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
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR
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NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

Pursuant to the California Environmental Quality Act, the following project has been reviewed by the County Environmental Coordinator to determine if it has a potential to create significant impacts to the environment and, if so, how such impacts could be solved. A Negative Declaration is prepared in cases where the project is determined not to have any significant environmental impacts. Either a Mitigated Negative Declaration or Environmental Impact Report (EIR) is prepared for projects that may result in a significant impact to the environment.

Public review periods are provided for these Environmental Determinations according to the requirements of the County Environmental Review Guidelines. The environmental document is available for review at the County Planning Department located at 701 Ocean Street, in Santa Cruz. You may also view the environmental document on the web at www.sccoplanning.com under the Planning Department menu. If you have questions or comments about this Notice of Intent, please contact Todd Sexauer of the Environmental Review staff at (831) 454-3201

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of a disability, be denied the benefits of its services, programs or activities. If you require special assistance in order to review this information, please contact Bernice Shawver at (831) 454-3137 (TDD number (831) 454-2123 or (831) 763-8123) to make arrangements.

PROJECT: Burgstrom Minor Land Division

APP #: 131316

APN(S): 108-291-09

PROJECT DESCRIPTION: This application is a proposal to divide a 13.06 acre parcel into two parcels of 6.49 acres (Parcel A) and 6.57 acres (Parcel B). Requires a Minor Land Division and LAFCO Extraterritorial Water Service approvals.

PROJECT LOCATION: The project site is located on the west side of Blake Avenue in Watsonville (52 Blakeridge Lane).

EXISTING ZONE DISTRICT: RA
APPLICANT: Charlie Eadie
OWNER: Lisa Burgstrom
PROJECT PLANNER: Annette Olson
EMAIL: Annette.Olson@santacruzcounty.us
ACTION: Negative Declaration with Mitigations
REVIEW PERIOD: August 17, 2015 through September 15, 2015

This project will be considered at a public hearing by the Planning Commission at a date to be determined. The time, date and location have not been set. When scheduling does occur, these items will be included in all public hearing notices for the project.

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MITIGATED NEGATIVE DECLARATION

Project: Burgstrom Minor Land Division **APN(S): 108-291-09**

Project Description: This application is a proposal to divide a 13.06 acre parcel into two parcels of 6.49 acres (Parcel A) and 6.57 acres (Parcel B). Requires a Minor Land Division and LAFCO Extraterritorial Water Service approvals.

Project Location: The project site is located on the west side of Blake Avenue in Watsonville (52 Blakeridge Lane).

Owner: Lisa Burgstrom

Applicant: Charlie Eadie

Staff Planner: Annette Olson, (831) 454-3134

Email: Annette.Olson@santacruzcounty.us

This project will be considered at a public hearing by the Planning Commission at a date to be determined. The time, date and location have not been set. When scheduling does occur, these items will be included in all public hearing notices on the project.

California Environmental Quality Act Mitigated Negative Declaration Findings:

Find, that this Mitigated Negative Declaration reflects the decision-making body's independent judgment and analysis, and; that the decision-making body has reviewed and considered the information contained in this Mitigated Negative Declaration and the comments received during the public review period; and, that revisions in the project plans or proposals made by or agreed to by the project applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and, on the basis of the whole record before the decision-making body (including this Mitigated Negative Declaration) that there is no substantial evidence that the project as revised will have a significant effect on the environment. The expected environmental impacts of the project are documented in the attached Initial Study on file with the County of Santa Cruz Clerk of the Board located at 701 Ocean Street, 5th Floor, Santa Cruz, California.

Review Period Ends: September 15, 2015

Note: This Document is considered Draft until it is Adopted by the Appropriate County of Santa Cruz Decision-Making Body

Date: _____

_____
Todd Sexauer, Environmental Coordinator
(831) 454-3511

County of Santa Cruz

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CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ENVIRONMENTAL REVIEW INITIAL STUDY

Date: August 4, 2014 **Application Number:** 131316

Staff Planner: Annette Olson

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Charlie Eadie **APN: 108-291-09**

OWNER: Bergstrom **SUPERVISORAL DISTRICT**: 2

PROJECT LOCATION: Property is located on the west side of Blake Avenue in Watsonville (52 Blakeridge Ln.)

SUMMARY PROJECT DESCRIPTION:

Proposal to divide a 13.06 acre parcel into two parcels of 6.49 and 6.57 acres.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: 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.

- ☒ Geology/Soils
- ☐ Hydrology/Water Supply/Water Quality
- ☒ Biological Resources
- ☐ Agriculture and Forestry Resources
- ☐ Mineral Resources
- ☐ Visual Resources & Aesthetics
- ☐ Cultural Resources
- ☐ Hazards & Hazardous Materials
- ☐ Transportation/Traffic
- ☐ Noise
- ☐ Air Quality
- ☐ Greenhouse Gas Emissions
- ☐ Public Services
- ☐ Recreation
- ☐ Utilities & Service Systems
- ☐ Land Use and Planning
- ☐ Population and Housing
- ☐ Mandatory Findings of Significance

DISCRETIONARY APPROVAL(S) BEING CONSIDERED:

- ☐ General Plan Amendment
- ☒ Land Division
- ☐ Rezoning
- ☐ Development Permit
- ☐ Coastal Development Permit
- ☐ Grading Permit
- ☐ Riparian Exception
- ☒ Other: LAFCO Extraterritorial Water Service

NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations: LAFCO

DETERMINATION: (To be completed by the lead agency)
On the basis of this initial evaluation:

- ☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Todd Sexauer
Environmental Coordinator

8/12/15
Date

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS

Parcel Size: 13.06 acres
Existing Land Use: Residential
Vegetation: Oak trees and grass
Slope in area affected by project: ☒ 0 - 30% ☐ 31 – 100%
Nearby Watercourse: Corralitos Creek
Distance To: One-half mile

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Water Supply Watershed: No
Groundwater Recharge: No
Timber or Mineral: No
Agricultural Resource: No
Biologically Sensitive Habitat: No
Fire Hazard: Moderate State Response Area
Floodplain: No

Landslide: No
Liquefaction: Portions of low and moderate

Fault Zone:
Scenic Corridor: No
Historic: No
Archaeology: No
Noise Constraint: No
Electric Power Lines: No

Solar Access: Yes
Solar Orientation: South Facing
Hazardous Materials: None known
Other: N/A

SERVICES

Fire Protection: Pajaro Fire Protection District
School District: Pajaro Valley
Sewage Disposal: On-site septic

Drainage District: Flood Zone 7

Project Access: Blake Ave.
Water Supply: City of Watsonville

PLANNING POLICIES

Zone District: RA
General Plan: RR
Urban Services Line: ☐ Inside ☒ Outside
Coastal Zone: ☐ Inside ☒ Outside

Special Designation: N/A

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

The subject parcel is located next to a suburban residential neighborhood just outside of the small commercial area of Corralitos. The project site is accessed from Blake Avenue. Most of the parcels that front Blake Avenue are zoned R-1-15 (Single-family zone district, with a minimum parcel size of 15,000 square feet). However, the subject parcel and the other parcels located on the hillside on the west side of Blake Avenue are zoned RA (Residential Agriculture). These RA-zoned parcels create a transition to the rural agriculture parcels to the north and west. All of the residential parcels in the immediate vicinity have a General Plan designation of RR (Rural Residential). The subject parcel is located outside of the Urban Services Line.

Although slopes on the subject parcel range from level to 50% slopes, the proposed building site is located on a ridge running east-west with the majority of slopes ranging between 15% to 30%. Oak trees and grasses predominate in the building site area with redwood trees characterizing the north facing slope below the building site.

DETAILED PROJECT DESCRIPTION:

The project description is based on a Tentative Map prepared by Lee Vaage of Mid Coast Engineers dated September 7, 2012 and revised March 26, 2014. The project consists of dividing a 13.06 acre parcel into two parcels of 6.49 acres (Parcel A) and 6.57 acres (Parcel B). With the deduction of rights-of-way and slopes over 50%, the net developable area of each parcel is 5.01 acres (Parcel A) and 5.32 acres (Parcel B).

Parcel B is developed with a single-family residence which was completed in 2002. The current proposal does not include architectural plans for Parcel A as no building is contemplated as a part of the minor land division. A building envelope and a driveway are shown on the project plans. Both were designed to minimize the future development's impact to oak trees. When house plans are developed for Parcel A, the project will be required to comply with County grading regulations.

The proposed land division is subject to the Rural Residential Density Matrix in order to determine the appropriate density of development within the allowed General Plan density range. The subject property is located within the Rural Residential (R-R) General Plan land use designation. The allowed maximum density, per the Rural Residential Density Matrix, is five acres of net developable land area per parcel. The proposed Minor Land Division complies with this requirement, in that each of the parcels to be created will contain a minimum of five acres of net developable land area.

The City of Watsonville provided a will-serve letter contingent upon LAFCO approval of an Extraterritorial Service Proposal Application. This LAFCO approval is required for properties located within the County, i.e. outside of the City of Watsonville, because the City of Watsonville has not obtained a blanket State approval for the service area beyond Watsonville city limits. According to Tom Sharp, Senior Engineering Associate at the City of Watsonville, these Extraterritorial Service Proposal Applications are routinely approved. Piped water, rather than a well, is environmentally preferable as water use can then be metered and intrusions into the aquifer which can introduce contaminants are minimized. The water main to serve the project is located within Blake Ave.

