINEER, MINIMUM CAPACITY OF 25 TONS. CALTRANS H-20 LOADING STANDARD.
2. THE DRIVEWAY SHALL BE 12 FEET MINIMUM WIDTH AND MAXIMUM TWENTY PERCENT SLOPE. THE DRIVEWAY SHALL BE IN PLACE TO THE FOLLOWING STANDARDS PRIOR TO ANY FRAMING CONSTRUCTION, OR CONSTRUCTION WILL BE STOPPED.
3. THE DRIVEWAY SURFACE SHALL BE "ALL WEATHER A MINIMUM 6" OF COMPACTED AGGREGATE % COMPACTION AND SHALL BE BASE ROCK, CLASS 3 OR EQUIVALENT CERTIFIED BY A LICENSED ENGINEER TO 95% MAINTAINED.
4. ALL WEATHER SURFACE: SHALL BE A MINIMUM OF 6" OF COMPACTED CLASS II BASE ROCK FOR GRADES UP TO AND INCLUDING 5%.
5. OIL AND SCREENED FOR GRADES UP TO AND INCLUDING 15% ASPHALTIC CONCRETE, BUT IN NO CASE EXCEEDING 20 GRADES EXCEEDING 15 THE MAXIMUM GRADE OF THE DRIVEWAY SHALL NOT EXCEED 20 %. NOT PERMITTED FOR %, WITH GRADES OF 15 DISTANCES OF MORE THAN 200 FEET AT A TIME.
6. THE DRIVEWAY SHALL HAVE AN OVERHEAD CLEARANCE OF 14 FEET VERTICAL DISTANCE FOR ITS ENTIRE WIDTH.
7. ALL PRIVATE ACCESS ROADS, DRIVEWAYS, TURNAROUNDS AND BRIDGES ARE THE RESPONSIBILITY OF THE OWNER(S) OF RECORD AND SHALL BE MAINTAINED TO ENSURE THE FIRE DEPARTMENT SAFE AND EXPEDIENT PASSAGE AT ALL TIMES.
8. ***THE FOLLOWING CONDITIONS SHALL BE ADDRESSED DURING THE BUILDING PERMIT STAGE FOR EACH PARCEL***
   - THE PLANS SHALL BE IN COMPLIANCE WITH CALIFORNIA BUILDING AND FIRE CODES (2001) AND DISTRICT AMENDMENTS.
   - URBAN WILDLAND INTERFACE CODE PAPERS SHALL BE FILLED OUT PRIOR TO SUBMITTING FOR A BUILDING PERMIT.
   - THE BUILDING PLANS SHALL NOTE THE OCCUPANCY CLASSIFICATION, BUILDING CONSTRUCTION TYPE, FIRE SUPPRESSED OR SPRINKLERED.
   - THE PLANS SHALL SHOW DETAILS OF COMPLIANCE WITH DISTRICT RURAL WATER STORAGE REQUIREMENTS.
   - THE PLANS SHALL NOTE THAT ALL HYDRANTS, WATER STORAGE TANKS AND/OR UPGRADED ROADWAYS SHALL BE INSTALLED PRIOR TO AND DURING TIME OF CONSTRUCTION.
   - NOTE ON THE PLANS THAT THE BUILDING SHALL BE PROTECTED BY AN APPROVED AUTOMATIC SPRINKLER SYSTEM COMPLYING WITH THE EDITION OF NFPA 13D CURRENTLY ADOPTED IN CHAPTER 35 OF THE CALIFORNIA BUILDING CODE. - THE BUILDING PLANS SHALL SHOW THE LOCATIONS OF ALL SNOW DIRECTORS.
   - THE PLANS SHALL NOTE WHERE ADDRESS NUMBERS WILL BE POSTED AND MAINTAINED.
   - THE PLANS SHALL NOTE THAT THE ROOF COVERINGS SHALL BE NO LESS THAN A CLASS "B" RATED ROOF.
   - THE PLANS SHALL NOTE THAT A 100 FOOT CLEARANCE WILL BE MAINTAINED WITH NON-COMBUSTABLE VEGETATION AROUND ALL STRUCTURES
9. ALL FIRE DEPARTMENT BUILDING REQUIREMENTS AND FEES WILL BE ADDRESSED IN THE BUILDING PERMIT PHASE.
10. ANY CHANGES OR ALTERATIONS SHALL BE RESUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION
11. A 72 HOUR MINIMUM NOTICE IS REQUIRED PRIOR TO ANY INSPECTION AND/OR TEST.
12. NOTE: AS A CONDITION OF SUBMITTAL OF THESE PLANS, THE SUBMITTER, DESIGNER AND INSTALLER CERTIFY THAT THESE PLANS AND DETAILS COMPLY WITH THE APPLICABLE SPECIFICATIONS, STANDARDS, CODES AND ORDINANCES, AND FURTHER AGREE TO CORRECT ANY DEFICIENCIES NOTED BY THIS REVIEW, SUBSEQUENT REVIEW, INSPECTION OR OTHER SOURCE, AND, TO HOLD HARMLESS AND WITHOUT PREJUDICE, THE REVIEWING AGENCY.

General Notes

1. SHADING IN PLAN INDICATES NEW ASPHALTIC CONCRETE PAVING.
2. ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE REQUIREMENTS IN THE CURRENT EDITION OF THE "COUNTY OF SANTA CRUZ DESIGN CRITERIA."
3. WORK SHALL BE LIMITED TO 8:00 A.M. TO 5:00 P.M. WEEKDAYS. NON-NOISE PRODUCING ACTIVITIES, SUCH AS INTERIOR PAINTING, SHALL NOT BE SUBJECT TO THIS RESTRICTION.
4. ALL FIGURE (FIG.) REFERENCES, UNLESS OTHERWISE SPECIFIED, REFER TO STANDARD DRAWINGS IN THE CURRENT EDITION OF THE "COUNTY OF SANTA CRUZ DESIGN CRITERIA".
5. NO CHANGES IN THE APPROVED IMPROVEMENT PLANS SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.
6. BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, ANY EXPOSED SOIL OR DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.
7. ALL GRADING WORK AND CONSTRUCTION OF IMPROVEMENTS SHALL BE DONE IN ACCORDANCE WITH RECOMMENDATIONS SPECIFIED IN THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT.
8. PURSUANT TO SECTIONS 16.40.040 AND 16.42.100 OF THE COUNTY CODE, IF AT ANY TIME DURING SITE PREPARATION, EXCAVATION, OR OTHER GROUND DISTURBANCE ASSOCIATED WITH THIS DEVELOPMENT, ANY ARTIFACT OR OTHER EVIDENCE OF AN HISTORIC ARCHEOLOGICAL RESOURCE OR A NATIVE AMERICAN CULTURAL SITE IS DISCOVERED, THE RESPONSIBLE PERSONS SHALL IMMEDIATELY CEASE AND DESIST FROM ALL FURTHER SITE EXCAVATION AND NOTIFY THE SHERIFF-CORONER IF THE DISCOVERY CONTAINS HUMAN REMAINS, OR THE PLANNING DIRECTOR IF THE DISCOVERY CONTAINS NO HUMAN REMAINS. THE PROCEDURES ESTABLISHED IN SECTIONS 16.40.010 AND 16.42.100, SHALL BE OBSERVED.
9. THE DIRECTOR OF PUBLIC WORKS, OR HIS AUTHORIZED REPRESENTATIVE, SHALL HAVE THE AUTHORITY TO "STOP WORK" IF THE WORK IS NOT BEING DONE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS.
10. THE CONTRACTOR SHALL NOTIFY THE COUNTY CONSTRUCTION ENGINEER (831-454-2160) 24 HOURS PRIOR TO START OF CONSTRUCTION.
11. CONTRACTOR SHALL FIELD VERIFY ALL UNDERGROUND UTILITIES AND SUBSTRUCTURES PRIOR TO FURTHER CONSTRUCTION. HOWEVER, THE ENGINEER MUST BE NOTIFIED, IN WRITING, OF ANY DISCREPANCIES THAT MAY EXIST.
12. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO, OR USES OF, THESE PLANS. ALL CHANGES MUST BE IN WRITING, AND MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
13. UNLESS OTHERWISE NOTED, THE TERMS "INSTALL" AND "CONSTRUCT" MEAN THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS, PRODUCTS, EQUIPMENT, AND LABOR FOR SAID INSTALLATION AND CONSTRUCTION.
14. BOUNDARY SHOWN IS APPROXIMATE AND IS BASED ON PIPE FOUND. THEREFORE, BUILDING SET BACKS ARE APPROXIMATE.
15. NOTE ABOUT PIPE MATERIALS - PVC SHALL BE SCHEDULE 40, HDPE, SINGLE WALL MFG. BY HANCOR OR ADS.
16. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE SANTA CRUZ COUNTY DEPARTMENT OF PUBLIC WORKS FOR ANY UTILITY WORK WITHIN COUNTY RIGHT-OF-WAY NOT SPECIFICALLY SHOWN ON THESE PLANS.
17. FOR ROAD WORK INVOLVING A PAVEMENT CONFORM SECTION BETWEEN THE LIP OF GUTTER AND THE EXISTING PAVED ROAD, THE CONFORM SHALL BE EXTENDED AS FAR AS NECESSARY TO ACHIEVE A STREET CROSS SLOPE OF 3% - 4%.
18. ALL REQUIREMENTS OF THE CENTRAL FIRE PROTECTION DISTRICT SHALL BE MET. THIS SHALL INCLUDE ALL REQUIREMENTS RELATING TO ADDRESS NUMBERS, ACCESS WIDTHS AND TURNAROUNDS, AND FIRE HYDRANTS

Drawing Index

SHEET #	DESCRIPTION
C0.1	COVER SHEET
C1.1	TENTATIVE MAP
C2.1	SITE IMPROVEMENT PLANS
C3.1	DRIVEWAY PLAN & PROFILE
C3.2	DRIVEWAY PLAN & PROFILE
C4.1	DETAILS
C5.1	EXISTING SLOPE ANALYSIS

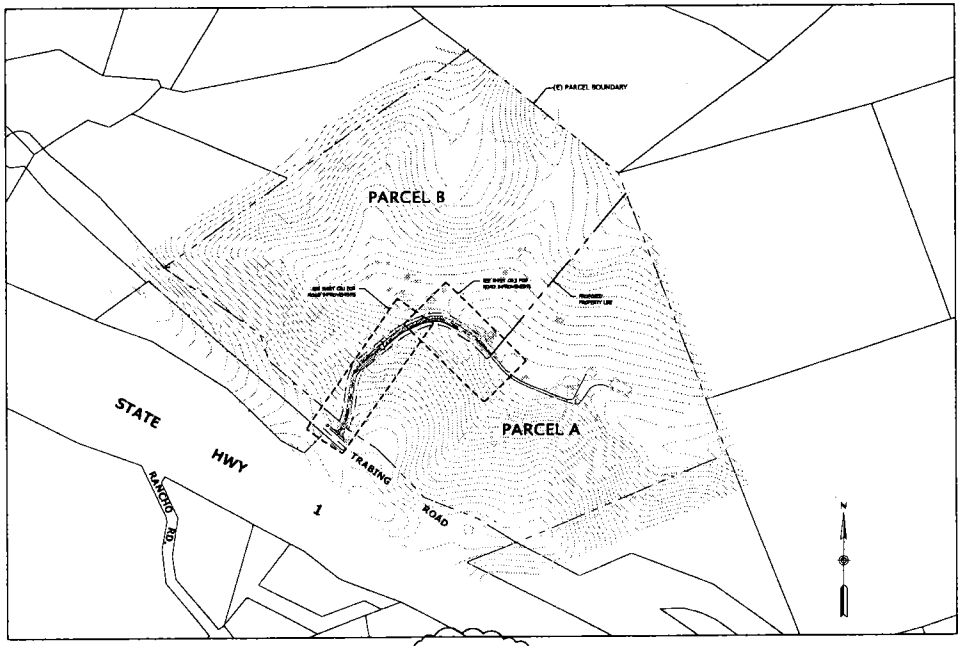
Project Consultants

OWNER / SUBDIVIDER
BRIAN CECY
820 TRABING RD.
WATSONVILLE, CA 95076

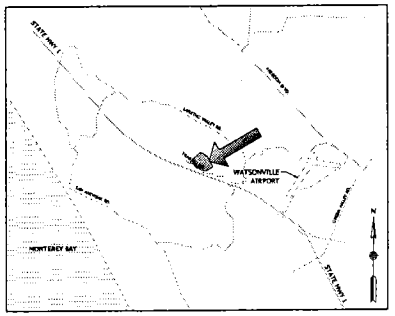
LAND USE CONSULTANTS:
POWERS LAND PLANNING, INC.
1907 OCEAN STREET, SUITE B
SANTA CRUZ, CA 95060
(831) 426-1663

CIVIL ENGINEER
C2G/CIVIL CONSULTANTS GROUP, INC.
4444 SCOTTS VALLEY DRIVE, SUITE 8
SCOTTS VALLEY, CA. 95066
(831) 438-4420

GEOTECHNICAL ENGINEER:
DEES AND ASSOCIATES
501 MISSION ST., SUITE 8A
SANTA CRUZ, CA 95060
(831) 427-1770



SITE PLAN
SCALE 1"=200'



VICINITY MAP
SCALE 1"=3000'

SITE GRADING VOLUME TOTALS

Note: The earthwork volumes shown herein are exclusive of utility trenches, building foundations, wall footings, and over excavation and recompaction.

Description	Cut cu.yds	Fill cu.yds	Net cu.yds
Road Widening	67	0	67 (C)
Grading	24	14	10 (C)
TOTAL	91	14	77 (C)

77 CU.YDS. EXPORT – TO BE BALANCED ON SITE

ALL EXCESS SOIL TO BE DISTRIBUTED ONSITE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATION

ESTIMATE DOES NOT INCLUDE STRIPPINGS, UTILITY TRENCH VOLUMES OR ANY OVEREXCAVATION, IF REQUIRED BY SITE CONDITIONS.

ESTIMATE ASSUMES A 10% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 10% EXPANSION FACTOR ON ALL CUT MATERIAL.

THE ABOVE QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE NECESSARY CUT AND FILL TO ACCOMPLISH FINISH GRADE SHOWN ON THESE PLANS.

C2G/CIVIL CONSULTANTS GROUP, INC.

DESIGNED UNDER
THE SUPERVISION OF _____ DATE
TODD R. CREAMER
RCE 64561
LICENSE EXPIRATION 06-30-11

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

REVISIONS	BY
1 S.C. COMMENTS 09/01/09	DD
2 S.C. COMMENTS 01/13/10	DD

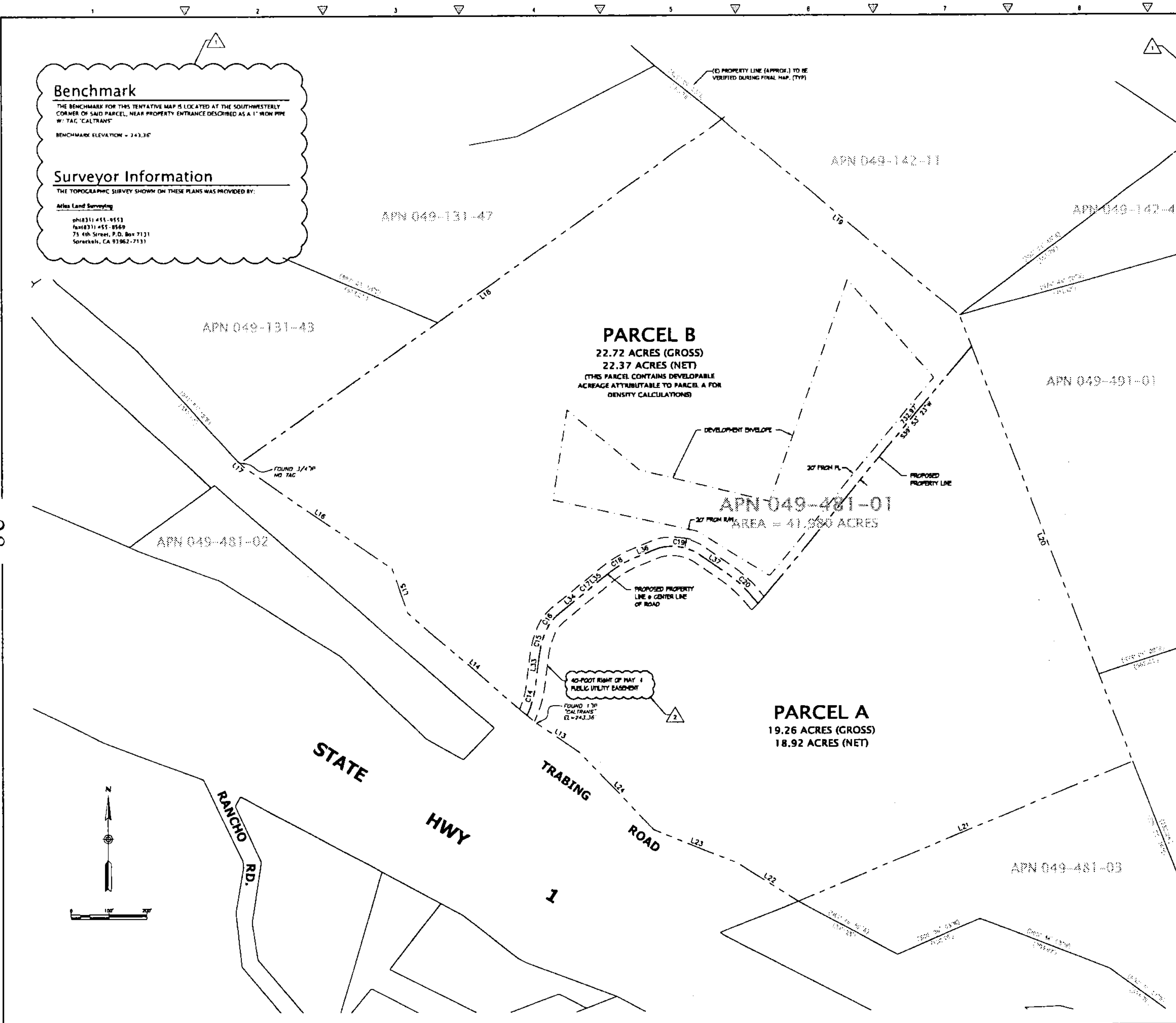
COVER SHEET

MLD #09-0276

C2G/CM Consultants Group, Inc.
Engineers/Surveyors
4444 Scotts Valley Drive, Suite 8
Scotts Valley, CA 95066
(831) 438-4420

CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

Date: 5.1.09
Scale: NTS
Drawn: DD
Job: 383-00
Sheet: C0.1
Of 7 Sheets



Benchmark

THE BENCHMARK FOR THIS TENTATIVE MAP IS LOCATED AT THE SOUTHWESTERLY CORNER OF SAID PARCEL, NEAR PROPERTY ENTRANCE DESCRIBED AS A 1" IRON PIPE W/ TAG "CALTRANS"

BENCHMARK ELEVATION = 243.36'

Surveyor Information

THE TOPOGRAPHIC SURVEY SHOWN ON THESE PLANS WAS PROVIDED BY:

Atlas Land Surveying
ph(831) 455-9553
fax(831) 455-8569
75 4th Street, P.O. Box 7131
Spreckels, CA 93962-7131

PROPOSED LOT SPLIT

Line #/Curve #	Length	Bearing/Delta
C14	86.52	19.99
L33	50.78	N7° 38' 02.21"E
C15	55.11	15.83
C16	41.98	26.17
L34	85.20	N50° 48' 17.02"E
C17	0.70	0.20
C18	59.79	14.46
L35	56.43	N51° 00' 18.33"E
L36	83.53	N67° 58' 34.72"E
C19	90.70	46.92
C20	82.42	17.50
L37	77.94	S55° 06' 58.93"E

(E) PARCEL (APN 049-481-01)

Line #/Curve #	Length	Bearing/Delta
L13	111.02	S55° 50' 48.63"E
L14	370.03	S48° 51' 19.63"E
L15	102.86	S19° 01' 37.63"E
L16	393.19	S55° 23' 12.63"E
L17	9.48	S45° 37' 37.63"E
L18	1303.05	S54° 22' 29.18"W
L19	674.52	N50° 12' 30.84"W
L20	1051.38	N20° 52' 30.84"W
L21	792.49	N67° 37' 29.18"E
L22	157.38	S57° 43' 12.63"E
L23	196.77	S68° 01' 37.63"E
L24	238.53	S43° 40' 22.83"E

Existing Parcel Notes

1. EXISTING PARCEL HAS BEEN TRAVERSED BASED ON CURRENT RECORD DATA FROM 2005-0089090 FILED AT THE SANTA CRUZ COUNTY RECORDER'S OFFICE.
2. TOTAL AREA SHOWN HAS BEEN CALCULATED FROM RECORD DATA MENTIONED ABOVE

PARCEL	AREA SQ.FT.	AREA ACRE	SETBACKS REQUIREMENTS: FRONT YARD	SIDE YARD	REAR YARD
A	839,508 SQ. FT.	19.26 ACRES	40	20 & 20	20
B	989,346 SQ. FT.	22.72 ACRES	40	20 & 20	20

DENSITY CALCULATIONS: THE REQUIRED MINIMUM 20-NET DEVELOPABLE ACRES PER PARCEL IS AVERAGED BETWEEN PARCELS A AND B

Parcel Calculations

	ACRES	SQ. FT.
EXISTING PARCEL	[illegible]	[illegible]

PARCEL A	ACRES	SQ. FT.
GROSS	19.26	839,508
- EASEMENT PORTION	0.34	14,100
- SLOPES >30%	0	0
NET	18.92	[illegible]

PARCEL B	ACRES	SQ. FT.
GROSS	22.72	[illegible]
- EASEMENT PORTION	0.35	[illegible]
- SLOPES >30%	0	0
NET	22.37	[illegible]

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

REVISIONS	BY
1 S.C. COMMENTS 09/01/09	DD
2 S.C. COMMENTS 01/13/10	DD

TENTATIVE MAP

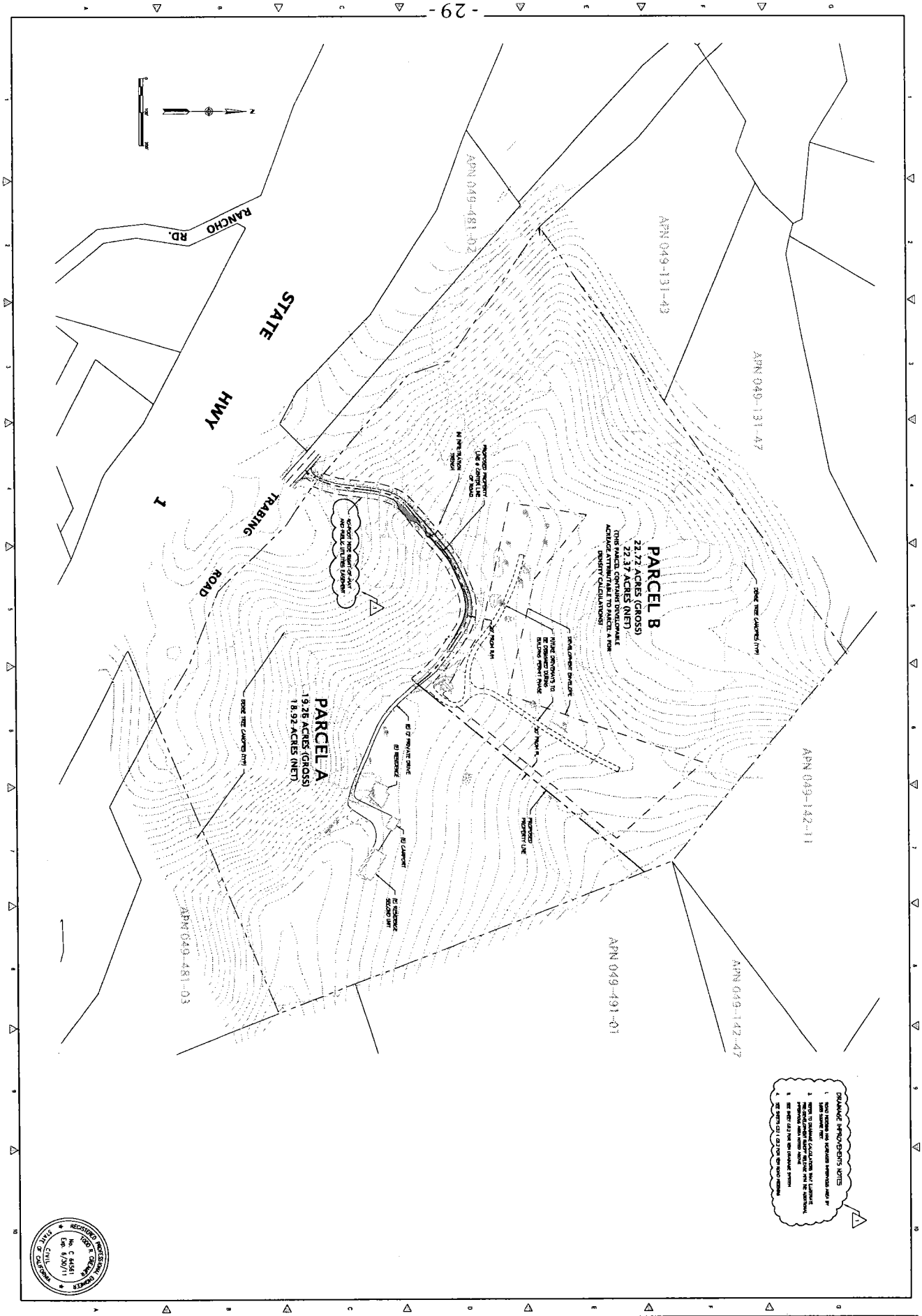
MLD #09-0276

C2G/CM Consultants Group, Inc.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
(831) 438-4420

CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

Date: 5.1.09
Scale: 1":100'
Drawn: DD
Job: 363-00
Sheet: C1.1
Of 7 Sheets

ATTACHMENT 2



C2G/Civil Consultants Group, Inc.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
(831) 438-4420

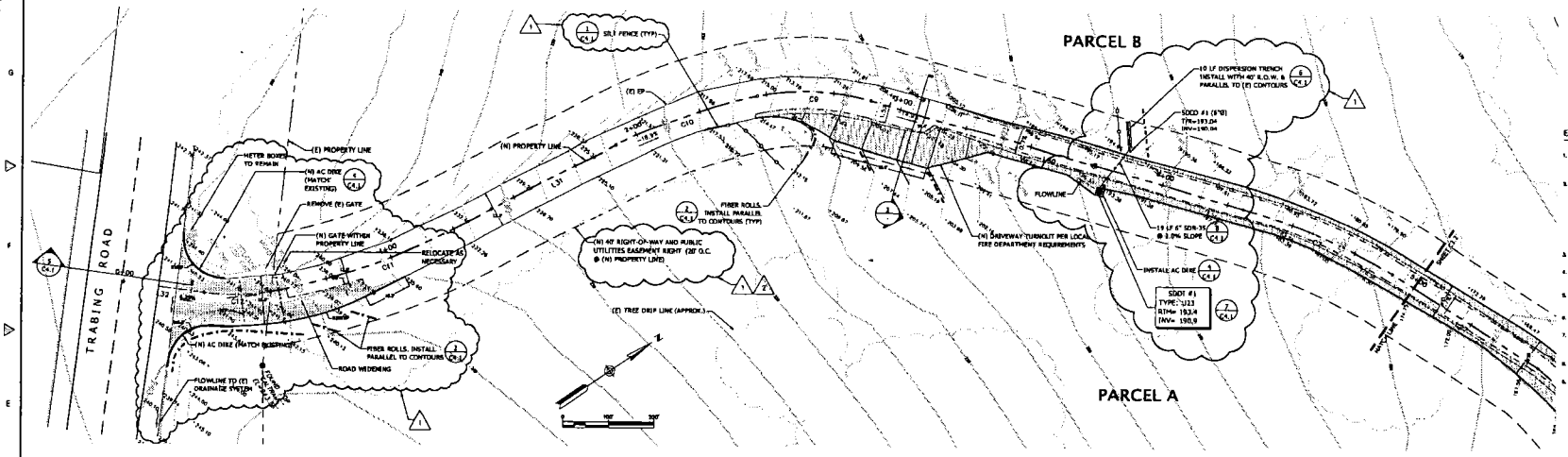
CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

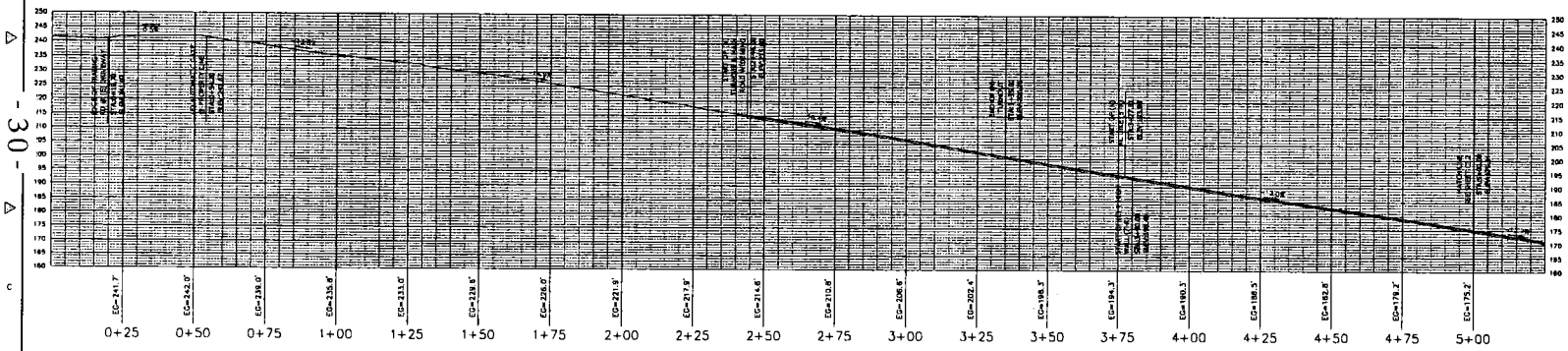
TENTATIVE MAP

MLD #09-0276

REVISIONS	BY
1 CC COMMENTS 09/01/09	DD

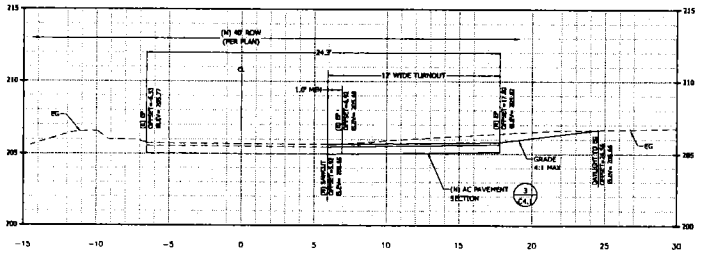
Date: 5.1.09
Scale: 1"=100'
Drawn: DD
Job: 343-00
Sheet: C2.1
Of 7 Sheets





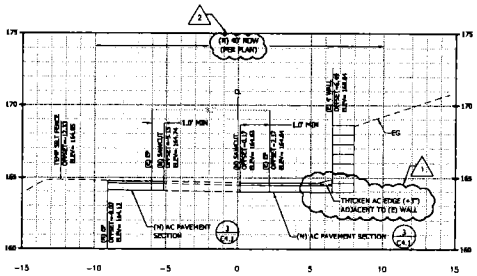
1 ROAD PROFILE @ CENTERLINE - STA. 0+00 TO 5+25

Scale: 1"=20'



2 ROAD SECTION @ (N) TURNOUT - STA. 3+06.00

Scale: 1"=4'



3 ROAD SECTION - STA. 5+84.00

Scale: 1"=4'

CENTERLINE ALIGNMENT DATA

Number	Radius	Length	Line/Chord Direction
C2	783.83	35.20	S67° 29' 31.85"E
C3	898.52	51.43	S67° 08' 06.48"E
C4	262.93	115.51	S52° 54' 19.79"E
C5	269.77	82.42	S46° 21' 50.35"E
C6	110.76	90.70	S82° 29' 51.02"E
C7	236.99	59.79	N58° 13' 54.16"E
C9	91.91	41.98	N37° 05' 32.15"E
C10	202.03	55.11	N15° 26' 56.71"E
C11	248.04	86.52	N13° 55' 10.88"E
C12	77.87	24.81	N33° 38' 33.01"E
L25		59.16	S40° 19' 09.58"E
L26		77.94	S55° 08' 58.93"E
L27		63.53	N87° 58' 34.72"E
L30		85.20	N50° 48' 17.02"E
L31		50.76	N7° 38' 02.21"E
L32		29.67	N42° 20' 53.18"E

LEGEND

- (N) SAW CUT LINE
- (N) PROPERTY LINE
- (N) 40' WIDE RIGHT OF WAY
- (E) EDGE OF PAVEMENT (EP)
- (N) AC PAVEMENT, SEE DETAIL 3, C4.1
- FIBER ROLL, SEE DETAIL 2, C4.1
- SILT FENCE, SEE DETAIL 1, C4.1

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 64561 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA

REVISIONS	BY
1 S.C. COMMENTS 09/01/09	DD
2 S.C. COMMENTS 01/13/10	DD

ACCESS ROAD
PLAN AND PROFILE
MLD #09-0276

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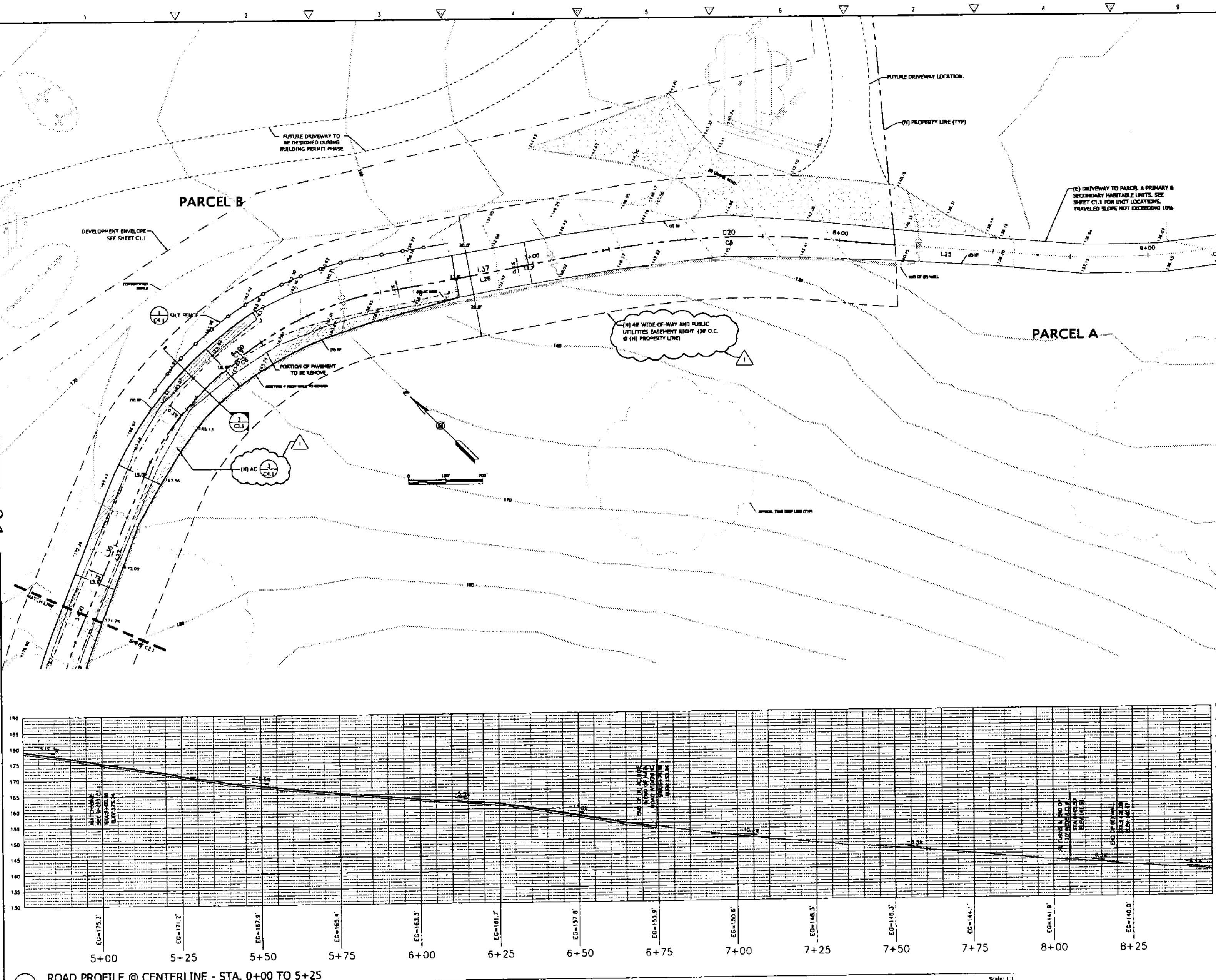
CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

Date: 5.1.09
Scale: 1"=20'
Drawn: DD
Job: 383-00
Sheet: C3.1
Of 7 Sheets

ATTACHMENT 2

- 30 -



1 ROAD PROFILE @ CENTERLINE - STA. 0+00 TO 5+25

Scale: 1:1

Erosion Control Notes

1. BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. HAY BALES, FILTER BERMS, OR OTHER MEANS SHALL BE EMPLOYED TO PREVENT TURBID RUNOFF TO ADJOINING PROPERTIES.
2. ALL AREA ON AND OFF SITE, EXPOSED DURING CONSTRUCTION, IF NOT PERMANENTLY LANDSCAPED PER PLANS, SHALL BE PROTECTED BY MULCHING AND/OR PLANTING OF THE FOLLOWING APPROVED EROSION CONTROL MIX, AT A RATE O 35 POUNDS PER ACRE:
   - BLANDO BROME
   - ROSE CLOVER (PELLET INNOCULATED)
   - CREEPING RED FESCUE
   - ZORRO ANNUAL FESCUE
   - WILDFLOWERS
3. UNNECESSARY GRADING AND DISTURBING OF SOIL SHALL BE AVOIDED.
4. ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE OR STOCKPILED IN A MANNER TO AVOID RUNOFF ONTO ADJOINING PROPERTIES.
5. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED AREAS SHALL BE PERMANENTLY REVEGETATED PER LANDSCAPE PLANS.
6. ANY MATERIAL STOCKPILED DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
7. DURING CONSTRUCTION, NO TURBID SITE WATER SHALL BE PERMITTED TO ENTER STORM DRAIN SYSTEM. USE OF SILT AND GREASE TRAPS, FILTER BERMS, OR HAY BALES MAY BE USED TO PREVENT SUCH DISCHARGE.
8. CONTRACTOR SHALL NOTIFY DSA 48 HOURS BEFORE ANY EARTHWORK IS BEGUN.
9. ALL CONSTRUCTION SHALL CONFORM "EXCAVATION, GRADING, EROSION AND SEDIMENT CONTROL REGULATIONS" PER DSA. NO CLEARING, GRADING, OR EXCAVATION SHALL TAKE PLACE BETWEEN OCTOBER 15, AND APRIL 15 UNLESS THERE IS AN APPROVED WINTER EROSION CONTROL PLAN. ALL DISTURBED SOIL SHALL BE SEEDED, MULCHED, OR OTHERWISE PROTECTED BY OCTOBER 15.