III. ENVIRONMENTAL REVIEW CHECKLIST

A. GEOLOGY AND SOILS

Would the project:

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1.	Expose people or structures to potential substantial adverse effects, including the risk of 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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
	B. Strong seismic ground shaking?	☐	☐	☒	☐
	C. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	D. Landslides?	☐	☐	☒	☐

Discussion (A through D): The project site is located outside of the limits of the State Alquist-Priolo Special Studies Zone (County of Santa Cruz GIS Mapping, California Division of Mines and Geology, 2001). However, the project site is located approximately three and a half miles southwest of the San Andreas fault zone. In addition to the San Andreas fault, other nearby fault systems capable of producing intense seismic shaking on this property include the San Gregorio, Zayante, Sargent, Hayward, Butano, Calaveras faults, and the Monterey and Corralitos fault complexes. While the San Andreas fault is larger and considered more active, each fault is capable of generating moderate to severe ground shaking from a major earthquake. Consequently, large earthquakes can be expected in the future. The October 17, 1989 Loma Prieta earthquake (magnitude 7.1) was the second largest earthquake in central California history.

All of Santa Cruz County is subject to some hazard from earthquakes. However, the project site is not located within a county or state mapped fault zone. A geotechnical investigation for the proposed project was performed by William E. St. Clair of Haro, Kasunich and Associates, Inc., dated September 2013 (Attachment 3). The report concluded that the potential is low for liquefaction/lateral spreading and slope instability

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

to affect development constructed within the building envelope.

Implementation of the additional requirements included in the review letter prepared by Environmental Planning staff (Attachment 4), including a requirement that construction comply with the recommendations of the report and requiring that the engineer submit a plan review letter prior to issuance of the building permit, will serve to further reduce the potential risk of seismic shaking.

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

Discussion: The report cited above concluded that there is a low potential risk from liquefaction/lateral spreading and/or slope instability. The recommendations contained in the geotechnical report, including criteria for grading (page 17), recommendations for the foundation (conventional spread footings or concrete slab on grade), and retaining wall and drainage recommendations, will be made conditions of project approval to reduce this potential hazard to a less than significant level.

3.	Develop land with a slope exceeding 30%?	☐	☐	☐	☒

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

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

Discussion: Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because 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 (2007), creating substantial risks to life or property?	☐	☐	☒	☐

Discussion: The geotechnical report for the project did not identify any elevated risk associated with expansive soils. Page 11 of the report states, "Therefore the potential for liquefaction and lateral spread to affect the proposed development is low."

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 where sewers are not available?	☐	☐	☐	☒

Discussion: 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.

7. Result in coastal cliff erosion?	☐	☐	☐	☒

Discussion: The proposed project is not located in the vicinity of a coastal cliff or bluff; and therefore, would not contribute to coastal cliff erosion.

B. HYDROLOGY, WATER SUPPLY, AND WATER QUALITY

Would the project:

1. Place development within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

Discussion: According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, no portion of the project site lies within a 100-year flood hazard area.

2. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

Discussion: According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, no portion of the project site lies within a 100-year flood hazard area.

3. Be inundated by a seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion: The subject property is not located within an area subject to a seiche as there are no nearby lakes or enclosed water bodies. It is also not subject to a tsunami or mudflow as shown on the Tsunami map, dated January 2009.

4. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Discussion: The project would obtain water from City of Watsonville and would not rely on private well water. Although the project would incrementally increase water demand, the City of Watsonville has indicated that adequate supplies are available to serve the project (Attachment 8). The project is not located in a mapped groundwater recharge area.

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

Discussion: The project would not discharge runoff directly into a public or private water supply. However, runoff from this project may contain small amounts of chemicals and other household contaminants. No commercial or industrial activities are proposed that would contribute contaminants. Potential siltation from the proposed project will be addressed through implementation of erosion control best management practices.

6. Degrade septic system functioning?	☐	☐	☐	☒

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

7. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding, on- or off-site?	☐	☐	☒	☐

Discussion: 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.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
8. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

Discussion: Department of Public Works Drainage staff has reviewed the project and have determined that existing storm water facilities are adequate to handle the increase in drainage associated with the project. Refer to response B-5 for discussion of urban contaminants and/or other polluting runoff.

9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒

Discussion: The project is not located near any watercourses and the proposed building site is located well-above the base flood level of Corralitos Creek which is located over one-half mile away to the east.

10. Otherwise substantially degrade water quality?	☐	☐	☒	☐

Discussion: A required condition of approval from the Department of Public Works, Stormwater Management is to require that future development on the property would incorporate Best Management Practices (BMPs) to minimize the generation, transport and discharge of pollutants. BMPs for residential projects typically include discharging runoff into landscaped areas to allow for infiltration.

C. BIOLOGICAL RESOURCES

Would the project:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Discussion: According to the California Natural Diversity Data Base (CNDDB), maintained by the California Department of Fish and Game, *Monolopia gracilens* (woodland woollythreads) has the potential to occur on-site. County staff and the County's consulting biologist conducted a site assessment and determined that the development envelope did not support any listed plant species (Attachment 11).

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

During the site assessment, several nesting bird species were present, as were dusky-footed woodrats nests. Several large dead tree snags that could host bat species were also noted. Nesting migratory birds are protected by the Migratory Bird Treaty Act; dusky-footed woodrats are a state listed species of special concern, and several bats species are listed on the Western Bat Working Groups list recognized by the Department of Fish and Wildlife. To ensure no significant impacts occur to these special status species, the following mitigations shall apply to any future development proposed on the subject parcel:

BIO-1 In order to avoid impacts to special status bats, tree removal activities shall be limited to between September 15 and November 1, if feasible.

a. If trees must be removed outside of the timeframe above, a qualified biologist shall conduct surveys for special status bats 3-4 weeks prior to site disturbance. If active roosts are present in trees to be retained, roosting bats shall be excluded from trees to be removed prior to any disturbance. In trees to be retained, no disturbance zones, set by the biologist based on the particular species present, shall be fenced off around the subject tree to ensure other construction activities do not harm sensitive species.

b. The maternity roosting season for bats is March1 – July 3. Tree removal should be scheduled outside of the maternal roosting period if special status bats are present. Before any trees are removed during the maternal roosting season, a qualified biologist shall perform surveys. If maternal roosts are present, disturbance shall be avoided until roosts are unoccupied. The biologist shall be responsible for ensuring bat roosts are vacated.

BIO-2 In order to avoid impacts to raptors and migratory songbirds, tree removal activities shall be limited to the months between September 1 and February 1, if feasible.

If trees must be removed outside of the timeframe above, a qualified biologist shall conduct surveys for raptor or migratory songbird nests 3-4 weeks prior to site disturbance.

a. If active raptor or migratory bird nests are found in trees to be retained, the biologist shall be required to be on site during any initial vegetation or ground disturbance activities (e.g. vegetation clearing, grading, excavation, tree pruning/removal) that could potentially impact listed species. The biologist shall be responsible for setting and maintaining the disturbance buffers from active nests during construction activities, and buffers and exclusionary measures shall be implemented only after consultation with CDFW.

b. If no active nests are present on the subject parcel, tree removal can proceed provided the mitigations in 1. above have been implemented.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

BIO-3 In order to mitigate any potential impacts to San Francisco dusky footed woodrats, all nests must be avoided if feasible. If a nest must be moved, the following measures shall be implemented;

a. Prior to nest disturbance, the biologist shall obtain from CDFW a scientific collection permit for the trapping of the dusky-footed woodrats.

b. Nests shall be disturbed/dismantled only during the non-breeding season, between October 1 and December 31.

c. At least two weeks prior to site disturbance, the qualified biologist shall survey the project disturbance area to identify all active woodrat nest locations that may be affected by the proposed development.

d. Prior to nest disturbance, woodrats shall be trapped at dusk of the night set for relocation of the nest(s).

e. Any existing nest that may be disturbed by construction activities shall be mostly dismantled and the material spread in the vicinity of identified nest relocation site(s).

f. In order to avoid the potential health effects associated with handling rodents and their milieu, all workers involved in the handling of the woodrats or the nest materials should wear protective gear to prevent inhalation of contaminant particulates, contact with conjunctiva (eyes), and protection against flea bites; a respirator, eye protection and skin protection should all be used.

g. Dismantling shall be done by hand, allowing any animals not trapped to escape either along existing woodrat trails or toward other available habitat.

h. If a litter of young is found or suspected, nest material shall be replaced, and the nest left alone for 2-3 weeks before a recheck to verify that young are capable of independent survival before proceeding with nest dismantling.

i. Woody debris shall be collected from the area and relocated nests shall be partially constructed in an area determined by the qualified biologist to be both suitable for the woodrats and far enough away from the construction activities that they will not be impacted.

j. Woodrats that were collected at dusk shall be released 2 hours before dawn near the newly constructed nests to allow time for woodrats to find refuge.

k. Once construction of the house is complete, the biologist shall survey the nest area to note whether the new nests are in use, the woodrats have built new nests, or the nest area has been completely abandoned. This information shall be submitted in a letter report to the Environmental

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Planning Section of the Planning Department, and the local CDFW biologist.

2.	Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations (e.g., wetland, native grassland, special forests, intertidal zone, etc.) or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Discussion: The subject parcel supports two types of oak woodland: prime oak woodland and degraded oak woodland. The prime oak woodland supports a dense woodland of coast live oak (*Quercus agrifolia)*, with a predominantly native plant understory. Understory plants include California blackberry *(Rubus ursinus*), coffee berry (*Frangula californica)*, poison oak (*Toxicodendron diversilobum)*, and hairy honeysuckle (*Lonicera hispidula)*. There are scattered occurrences of cotoneaster (*Cotoneaster sp.),* an invasive, non-native plant species. The degraded oak woodland is a mosaic of native oaks and two non-native tree species: acacia (*Acacia sp.)* and Monterey pine (*Pinus radiata)*. The understory is dense with cotoneaster. Cover by invasive, non-native species ranges from 20% to over 75%. Areas mapped as oak woodland and degraded oak woodland meet the definition of sensitive habitat under County Code. In the area proposed for development, 13,000 s.f. of prime oak woodland and 1,680 s.f. of degraded oak woodland may be impacted by future development.

BIO-4 In order to mitigate impacts to oak woodland, the project proponent has created an oak woodland restoration plan (Attachment 10). To ensure future property owners or prospective buyers are aware of this requirement, the restoration plan shall be attached to the final recorded map and shall be a condition of approval of any development proposal on the subject parcel. When the landowner submits a building plan to the County for a Building Permit and Grading permit, the County will review the plan as to the proposed location of the development envelope, the septic leach line, and the access road. The County Sensitive Habitat Ordinance and the restoration plan require landowners avoid impacts to sensitive habitat wherever feasible. A site suitability analysis depicts almost all of the residential development within oak woodland. There may be slight variations in this assessment pending more detailed site surveying of the limits of the oak woodland and the final building envelope and attendant features; however, where such features occur within mapped prime or degraded oak woodland, mitigation actions will be required. Habitat compensation for permanent impacts to prime and degraded oak woodland will require:

3:1 enhancement ratio for permanent impacts to prime oak woodland (39,000

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

s.f. : 13,000 s.f.)

1:1 enhancement ratio for permanent impacts to degraded oak woodland (1,680 s.f. : 1,680 s.f.)

2:1 oak tree replacement ratio for oak trees removed; oak tree plantings to occur within designated oak woodland mitigation area(s)

Mitigation shall occur within areas mapped as degraded oak woodland, acacia/pine grove, or pine grove. Mitigation will include removal of invasive, non-native plant species, replanting of oak trees, and implementing long-term maintenance and monitoring of the designated mitigation area(s), and implementation of best management practices (BMPs) prior to and during construction within oak woodland. The implementation of the oak woodland restoration plan reduces the impacts to oak woodland to less than significant.

3. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native or migratory wildlife nursery sites?	☐	☐	☒	☐

Discussion: The proposed project does not involve any activities that would interfere with the movements or migrations of fish or wildlife. The site is used by migratory birds for nesting. Implementation of the mitigations in C.1. above will ensure no significant impacts to nesting birds. The area around the proposed building envelope is heavily wooded and the loss of some tree structure within this dense forest is less than significant.

4. Produce nighttime lighting that would substantially illuminate wildlife habitats?	☐	☒	☐	☐

Discussion: The subject property is located in rural setting within an oak woodland.

BIO-5 In order to mitigate the impacts of additional nighttime lighting on existing animal habitats, the applicant shall submit a lighting plan with the final project plan set which shall show all proposed site, building, security, and landscape lighting directed downwards and away from adjacent animal habitats and undisturbed areas. The lighting plan shall be reviewed and approved by County Planning Staff prior to building permit issuance. With a lighting plan that directs all outdoor lighting downward and away from adjacent animal habitats and undisturbed areas, the impact of lighting from the project will be less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

Discussion: The subject parcel is on an elevated knoll and no wetland features are present.

6. Conflict with any local policies or ordinances protecting biological resources (such as the Sensitive Habitat Ordinance, Riparian and Wetland Protection Ordinance, and the Significant Tree Protection Ordinance)?	☐	☒	☐	☐

Discussion: With the implementation of the oak woodland restoration plan cited above, the project would not conflict with any local policies or ordinances.

7. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion: The proposed project would not conflict with the provisions of any adopted Habitat Conservation Plan Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

D. AGRICULTURE AND FOREST RESOURCES

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

Discussion: The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use. No impact would occur from project implementation.

2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

Discussion: The project site is zoned Residential Agriculture, which is not considered to be an agricultural zone. Additionally, the project site's land is not under a Williamson Act Contract. Therefore, the project does not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impact is anticipated.

3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

Discussion: The closest Timberland Production land is located over a mile away. Given this, no impact to timberland will result from this project.

4. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion: No forest land occurs on the project site or in the immediate vicinity. No impact is anticipated.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion: The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use. The nearest forest land is located one mile away. No impact would occur from project implementation.

E. MINERAL RESOURCES

Would the project:

1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

Discussion: The site does not contain any known mineral resources that would be of value to the region and the residents of the state. Therefore, no impact is anticipated from project implementation.

2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion: The project site is zoned Residential Agriculture, which is not considered to be an Extractive Use Zone (M-3) nor does it have a Land Use Designation with a Quarry Designation Overlay (Q) (County of Santa Cruz 1994). Therefore, no potentially significant loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project.

F. VISUAL RESOURCES AND AESTHETICS

Would the project:

1. Have an adverse effect on a scenic vista?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: 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 within a state scenic highway?	☐	☐	☐	☒

Discussion: The project site is not located along a County designated scenic road, public viewshed area, scenic corridor, within a designated scenic resource area, or within a state scenic highway. Therefore, no impact is anticipated.

3.	Substantially 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 ridgeline?	☐	☐	☒	☐

Discussion: The property can be characterized as a rural site located in an area that is designated for residential development. This project would create one additional residential lot where a home could be constructed in the future. The construction of one new home and related improvements would not significantly alter the character of the residential area in that the surrounding parcels are developed with single-family dwellings. In addition, no improvements are proposed that would significantly alter the existing topography or ground surface relief features. Therefore, a less than significant impact is anticipated.

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

Discussion: The project would create an incremental increase in night lighting. However, this increase would be small, and would be similar in character to the lighting associated with the surrounding existing residential uses.

G. CULTURAL RESOURCES

Would the project:

1.	Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?	☐	☐	☐	☒

Discussion: The existing structure(s) on the property is/are not designated as a

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

historic resource on any federal, state or local inventory.

2.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☒

Discussion: 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?	☐	☐	☒	☐

Discussion: No human remains are expected to occur in the project area. 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 or unique geologic feature?	☐	☐	☐	☒

Discussion: No paleontological resource or unique geologic feature is known to be found on the subject parcel, therefore no impact is anticipated to these resources when a dwelling and related improvements are constructed in the future. There is no grading proposed with this application.

H. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

1.	Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: No hazardous materials are proposed to be transported, used, or disposed of as a routine part of any future construction project on the new residential lot.

2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ☐ ☐ ☐ ☒

Discussion: The project does not propose activities involving the potential release of hazardous materials into the environment with exception of potential hazards associated with construction equipment staging and refueling. However, impacts associated with construction are not anticipated to result in a significant hazard to the public or the environment.

3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ ☐ ☒

Discussion: The project does not propose activities involving the potential release of hazardous materials into the environment with exception of potential hazards associated with construction equipment staging and refueling. However, impacts associated with construction are not anticipated to result in a significant hazard to the public or the environment. In addition, the project is not located within one-quarter mile of any school.

4. 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? ☐ ☐ ☐ ☒

Discussion: The project site is not included on the June 4, 2015 list of hazardous sites in Santa Cruz County compiled pursuant to the specified code.

5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, ☐ ☐ ☐ ☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

would the project result in a safety hazard for people residing or working in the project area?

Discussion: The project is not located within the Watsonville Airport land use plan or within two miles of a public airport.

6.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

Discussion: The project is not located the vicinity of a private airstrip. Therefore, no impact to the safety of future residents of the new residential lot is anticipated.

7.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

Discussion: The project is not proposing to obstruct emergency response routes or emergency evacuation as no improvements that would obstruct an emergency response are proposed to be located within a private or public right-of-way.

8.	Expose people to electro-magnetic fields associated with electrical transmission lines?	☐	☐	☐	☒

Discussion: The project does not propose electrical transmission lines.

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

Discussion: The project does not propose a residence at this time. However, any future design would incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

I. TRANSPORTATION/TRAFFIC

Would the project:

1.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐

Discussion: Although no dwelling is proposed as a part of this application, when a dwelling is constructed, 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 peak trip would be created with the construction of the new dwelling unit), 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.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

Discussion: The project does not include changes in air traffic. In addition, any future construction would have no impact to air traffic air patterns as residential structures are limited by County Code to 28 feet in height. Therefore, no impacts would occur.

3.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

Discussion: The project does not propose changes to any existing design features. The new driveway would be required to meet all of the County's Design Criteria standards for driveways. These standards will insure that the new driveway does not create a hazard. This proposal is to add one residential lot to a residential neighborhood; therefore, no incompatible uses are proposed.