CENTERLINE ALIGNMENT DATA

Number	Radius	Length	Line/Chord Direction
C2	783.93	35.20	S87° 28' 31.85"E
C3	896.52	51.43	S67° 08' 06.49"E
C4	262.93	115.51	S52° 54' 19.79"E
C5	269.77	82.42	S48° 21' 50.35"E
C8	110.76	90.70	S82° 29' 51.02"E
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L26		77.94	S55° 09' 58.93"E
L27		63.53	N67° 58' 34.72"E
L30		85.20	N50° 48' 17.02"E
L31		50.76	N7° 38' 02.21"E
L32		29.67	N42° 20' 53.18"E

LEGEND

- (N) SAW CUT LINE
- (N) PROPERTY LINE
- (N) 40' ROW
- (E) EDGE OF PAVEMENT (EP)
- (N) AC PAVEMENT SEE DETAIL 3 SHEET C4.1
- FIBER ROLL, SEE DETAIL 2 SHEET C4.1
- SILT FENCE, SEE DETAIL 1 SHEET C4.1
- (E) GRAVEL ROAD

REVISIONS	BY
1 S.C. COMMENTS 09/01/09	DD
2 S.C. COMMENTS 01/13/10	DD

ACCESS ROAD
PLAN AND PROFILE
MLD #09-0276

C2G Civil Consultants Group, Inc.
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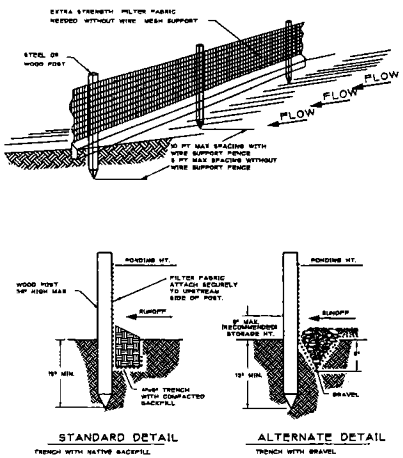
(831) 438-4420

CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

Date: 5.1.09
Scale: 1"=20'
Drawn: DD
Job: 383-00
Sheet: C3.2
Of 7 Sheets

ATTACHMENT 2



Construction Specifications

The height of a silt fence shall not exceed 36 inches. Storage height shall never exceed 18". The fence line shall follow the contour as closely as possible.

If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum 6-inch overlap and both ends securely fastened to the post.

Posts shall be spaced a maximum of 10 feet apart and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet. Turn the ends of the fence uphill.

A trench shall be excavated approximately 4 inches wide and 6 inches deep along the line of posts and upslope from the barrier.

When standard-strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.

The standard-strength filter fabric shall be stapled or wired to the fence, and 6 inches of the fabric shall extend into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

When extra-strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts.

The trench shall be backfilled and the soil compacted over the toe of the filter fabric.

Silt fences placed at the toe of a slope shall be set at least 6 feet from the toe in order to increase ponding volume.

Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized, and any sediment stored behind the silt fence has been removed.

Inspection and Maintenance

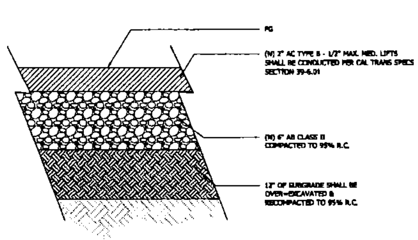
Silt fences and filter barriers shall be inspected weekly and after each significant storm (1" in 24 hr.). Any required repairs shall be made immediately. Sediment shall be removed when it reaches 1/3 height of the fence or 9 inches maximum.

The removed sediment shall vegetate or otherwise stabilized.

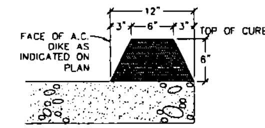
NOTE:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

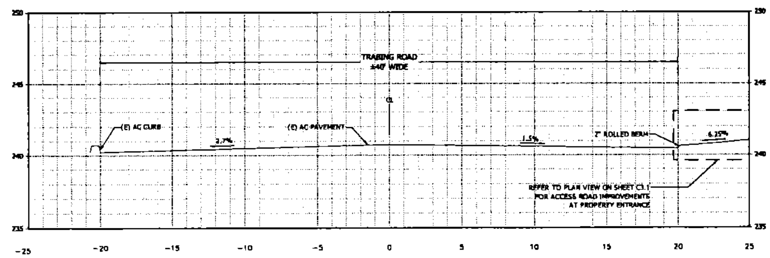
(1) SILT FENCE
EROSION CONTROL MEASURE
Scale: NTS



(3) NEW AC PAVEMENT SECTION
Scale: NTS



(4) AC DIKE
Scale: NTS



(5) (E) TRABING ROAD SECTION @ DRIVE ENTRANCE
Scale: NTS

CONSTRUCTION SPECIFICATIONS

Locate fiber rolls on level contours spaced as follows:

- Slope inclination of 4 :1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20 ft.
- Slope inclination between 4:1 and 2:1 (H:V) Fiber rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).
- Slope inclination of 2:1 (H:V) or greater: Fiber rolls should be placed at a maximum interval of 10 ft. (a closer spacing is more effective).

Turn the ends of the fiber roll up slope to prevent runoff from going around the roll.

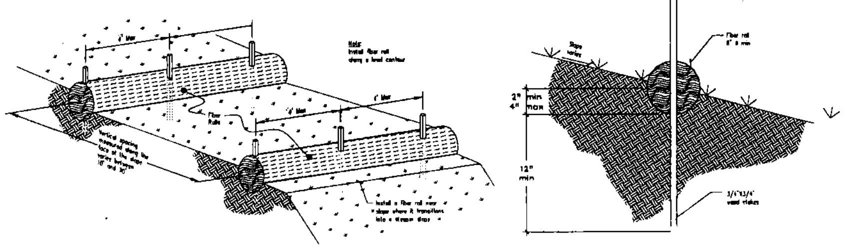
Stake fiber rolls into a 2 to 4 in. deep trench with a width equal to the diameter of the fiber roll.

- Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.
- Use wood stakes with a nominal classification of 0.75 by 0.75 in. and a minimum length of 24 in.

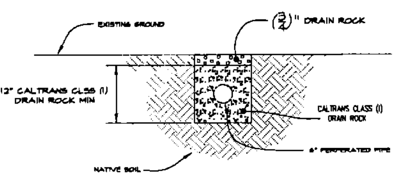
If more than one fiber roll is placed in a row, the rolls should be overlapped, not abutted.

Repair or replace split, torn, unraveling or slumping fiber rolls.

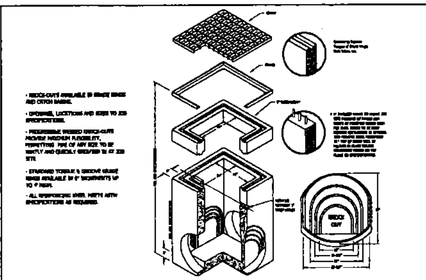
If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when sediment accumulation reaches one-half the seignated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during the maintenance may be incorporated into earthwork on the site or disposed at an appropriate location.



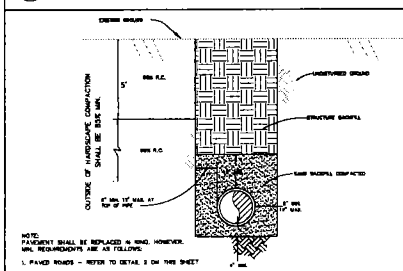
(2) FIBER ROLLS
EROSION CONTROL MEASURE
Scale: NTS



(6) STANDARD DISPERSION TRENCH DETAIL
Scale: NTS



(7) U23 CHRISTY BOX - 2'x2' W/ 6" WALLS
Scale: NTS



(8) STANDARD TRENCH BACKFILL
Scale: NTS

REGISTERED PROFESSIONAL ENGINEER
TODD B. CREAMER
No. C 64561
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

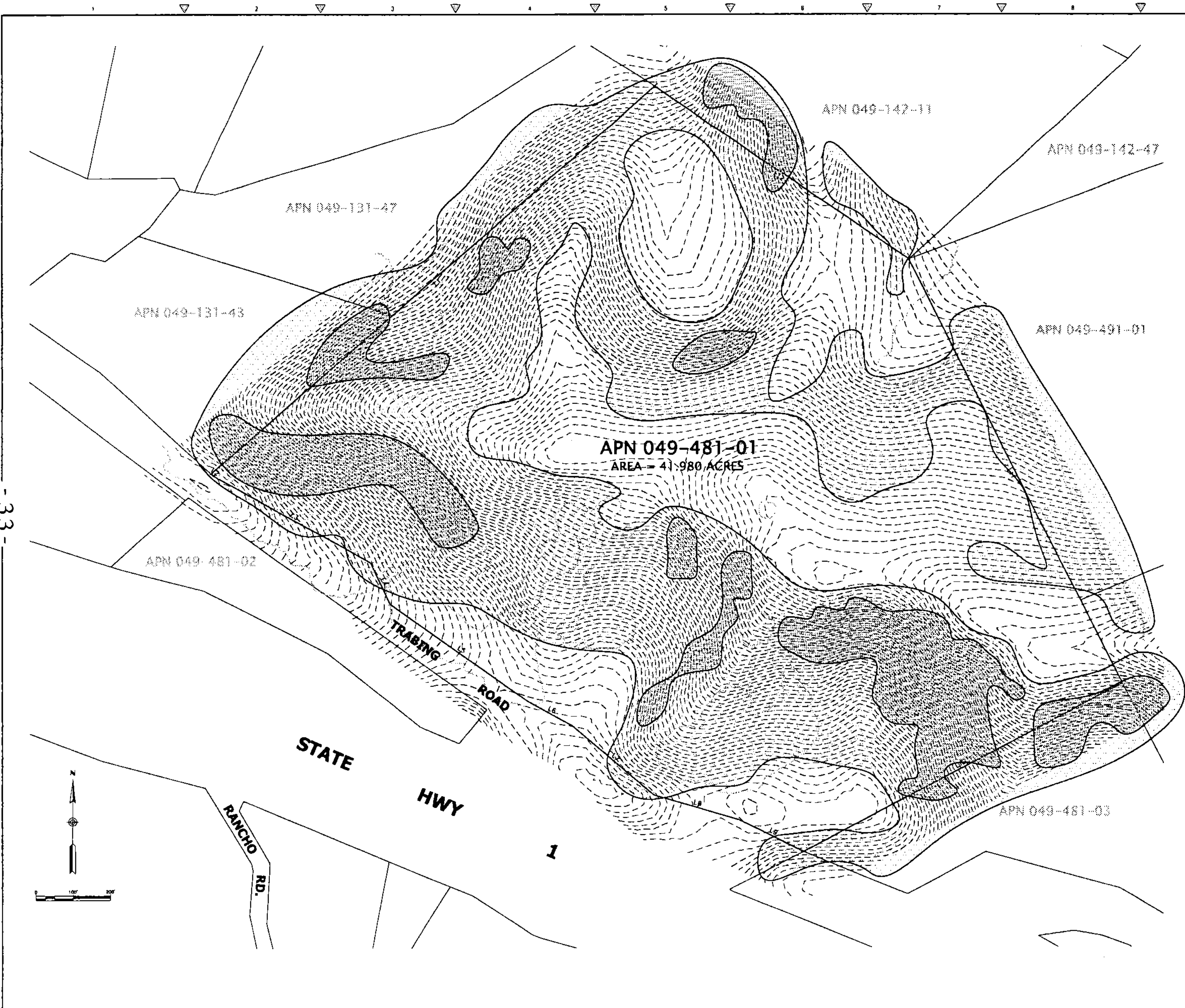
REVISIONS	BY
1 S.C. COMMENTS 09/01/09	DD
2 S.C. COMMENTS 01/13/10	DD

DETAILS
MLD #09-0276

C2G
C2G/Civil Consultants Group, Inc.

CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

Date: 5.1.09
Scale: NTS
Drawn: DD
Job: 383-00
Sheet: C4.1
Of 7 Sheets



SLOPE ANALYSIS NOTES

MIN. SLOPE = 0.48%

MAX. SLOPE = 45.01%

MEAN SLOPE = 19.67%

Slopes Table

Number	Minimum Slope	Maximum Slope	Area (Sq. Ft.)	Area (Acres)	Pattern
1	0.00%	15.00%	814407.68	18.696	NONE
2	15.00%	30.00%	1239134.97	28.447	
3	30.00%	50.00%	331459.08	7.609	
4	50.00%	1000.00%	0.00	0.000	NA

EXISTING PARCEL NOTES

1. EXISTING PARCEL HAS BEEN TRAVERSED BASED ON CURRENT RECORD DATA FROM 2005-0049093 FILED AT THE SANTA CRUZ COUNTY RECORDER'S OFFICE.
2. TOTAL AREA SHOWN HAS BEEN CALCULATED FROM RECORD DATA MENTIONED ABOVE

Parcel Line and Curve Table

Line #/Curve #	Length	Bearing/Delta
L1	1303.05	S48° 47' 01.79"W
L2	9.48	S51° 13' 05.00"E
L3	393.19	S60° 58' 40.00"E
L4	102.96	S24° 37' 05.00"E
L5	370.03	S54° 26' 47.00"E
L6	111.02	S61° 26' 16.00"E
L7	236.53	S49° 15' 50.00"E
L8	196.77	S73° 37' 05.00"E
L9	157.38	S63° 18' 40.00"E
L10	792.49	N62° 02' 01.79"E
L11	1051.38	N26° 27' 58.21"W
L12	674.52	N55° 47' 58.21"W

REVISIONS	BY
1 S.C. COMMENTS 09/01/09	DD
2 S.C. COMMENTS 01/13/10	DD

EXISTING SLOPE ANALYSIS & LOT SIZE

C2G/Civil Consultants Group, Inc.

CECY RESIDENCE
820 TRABING RD.
WATSONVILLE, CA 95076

Date: 5.1.09
Scale: 1":100'
Drawn: DD
Job: 363-00
Sheet: C5.1
Of 7 Sheets

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street, Suite 8A Santa Cruz, CA 95060 Phone (831) 427-1770 Fax (831) 427-1794

May 12, 2009 Project No. SCR-0369

MR. BRIAN CECY
820 Trabing Road
Watsonville, California 95076

Subject: Geotechnical Investigation

Reference: Proposed Lot Split, Single Family Residence and Guest House
820 Trabing Road, Watsonville
APN 049-481-01
Santa Cruz County, California

Dear Mr. Cecy:

As requested, we have completed a Geotechnical Investigation for the lot split and new single family residence and guest house proposed at the referenced site. We understand the existing 41-acre parcel will be split into two parcels and a new single family residence and guest house will be constructed on the newly created parcel.

The purpose of our investigation was to evaluate soil conditions in the vicinity of the proposed residence and guest house and provide geotechnical recommendations for the proposed development.

This report presents the results, conclusions and recommendations of our investigation. If you have any questions regarding this report, please call our office.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623

Copies: 1 to Addressee
4 to Powers Land Planning, Inc.
1 to C2G Civil Consultants Group

ATTACHMENT 3

GEOTECHNICAL INVESTIGATION

Introduction

This report presents the results of our Geotechnical Investigation for a new single family residence and guest house proposed at the site. Two potential homesites were evaluated for the proposed single family residence and one homesite was evaluated for the proposed guest house site. We also evaluated the soil conditions in the proposed fire truck pullout along the existing driveway.

Purpose and Scope

The purpose of our investigation was to explore and evaluate surface and subsurface soil conditions in the vicinity of the two potential residence homesites, the guest house site and the fire truck pullout proposed along the edge of the existing driveway and provide geotechnical recommendations for design and construction of the proposed improvements.

The specific scope of our services included:

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

2. Exploration of subsurface conditions consisting of logging and sampling of six (6) exploratory borings.

3. Laboratory testing was performed to evaluate the engineering properties of the subsoils.

4. Engineering analysis and evaluation of the resulting field and laboratory test data. Based on our findings, we have developed geotechnical design criteria and recommendations for general site grading, foundations, retaining walls, concrete slabs-on-grade, general site drainage and erosion control for the proposed improvements.

5. Preparation of this report presenting the results of our investigation.

Project Location and Description

The 41.5 acre parcel is located at 820 Trabing Road in the Watsonville area of Santa Cruz County, California, Figure 1. The parcel is bounded by Trabing Road to the southwest and rural properties to the northwest, northeast and southeast. The site topography primarily consists of an east-west trending valley with gentle to moderate side slopes, Figure 2. A smaller, moderately sloped north-south trending valley bisects the northern slope of the main valley.