4.	Result in inadequate emergency access?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: When a dwelling on Parcel A is proposed, the driveway—as shown on the project plans for this project—would meet the County Design Criteria's standards. The City of Scotts Valley Department of Public Works reviewed and accepted the proposed design of the driveway. In addition, the project's access has been approved by Pajaro Valley Fire Protection District. The project would not conflict with any adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities.

5. Cause an increase in parking demand which cannot be accommodated by existing parking facilities?	☐	☐	☐	☒

Discussion: When a dwelling is constructed on the new lot, it would be required to meet the code requirements for parking spaces which is based upon the number of bedrooms. County Code requires that all of the required parking be accommodated on-site.

6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Discussion: When a dwelling is constructed on Parcel A, access to the building site would be taken from a driveway off of an existing private driveway which connects to Blake Avenue, a County-maintained road. No impact is anticipated to existing or planned public transit, bicycle or pedestrian facilities, and no decrease in the performance or safety of such facilities is anticipated.

7. Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level of service standard established by the County General Plan for designated intersections, roads or highways?	☐	☐	☒	☐

Discussion: See response I-1 above.

J. NOISE

Would the project result in:

1. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: When a dwelling is proposed for Parcel A, the proposed project would not result in a permanent increase in the ambient noise level. The main source of ambient noise in the project area is traffic noise along Blake Avenue. No substantial permanent increase in ambient noise level would occur as the result of this project or the future construction of a dwelling on Parcel A.

2.	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Discussion: When a dwelling is proposed for Parcel A, the use of construction equipment would potentially generate vibration in the project area. The nearest residential property is located approximately 230 feet to the south of the project site. Due to this distance, none of the area residences would experience significant ground borne vibration or ground borne noise levels during construction activities associated with the proposed project. Therefore, Impacts would be considered less than significant.

3.	Exposure of persons to or generation of noise levels in excess of standards established in the General Plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Discussion: Per County policy, average hourly noise levels shall not exceed the General Plan threshold of 50 Leq during the day and 45 Leq during the nighttime. Impulsive noise levels shall not exceed 65 db during the day or 60 db at night. The subject parcel is surrounded by parcels developed with single-family dwellings and is not located adjacent to a heavily traveled roadway or stationary noise source; therefore, the proposed creation of one additional parcel would not have the potential to expose people to noise levels in excess of General Plan standards.

4.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

Discussion: When a house is constructed on Parcel A, noise generated during its 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.

5.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				

Discussion: The project is not located within an airport land use plan or within 2 miles of an airport. Therefore, no impacts are anticipated.

6. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion: The project is not located within an airport land use plan or within 2 miles of an airport. Therefore, no impacts are anticipated.

K. AIR QUALITY

Where available, the significance criteria established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD) may be relied upon to make the following determinations. Would the project:

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

Discussion: Santa Cruz County is located within the North Central Coast Air Basin (NCCAB). The NCCAB does not meet state standards for ozone (reactive organic gases [ROGs] and nitrogen oxides [NOx]) and fine particulate matter (PM_{10}). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors and PM_{10}.

Ozone is the main pollutant of concern for the NCCAB. The primary sources of ROG within the air basin are on- and off-road motor vehicles, petroleum production and marketing, solvent evaporation, and prescribed burning. The primary sources of NOx are on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes. In 2010, daily emissions of ROGs were estimated at 63 tons per day. Of this, area-wide sources represented 49 percent, mobile sources represented 36 percent, and stationary sources represented 15 percent. Daily emissions of NOx were estimated at 54 tons per day with 69 percent from mobile sources, 22 percent from stationary sources, and 9 percent from area-wide sources. In addition, the region is "NOx sensitive," meaning that ozone formation due to local emissions is more limited by the availability of NOx as opposed to the availability of ROGs (MBUAPCD, 2013b).

PM_{10} is the other major pollutant of concern for the NCCAB. In the NCCAB, highest particulate levels and most frequent violations occur in the coastal corridor. In this area, fugitive dust from various geological and man-made sources combines to exceed the standard. Nearly three quarters of all NCCAB exceedances occur at these coastal sites where sea salt is often the main factor causing exceedance (MBUAPCD, 2005).

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

In 2005 daily emissions of PM_{10} were estimated at 102 tons per day. Of this, entrained road dust represented 35 percent of all PM_{10} emission, windblown dust 20 percent, agricultural tilling operations 15 percent, waste burning 17 percent, construction 4 percent, and mobile sources, industrial processes, and other sources made up 9 percent (MBUAPCD, 2008).

Given the modest amount of new traffic that would be generated when a dwelling is constructed on Parcel A, there is no indication that new emissions of ROGs or NOx would exceed MBUAPCD thresholds for these pollutants; and therefore, there would not be a significant contribution to an existing air quality violation.

The future construction of a dwelling on Parcel A may result in a short term, localized decrease in air quality due to generation of PM_{10}. However, standard dust control best management practices, such as periodic watering, would be implemented during construction to avoid significant air quality impacts from the generation of PM_{10}.

2. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

Discussion: When a dwelling is constructed on Parcel A, it would not conflict with or obstruct any long-range air quality plans of the Monterey Bay Unified Air Pollution Control District (MBUAPCD, Attachment 10). Because general construction activity related emissions (i.e., temporary sources) are accounted for in the emission inventories included in the plans, impacts to air quality plan objectives are less than significant.

General estimated basin-wide construction-related emissions are included in the MBUAPCD emission inventory (which, in part, form the basis for the air quality plans cited below) and are not expected to prevent long-term attainment or maintenance of the ozone and particulate matter standards within the North Central Coast Air Basin (NCCAB). Therefore, temporary construction impacts related to air quality plans for these pollutants from the future construction of a dwelling on Parcel A would be less than significant, and no mitigation would be required, since they are presently estimated and accounted for in the District's emission inventory, as described below. No stationary sources would be constructed that would be long-term permanent sources of emissions.

3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐

Discussion: The future construction of a dwelling on Parcel A would have a limited and temporary potential to contribute to existing violations of California air quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

standards for ozone and PM_{10} primarily through diesel engine exhaust and fugitive dust. However, the Santa Cruz monitoring station has not had any recent violations of federal or state air quality standards mainly through dispersion of construction-related emission sources. BMPs and BACT described above under C-2 would ensure emissions remain below a level of significance. Therefore, the construction of a dwelling on Parcel A would not result in a cumulatively considerable net increase in criteria pollutants. The impact on ambient air quality would be less than significant.

4.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Discussion: The proposed land division would not generate pollutant concentrations. Emissions from future construction activities represent temporary impacts that are typically short in duration. Impacts to sensitive receptors would be less than significant.

5.	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion: California ultralow sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be used in all diesel-powered equipment, which minimizes emissions of sulfurous gases (sulfur dioxide, hydrogen sulfide, carbon disulfide, and carbonyl sulfide). Therefore, no objectionable odors are anticipated from construction activities associated with the proposed project, and no mitigation measures would be required. The proposed project would not create objectionable odors affecting a substantial number of people; therefore, impacts are expected to be less than significant.

L. GREENHOUSE GAS EMISSIONS

Would the project:

1.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Discussion: The future construction of a dwelling on Parcel A, like all development, would be responsible for an incremental increase in greenhouse gas emissions by usage of fossil fuels during the site grading and construction. Santa Cruz County has recently adopted a Climate Action Strategy (CAS) intended to establish specific emission reduction goals and necessary actions to reduce greenhouse gas levels to pre-1990 levels as required under AB 32 legislation. The strategy intends to reduce greenhouse gas emissions and energy consumption by implementing measures such as reducing vehicle miles traveled through the County and regional long range planning efforts and increasing energy efficiency in new and existing buildings and facilities. All project construction equipment would be required to comply with the Regional Air Quality Control Board emissions requirements for construction equipment. As a result, impacts associated with the temporary increase in greenhouse gas

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

emissions are expected to be less than significant.

2.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion: See the discussion under L-1 above.

M. PUBLIC SERVICES

Would the project:

1.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
	a. Fire protection?	☐	☐	☒	☐
	b. Police protection?	☐	☐	☒	☐
	c. Schools?	☐	☐	☒	☐
	d. Parks or other recreational activities?	☐	☐	☒	☐
	e. Other public facilities; including the maintenance of roads?	☐	☐	☒	☐

Discussion (a through e): 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 or California Department of Forestry, as applicable, and school, park, and transportation fees to be paid by the applicant would be used to offset the incremental increase in demand for school and recreational facilities and public roads.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

N. RECREATION

Would the project:

1.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Discussion: The proposed project would result in an incremental increase in the use of existing neighborhood and regional parks and therefore would not result in a significant impact. The project is subject to Capital Improvement fees including parks fees associated with the development and maintenance of parks.

2.	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion: At the time Parcel A is developed, the project could result in an incremental increase in the use of existing neighborhood and regional parks. The incremental increase resulting from the development of one dwelling would not result in a significant impact. The project is subject to Capital Improvement fees including parks fees associated with the development and maintenance of parks.

O. UTILITIES AND SERVICE SYSTEMS

Would the project:

1.	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

Discussion: Preliminary drainage analysis of the project by Jeff Roper of Roper Engineering concluded in his October 2, 2013 review that the proposed building site is suitable for residential development. He writes, "There is adequate area surrounding the building envelope to mitigate drainage impacts from new impervious surfaces. We did not observe any drainage problems downstream from the project site" (Attachment 7, page 2). Department of Public Works Stormwater Management staff reviewed the drainage information and determined that downstream storm facilities are adequate to handle the increase in drainage associated with the project (Attachment 6).

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

Discussion: At the time Parcel A is developed, the project would connect to an existing municipal water supply. The City of Watsonville has determined that adequate supplies are available to serve the project (Attachment 8).

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.

3. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

Discussion: At the time Parcel A is developed, it would be served by a septic system meeting the County's Environmental Health Services standards. Since the project will not connect to the sewer system, it would have no effect on wastewater treatment requirements.

4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

Discussion: See item O.2 above.

5. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

Discussion: The future dwelling on Parcel A would be served by an on-site septic system and would, therefore, have no effect on local wastewater treatment providers.

6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: When Parcel A is developed with a dwelling, the project may require the off haul of minor construction debris, to be disposed of at a landfill. Since there are no structures on Parcel A currently, the amount of solid waste is anticipated to be minimal. Standard conditions of approval are included in the project.

7.	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion: Minimal amounts of waste would be generated by the land division and future development of Parcel A. Therefore, impacts are expected to be less than significant.

P. LAND USE AND PLANNING

Would the project:

1.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

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

2.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion: No adopted habitat conservation plan or community conservation plan exists for the subject property. Therefore, no impacts are anticipated.

3.	Physically divide an established community?	☐	☐	☐	☒

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

Q. POPULATION AND HOUSING

Would the project:

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1.	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

Discussion: The proposed project is designed at the density and intensity of development allowed by the General Plan and zoning designations for the parcel. Only one new residential lot would be created as a result of this proposal. No substantial population growth would result from this project.

2.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion: The proposed project would not displace any existing housing since Parcel A is currently vacant. Parcel B is developed with a single-family dwelling, but no change is proposed to that residence.

3.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion: The proposed project would displace no people since Parcel A is currently vacant and no change is proposed to the residence on Parcel B.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

R. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
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, reduce the number or restrict the range of a rare or endangered plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐

Discussion: The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in Section III of this Initial Study.

To avoid impacts to special status bats, tree removals shall be limited to between September 15 and November 1. Tree removals outside of this timeframe shall require a qualified biologist's survey and, if bats are present, the exclusion of them from trees prior to disturbance. The maternal roosting season for bats in March 1 – July 3 and tree removal shall be scheduled outside of this period if special status bats are present. A qualified biologist shall perform surveys prior to any tree removals during this period. If maternal roosts are present, disturbance shall be avoided until roosts are unoccupied.

To avoid impacts to raptors and migratory songbirds, tree removal activities shall be limited to the months between September 1 and February 1, if feasible. If trees are removed outside of the timeframe, a biologist shall be on site during any initial vegetation or ground disturbance activities that could impact listed species. The biologist shall set and maintain disturbance buffers from active nests during construction activities.

To avoid impacts to San Francisco dusky footed woodrats, the project biologist shall obtain from CDFW a scientific collection permit for the trapping of the dusky-footed woodrats and shall comply with the mitigations detailed in C.1.III.

To mitigate impacts to oak woodland, the property owner shall implement the oak woodland restoration plan developed by Kathy Lyons for the project site. This restoration plan shall be recorded with the final recorded map and shall be a condition

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

of approval of any development proposal on the subject parcel. Habitat compensation for development within the oak woodland shall occur on-site in areas mapped as degraded oak woodland, acacia/pine grove or pine grove.

	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
2. Does the project have impacts that are individually limited, but cumulatively considerable? ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐

Discussion: In addition to project specific impacts, this evaluation considered the projects potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there were no potentially significant cumulative effects determined to be related to the proposed project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
3. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion: In the evaluation of environmental impacts in this Initial Study, the potential for adverse direct or indirect impacts to human beings were considered in the response to specific questions in Section III related to Aesthetics, Air Quality, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, and Transportation and Traffic. As a result of this evaluation, there is no substantial evidence that there are adverse effects to human beings associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

V. REFERENCES USED IN THE COMPLETION OF THIS ENVIRONMENTAL REVIEW INITIAL STUDY

County of Santa Cruz 1994.
1994 General Plan and Local Coastal Program for the County of Santa Cruz, California. Adopted by the Board of Supervisors on May 24, 1994, and certified by the California Coastal Commission on December 15, 1994.

VI. ATTACHMENTS

1. *Vicinity Map, Map of Zoning Districts; Map of General Plan Designations; and Assessors Parcel Map*
2. *Tentative Map & Preliminary Improvement Plans*, prepared by Mid Coast Engineers, revised to March 26, 2014
3. *Geotechnical Investigation (Conclusions and Recommendations)*, prepared by Haro, Kasunich and Associates, dated September 2013
4. Geotechnical Review Letter, prepared by Joe Hanna, dated December 23, 2013
5. *Geologic Hazards Assessment,* prepared by Joe Hanna, dated May 8, 2013
6. *Discretionary Application Comments*, dated 7/28/14
7. *Drainage Letter*, prepared by Jeff Roper, dated October 2, 2013
8. *Will-serve Letter* from City of Watsonville Water District, dated March 5, 2013
9. *Review of Burgstrom Property Oak Woodland Management Plan,* Letter from Justin Davilla of Ecosystems West, dated February 12, 2015
10. *Burgstrom Property – Minor Land Division APN 108-291-09 Mitigation Plan*, by Kathleen Lyons of Biotic Resources Group, Updated April 28, 2015
11. *Results of Special-Status Plant Survey of the Burgstrom Property MLD,* Letter from Bill Davilla of Ecosystems West, dated June 9, 2015
12. *Letter Re: App#: REV 131316* from Matthew Johnston, County of Santa Cruz Environmental Planning, dated June 11, 2015

Location Map

LEGEND

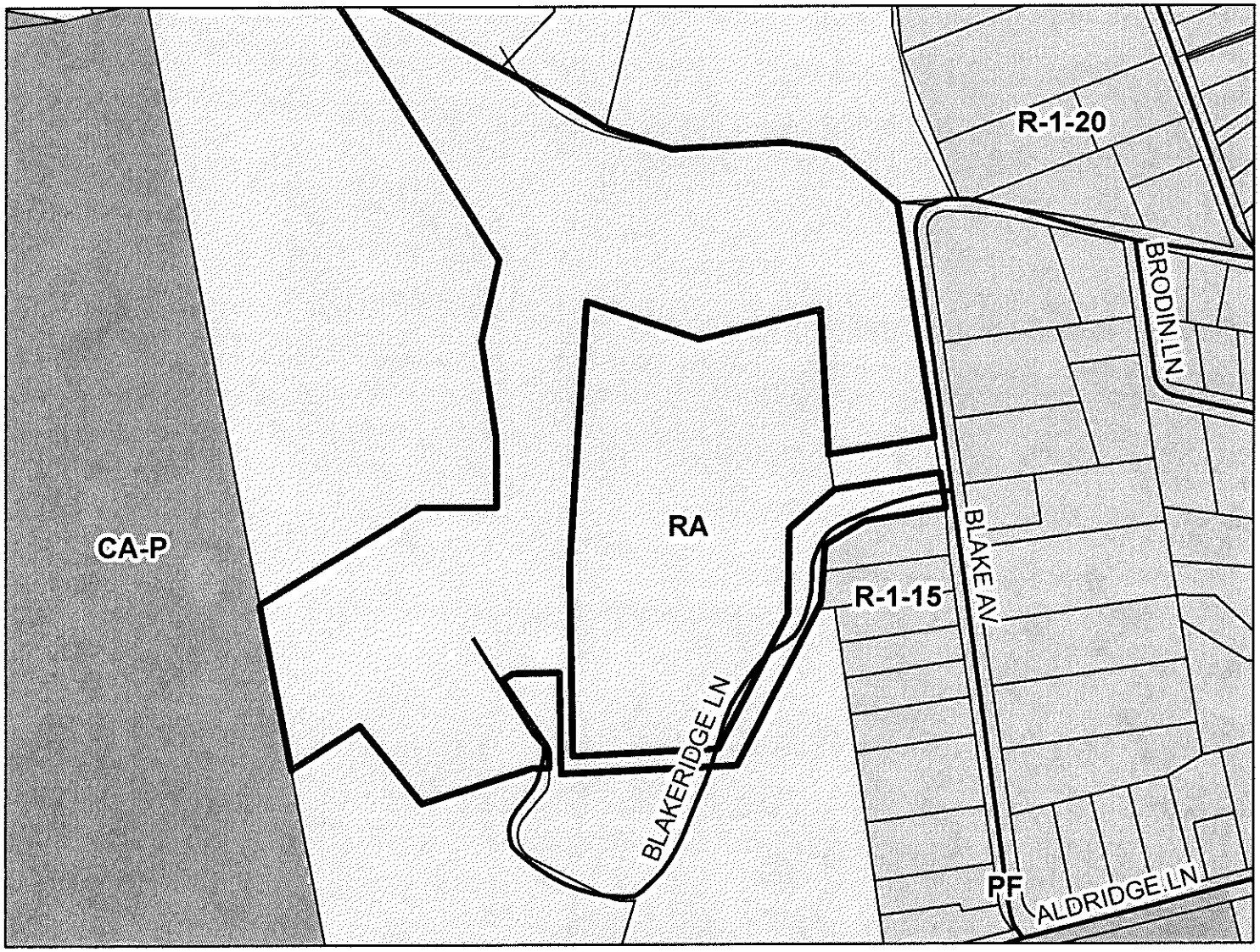
- APN: 108-291-09
- Assessors Parcels
- Street
- CITY OF WATSONVILLE