Vegetation at the site consists of small to medium diameter trees and underbrush over

most of the parcel. The area around the existing homesite and the smaller valley located along the northern slope are covered in low lying grasses.

The site is developed with an existing paved driveway, residence and accessory structures. The residence and accessory structures are clustered in the eastern corner of the site. The proposed lot split will divide the parcel into two parcels, an east parcel where the existing homesite is located and a western parcel where a new single family residence and guest house will be constructed. Two homesites are being considered for the new residence. The primary homesite is located on a small spur ridge located just west of the small north-south trending valley and the alternative homesite is located near the top of the small valley. Both of the proposed residence homesites are vegetated with low lying grasses.

The primary homesite is located at the top of a spur ridge that is level to gently sloping. The side slopes of the ridge are on the order of 20 to 40 percent. The slopes in the vicinity of the alternative homesite (located in the valley) are on the order of 10 to 20 percent. The proposed guest house site is located at the western end of the main valley on 5 to 10 percent slopes. The guest house homesite is vegetated with grasses and a couple of trees. Refer to Figure 3 for the approximate location of existing and proposed improvements.

Septic leach fields will be used for the residence and guest house. Septic design will be performed by others.

Site drainage is by sheet flow down the slopes into the valley bottom. The soils are very sandy in the valley and water appears to percolate into the ground and flow east below the valley floor.

Field Investigation

Subsurface conditions at the property were explored on March 24, 2009 by logging and sampling the soils encountered in six (6) exploratory test borings. The six borings were advanced to depths of 5 to 41.5 feet deep with 6-inch diameter continuous flight equipment mounted on a truck. The approximate locations of our exploratory borings are indicated on our Boring Site Plan, Figure 3.

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using the 3.0-inch O.D. Modified California Sampler (L) or the Standard Terzaghi Sampler (T). The penetration resistance blow counts for the (L) and (T) noted on the boring logs were obtained as the sampler was dynamically driven into the in situ soil. The process was performed by dropping a 140-pound hammer a 30-inch free fall distance and driving the sampler 6 to 18 inches and recording the number of blows for each 6-inch penetration interval. The blows recorded on the boring logs present the accumulated number of blows that were required

to drive the last 12 inches. The blow counts for the Modified California Sampler (L) have been converted to equivalent Standard Penetration Test values and recorded on the logs.

The soils observed in the exploratory borings were logged in the field and described in accordance with the Unified Soil Classification System (ASTM D2487 and D2488), Figure 4. The logs of our test borings are included on Figures 5 to 10 of this report. The Boring Logs denote subsurface conditions at the locations and time observed, and it is not warranted that they are representative of subsurface conditions at other locations or times.

Laboratory Testing

The laboratory testing program was directed toward a determination of the physical and engineering properties of the soils underlying the site. Moisture content and dry densities were determined on select samples and are recorded on the boring logs at the appropriate depths. Grain size analyses were performed on select samples to aid in soil classification. The strength parameters of the underlying earth materials were determined from direct shear testing in the laboratory and from the penetration resistance encountered during sampling.

The results of our field and laboratory testing appear on the "Test Boring Logs" opposite the sample tested.

Subsurface Conditions

The Santa Cruz County Geologic Map, Figure 11, indicates that site is underlain by Fluvial Lithofacies (Qaf) and Aromas Sand (Qar). Fluvial lithofacies (Qaf) are described as, "Semiconsolidated, heterogeneous, moderately to poorly sorted silty, clay, silt, sand and gravel. Deposited by meandering and braided streams. Clay and silty clay layers, locally as much as 2 ft. thick occur in unit." Aromas Sand (Qar) is described as, "Pleistocene age, heterogeneous sequence of mainly eolian and fluvial sand, silt, clay and gravel. Several angular unconformities present in unit, with older deposits more complexly jointed, folded, and faulted than younger deposits," (Brabb).

All three homesites are mapped as being underlain by Aromas Sands. In general the soils encountered in our borings consisted of clayey fine to medium sand with some thin, discontinuous lenses of sandy clay over poorly graded sand and sand with clay.

The soils beneath the primary homesite consist of clayey sand to a depth of 14 feet where poorly graded sand was encountered. Two, 2 to 6 inch thick, clay lenses were encountered 3 and 5 feet below grade. The soils were medium dense in the top 5.5 feet and dense from 5.5 to 14 feet. The soils were medium dense at 14 feet and became denser with depth.

The soils beneath the alternative homesite consist of clayey sands with the exception of a 4 foot thick clay layer encountered 8 feet below grade in Boring 2, drilled in the centerline of the valley bottom. The clay was not encountered in Boring 1, which was drilled above

Boring 2 and extended below the elevation of the clay layer in Boring 2. The clay lens appears to be discontinuous below the primary homesite. The soils were loose in the top 10 to 15 feet with the exception of the clay lens which was medium stiff. The soils were medium dense to dense below the upper 10 to 15 feet.

The soils beneath the guest house site consist of clayey sand to a depth of 28 feet over sand with clay. A 2.5 foot thick layer of sand with silt overlays the clayey sand in Boring 4. The soils were loose in the top 10 feet. The soils were medium dense at 10 feet and generally became denser with depth.

The soils encountered at the proposed firetruck pullout consisted of silty sand in the top 2 feet over clayey sand. The soils were very loose to the base of our 5.5 foot deep boring.

The soils beneath the three proposed homesites are non-plastic with the exception of the clay lenses that are presumed to be moderately expansive. The soils underlying the three proposed homesites may be classified as a "Site Class D" for analysis using the 2007 California Building Code.

Groundwater

Groundwater was encountered 27 feet below the base of the main valley and thin lenses of wet soil were encountered throughout the two borings drilled in the proposed guest house site. A couple of thin lenses of wet soil were also encountered at the alternative homesite which is located in a smaller, more steeply inclined valley. Only a single lens of wet soil was encountered 2.5 feet below grade at the primary homesite located at the top of the spur ridge.

It is possible for groundwater levels to vary at the site due to seasonal variations and other factors not evident during our investigation.

Seismicity

The following is a general discussion of seismicity in the project area. A detailed discussion of seismicity is beyond the scope of our services.

The project site is located about 2.8 miles southwest of the San Andreas fault zone, 1.43 miles southwest of the Zayante fault zone, 9.76 miles northeast of the offshore San Gregorio fault and 9.76 miles northeast of the Monterey Bay-Tularcitos Fault. The San Andreas Fault is the largest and most active of the faults, however, each fault is considered capable of generating moderate to severe ground shaking. It is reasonable to assume that the proposed development will be subject to at least one moderate to severe earthquake from one of the faults during the next fifty years.

Structures designed in accordance with the most current seismic design codes should react well to seismic shaking. The Seismic Design Category for single family residences

(SDC) is "D" for analysis using the 2007 California Building Code.

Slope Stability Hazards

The following is a general discussion of slope stability hazards in the project vicinity. The Preliminary Map of Landslide Deposits in Santa Cruz County by Cooper-Clark and Associates (1975) does not indicate any landslides on the subject properties. The slopes in the vicinity of the proposed homesites are gentle to moderate and there were no signs of slope instability noted during our site visit.

The potential for deep seated landslides in the vicinity of each homsite is low based on the gentle slope gradients, the lack of existing landslides and the density of the subsoils. The slopes are gentle to moderate in the vicinity of the proposed homesites and there is a low potential for shallow slump slides to affect the proposed homesites as long as drainage is well controlled.

Liquefaction Hazards

Liquefaction occurs when saturated fine grained sands, silts and sensitive clays are subject to shaking during an earthquake and the water pressure within the pores build up leading to loss of strength. The excess pore water pressures then start to dissipate upwards and side ways. The primary movement is in an upward direction towards the ground surface which often results in ground settlement. Lateral dissipation of pore pressures could result in lateral spreading if soils liquefy near a slope face.

According the County of Santa Cruz GIS site, the site is not located within the liquefaction zone and the nearest mapped liquefaction zone is over 1,000 feet to the northeast of the proposed development. However, groundwater was encountered 27 feet below grade at the guest house site and although the soils were medium dense, there is a potential for the soils below the groundwater table to liquefy during strong seismic shaking.

DISCUSSIONS & CONCLUSIONS

Based on the results of our investigation, construction of residences at the proposed primary homesite, alternative homesite and the guest house site are feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction of the proposed improvements. Structures designed in accordance with our recommendations will be subject to an "Ordinary" level of risk, as defined in the Scale of Acceptable Risks from Seismic and Non-Seismic Geologic Hazards", included in Appendix B.

Our investigation indicates the primary homesite is preferable to the alternative homesite being proposed. The soils are loose in the alternative homesite, several seepage zones were encountered near the ground surface and expansive soils could be encountered if cuts are made into the base of the valley. The foundation soils at the primary homesite are firm, granular and suitable for support of conventional spread footings and seepage was limited to a thin zone near the ground surface.

Primary geotechnical concerns for the primary residence site include: s etting foundations back from slopes, perched water 2.5 feet below grade and strong seismic shaking.

The slopes below the alternative homesite are stable and it is feasible to extend foundations over the slope. However, foundations that come close to the slope or extend onto the slope itself need to be deepened to provide adequate setbacks to the slope face.

Subdrains should be used where foundation or grading excavations expose seepage areas.

The proposed structure will most likely experience strong seismic shaking during the design lifetime. Foundations and structure should be designed utilizing the most current seismic design standards.

Primary geotechnical concerns for the alternative residence site include: potentially expansive soils below the base of the valley, surface and subsurface seepage, loose foundation zone soils and strong seismic shaking.

The clay encountered 8 feet below grade in Boring 2 is moderately expansive and is not suitable for foundations support. In order to mitigate the effects of the clay shrinking and swelling, foundations should be located at least 3 feet above the top of the 4 foot thick clay layer. The clay should be removed where foundations will come within 3 feet of the clay.

The foundation zone soils should be compacted to provide firm support for foundations. Static settlements associated with building loads will be mitigated by compacting below the

foundation. Seismic settlement below the compacted zone can still occur even if the top few feet of soil is compacted since the loose soil extends 8 to 10 feet below grade. Although seismic settlements can be several inches, seismic settlement will tend to be fairly uniform across the building site and vicinity and may not be noticeable after an earthquake.

To mitigate seepage, subdrains should be used to drain fill slopes and foundations and cutslopes excavated into seepage zones should be inclined no steeper than 3:1 (horizontal to vertical) or retained. Retaining walls should be fully drained.

The proposed structure will most likely experience strong seismic shaking during the design lifetime. Foundations and structure should be designed utilizing the most current seismic design standards.

Primary geotechnical concerns for the guest house site include: mitigating the effects of liquefaction, loose foundation zone soils, subsurface seepage and strong seismic shaking.

The soils below the groundwater table, 27 feet below existing grade, are potentially liquefiable during strong seismic shaking. Since the potentially liquefiable soil layers are located 27 feet below grade, surface effects such as sand boils, differential settlements and lurching will not affect the proposed development.

The loose surface soils are not suitable for foundation support and should be compacted prior to constructing foundations. Compaction of the surface soils will provide firm support for foundations and will further reduce the potential for surface effects to from liquefaction. Static settlements associated with building loads will be mitigated by compacting below the foundation. Seismic settlement below the compacted zone can still occur even if the top few feet of soil is compacted since the loose soil extends approximately 10 feet below grade. Although seismic settlements can be several inches, seismic settlement will tend to be fairly uniform across the building site and vicinity and may not be noticeable after an earthquake.

To mitigate seepage, subdrains should be used to drain fill slopes and foundations and cutslopes excavated into seepage zones should be inclined no steeper than 3:1 (horizontal to vertical) or retained. Retaining walls should be fully drained.

Static settlements associated with building loads will be mitigated by compacting below the foundation. Seismic settlement below the compacted zone can still occur even if the top few feet of soil is compacted since the loose soil extends approximately 10 feet below grade. Although seismic settlements can be several inches, seismic settlement will tend to be fairly uniform across the building site and vicinity and may not be noticeable after an earthquake.

RECOMMENDATIONS

The following recommendations should be used as guidelines for preparing project plans and specifications:

Site Grading

1. The soil engineer should be notified at least four (4) working days prior to any site clearing or grading to make arrangements for construction observation and testing services. The recommendations of this report are based on the assumption that the soil engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Areas to be graded should be cleared of obstructions and other unsuitable material. Organic soil and any other unsuitable material should be removed where engineered fill is planned. The resulting voids should be backfilled with engineered fill.

3. Areas to receive engineered fill should be scarified, moisture conditioned to 2 to 4 percent over optimum moisture content and compacted to at least 90 percent relative compaction.

4. Engineered fill should be placed in thin lifts not exceeding 6 inches in loose thickness and moisture conditioned to about 2 percent over optimum moisture content. Engineered fill should be compacted to at least 90 percent relative compaction.

5. The relationship between moisture content and dry unit weight shall be based on ASTM Test Designation D1557-00. The relative density and moisture content of the compacted soil shall be based on ASTM D2922-04.

6. Native soils may be used as engineered fill. Native soils should be moisture conditioned to about 2 percent over optimum moisture content prior to compaction. We estimate shrinkage factors of about 15 to 20 percent for the surface soils when used in engineered fills.

7. Imported soils used as engineered fill should be moisture conditioned to within 2 percent of optimum moisture content prior to compaction. Soils used for engineered fill should be granular, have a Plasticity Index less than 15, be free of organic material, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than 4 inches.

8. Engineered fill slopes should be inclined no more than 2:1 (horizontal to vertical). Permanent cutslopes should be inclined no steeper than 3:1 (horizontal to vertical) due to shallow seepage. Temporary cutslopes up to 8 feet high may be inclined at a 1:1 slope

gradient. Temporary cutslopes higher than 8 feet should be reviewed on a case by case basis.

9. The upper 12 inches of subgrade below pavements should be moisture conditioned to about 2 percent over optimum moisture content and compacted to 90 percent relative compaction. The top 6 inches of subgrade soil and the aggregate base below driveways and pavements should be compacted to 95 percent relative compaction.

10. Engineered fill should be observed and tested by our firm. At a minimum, in-place density tests should be performed as follows: one test for every 500 cubic yards of material placed for embankments, one test for every 100 to 200 cubic yards of material for backfill in trenches or around structures, one test for every 500 to 1,000 cubic yards of material for relatively thin fill sections and one test whenever there is a definite suspicion of a change in the quality of moisture control or effectiveness in compaction.

11. After the earthwork operations have been completed and the soil engineer has finished their observation of the work, no further earthwork operations shall be performed.

Conventional Spread Footing Foundations

12. Foundations may consist of conventional spread footings embedded into firm, native soil or compacted engineered fill, as long as footings are located at least 10 feet from the adjacent slope face, measured horizontally. Foundations in the primary homesite may be embedded into firm, native soil. The foundations in the alternative homesite and the guest house site should be supported on at least 3 feet of compacted engineered fill.

13. Footings should be at least 12 inches deep and at least 12 inches wide for one-story structures and 15 inches wide for two-story structures. Actual footing depths and widths should be as required by the structural designer based on the actual loads transmitted to the foundation and applicable design standards.

14. Footings located adjacent to other footings or utility trenches should have their bearing surfaces founded below an imaginary 1.5:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

15. The foundation trenches should be kept moist and be thoroughly cleaned of slough or loose materials prior to pouring concrete.

16. Foundations designed in accordance with the above may be designed for an allowable soil bearing pressure of 2,000 psf for dead plus live loads. The allowable soil bearing is applicable to the native soils in the alternative homesite and the compacted engineered fill proposed below the primary homesite and the guest house site. This allowable soil bearing may be increased by one-third to include short-term seismic and wind loads.

17. Total and differential settlements under the proposed light building loads are anticipated to be less than 1 and 1/2 inch, respectively.

18. Lateral load resistance for structures supported on footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.30 is considered applicable. Where footings are poured neat against firm, native soil or engineered fill, a passive lateral pressure of 325 pcf, equivalent fluid weight, may be assumed. The top 12 inches of soil should be neglected in passive design.

19. Prior to placing concrete, foundation excavations should be thoroughly cleaned and observed by the soils engineer.

Drilled Pier and Grade Beam Foundations – Primary Homesite

20. Foundations that are located within 10 feet of the adjacent steep slopes should consist of drilled piers to maintain at least 10 feet of soil between the base of the foundation and the adjacent slope face. The piers should be at least 6 feet deep.

21. The concrete piers should be at least 12 inches in diameter and vertically reinforced the full length with at least four Number 4 bars. The vertical reinforcement should be tied to the upper grade beam reinforcement. Actual reinforcement should be determined by the structural designer.

22. For passive lateral resistance an equivalent fluid weight (EFW) of 325 pcf may be used for firm, native soil. Passive resistance may be assumed to act over a plane 1.5 times the pier diameter, but no larger than the center to center spacing of the piers. The top 3 feet of pier length should be neglected in passive design.

23. Piers designed in accordance with the above may be designed for an allowable end bearing of 4,000 psf.

24. Prior to placing concrete foundation excavations should be thoroughly cleaned and observed by the soil engineer.

Retaining Wall Lateral Pressures

25. Retaining walls should be designed to resist both lateral earth pressures and any additional surcharge loads.

26. Unrestrained retaining walls up to 10 feet high should be designed to resist an active equivalent fluid pressure of 40 pcf for level backfills, 45 pcf for sloping backfills inclined up to 3:1 (horizontal to vertical) and 60 pcf for sloping backfills inclined up to 2:1 (horizontal to vertical).

27. Restrained retaining walls should be designed to resist an at-rest earth pressure of 60 pcf, equivalent fluid weight, for level backfills, 70 pcf for backslopes inclined to 3:1 (horizontal to vertical) and 90 pcf for backslopes inclined to 2:1 (horizontal to vertical).

28. For seismic design of retaining walls, a dynamic surcharge load of 19 pcf, equivalent fluid weight, should be added to the above active lateral earth pressures. The resultant force should be applied at a point located 0.3H above the base of the wall, where H is the height of the wall.

29. The above lateral pressures assume that the walls are fully drained to prevent hydrostatic pressure behind the walls. Drainage materials behind the wall should consist of Class 1, type A permeable material (Caltrans Specification 68-1.025) or an approved equivalent. The drainage material should be at least 12 inches thick. The drains should extend from the base of the walls to within 12 inches of the top of the backfill. A perforated pipe should be placed (holes down) about 4 inches above the bottom of the wall and be tied to a suitable drain outlet. Wall backdrains should be plugged at the surface with clayey material to prevent infiltration of surface runoff into the backdrains.

30. Retaining wall foundations should be designed in accordance with the foundation sections of this report.

Concrete Slabs-on-Grade

31. The subgrade surface below exterior non-load bearing concrete slabs should be compacted in a good workmanship manner to provide a firm, uniform base for slab support. The subgrade surface should be pre-moistened prior to placing concrete.