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
December 2013

ATTACHMENT 1

Zoning Map



0 240 480 960 1,440 1,920 Feet

LEGEND

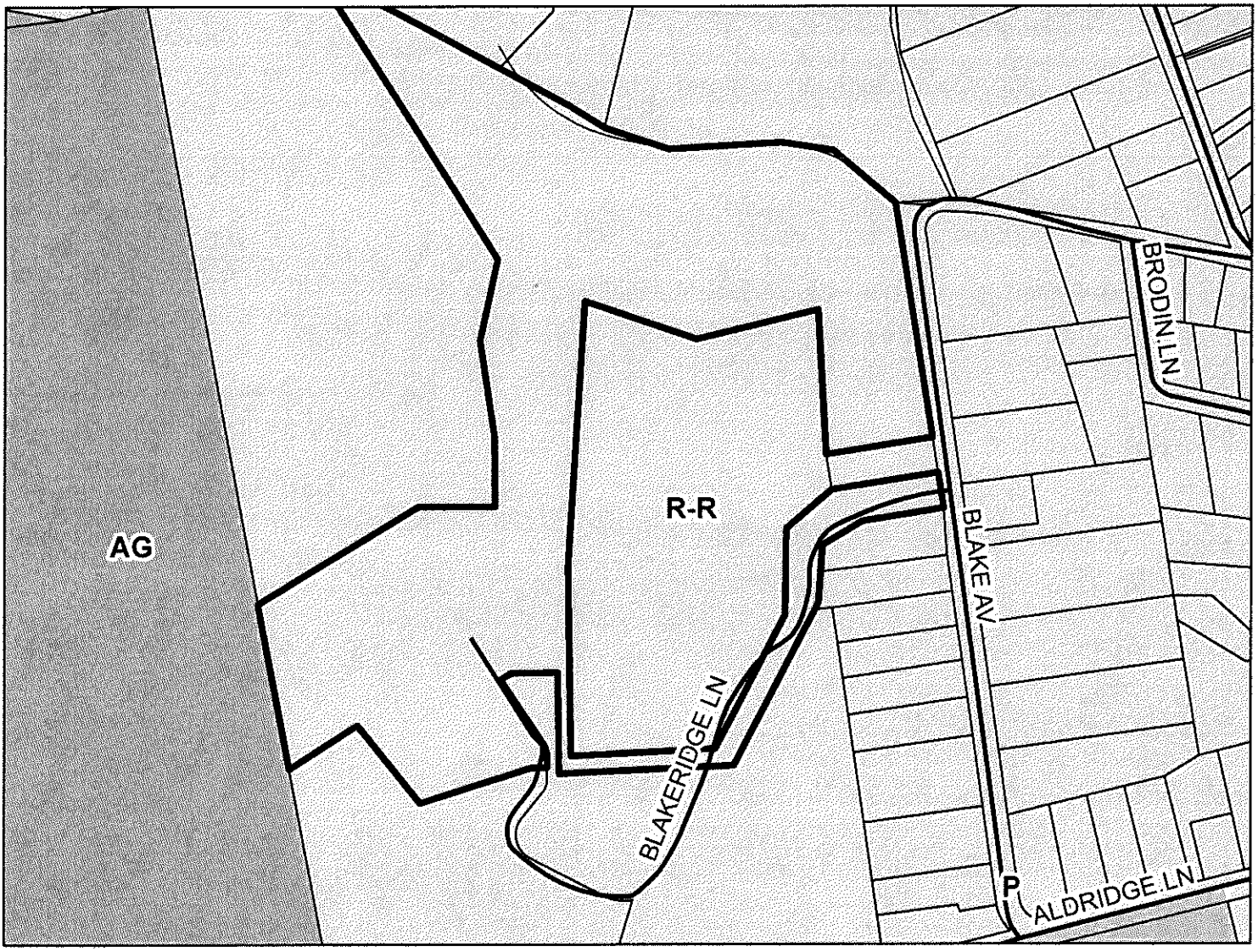
- APN: 108-291-09
- Assessors Parcels
- Street
- AGRICULTURE RESIDENTIAL
- RESIDENTIAL-SINGLE FAMILY
- PUBLIC FACILITY
- AGRICULTURE COMMERCIAL

N W E S

Map Created by
County of Santa Cruz
Planning Department
December 2013

ATTACHMENT 1

General Plan Designation Map



0 240 480 960 1,440 1,920 Feet

LEGEND

- APN: 108-291-09
- Assessors Parcels
- Street
- Residential-Rural
- Public Facilites
- Agriculture

N W E S

Map Created by
County of Santa Cruz
Planning Department
December 2013

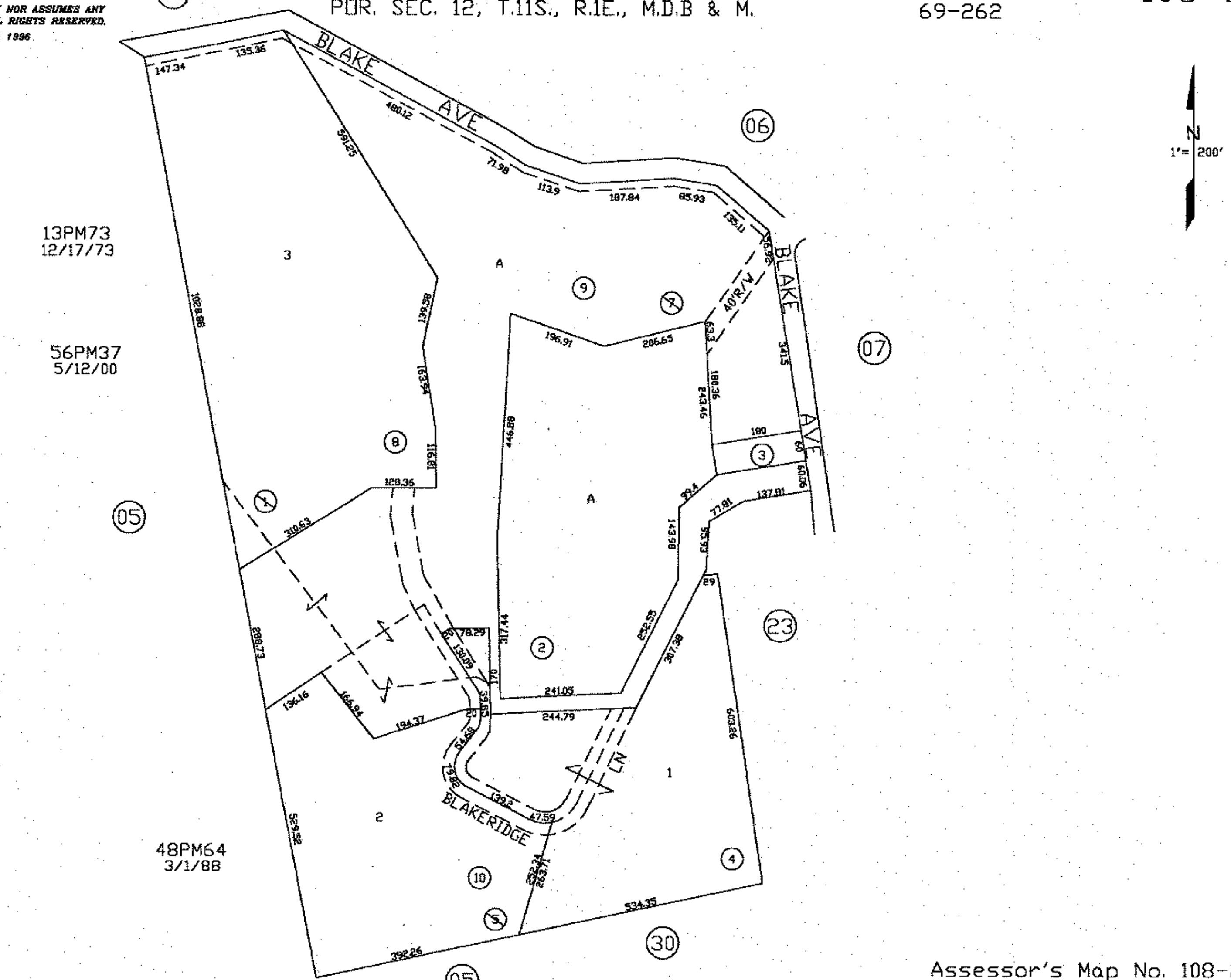
ATTACHMENT 1

FOR TAX PURPOSES ONLY

RANCHO DE LOS CORRALITOS
POR. SEC. 12, T.11S., R.1E., M.D.B & M.