32. In the primary homesite, the top 8 inches of subgrade below interior floor slabs should be compacted to 90 percent relative compaction and the subgrade surface should be pre-moistened prior to placing concrete.

33. In the alternative homesite and the guest house site, interior floor slabs should be supported on 3 feet of compacted engineered fill and the subgrade should be pre-moistened prior to placing concrete.

34. The top 8 inches of subgrade below exterior load bearing slabs (driveways, etc.) should be compacted to 95 percent relative compaction. The subgrade surface should be pre-moistened prior to placing concrete.

35. All slabs-on-grade can be expected to suffer some cracking and movement. However, thickened exterior edges, a well-prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints and good workmanship should reduce cracking and movement.

36. Dees & Associates, Inc. are not experts in the field of moisture proofing and vapor barriers. In areas where floor wetness would be undesirable, an expert, experienced with moisture transmission and vapor barriers should be consulted. At a minimum, a blanket of 4 inches of free-draining gravel should be placed beneath the floor slab to act as a capillary break. In order to minimize vapor transmission, an impermeable membrane should be placed over the gravel. The membrane should be covered with 2 inches of sand or rounded gravel to protect it during construction. The sand or gravel should be lightly moistened just prior to placing the concrete to aid in curing the concrete.

Site Drainage

37. Controlling surface runoff is important to the performance of the project and the adjacent slopes. Concentrated runoff should be collected and dispersed around the site in a controlled manner.

38. Surface drainage should include provisions for positive gradients so that surface runoff is not permitted to pond adjacent to foundations or other improvements. Where bare soil or pervious surfaces are located next to the foundation, the ground surface within 10 feet of the structure should be sloped at least 5 percent away from the foundation. Where impervious surfaces are used within 10 feet of the foundation, the impervious surface within 10 feet of the structure should be sloped at least 2 percent away from the foundation. Swales should be used to collect and remove surface runoff where the ground cannot be sloped the full 10 foot width away from the structure. Swales should be sloped at least 2 percent towards the discharge point.

39. Full roof gutters should be placed around the eves of the structure. Discharge from the roof gutters should be conveyed away from the downspouts and discharged away from improvements in a controlled manner.

40. Concentrated runoff from the primary homesite should be discharged onto the gentle slopes below the ridgetop. Concentrated runoff should not be discharged at the top of slopes or allowed to flow downs slopes in an uncontrolled manner. Berms or lined swales should be used at the top of slopes to prevent surface runoff from flowing over the top of the slope.

41. Concentrated runoff from the guest house site and the alternative residence site may be dispersed along the valley bottoms using bio-swales, dispersion trenches or other approved dispersal methods.

42. The drainage design should include erosion protection at each discharge location.

43. The exact location of proposed discharge areas should be observed and approved in the field by the geotechnical engineer prior to installation.

Erosion Control

44. Drainage and erosion should be controlled at all times. During construction an engineered erosion control plan should be implemented at the site between October 15th and April 15th when erosion it most likely to occur. Following construction, all exposed earth should be protected from erosion until a permanent vegetative cover can be established.

Plan Review, Construction Observation, and Testing

45. Dees & Associates, Inc. should be provided the opportunity for a general review of the final project plans prior to construction to evaluate if our geotechnical recommendations have been properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. Dees & Associates, Inc. also requests the opportunity to observe and test grading operations and foundation excavations at the site. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. Any changes to the plans or changes implemented during construction must be brought to the attention of our firm. Our firm shall not be held responsible for damages that occurred due to unauthorized changes or changes that were not brought to our attention.

4. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a soil engineer.

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street, Suite 8A Santa Cruz, CA 95060 Phone (831) 427-1770 Fax (831) 427-1794

December 21, 2009 Project No. SCR-0369

MR. BRIAN CECY
% Power Land Planning
1607 Ocean Street, Suite 8
Santa Cruz, California 95060

Subject: Response to County of Santa Cruz Letter Dated December 7, 2009

Reference: Proposed Lot Split, Single Family Residence and Guest House
820 Trabing Road, Watsonville
APN 049-481-01
Santa Cruz County, California

Dear Mr. Cecy:

This letter is in response to your letter, dated December 7, 2009. Your letter requested additional information in regards to total and differential settlement and foundation drainage at each home site.

The soils in the top 10 to 15 feet are loose and susceptible to seismic settlement. We have recommended compacting the top 4.5 feet of soil to provide a firm base for foundation support. Our calculations indicate total and differential settlements below the compacted zone are as follows:

	Total Settlement	Differential Settlement
Alternative Homesite	1.9 to 3.6 inches	1.0 to 1.8 inches
Guest House Site	1.4 to 4.3 inches	0.7 to 2.2 inches

Our report recommended installing foundation drains to mitigate seepage into crawlspaces. The foundation drains should be located in such a way to keep seepage from entering crawlspaces or seeping below slabs. Grading for the house pads will affect the location of foundation drains. The depths and extents of the foundation drains can be *estimated* by our firm once preliminary house and grading plans have been developed. The *actual* depths and extents of foundation drains should be determined at the time of construction based on the actual soil conditions encountered during construction.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623

Copies: 5 to Addressee

ATTACHMENT 3

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street, Suite 8A Santa Cruz, CA 95060 Phone (831) 427-1770 Fax (831) 427-1794

January 28, 2010

Project No. SCR-0369

MR. BRIAN CECY
% Power Land Planning
1607 Ocean Street, Suite 8
Santa Cruz, California 95060

Subject: Response to County of Santa Cruz Letter Dated January 25, 2010

Reference: Proposed Lot Split, Single Family Residence and Guest House
820 Trabing Road, Watsonville
APN 049-481-01
Santa Cruz County, California

Dear Mr. Cecy:

This letter is in response to the County of Santa Cruz letter, dated January 25, 2010. Their letter requested our analysis and associated data from our settlement calculations presented in our letter, dated December 21, 2009.

Our analysis was performed using Liquefy Pro developed by Civil Tech Corporation. The liquefaction program includes a settlement analysis for wet and dry soils. The total settlement at each boring location was determined and the differential settlement was assumed to be ½ of the total settlement. A printout of our analyses with the input data is attached to this letter.

Please contact our office if you have any questions.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623

Copies: 5 to Addressee
1 to Carolyn Banti via email

ATTACHMENT 3

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
TOM BURNS, PLANNING DIRECTOR

February 12, 2010

Brian and Susan Cecy c/o Powers Land Planning
1607 Ocean St., Ste. B
Santa Cruz, CA, 95060

Subject: Review of Geotechnical Investigation by Dees & Associates, Inc.
Dated April 9, 2009;
"Response to County of Santa Cruz Letter", Dated December 21, 2009
"Response to County of Santa Cruz Letter". Dated January 28, 2010
Project #: SCR-0369, APN 049-481-01, Application #: 09-0276

Dear Applicant:

The purpose of this letter is to inform you that the Planning Department has accepted the subject report and the following items shall be required:

1. All construction shall comply with the recommendations of the report.

2. Final plans shall reference the report and include a statement that the project shall conform to the report's recommendations. Plans shall also provide a thorough and realistic representation of all grading necessary to complete this project

3. Prior to building permit issuance a *plan review letter* shall be submitted to Environmental Planning. The author of the report shall write the *plan review letter*. The letter shall state that the project plans conform to the report's recommendations.

4. Please provide an electronic copy of the soils report and addendums in .pdf format. This document may be submitted on compact disk or emailed to carolyn.banti@co.santa-cruz.ca.us.

After building permit issuance the soils engineer *must remain involved with the project* during construction. Please review the *Notice to Permits Holders* (attached).

Our acceptance of the report is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

ATTACHMENT 4

(over)

Please note that this determination may be appealed. Please contact me if you would like to file an appeal and I will provide guidance on how to proceed.

Please submit two copies of the report at the time of building permit application.

Please call the undersigned at (831) 454-5121 if we can be of any further assistance.

Sincerely,

Carolyn Banti
Associate Civil Engineer

Cc: Randall Adams, Project Planner
Brian and Susan Cecy, Owners
Dees & Associates, Inc.

ATTACHMENT 4

NOTICE TO PERMIT HOLDERS WHEN A SOILS REPORT HAS BEEN PREPARED, REVIEWED AND ACCEPTED FOR THE PROJECT

After issuance of the building permit, the County requires your soils engineer to be involved during construction. Several letters or reports are required to be submitted to the County at various times during construction. They are as follows:

1. **When a project has engineered fills and / or grading**, a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Department prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report and per the requirements of the 2007 California Building Code. Compaction reports or a summary thereof must be submitted.

2. **Prior to placing concrete for foundations**, a letter from the soils engineer must be submitted to the building inspector and to Environmental Planning stating that the soils engineer has observed the foundation excavation and that it meets the recommendations of the soils report.

3. **At the completion of construction,** a *final letter* from your soils engineer is required to be submitted to Environmental Planning that summarizes the observations and the tests the soils engineer has made during construction. The final letter must also state the following: "Based upon our observations and tests, the project has been completed in conformance with our geotechnical recommendations."

   If the *final soils letter* identifies any items of work remaining to be completed or that any portions of the project were not observed by the soils engineer, you will be required to complete the remaining items of work and may be required to perform destructive testing in order for your permit to obtain a final inspection.

ATTACHMENT 4

09-014

SANTA CRUZ COUNTY HEALTH SERVICES AGENCY
ENVIRONMENTAL HEALTH SERVICE
701 Ocean Street - Room 312, Santa Cruz, CA 95060 (831) 454-2022

SR# 6988

SITE EVALUATION

☐ **PRELIMINARY LOT INSPECTION REPORT**
MLD # ____ PROPOSED LOT ____ LOT SIZE 42+ SITE LOCATION 820 Trabing Rd., Watsonville
APN 049-481-01 WATER SUPPLY APN 49-481-01 private OWNER'S WRITTEN PERMISSION ATTACHED YES ____ NO ____

☒ **SITE EVALUATION**
☒ FULL ☐ SOIL ☐ GROUNDWATER ☐ PERCOLATION ☐ REPAIR ☐ ALTERNATIVE SYSTEM

VALIDATION
03/16/09 2:05PM 00008#5446 0008
PL4201 $877.00
CHECK $877.00

☐ **OTHER CONSULTATION** ____

REQUESTED BY: Chris Rummel 115 Vista Dr., La Selva Bch. 684-1446
(NAME) (ADDRESS) (PHONE)

OWNER: Brian + Susan Cecy, et. al, 820 Trabing Rd, Watsonville CA 477-1730
(NAME) (ADDRESS) (PHONE)

☐ Item/s checked below do not meet present sewage disposal requirements or require further testing:

- ☐ Soil tests indicate soils not suitable.
- ☐ Lot slope excessive, area has been graded; and/or unable to provide setback from cut bank
- ☐ Winter water table testing required.
- ☐ Tests indicate failure to provide required separation of leaching and seasonal high groundwater.
- ☐ Unable to provide a 100 foot separation between a septic system and a well, spring, stream, or waterway.
- ☐ Inadequate space for both the sewage disposal system and the required future expansion area.
- ☐ Septic area in floodplain.
- ☐ Other ____

☑ Preliminary inspection of this lot indicates suitability for individual sewage disposal using conventional septic technology under standards currently in effect, subject to any limitations identified below.

☑ Water supply must be developed.

☐ Site conditions may be mitigated by alternative technology. Further testing and evaluation is needed.

Design Parameters $T_3 = 12'$ (M)

Percolation Rate (1-5) (T_1) (6-30) (T_3) 30-60 60-120 Groundwater Depth for Design Purposes $T_1 = 20$ (E)

REMARKS: Biotic; Hooker's Manzanita, American Badger
GW Recharge, 105, 107, 134, 135, 177

3/23/09 (T_1) Dry to 14' slope = 26%

(T_3) H_2O @ 12' slope 15% [max. trench depth 4' (6-30 min)]

NOTE: Preliminary inspections and evaluations do not take into account all factors which are considered in the issuance of a sewage disposal permit. An application for sewage disposal will be subject to further evaluation based on the specific sewage disposal design; the possible presence of geologic hazards, biotic resources, or other site constraints; and, the provisions of the Sewage Disposal Ordinance in effect at the time of permit application.

LGT — ENVIRONMENTAL HEALTH SPECIALIST
8/4/09 — DATE
RS — SUPERVISOR
9/4/09 — DATE

PHD-72 (REV. 12/01)

ATTACHMENT 5

ATTACHMENT 5

SANTA CRUZ COUNTY HEALTH SERVICES AGENCY - ENVIRONMENTAL HEALTH SERVICE
701 Ocean Street, Room 312, Santa Cruz, CA 95060 (831) 454-2022

APPLICATION FOR INDIVIDUAL WATER SYSTEM PERMIT

PERMIT NO. _____

820 TRABING ROAD
(SITE LOCATION)

ASSESSOR'S PARCEL NUMBER 049-481-01

OWNER Brian Cecy PHONE 831-761-0310

MAILING ADDRESS 820 Trabing Road, Watsonville, CA 95076

SYSTEM TO BE: ☐ INDIVIDUAL ☒ SHARED (IF SHARED, COPY OF RECORDED DEEDED EASEMENT MUST BE ATTACHED) THIS WILL BE PROVIDED PRIOR TO THE LOT SPLIT MAP BEING RECORDED.

TYPE: ☒ WELL ☐ HORIZONTAL WELL ☐ SPRING ☐ STREAM

LOCATION OF WATER SOURCE (APN) 049-481-01

APN'S TO BE SERVED: 1. 049-481-01 (PARCEL A) 2. 049-481-01 (PARCEL B) 3. _____ 4. _____ TO BE ASSIGNED MLD IN PROCESS.

I HEREBY AGREE TO COMPLY WITH ALL LAWS AND REGULATIONS OF THE COUNTY OF SANTA CRUZ PERTAINING TO INDIVIDUAL WATER SYSTEMS.

Brian D. Cecy (SIGNATURE OF PROPERTY OWNER) 8/26/09 (DATE)

WELL PUMPING TEST

DATE(S) OF PUMPING TEST 07-31-09

PUMPING RATE 40 GPM

DURATION OF CONTINUOUS PUMPING 6.5 HOURS

TOTAL YIELD 15,600 GALLONS

DRAW DOWN DURING PUMPING TEST 3 FT.

STATIC WATER LEVEL 267 FT.

I CERTIFY THAT I PERFORMED THE PUMP TEST AND THE INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

_____ (SIGNATURE)

08-03-09 (DATE) 249957 (LICENSE NO.)

*NAME OF PERSON OBTAINING AND TRANSPORTING WATER SAMPLE TO LAB Maggiora Bros. DATE 12-09-08

☒ WELL DRILLING CONTRACTOR ☐ REGISTERED ENGINEER ☐ REGISTERED GEOLOGIST ☐ R.E.H.S. ☐ WELL PUMP CONTRACTOR

ENVIRONMENTAL HEALTH SERVICE EVALUATION

1. PUMP TEST: ☐ MEETS REQUIREMENTS ☐ DOES NOT MEET REQUIREMENTS
2. *BACTERIOLOGICAL QUALITY ☐ MEETS STANDARDS ☐ DOES NOT MEET STANDARDS (RESAMPLE) ☐ FOLLOW-UP TESTING MEETS STANDARDS APPROVAL _____ DATE _____
3. *CHEMICAL QUALITY ☐ MEETS STANDARDS ☐ DOES NOT MEET STANDARDS (SEE REMARKS) ☐ FOLLOW-UP TESTING MEETS STANDARDS APPROVAL _____ DATE _____

(Analysis From A State-Certified Laboratory for Bacteriologic & Chemical Quality Must Be Attached)

REMARKS: _____

☐ PERMIT APPROVED ☐ PERMIT DENIED ☐ CONDITIONAL APPROVAL (SUBMIT SATISFACTORY TEST RESULTS BEFORE FINAL)

BY: _____, R.E.H.S. DATE: _____ REVIEWED BY: _____ DATE: _____

*SAMPLE SUBMITTED TO THE LAB MUST BE TAKEN BY AN EHS APPROVED THIRD PARTY.
DISTRIBUTION: WHITE=EHS\YELLOW=OWNER\PINK=FISCAL CONTROL\GOLDENROD=CONTRACTOR
HSA-64 (REV. 2/2000)

ATTACHMENT 6

Project Planner: Randall Adams
Application No.: 09-0276
APN: 049-481-01

Date: March 2, 2010
Time: 08:42:30
Page: 1

Environmental Planning Completeness Comments

========= REVIEW ON AUGUST 25, 2009 BY ROBERT S LOVELAND =========

1. The biotic report submitted is currently in review status. NOTE: Additional completness comments may be forthcoming after the report has been reviewed.

2. The soils report submitted showed an alternative site. Please show this site and access route on Sheet C1.1.

3. Please review the following County Code Sections and General Plan Policies before finalizing the locations of all building site locations:

County Code Sections:

16.20.180 (Design Standards for Private Roads, Driveways and Bridges)

16.22.050 (Project Design)

General Plan Policies:

6.3.1 (Slope Restrictions)

6.3.9 (Site Design to Minimize Grading)

4. The soils report has been received and submitted for formal review. NOTE: Additional comments may be forthcoming.

========= UPDATED ON JANUARY 25, 2010 BY ROBERT S LOVELAND =========

Items 1-3 above have been addressed.

Item 4 above: Please refer to letter from Carolyn Banti regarding additional soils report data needed to complete review process. ========= UPDATED ON FEBRUARY 16, 2010 BY CAROLYN I BANTI =========
The soils report has been reviewed and accepted. Please see letter dated 12/12/10.

Environmental Planning Miscellaneous Comments

========= REVIEW ON AUGUST 25, 2009 BY ROBERT S LOVELAND =========

Conditions of Approval will be entered once the biotic report has been reviewed and accepted. ========= UPDATED ON JANUARY 25, 2010 BY ROBERT S LOVELAND =========

Conditions of Approval:

1. No oak woodland or scrub habitat shall be removed in the future without first conducting environmental review.

2. Non-native broom and pampas grass shall be removed from the project site.

3. The cleared area on top of the knoll shall be allowed to recover and be managed to encourage and protect hooker's manzanita.

4. Submit a grading and drainage plan completed by a licensed civil engineer or architect, and obtain a grading permit if required.