Tax Area Code
69-262

108-29

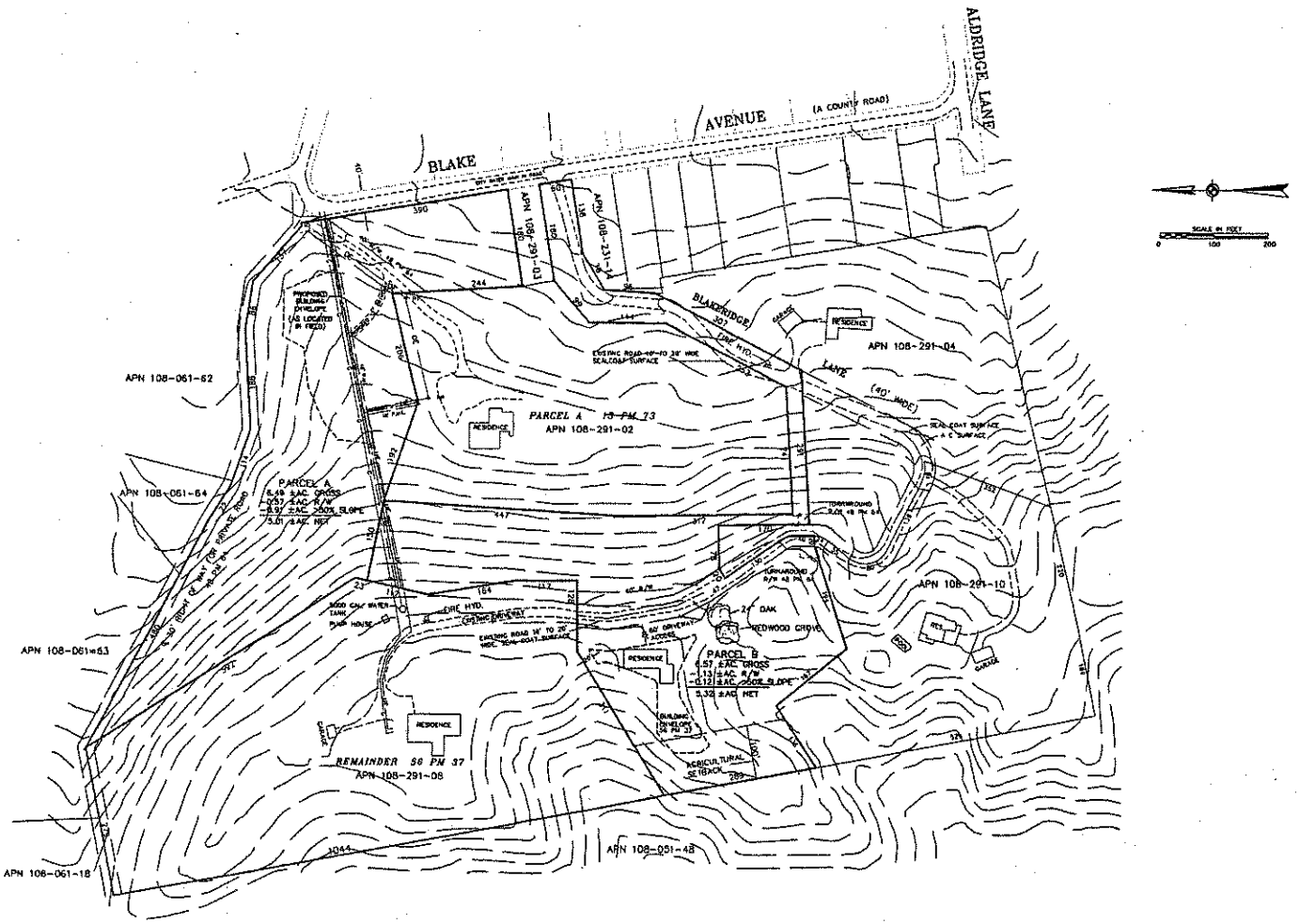


Note - Assessor's Parcel & Block Numbers Shown in Circles.

Assessor's Map No. 108-29
County of Santa Cruz, Calif.
Sept. 1996

Electronically drawn 9/16/96 KSA
Rev. 9/16/96 KSA (Por. From 108-06)
Rev 4/9/00 CB (Tax Consolidation)
Rev 6/13/00 CB (56PM37, 1-07 & 08)
Rev 10/17/00 CB (0-0046601?, LBA 1-09 & 10)
Rev 2/12/01 CB (Cor to parcel line 1-4 & 10)
Rev 10/10/01 mvn (changed page refs.)

ATTACHMENT A



ACREAGE CALCULATIONS

PROPOSED	GROSS	RIGHTS OF WAY	50% SLOPE	NET
PARCEL A	6.49 ACRES	0.57 ACRES	0.91 ACRES	5.01 ACRES
PARCEL B	8.57 ACRES	1.13 ACRES	0.12 ACRES	5.32 ACRES
TOTAL:	13.06 ACRES	1.70 ACRES	1.03 ACRES	10.33 ACRES

LEGEND

- OE OVERHEAD ELECTRIC
- UE UNDERGROUND ELECTRIC
- W WATER LINE
- G GAS LINE

NOTES:

1. OWNER: LISA J. BURGSTROM
   523 BLAKERIDGE LANE
   WATSONVILLE, CA 95076
2. EXISTING USE: RURAL RESIDENTIAL
   PROPOSED USE: RURAL RESIDENTIAL
3. EXISTING ZONING: RA
   PROPOSED ZONING: RA
4. EXISTING GENERAL PLAN: R-R
5. CONTOUR INTERVAL IS 10'. TOPOGRAPHIC DATA IS BASED ON SANTA CRUZ COUNTY GIS COUNTY WIDE CONTOURS.

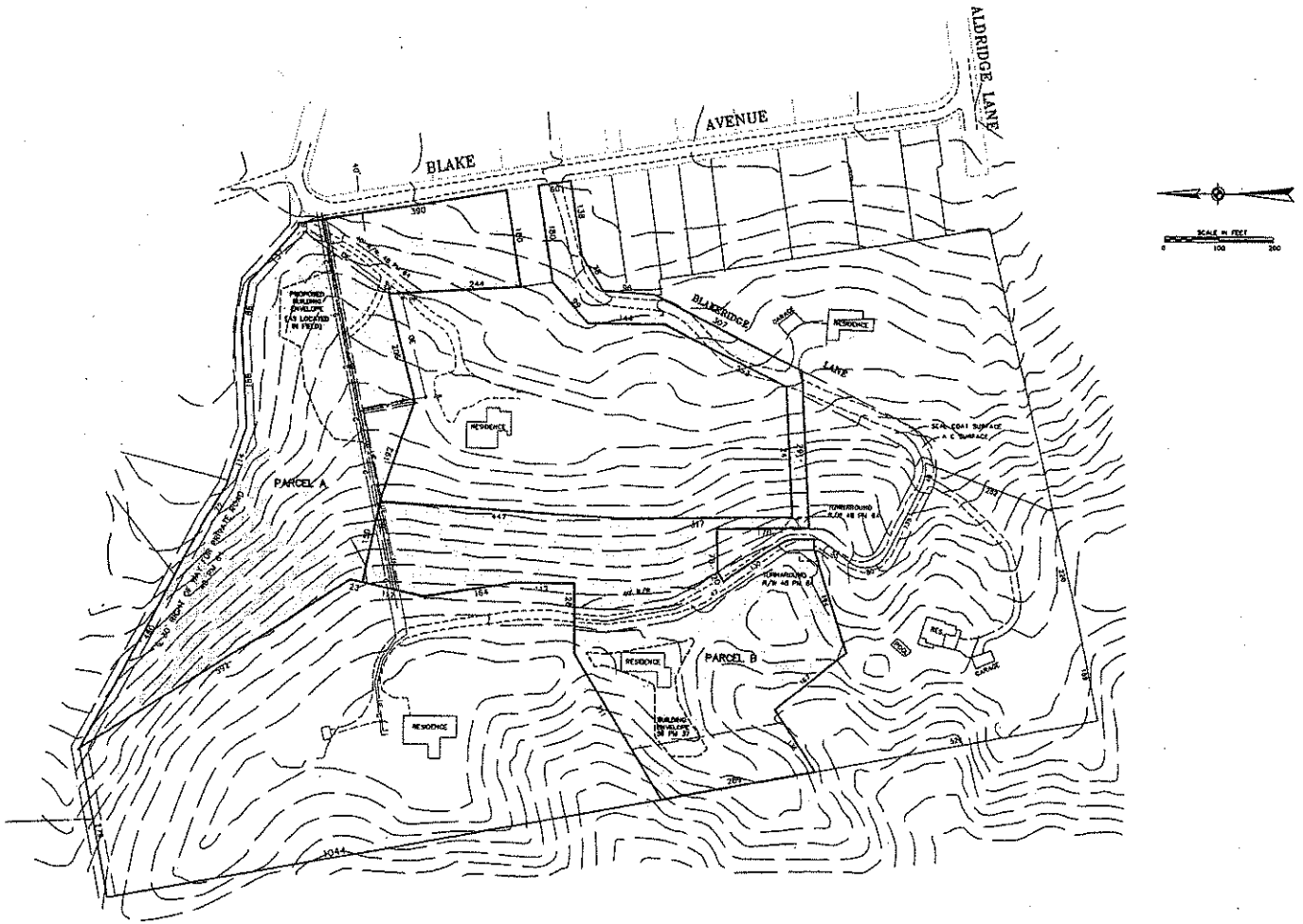
MID COAST ENGINEERS
CIVIL ENGINEERS AND LAND SURVEYORS
70 PENNY LANE, SUITE A WATSONVILLE, CA 95076 - (831) 724-2580