Dpw Drainage Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON AUGUST 19, 2009 BY ALYSON B TOM ========= Application with plans by C2G Civil Consultants Group dated May 1, 2009 has been received. Please address the following: Completeness:

1) Drainage note on sheet C0.1 refers to a feasibility letter from Dees and Associated dated June 23, 2005. Please provide a copy of this letter or an updated letter discussing the feasibility of retaining additional runoff due to development on the site. Update the note to state that all additional runoff, from building and paved areas, shall be retained on the proposed parcel. The May 2009 Geotechnical Investigation by Dees and Associates includes recommendations for discharge locations for the proposed building sites. Identify these discharge locations on the site map. If there are to be any common improvements these need to be identified and designed as part of this land division application
========= UPDATED ON JANUARY 19, 2010 BY ALYSON B TOM ========= Application with plans revised 9/09 and analysis dated 11/09 has been received. Please see miscellaneous comments for issues to be addressed prior to recordation of final map.

Dpw Drainage Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON AUGUST 19, 2009 BY ALYSON B TOM ========= Compliance: 2) It appears that driveway runoff will discharge via sheet flow along the northern side of the driveway. Demonstrate that the runoff rate from the site will be limited to the predevelopment runoff rate for a range of storms. Provide a letter from the geotechnical engineer approving of this method.

Informational: 3) Update expiration date for RCE on sheet C0.1.

4) Construction activity resulting in a land disturbance of one acre or more, or less than one acre but part of a larger common plan of development or sale must obtain the Construction Activities Storm Water General NPDES Permit from the State Water Resources Control Board. Construction activity includes clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement. For more information see:
http://www.swrcb.ca.gov/stormwtr/constfaq.html
========= UPDATED ON JANUARY 19, 2010 BY ALYSON B TOM ========= Prior to recordation of final map please address the following:

1) Provide maintenance requirements and identify responsible party for the infiltration trench both on the plans and in a recorded maintenance agreement.

2) Provide a final geotechnical review letter - the letter should refer to final dated plans/map and should state that the design infiltration rate used (6 in/hr) is reasonable given the location.

3) See previous miscellaneous comment No. 4

Please note that any additional impervious area or drainage disturbances on individual lots will be required to maintain predevelopment runoff rates for a range of storms.

Dpw Road Engineering Completeness Comments

========= REVIEW ON AUGUST 10, 2009 BY GREG J MARTIN =========
Recommendations:This review is of the project-s access to the County road system only. The access road/driveway is recommended to be a minimum of 18 feet wide to the property line. Returns at the intersection of the access road/driveway with the county road are required and must be a radius between 11 to 15 feet. All new paving shall be two inches of asphalt concrete over six inches of aggregate base. Any severely distressed pavement or potholes up to the property line shall be repaired. The gate shall be relocated out of the right-of-way or an encroachment permit obtained for it.

Dpw Road Engineering Miscellaneous Comments

========= REVIEW ON AUGUST 10, 2009 BY GREG J MARTIN =========

Environmental Health Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON AUGUST 11, 2009 BY JIM G SAFRANEK =========
NO COMMENT

Environmental Health Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON AUGUST 11, 2009 BY JIM G SAFRANEK ========= Applicant received an approved septic system site evaluation; to avoid disturbance of septic leachfield areas it would be valuable to illustrate the septic system 'envelope' on a revised site plan for the contractor(s).

C2G/Civil Consultants Group, Inc.
Engineers/Planners

4444 Scotts Valley Drive • Suite 6 • Scotts Valley, CA 95066-4529
831/438-4420 • Fax 831/438-5829 • [name]@c2gengrs.com

November 17, 2009

Attention: Alyson B. Tom
County of Santa Cruz
Public Works - Drainage
701 Ocean Street
Santa Cruz, Ca 95060

Dear Mrs. Tom,

The enclosed Storm Drainage calculations have been provided to support the proposed dispersion trench along the widened access road. Due to the high percolation rate the soils on this site provide, C2G has proposed to implement a dispersion trench (also known as infiltration trench) to collect the additional runoff produced by increasing the impervious area by +/-3,853 square feet.

C2G has used the *"Runoff Retention by the Slope Infiltration Method"* provided by the Santa Cruz County Public Works Department. This sheet has defined the required length of our proposed dispersion trench (see detail 6 on sheet C4.1 of the revised plans).

If you have any questions regarding the enclosed calculations and/or revised plans, please call our office.

Very truly yours,

C2G/CIVIL CONSULTANTS GROUP, INC.

David Dauphin
Senior Project Manager

TRC:ks

ATTACHMENT 8

ATTACHMENT

PROJECT: Cecy Residence - 820 Trabing Road. Calc by: DD Date: 11/15/2009

RUNOFF RETENTION BY THE SLOPE INFILTRATION METHOD

Notes & Limitations on Use:

Saturated soil permeability values may be used conservatively from the USDA-NRCS soil survey, or use actual test values.

Projects with saturated soil permeability less than 120% of the design storm intensity should consider storage methods to percolate runoff.

Maximum sheet flow length is 100 ft., with 30 ft. typical. This requires site observation by the designer to determine.

Minimum length of perforated pipe is 6 ft., maximum length 40 ft., or 60 ft. if tee'd, per outfall.

Minimum perforated pipe diameter is 3 inches.

Perforated pipe is to be laid parallel to the slope contour, preferably secured at the surface, or with minimal burial and protective cover. *

This method may be used on smooth and uniform vegetated or mulched slopes under 15%, without special provisions.

Slopes greater than 15%, or that are irregular, require site specific erosion consideration, and possibly surface improvements.

For any slopes greater than 25% occurring nearby at lower elevation, consult a geotechnical engineer.

A 75% efficiency factor is applied to the determined infiltration surface area.

Table is based on computations using the Rational Equation for a 2-yr. return, 2-hr. duration storm.

* to the County of Santa Cruz Design Criteria, Stormwater Management - Section H, for complete method criteria and example calculations.

Data Entry: PRESS TAB KEY & ENTER DESIGN VALUES SS Ver: 1.0

Mitigation Area

Saturated Soil Permeability:	6.00	in/hr
Estimated Distance for Sheet Flow:	50	ft

Development Area

Site Location P60 Isopleth:		1.40	Fig. SWM-2
Rational Coefficients	Pre:	0.25	
	Post:	0.90	

Table Value to Interpolate

Design Storm Intensity:	0.44	in/hr

Required Length of Perforated Pipe (ft)

Impervious Area $(ft)^2$	Design Storm Intensity (in/hr)													
	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90
500	0	0	1	1	1	1	1	1	1	1	1	1	1	2
750	1	1	1	1	1	1	1	1	2	2	2	2	2	2
1000	1	1	1	1	1	2	2	2	2	2	2	3	3	3
1250	1	1	1	2	2	2	2	2	3	3	3	3	4	4
1500	1	1	2	2	2	2	3	3	3	3	4	4	4	5
1750	1	2	2	2	2	3	3	3	4	4	4	5	5	5
2000	2	2	2	2	3	3	3	4	4	5	5	5	6	6
2250	2	2	2	3	3	4	4	4	5	5	6	6	6	7
2500	2	2	3	3	4	4	4	5	5	6	6	7	7	8
2750	2	3	3	3	4	4	5	5	6	6	7	7	8	8
3000	2	3	3	4	4	5	5	6	6	7	7	8	9	9
3250	2	3	3	4	5	5	6	6	7	7	8	9	9	10
3500	3	3	4	4	5	6	6	7	7	8	9	9	10	11
3750	3	3	4	5	5	6	7	7	8	9	9	10	11	11
4000	3	4	4	5	6	6	7	8	8	9	10	11	11	12
4250	3	4	5	5	6	7	7	8	9	10	11	11	12	13
4500	3	4	5	6	6	7	8	9	9	10	11	12	13	14
4750	4	4	5	6	7	7	8	9	10	11	12	13	14	15
5000	4	5	5	6	7	8	9	10	11	11	12	13	14	15

Vegetation Survey
and analysis as part of a
Biotic Report for
820 Trabing Road
Watsonville, CA 95076

APN: 049-481-01
Santa Cruz County, CA

July, 2009

Prepared for:

Powers Land Planning
1607 Ocean Street, Suite 8
Santa Cruz, CA 95060
contact: Ron Powers (831) 426-1663

and
Brian and Sue Cecy
820 Trabing Rd.
Watsonville, CA 95076
(831) 477-1730

by:
Patti Kreiberg
Sunset Coast Nursery
2745 Tierra Way
Aromas, CA 95004
(831) 726-1672

ATTACHMENT 9

Purpose & Project Description
The purpose of this biotic report is to identify significant vegetation on the 41.98 acre property at 820 Trabing Road, Watsonville, CA 95076 in Santa Cruz County, APN:049-481-01.

This part of the biotic report addresses changes to the property from an inferred natural state, identifies significant vegetation types found on the property and encourages continuing restoration to a natural community of "San Andreas Live Oak Woodland" (oak woodland – maritime chaparral) expected to naturally occur in this area.

The property owners propose to split the parcel into two Parcels: Parcel A (19.13 acres), where the existing residence is located, and Parcel B (22.85 acres) with two proposed habitable building envelopes (100' x 100' and 150' x 200') shown on Figure 1.

The larger building envelope is located in an area of very disturbed ruderal vegetation. The smaller building envelope is located on a flattened area with ruderal vegetation and little native vegetation within the envelope, but adjacent to some native habitat.

Proposed building envelopes and infrastructure (driveway & leachfields) are proposed to be located in ruderal vegetation, limiting the potential disturbance to the native species on the property.

Previous disturbances to the property are apparent in the composition of the existing vegetation. Changes to the property caused by the June 20, 2008 "Trabing Fire" are discussed. Photos taken at the June 10, 2009 survey are located at the end of this report.

Recommendations for protecting, preserving and enhancing native species and natural habitat are included in this report. Mitigation measures for maritime chaparral, in addition to restoration recommendations for oak-woodland, are suggested for potential impacts on vegetation.

It is the intention of the property owners to limit disturbance to the natural communities and incorporate a "Declaration of Restrictions" on future activities to protect habitat.

Sensitive Species Summary
The California Natural Diversity Data Base (CNDDB) maintained by the California Department of Fish and Games (CDFG) was checked to determine what plant species of concern might be found in the Watsonville West Quadrangle (387A) in which the property is located. Two species on the CNDDB list have potential to occur on the property. They are: robust spineflower (*Chorizanthe robusta var. robusta*) and Hooker's manzanita (*Arctostaphylos hookeri*).

Of those species, many Hooker's manzanitas were found on the property. Robust spineflower was not found. Incidental to the vegetation surveys, one sheltering/foraging California red-legged frog (*Rana draytonii*) was identified at the Willow/Spring area on June 10, 2009. Its occurrence has been submitted to the CNDDB.

Santa Cruz County designates certain habitat in the general geographic area as "San Andreas Oak Woodland", consisting of elements of both the coast live oak and maritime chaparral communities. For the purpose of this report, "oak woodland" and "maritime chaparral" are separated in order to distinguish locations where one or the other dominates and the degree of disturbance found in each habitat type. Collectively, the OW/MC designations on Figure 2: Vegetation types and photo point may be considered "San Andreas Oak Woodland". (Please Note: In the final production of this report, the 8.5"x11"format of Figure 2 became unreadable. Please refer to the 24"x36" folded copy of Figure 2 at the end of the report.)

The Panorama Photo point (PP) marked on Figure 2 is the location where photos labeled as numbered panorama photos were taken. The full complement of photos is found on a CD at the end of the report. The large format (24"x36") Figure 2 is folded and presented at the end of the report. A copy of the submitted CNDDB form for the red-legged frog is also included at the end of the report.

Background

The June 20, 2008 fire known as the "Trabing Fire" affected a large portion of the property. However, disturbances to the property occurred long before the June 2008 fire. A majority of the property has been altered from its natural state. Agricultural activities of the past are apparent. No part of the property can be designated pristine although several areas are occupied by remnant stands of native vegetation. Aerial photographs from as early as the 1940's show substantial differences in vegetation from the natural state. Recognizing the altered state of the property from its natural condition, the owners are in the process of removing eucalyptus and intend to restore the vegetation (over time) to the appropriate natural communities. In doing so, they protect, preserve and enhance the remnants of the natural community. These efforts are separate from the impacts that may result from the proposed project.

Vegetation

The natural vegetation in this area should consist of "San Andreas Live Oak Woodland", i.e. Oak Woodland and Maritime Chaparral. Both these native plant communities occur in the surrounding area. Aerial photos from the late 1950's show intact natural communities surrounding the parcel with obvious alterations to this parcel already underway (see Figure 3: aerial photo found in "Monterey Bay Area; Natural History and Cultural Imprints", 1979 by Burton L. Gordon).

Along with the two surveys, Google images and more recent aerial photos were examined to create categories of vegetation and disturbance regimes. Five categories and two sub-categories were chosen based on dominant species now seen on the property. The categories are:

1) Ruderal Vegetation, RV
2) Eucalyptus Grove, EG
3) Oak Woodland Remnant, OW1 and OW2
4) Maritime Chaparral Remnant, MC1 and MC2
5) Willow/Spring, WS (incidental)

The subcategories under oak woodland and maritime chaparral indicate the relative quality of these two vegetation types. OW1 and MC1 indicate more intact native community and OW2 and MC2 indicate a higher level of disturbance and increased presence of non-native vegetation. These categories are delineated on Figure 2: Vegetation types and photo point.

Surveys of the vegetation on the property were conducted on October 9, 2008 and June 10, 2009. Results of the surveys are reported below.

Pampas grass, pine trees and Ruderal Vegetation (RV)

Pampas grass occurs sporadically over the property in all vegetation types. The fire burned outer leaves and stems, but very little of the pampas grass was destroyed outright. At the October survey, pampas grass was already re-sprouting and continues to show healthy growth at the June '09 survey.

There were several pine trees planted on the property, apparently none of them indigenous – and the fire killed most of the pines. Pine seedlings may be found in the next year as many pines germinate after fire.

Ruderal vegetation is generally described as disturbed "waste" places and the weedy, mostly non-native plants that grow there. Most often, ruderal vegetation is a result of agricultural operations. Just above the panorama photo-point (Figure 2), there is evidence of an abandoned irrigation system probably used during agricultural activities. It is occupied by ruderal vegetation and surrounded by burned OW2/MC2. At this parcel, ruderal vegetation is extensive, with some elements moving into oak-woodland and chaparral – and vice-versa. Table 1 at the end of this report lists many of the species found in the areas marked RV on Figure 2.

Eucalyptus Grove (EG)

Blue gum eucalyptus (*Eucalyptus globulus*) occurs over a large portion of the property. The large number and extent of Eucalyptus Groves indicate a considerable shift from the native plant community. At the October '08 survey, it was apparent the fire damaged nearly all the eucalyptus trees on the western section of the parcel. The owners are in the

process of removing as many of the burned/dead eucalyptus as possible. The owners intend to replant these areas with oak acorns as the eucalyptus trees are eliminated. Since the fire also affected oak trees, acorns may not be available until the Fall season of 2009.

However, fire promotes the germination of eucalyptus and the June '09 survey shows thousands of eucalyptus seedlings emerging under the burned eucalyptus still being removed. Some of the mature burned eucalyptus trees are re-sprouting along the length of their trunks. It is clear that eucalyptus will become dominant on the burned areas of the parcel unless the property owners continue to remove and control the growth of this invasive exotic. In addition, seedling eucalyptuses are now growing in some of the burned oak and chaparral areas (OW2/MC2).

Few native plants thrive under the canopy and in the litter layer of eucalyptus trees. Notably, at the October '08 survey, bracken fern was regenerating in the burned areas at the lower perimeter of the largest eucalyptus grove. Bracken fern continues to grow in the same area. At the June '09 survey, it was noted that poison oak (*Toxicodendron diversilobum*) and California blackberry (*Rubus ursinus*) are also re-sprouting in the eucalyptus groves. Table 2 lists the species found in the areas marked EG (Eucalyptus Grove).

Oak Woodland Remnant (OW1 and OW2)
Several areas of coast live oak trees (*Quercus agrifolia*) exist on the property. None of those areas are extensive. Weeds and at least a few ruderal species occupy all of the areas. At the October '08 visit, it was apparent many of the oaks were burned but some were re-sprouting along the trunks and in upper branches. It was expected they would recover.

At the June '09 survey, it became apparent the oaks suffered more damage than initially thought. Most of the oak trees that looked able to recover have died. There is no foliage on these trees and no sprouting along trunks, branches or at the base of the trees. Fewer oak trees are re-sprouting than seen in October. Of those re-sprouting, most do not appear strong enough to develop into a "typical" coast live oak. Only two coast live oak seedlings were found, both under 8 inches tall. It is likely that less than 100 oak trees remain alive on the property.

Many other native plants are re-sprouting from root crowns and germinating from seeds under the canopy of standing oaks whether dead or alive. The greatest diversity is present near the bottom of the north-facing slope west of the main driveway. Table 3 lists many native species found in association with the oaks and notes some re-sprouting and/or germinating seedlings. Table 3 lists only native species even though non-natives occur in most areas.

Not all areas show the full complement of these species, but their presence on the property provides an excellent source of plant material for restoration and landscaping. The oak-woodland areas with the highest diversity and the least disturbed by weeds, are designated OW1 on the aerial photo. Oak-woodland areas with more weeds present are marked OW2. Areas of mixed vegetation (oaks and chaparral species) with more weeds present are marked OW2/MC2.

Maritime chaparral

Maritime chaparral as a single distinct vegetation type exists only on two areas of the property. Elements of chaparral, notably brittle-leaf manzanita (*Arctostaphylos tomentosa crustacea*), occur within areas of burned oak trees and here the brittle-leaf manzanita is crown sprouting vigorously. The brittle-leaf manzanita show major trunks and branches burned - up to 8 to 10 feet – but with new growth that is waist high. Many other native chaparral plants found here are known for their ability to crown sprout after fires and are also responding with new growth. These areas are marked OW/MC on Figure 2.

Areas of maritime chaparral with the highest diversity and the least weeds are marked MC1 and MC1a. Areas of maritime chaparral with more disturbance and/or weeds are marked MC2. Areas of mixed vegetation (oaks and chaparral species) with more weeds present are marked OW2/MC2.

The area marked "MC1a" on Figure 2 shows the most intact natural community on the property. In October '08, this area was completely devoid of living vegetation, as the fire burned everything. Only remnants of charred branches indicated where Hooker's manzanita had been growing. These remains were the only evidence of pre-existing vegetation.

The appearance of this area at the June '09 survey was dramatically different. Hooker's manazanita is known to naturally regenerate from seed after a fire. The entire area is now covered with seedlings of Hooker's manzanita - too numerous and too dense to count. Among the Hooker's manzanita seedlings, there are a few seedlings of brittle-leaf manzanita and a large number of native bulbs. Coast pretty face, elegant brodiaea and blue dicks are actively blooming. Seeded stems of Fremont's star lily show the early spring bulb's presence. Wild rose is re-sprouting from crowns not observed in October '08. This is the only location on the property where needlegrass (*Nasella* sp.) and pitcher sage (*Lepichinia calycina*)were found. There are several weedy grasses in the area.

Willow/Spring

South of the existing residence, on the north-facing slope, there are several willow trees. A set of old wooden steps leads to the remains (rusted parts) of an agricultural windmill and two very small "spring boxes". The moist ground around this area supports several chain ferns (*Woodwardia fimbriata*).

A red-legged frog was observed at the small spring box during the vegetation survey on June 10, 2009. Please refer to the Wildlife assessment prepared by Dana Bland & Associates, July 2009 for information relating to wildlife.

Impacts of the Proposed Project

Vegetation

Both building envelopes are outside the limits of the oak woodland and maritime chaparral. The proposed small building envelope (100' x 100') is on an open flat area of ruderal vegetation bordered by maritime chaparral. There are seedlings (as well as burned) Hooker's manzanitas at the edge of the knoll on which this envelope is located. The proposed driveway to this envelope takes advantage of an existing course through ruderal vegetation from the main driveway. The proposed larger building envelope (150'x 200') is located on a large flat area of ruderal vegetation surrounded by existing vehicle access.

Because neither building envelope is located within oak-woodland or maritime chaparral, there will be no significant disturbance to the native vegetation. However, to further protect the native community from possible impacts of construction, the limits of the small envelope should be clearly defined with fencing before any clearing, grading or construction activities begin.

The limits of the envelope are to be placed as far from the edge of maritime chaparral as possible, with a minimum distance of 5 feet. To further protect the vegetation, orange construction fencing should be placed between the chaparral and the limit of the envelope keeping all construction activities within the envelope. Because there are seedlings of the manzanita germinating at the periphery of the chaparral, there will be a survey and count of Hooker's manzanita that may potentially be affected by final placement of the envelope prior to recording the Parcel Map. All efforts will be made to keep the envelope away from the edge of the chaparral. The project botanist shall be present on site for staking the fence or to direct the contractor who installs the construction fencing.

If manzanitas are unavoidably found within the envelope, they will be counted and mitigation will take place to address the loss. A replacement ratio of three to one is suggested for Hooker's manzanita. If it becomes necessary to mitigate for the loss of Hooker's manzanita, all propagation material (cuttings/seeds) for replacement (mitigation) plants must come from the property to ensure the genetic integrity of the local population. Hooker's manzanita can be successfully grown from cuttings taken in the late fall.

It is the intention of the property owners to limit disturbance to the natural communities and incorporate a "Declaration of Restriction" on future activities to protect natural habitat.

Mitigation

If mitigation becomes necessary as a result of impact to Hooker's manzanita in the small building envelope, Hooker's manzanita from the property (seeds or cuttings) will be used to propagate replacement plants at a ratio of three to one. These plants can be easily propagated from cuttings taken in the late fall.

Four potential mitigation areas are identified on Figure 2. Each of these areas is close to the small building envelope and each is within a disturbed area (old roadway or trail) traversing the OW/MC that could easily be restored to a natural community.

The extent of the mitigation areas used will be determined by the number of plants needed to mitigate at a ratio of three to one for impacts to Hooker's manzanita. Mitigation plants will be placed on 4' centers to allow for natural growth habit to develop. In addition, for every nine Hooker's manzanita planted, one plant of another appropriate maritime chaparral species will be planted to ensure the diversity of the mitigation site.

An Annual Report (due June 30) detailing the condition and numbers of surviving Hooker's manzanita should be sent to the owners for review and submission to Santa Cruz County. After five years of reports, the mitigation will be considered successful if two out of three Hooker's manzanita mitigation plants are surviving. If the number of survivors is below this threshold, the mitigation effort will be re-evaluated and additional plantings may be required to reach the successful survivor ratio (2 out of 3).

Landscaping

Landscaping around the building envelopes should be with native species. Because of the rich diversity of natives already on the property, a truly beautiful native landscape can be created from this resource. Native plants used within the building envelopes for landscaping will not be considered mitigation and will be managed as residential landscaping and not part of the "San Andreas Oak Woodland".

Vegetable and flower gardens or fruit trees for domestic use shall be considered for residential use and not part of the habitat. Invasive plants should be avoided in the residential landscaping to prevent escape into the surrounding natural habitat. Species to avoid in particular are: nasturtium, morning glory, fountain grass, ice plant and African daisy.

Recommendations for Restoration

True restoration to a natural community is a long term and expensive process. A practical approach to restoring this property is to address the presence of invasive exotics and foster the recovery of the oak woodland by planting acorns.

Taking action to eliminate and control the spread of eucalyptus trees is already underway and part of the owner's commitment to protect, preserve and enhance the natural community. Current activities are separate from and not in response to the proposed project. Planting acorns in the fall will accelerate the transition of these areas to oak woodland. As acorns begin to ripen on the remaining oak trees, they should be gathered, cleaned, soaked and planted manually on the uphill areas of the property. Acorns that sprout with natural rainfall and survive the first 5 to 6 years may produce acorns to promote a "downhill" self –planting population.

While oaks are re-establishing, weed control, particularly of eucalyptus, ice plant and pampas grass should continue. Aggressive weed control should allow the regeneration of native species from those existing on site.

Summary of Recommended Project Conditions

While the fire damage repair and restoration continues by the property owners, these efforts should be clearly separated from any impacts that may be associated with the proposed project.

For the Minor Land Division lot split, the following are recommended conditions to ensure the project will not have an adverse impact upon the sensitive habitat found on the site.

1. Prior to preparing the Parcel Map for the land division, the building envelope should be staked and reviewed in the field by the project botanist to identify and count any Hooker's manzanita plants that may have germinated within the defined building envelope. If Hooker's manzanita plants are identified within the envelope, a mitigation of impacts at a ratio of 3 to 1 (replacement to impacted) Hooker's manzanita will take place. Replacement planting should be completed under the supervision of the project botanist.
2. Prior to construction on the small building envelope, construction fencing shall be installed. The location should be reviewed and approved on site by the project botanist and wildlife biologist.
3. Prior to recording the Parcel Map, a Declaration of Restriction should be recorded indicating that the property contains sensitive habitat. The Declaration should include specific uses and restrictions of activities within the sensitive OW/MC habitat areas as defined by this vegetation section of the biotic report.

4. Landscaping around the building envelopes should be with native plants propagated from on-site material. Vegetable gardens and/or fruit trees for domestic use and native plants installed as landscaping shall be considered and managed as residential landscaping and not as mitigation. Invasive non-natives will be avoided in the landscaping.

References:

Cooney-Lazzaneo, M.B. and K. Lyons. 1981. Plants of Big Basin Redwoods State Park and the Coastal Mountains of Northern California. Mountain Press Publishing Co. Missoula.

CNPS. 2001. Inventory of Rare and Endangered Plants of California (6th edition). Rare Plant Scientific Advisory Committee, David P. Tibor, convening editor. California Native Plant Society, Sacramento, CA. x +388 pp.

Gordon, B.L. 1979. Monterey Bay Area: Natural History and Cultural Imprints (2nd edition). Boxwood Press. Pacific Grove, CA.

Hickman, J.C. ed. 1993. The Jepson Manual Higher Plants of California. University of California Press, Berkeley and Los Angeles, CA.

Matthews, M.A. 1997. An illustrated Field Key to he Flowering Plants of Monterey County. California Native Plant Society. Sacramento, CA.

Thomas, J.H. 1961. Flora of the Santa Cruz Mountains of California. Stanford University Press. Stanford, CA.

WILDLIFE ASSESSMENT FOR

PROPOSED LOT SPLIT AND NEW RESIDENCES

LOCATED AT 820 TRABING ROAD

WATSONVILLE, CA

APN 049-481-01

Report Prepared for:

Mr. Ron Powers
Powers Land Planning
1607 Ocean Street, Suite 8
Santa Cruz, CA 95060

And:

Brian and Sue Cecy
820 Trabing Road
Watsonville, CA 95076

Report Prepared by:

Dana Bland, Wildlife Biologist
Dana Bland & Assoc.
P.O. Box 636
Aptos, CA 95001

July 2009

INTRODUCTION

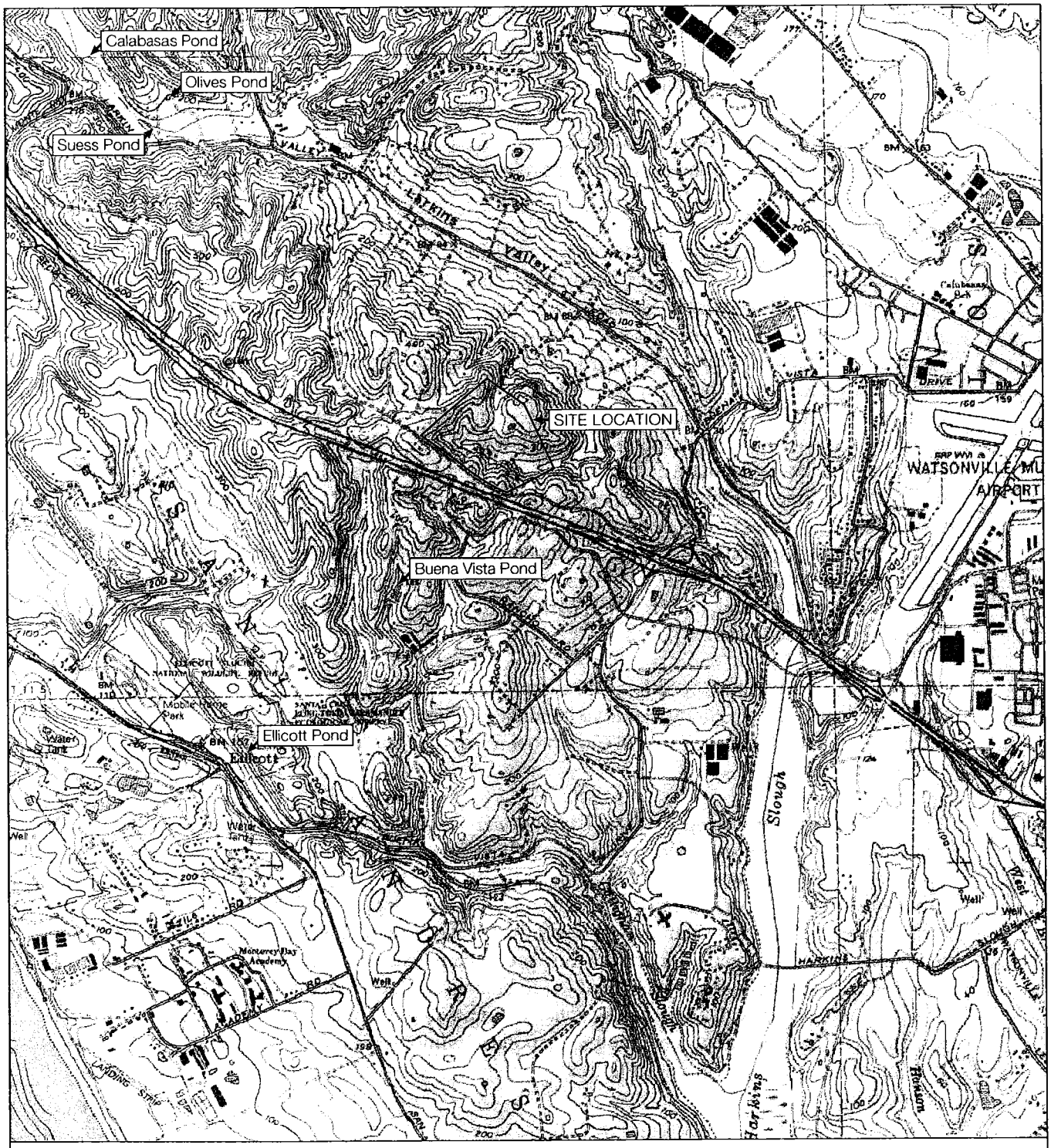
The 42-acre Cecy property (APN 049-481-01) is located at 820 Trabing Road in Watsonville, California, on the USGS 7.5' Watsonville West quadrangle (Figure 1). Much of the vegetation and one residence burned during the June 2008 Trabing Fire. Two single family residences survived the fire and still exist today, and some vegetation is resprouting as documented by the Vegetation Survey report prepared by Patti Kreiberg (July 2009).

The property owners propose to split the 42-acre parcel into two separate parcels, proposed Parcel A to be approximately 19 acres and Parcel B to be approximately 23 acres (see proposed Tentative Map, prepared by C2G/Civil Consultants Group, May 2009). Parcel A will include the existing two single family residences, carport, existing driveway, water storage tanks, existing utilities and septic, and storage sheds. No new development is proposed for Parcel A. Two new single family building sites are proposed for Parcel B. As shown on the Tentative Map, one would include a habitable building envelope of 10,000 square feet and the other would be 30,000 square feet. Domestic water is supplied by a well adjacent to the existing residence on Parcel A. The proposed development envelopes on Parcel B will be accessed by driveways located along existing dirt/gravel roads which branch off the existing paved main driveway.

The Cecy property has been identified by Santa Cruz County as having potential for sensitive habitat types (San Andreas Live Oak Woodland and Maritime Chaparral, see Kreiberg report), as well as protected plant and animal species. This report addresses three special status wildlife species: California tiger salamander (*Ambystoma californiense*), Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), and California red-legged frog (*Rana aurora draytonii*). California tiger salamander (CTS) is federally listed as a threatened species, Santa Cruz long-toed salamander (SCLTS) is both stated and federally listed as an endangered species, and California red-legged frog (CRLF) is federally listed as a threatened species.

METHODS

Dana Bland, Wildlife Biologist, conducted a site reconnaissance visit on July 14, 2009. Areas of proposed new development, and sensitive habitats identified in the Kreiberg report were walked and photographed. The California Natural Diversity Database (Watsonville West quad) was searched for documented occurrences of the three amphibian species in the vicinity of the Cecy property.



Dana Bland & Associates Consulting Biologists	CECY PROPERTY SITE LOCATION 820 Trabing Road, Watsonville, CA	Figure 1 7/09

ECOLOGY OF THE SPECIES

Below is a brief description of the three amphibian species evaluated for this report, their habitat requirements, and their known occurrences within the greater vicinity of the Cecy property.

The California tiger salamander (*Ambystoma californiense*) is federally listed as a threatened species and is a candidate for State listing as endangered. This tiger salamander is a permanent resident of annual grasslands, and migrates to ponds in the winter to breed. Adults spend most of the year underground in mammal burrows, coming out at night to forage. The first heavy rains of winter initiate the migration of adults to permanent and temporary ponds, where breeding takes place from December to February (Stebbins 1985). It takes a minimum of 2.5 months for larvae to transform into the juvenile form (Jennings and Hayes 1994). Most tiger salamanders live within 0.25 mile of their breeding pond (Shaffer et al. 1993, Trenham et al. 2001). Agricultural and urban development has reduced much of the former habitat of this species. Introduction of non-native fish which prey on the salamander larvae has devastated some local populations. Another recently discovered threat to the native California tiger salamander in this portion of central California is the presence of non-native tiger salamanders from other central and western states that hybridize with the native salamander (B. Shaffer, pers. comm.). Non-native tiger salamanders were imported and raised in stock ponds for fish bait.

There are only two known breeding ponds for CTS in Santa Cruz County, the Buena Vista Preserve Pond and the Ellicott Preserve Pond (see Figure 1). Both of these ponds are located across the freeway from the Cecy property, approximately 0.5 to 1.25 mile to the south, respectively.

The Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*) is both state and federally listed as an endangered species. It spends most of the year in upland refugia, using small mammal burrows or hiding under dense leaf litter and rotting logs. This salamander prefers riparian, oak woodland and coastal scrub for upland habitat. During rainy winter nights, adult salamanders travel from their upland refugia to temporary or semi-permanent ponds to breed. Santa Cruz long-toed salamanders have been documented to travel as far as 0.6 mile from upland habitat to breeding ponds. Females lay eggs singly on stalks of submerged vegetation; the eggs hatch within 30 days. Larvae take up to 6 months to transform into juveniles, depending upon pond conditions. The juveniles then typically remain in the moist pond environs until the first fall rains, when they begin their dispersal to upland areas.

Known breeding ponds (CNDDB 2009) for SCLTS within the general vicinity of the Cecy property include the Buena Vista Pond (approx. 0.5 mile south), Ellicott Pond (approx. 1.25 mile south), and Suess, Olives, and Calabasas ponds (approx. 1.5 to 2 miles northwest).

The California red-legged frog (*Rana aurora draytonii*) is a State Species of Special Concern and Federally listed as threatened. This species is found in quiet pools along streams, in marshes, and ponds. Red-legged frogs are closely tied to aquatic environments

and favor intermittent streams, including some areas with water at least 2.5 ft. deep, a largely intact emergent or shoreline vegetation, and a lack of introduced bullfrogs and non-native fishes. This species' breeding season spans January to April (Stebbins 1985). Females deposit large egg masses on submerged vegetation at or near the surface. Embryonic stages require a salinity of $\leq$ 4.5 parts per thousand (Jennings and Hayes 1994). They are generally found on streams having a small drainage area and low gradient (Hayes and Jennings 1988). Recent studies have shown that although only a small percentage of red-legged frogs from a pond population disperse, they are capable of moving distances of up to 2 miles (Bulger 1999). The red-legged frog occurs west of the Sierra Nevada-Cascade crest and in the Coast Ranges along the entire length of the state. Much of its habitat has undergone significant alterations in recent years, leading to extirpation of many populations. Other factors contributing to its decline include its former exploitation as food, water pollution, and predation and competition by the introduced bullfrog and green sunfish (Moyle 1973, Hayes and Jennings 1988).

One subadult California red-legged frog was observed in the small spring boxes on the Cecy property on July 14, 2009 (Dana Bland, pers. obs.), and was previously reported by Patti Kreiberg and Mark Allaback on June 10, 2009 (P. Kreiberg, pers. comm.). Known breeding ponds within the general site vicinity include the Ellicott Pond (approx. 1.25 miles southwest), and Calabasas Pond (approx. 2 miles northwest).

Figure 2. California red-legged frog subadult observed at spring box on Cecy property July 14, 2009.

RESULTS OF WILDLIFE ASSESSMENT

As described in the Kreiberg vegetation report, the Cecy property contains five main vegetation communities: ruderal, Eucalyptus, oak woodland, maritime chaparral, and willow/spring. As noted above, much of the vegetation on the property burned during the June 2008 fire, and now exists as only remnant habitat fragments. Ms. Kreiberg also notes in her report that a review of historic aerial photos (as far back as the 1940s) shows that the property has been largely disturbed by agricultural uses for many decades.

During the reconnaissance survey for this wildlife assessment on July 14, 2009, the dominant habitat types observed on the Cecy property were Eucalyptus forest (burned but

resprouting) and ruderal. The oak woodland does not occur in a dense canopy habitat type, but rather as small fragments or groups of one or more individual oak trees, with some areas of dense chaparral understory. Many burned, and apparently dead oak trees were observed. As noted in the Kreiberg report, the chaparral was vigorously resprouting.

Figure 3. Example of burned Eucalyptus forest, ruderal, and small patches of oaks on Cecy property, July 14, 2009.

The area described as the willow/spring was observed on July 14, 2009. There are two very small spring boxes, probably built decades ago, that are adjacent to each other. The larger is approximately 6 ft long by 2 ft wide and the smaller is approximately 2 feet square. These spring boxes are located on a north facing slope about 300-500 feet from the larger of the two existing residence. On July 14, 2009, one subadult CRLF was observed in the larger of the two spring boxes. No development or changes are proposed for these spring boxes.

Figure 4. Hillside seep that supports small willow patch at Cecy property, July 14, 2009.

Figure 5. Photo of the larger of the two spring boxes at the Cecy property, July 14, 2009.

The areas proposed for new residential development on Parcel B are located in ruderal vegetation, with remnant patches of maritime chaparral and oak woodland adjacent. Both sites are located on dry, south facing areas. The existing dirt/gravel driveways to the new homes proposed for Parcel B traverse ruderal vegetation type, and would not impact any sensitive habitat types.

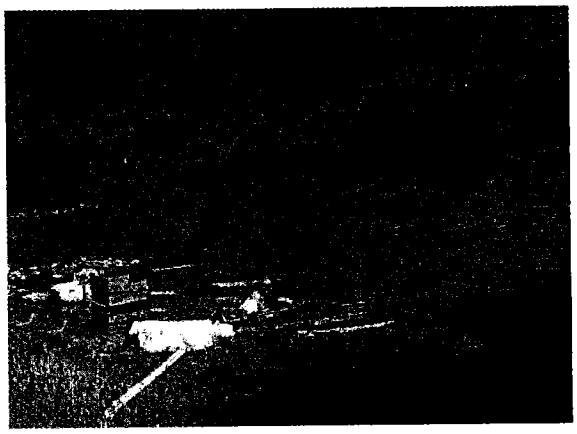


Figure 6. Proposed site for 200' by 150' development envelope on proposed Parcel B of Cecy property, July 14, 2009.

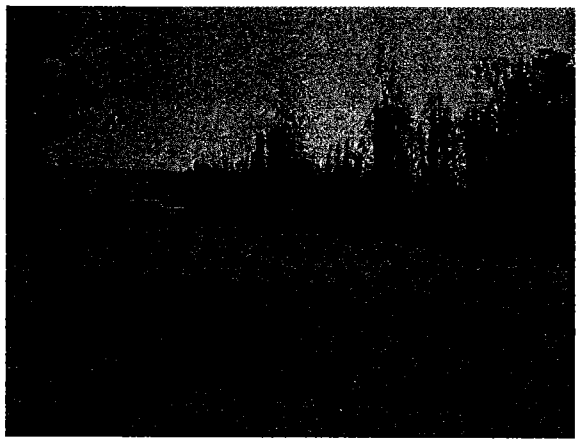


Figure 7. Proposed site for 100' by 100' development envelope on proposed Parcel B of Cecy property, July 14, 2009.

There are no stock ponds, natural ponds, or waterways on the Cecy property. The small reservoir shown on the USGS topo map (Figure 1) no longer exists on the Cecy property. It may have been a small pond built for former agricultural uses, but there is no current evidence of any ponds, intermittent creeks, perennial or seasonal drainages on the site.

DISCUSSION

The Cecy property does not have any ponds or other waters suitable to provide breeding habitat for California tiger salamander, Santa Cruz long-toed salamander or California red-legged frog. All three of these amphibians breed in the winter months and require ponded, still water with at least some vegetation to deposit their eggs. There is no survey data available for the small ponds to the east of the Cecy property as shown on the topo map (Figure 1), and it is unknown whether any of these three amphibians occur in those ponds. The very small size of the spring boxes on the Cecy property is unlikely to provide adequate forage for amphibian larvae, or to sustain a population of breeding adults. In addition, mosquito fish were observed in the boxes in July 2009, and this non-native fish species is known to prey on native amphibian eggs and just-hatched tadpoles, as well as inhibit the growth of larvae by harassment. The spring boxes on the Cecy property do not provide suitable breeding habitat for these tree native amphibians.

Highway 1 is a six lane freeway that separates the Cecy property from the Buena Vista and Ellicott ponds, and is a major barrier to salamander migration between these properties.

The ruderal vegetation type on the Cecy property has apparently been disturbed by agriculture for many decades (Kreiberg 2009), and would provide poor to no suitable upland habitat for California tiger salamander. With the highway barrier between the only known breeding populations of CTS, and the paucity of suitable upland habitat for CTS, the Cecy property is not expected to support CTS.

The Eucalyptus forest on the Cecy property is not considered suitable upland habitat for SCLTS. The generally arid conditions of the maritime chaparral are poor quality upland

habitat for this amphibian. Although there are patches of oak woodland on the property, it occurs in small patches or groups of oaks (referred to as "remnant oak woodland" in the Kreiberg report), of relatively small size and small canopy cover, and is unlikely to provide the shade and dense leaf litter this species requires for upland habitat. Santa Cruz long-toed salamanders are unlikely to inhabit the Cecy property.

One subadult (i.e., one or two year old) California red-legged frog was observed in the larger of the two spring boxes on the Cecy property on July 14, 2009. As noted above, this frog species is known to range widely during dispersal from breeding ponds. Although most frogs thrive in willow or other moist habitats close to their breeding ponds, young frogs disperse across all types of habitats including bare, arid areas, when searching to expand their range and find ponds with adequate forage. With the disruption of the cover habitats throughout the vicinity of this site caused by the 2008 fire, it is not that unusual that a young frog of this species would find the spring box in an otherwise burned area devoid of cover vegetation. However, the Cecy property does not currently have suitable habitat to sustain the breeding and/or long-term habitation for the California red-legged frog. No modifications are proposed as part of this project to the spring boxes or the surrounding willow seep area.

SUMMARY AND RECOMMENDATIONS

The Cecy property does not provide suitable breeding habitat for CTS, SCLTS or CRLF. The Cecy property does not provide suitable upland habitat for CTS and SCLTS. The spring boxes provide only minimal shelter and foraging habitat for CRLF, as evidenced by the presence of a subadult. The freeway barrier between ponds east, north and south of the Cecy property limit the potential for the Cecy property to provide suitable movement/migration corridors for CTS, SCLTS and CRLF.

All of the proposed Cecy property improvements will occur in ruderal habitat, and will not directly or indirectly affect essential cover, foraging or breeding habitat for CTS, SCLTS or CRLF. The size and scope of the proposed improvements will not create significant barriers to dispersal of CRLF considering the amount of open habitat that will remain (>30 acres) on this property

One measure is recommended below, to avoid any potential impacts to dispersing CRLF during clearing/grading for the proposed improvements at the Cecy property:

- The applicant shall hire a qualified biologist to monitor the initial ground stripping and/or grading to ensure no CRLF are disturbed or harmed. If any CRLF are observed in the project area, all work in that area shall cease until the frog leaves of its own accord, and the USFWS shall be consulted regarding the adequacy of monitoring to prevent any disturbance to the frog.

LITERATURE CITED

Bulger, J. B. 1999. Terrestrial activity and conservation of California red-legged frogs (*Rana aurora draytonii*) in forested habitats of Santa Cruz County, California. Report prepared for Land Trust of Santa Cruz, dated March 2, 1999.

California, State of, Department of Fish & Game. 2009. Natural Diversity Data Base, Natural Communities. Rarefind 3 Program.

Hayes, M. P. and M. R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytoni*) and the foothill yellow-legged frog (*Rana boylii*): Implications for management. *In* Management of amphibians, reptiles, and small mammals in North America (R. C. Szaro, K. E. Severson, and D. R. Patton, tech. coord.). USDA, Forest Serv., Rocky Mountain Forest and Range Experiment Sta. Gen. Tech. Rpt. RM-166.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Report to California Dept. of Fish and Game, Rancho Cordova, CA.

Kreiber, P. 2009. Vegetation survey and analysis as part of a biotic report for 820 Traving Road, Watsonville, CA 95076, APN: 049-481-01, Santa Cruz County, CA. Report prepared for Powers Land Planning and Brian and Sue Cecy, July 2009.

Moyle, P. B. 1973. Effects of introduced bullfrogs, *Rana catesbiana*, on native frogs of the San Joaquin Valley, California. Copeia 1973:18-22.

Shaffer, H. B., R. N. Fisher, and S. E. Stanley. 1993. Status report: The California tiger salamander (*Ambystoma californiense*). Final report to the California Dept. of Fish and Game, Inland Fisheries Div., Rancho Cordova, Calif., under contract FG 9422 and FG 1383.

Stebbins, R. C. 1985. Western reptiles and amphibians. Houghton Mifflin Co., New York.

Trenham, P. C., W. D. Koenig, and H. B. Shaffer. 2001. Sapatially autocorrelated demography and interpond dispersal in the salamander *Abystoma californiense*. Ecology 82 (12): 3519-3530.

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, ROOM 400, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
TOM BURNS, DIRECTOR

Brian and Susan Cecy
C/O Powers Land Planning
1607 Ocean Street
Santa Cruz, CA 95060

October 14, 2009

Re: APN 049-481-01
Application: 09-0276

Dear Mr. and Mrs. Cecy:

The review of your biotic reports, authored by Dana Bland & Associates, dated July 2009, and Patti Kreiberg of Sunset Coast Nursery, dated July 2009, has been completed and the reports have been accepted. A copy of the review letter from our consultant is attached for your reference.

The proposal is to split the 42-acre parcel into two separate parcels: Parcel A (19 acres) which includes the existing dwellings and Parcel B (23 acres) with two proposed building envelopes. A soils report submitted to the County included an alternate building site on Parcel B.

The proposed building sites are for a 30,000 square foot envelope for the primary residence, and a 10,000 square foot envelope for the accessory dwelling. The parcel is mapped and supports San Andreas live oak woodland habitat and maritime chaparral with Hooker's manzanita present. San Andreas live oak woodland habitat is listed in the County's General Plan as a protected forest and maritime chaparral is specifically identified as sensitive habitat. Hooker's manzanita is listed as a rare or threatened plant on the California Native Plant Society's 1B list.

While the biotic reports identified only the two building site options, the soils report submitted to the County contained a third option to the east of the proposed site on the knoll. The Kreiberg report states that because the building envelope is not within the maritime chaparral habitat there will be no impacts to that habitat. However, Public Resources Code 4291 requires the maintenance of 100 feet of defensible space around a building or structure. Creating and maintaining this defensible space would impact the surrounding maritime chaparral habitat, and since there is an option of a site in the saddle to the east of the knoll, the County concurs with the opinion of the consulting biologist that the potential impacts to maritime chaparral habitat can be avoided by relocating the building envelope to the saddle to the east of the proposed site.

The second site located in the oak woodland clearing to the west of the access road is identified as the primary and larger house site. County staff agrees that the building envelope can be situated within the mapped ruderal vegetation; however, as with the other site there would inevitably be some impacts due to defensible space requirements. The impacts here are not expected to be as significant, as it would require a separation of the fuel load and not the removal of sensitive plants. The understory of the oak trees is an integral component of the oak woodland habitat, and the creation of defensible space would require suppression of a portion of that undergrowth. This impact can be minimized if the smaller building envelope is sited in this location. The relocation of the first building site to the saddle would allow you to use that site for the primary residence with the least amount of impact to both the San Andreas live oak woodland and the maritime chaparral habitat.

If the development proceeds in the areas described above and the recommendations put forth in the above-cited report are implemented, we find this project will have no significant biological impacts.

The following conditions shall be incorporated into any building permit or approval of additional discretionary permit(s):

1. No oak woodland or maritime chaparral habitat shall be removed in the future without first conducting environmental review.
2. An oak woodland management plan shall be developed for the defensible space around any structure proposed within 100 feet of oak woodland as a condition of approval of any proposed development on the subject parcel.
3. The cleared area on top of the knoll shall be allowed to recover as a condition of approval of any proposed development on the subject parcel.
4. A qualified biologist shall be onsite for all vegetation removal to ensure there is no take of California red-legged frogs.
5. Prior to recording the Parcel Map, a Declaration of Restriction shall be recorded indicating that the property contains sensitive habitat. The Declaration should include specific uses and restrictions and activities within the San Andreas live oak woodland and maritime chaparral habitat areas, as defined by the Kreiberg report (July, 2009).
    a. The Declaration shall specifically include the details of the oak woodland management plan required in item number 2 above.

Please call me if you have any questions about this letter. A copy will also be sent to the project planner so that the conditions can be properly incorporated into any future permit.

Sincerely,

Matthew Johnston
Resource Planner

FOR: Claudia Slater
Principal Planner
Environmental Planning

CC: Robert Loveland, Resource Planner

ATTACHMENT 10

ECOSYSTEMS WEST
CONSULTING GROUP

October 5, 2009

Matt Johnston, Deputy Environmental Coordinator
Planning Department
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Re: Biological Review of the Biotic Reports prepared for the Cecy Property located at 820 Trabing Road in Watsonville, California (Application No. 09-0276)

Dear Matt:

This letter summarizes our review of the biotic reports prepared by Patti Kreiberg of Sunset Coast Nursery dated July 2009 for Brian and Sue Cecy entitled "Vegetation Survey and analysis as part of a Biotic Report for 820 Trabing Road Watsonville, CA 95076" and Dana Bland of Dana Bland and Associates dated July 2009 entitled "Wildlife Assessment for Proposed Lot Split and New Residences Located at 820 Trabing Road Watsonville, CA". The biotic survey and report findings were prepared for a proposal to split the 42-acre parcel into two separate parcels: Parcel A (19 acres) which includes the existing dwellings and Parcel B (23 acres) with two proposed building envelopes. The Cecy Parcel (APN 049-481-01) is located on the north side of Trabing Road at 820 Trabing Road in Watsonville in southern Santa Cruz County.

Patti Kreiberg conducted vegetation surveys on two separate days; one on October 9, 2008 and the other on June 10, 2009. Dana Bland conducted a reconnaissance wildlife survey of the Cecy parcel on July 14, 2009. These surveys covered the entire 42-acre parcel. No protocol-level surveys were conducted for listed species known to occur in the Larkin Valley/Trabing Road area.

The vegetation surveys performed identified the presence one special-status plant species, Hookers manzanita (*Arctostaphylos hookeri* ssp. *hookeri*) and special-status wildlife species, California red-legged frog [CRLF] (*Rana aurora draytoni*). The habitats on the property are characterized as willow/spring; Eucalyptus grove, oak woodland remnant, maritime chaparral remnant, ruderal. The willow/spring occurs at the base of the north-facing slope near the small "spring boxes". The CRLF juvenile was observed in one of the small spring boxes in July 2009. Other willow stands have been removed or burned at other locations near the entry road and had not recovered at the time of these assessments. These were documented in a report prepared by Lawrence Ray in May 2000 entitled "Biotic Assessment for 820 Trabing Road Watsonville, CA. Ruderal vegetation is prominent throughout the parcel due to the long history of disturbance and modifications made by previous

owners. These areas are characterized by non-native grasses and herbs and stands of pampas grass (*Cortedaria jubata*). This habitat is found on waste places like old pastures and cleared areas like the site proposed for the primary homesite. The site supports a large stand of blue gum eucalyptus (*Eucalyptus globulus*), particularly along the western and southern portion of the parcel. A large portion of the stand was burned during the June 2008 Trabing fire. During a site visit conducted by me and Matt Johnston of the Santa Cruz County Planning Department, we observed several of the burned trees, resprouting on the bole of the tree along with numerous seedlings. The oak woodland, referred to as remnant by Patti Kreiberg, exists on the parcel in scattered patches and individuals around the ruderal pastures. She recognizes two conditions of oak woodland, OW1, which has high diversity and is the least disturbed and OW2, which exhibit lower diversity and higher weed associates. The maritime chaparral vegetation type is recognized as occurring in only two areas on the parcel. These are on the south side of the parcel adjacent to the access driveway off of Trabing Road and in the northwest end of the parcel surrounding the primary homesite clearing. This habitat was also recognized as two conditions MC1 and MC2 with similar distinctions to the oak woodland diversity classification. Both maritime chaparral areas were burned in the June 2009 fire. It was noted by both Ms. Kreiberg and me during my site visit that there were a large number of Hooker's manzanita seedlings on both sites. No other special-status plant or wildlife species were documented on the parcel.

No special-status plants or animals were observed during the course of the reconnaissance level surveys. Plant surveys were conducted at the appropriate phenological period to observe other potential special-status plant species known to occur in the vicinity of the Cecy property. The observation of a lone, subadult CRLF suggests the parcel does occur within the migration range of the California red-legged frog. As noted CRLF does not require hydrated routes during migration and probably used the spring box as a refuge site due to the loss of hydrated cover from the fire. There is no breeding habitat on the parcel. No other special-status wildlife are expected to utilize the parcel with the exception of breeding raptors in the eucalyptus trees.

As a result of these surveys it was determined that the project as proposed would result in minimal impacts to special-status species or their habitats. The primary homesite; however, will be located on a graded pad that is surrounded by maritime chaparral and oak woodland. Numerous seedlings of Hooker's manzanita were observed around the perimeter of the homesite pad. The pad was dominated at the time of our observation in late August by non-native grasses and herbs that appeared to be from the application of a hydroseed erosion control mix. My observations of the site back in the late 90's showed that is area supported a dense stand of mature Hooker's manzanita, and therefore, this cleared area could still support a viable seed bank for restoration of the pad. A boring site plan dated 3/2/2009 shows the location of an alternative homesite in the existing fallow pasture to the east of the proposed primary homesite. It is my recommendation that the primary homesite be moved to the alternative homesite, since this site is already open and would not require Hooker's manzanita transplant mitigation proposed by Ms. Kreiberg. Also, it would require less fire buffer and vegetation maintenance. The proposed Guest House location is within an already highly disturbed area with an existing undeveloped road. Care should be taken to retain as may of the existing mature oaks as possible. I concur that the development of the parcel should not result in "take" of CRLF, since there is not critical breeding or aestivating habitat on the parcel.

I support the recommendations made by both Patti Kreiberg and Dana Bland to minimize impacts to special-status species and sensitive habitats and favor proposed restoration and enhancement measures proposed in their reports. Again it is my recommendation that the preferred homesite be moved to the Alternative homesite to minimize direct disturbance to the maritime chaparral community.

Based on this review, it is my professional opinion that the proposed development will not result in significant impact on those biotic resources observed on the parcel or within the vicinity of the project if the above recommendations are followed.

Should you require further clarification of this review, please don't hesitate to contact me.

Sincerely,

Bill Davilla
Principal

ATTACHMENT 10