TENTATIVE MAP FOR
LISA J. BURGSTROM
APN 108-291-09
SANTA CRUZ COUNTY CALIFORNIA

MINOR LAND DIVISION

SCALE:	1" = 100'
DESIGNED BY:	LV
DRAWN BY:	MP&SD
DATE:	SEPT. 7, 2012
REVISED:	
JOB NO.:	12065
SHEET	1
OF	2 SHEETS

ATTACHMENT 2



SLOPE DENSITY ANALYSIS

- AREAS BETWEEN 0% & 15% SLOPE
- AREAS BETWEEN 15% & 30% SLOPE
- AREAS BETWEEN 30% & 50% SLOPE
- AREAS OF 50% SLOPE OR GREATER

SLOPE TABLE

PARCELS	0% - 15%	15% - 30%	30% - 50%	> 50%
PARCEL A	0.69 AC	2.55 AC	2.34 AC	0.91 AC
PARCEL B	1.32 AC	1.58 AC	3.56 AC	0.12 AC
TOTAL	2.01 AC	4.13 AC	5.90 AC	1.03 AC

NOTE

SLOPE CALCULATIONS WERE GENERATED USING AUTODESK LAND DESKTOP 2006 FROM TOPOGRAPHIC MAPPING SHOWN ON THE COUNTY OF SANTA CRUZ GIS WEBSITE, COUNTY WIDE CONTOURS. CONTOUR INTERVAL = 10'.

MID COAST ENGINEERS
CIVIL ENGINEERS AND LAND SURVEYORS
70 PENNY LANE, SUITE A WATSONVILLE, CA 95076 - (831) 724-3580

TENTATIVE MAP FOR
LISA J. BURGSTROM
APN 106-291-09 SANTA CRUZ COUNTY CALIFORNIA

SLOPE MAP

SCALE:	1" = 100'
DESIGNED BY:	LV
DRAWN BY:	LH
DATE:	SEPT. 7, 2012
REVISED:	
JOB NO.:	12065
SHEET	2
OF	2 SHEETS

ATTACHMENT 2

GEOTECHNCIAL INVESTIGATION REPORT
For
Proposed Minor Land Division
For Single Family Residential Development
525 Blakeridge Lane
APN 108-291-09
Santa Cruz, California

Prepared For
Lisa J. Burgstrom
c/o Hamilton Swift & Associates Inc.

Prepared By
HARO, KASUNICH & ASSOCIATES, INC.
Geotechnical & Coastal Engineers
Project No. SC7453.1
September 2013

ATTACHMENT 3

Project No. SC7453.1
10 September 2013

LISA J. BURGSTROM
c/o Hamilton Swift & Associates
500 Chestnuts Street, Suite 100
Santa Cruz, California 95060

Attention: Charles Eadie
Hs-charlie@pacbell.net

Subject: Geotechnical Investigation Report

Reference: Proposed Minor Land Division For Single Family Residential Development
APN 108-291-09
525 Blakeridge Lane
Corralitos, Santa Cruz County, California

Dear Mr. Eadie:

As authorized by Ms. Burgstrom, we have performed a site specific geotechnical investigation for the proposed single family residential development at the referenced site in Corralitos, Santa Cruz County, California.

Based on the results of our site specific investigation, the proposed development is compatible to surface and subsurface conditions explored provided our recommendations presented in this report are closely followed during its design and construction.

Primary geotechnical concerns at the site include strong seismic shaking, uniform bearing support for engineered structures, appropriate control of surface runoff and erosion.

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

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

Very truly yours,

HARO, KASUNICH AND ASSOCIATES, INC.

William E. St. Clair
C.E. 78928

REGISTERED PROFESSIONAL ENGINEER
WILLIAM E. ST. CLAIR
C.E. 78928
Exp 3-31-14
CIVIL
STATE OF CALIFORNIA

WSC/sr
Copies: 4 to Addressee and 1 via e-mail

ATTACHMENT 3

Project No. SC7453.1
10 September 2013

GEOTECHNICAL INVESTIGATION

Introduction

This report summarizes the findings, conclusions and recommendations from our geotechnical investigation for the proposed minor land division for a single family residential development at the referenced site. The purpose of our investigation was to explore and evaluate surface and subsurface conditions on the property to develop geotechnical design criteria for the proposed development.

In addition, this report addresses report requirements outlined in the Geologic Hazard Assessment by the County of Santa Cruz Planning Department dated 8 May 2013. Our geotechnical recommendations and building envelopes were developed based on exploratory borings, in-situ soil testing and field mapping performed by our firm and Bio-Sphere Consulting.

As the development improvements and their locations have not been finalized, the recommendations presented in this report are general in nature. Our firm should be provided the opportunity for a geotechnical review of the project plans prior to construction, so that our recommendations may be properly interpreted and implemented, and to determine if this report is adequate and complete for the final improvements. It is not intended that the geotechnical engineer approve or disapprove

the plans, but to provide an opportunity to update the preliminary report and include additions or qualifications as necessary.

This investigation was performed to evaluate subsurface soil conditions and to provide geotechnical engineering information to be used in the design and construction for the proposed development. As data presented in this report was developed from the design standpoint, it may not contain sufficient detail to address specific construction issues or other needs required by the contractor. Therefore, it is recommended prospective contractors obtain additional subsurface information as they deem necessary.

Purpose and Scope

The purpose of our investigation was to explore the surface and subsurface conditions at the site, in order to assess the subsoil characteristics, evaluate the soil-structure interaction from a static (dead plus live) loading condition and develop geotechnical design criteria for the proposed development. It is presumed the 2010 California Building Code (2010 CBC) design considerations will be followed in the design of the proposed structures.

The scope of our services included the following:

1. Several site visits to evaluate drill rig access and to mark USA for locating underground utilities;
2. The review of the following documents:
   - Tentative Map by Mid Coast Engineers dated 7 September 2012 and revised on 24 October 2012.
   - Geologic Hazard Assessment by County Of Santa Cruz Planning Department dated 8 May 2013;
   - Soil Profile Logs by Bio Sphere Consulting dated 18 January 2013;
   - Site Evaluation Results Map by Bio Sphere Consulting dated 22 January 2013.
3. Subsurface exploration consisting of drilling and logging 3 exploratory borings drilled to a depth of 13.5 to 17.5 feet below grade. Soil samples were obtained, sealed and returned to our laboratory for testing. Standard Penetration Tests (SPT) were performed to retrieve soil samples and to determine relative densities and strength of the in-situ soil;
4. Laboratory testing of select samples considered representative of the subsurface conditions. Laboratory testing consisted of Atterberg limits and sieve analysis. These tests were performed to aid in soil classifications and determine expansion potential;

5. Three cross sections were developed through the ridge based on slope profiles measured in the field and exploratory borings performed by our firm and Bio Sphere Consulting;
6. Engineering analysis, evaluation of field and laboratory test data and the development of geotechnical recommendations for grading, foundations, retaining walls, concrete slabs-on-grade, general site drainage and erosion control;
7. The development of suitable envelopes for septic dispersion fields and buildings. Design and construction feasibility evaluation for the proposed driveway alignment in relation to existing grades;
8. Preparation of this report and related graphics, presenting the results of our investigation.

Site and Project Description

The referenced property is located about 1/3 of a mile west of Corralitos just off of Blake Avenue, Santa Cruz County. See Site Location Map, Figure 1 in Appendix A. The property is undeveloped and access to the site is shared with an existing residence south of the referenced parcel at 57 Blake Avenue. The referenced property is undeveloped and heavily vegetated with Oaks, Manzanita, Poison Oak, Madrones etc. A right of way and two utility easements cross the property.

We understand you are going for a minor land division for a single family residential development. The type and exact layout of the proposed development is unknown. The proposed minor land division and building envelop is presented on the aforementioned Mid Coast's Tentative Plan. The general building area will be located on the top of an east/west trending nose ridge, and north of the existing utility easement and utilize as much level to gently sloping area as practically possible. Existing slopes on top of the ridge and to the south range between 0 to 30 percent. Steeper slopes exist north and east of the ridge ranging from 30 to 100 percent. A new access driveway is shown to access the ridge from the south via the neighbor's existing driveway from the southeast.

We presume new structures will be of wood frame, raised wood floors and masonry construction, combined with some concrete slab-on-grade patios. Exact wall and column loads are not known at this time but are expected to be typical of such construction. The proposed project will also require exterior flatwork, decking, attendant utility and landscaping improvements. The structures will essentially conform to existing grades, therefore grading is expected to be minimal.

Field Exploration

Subsurface conditions at the site were initially explored on the 18 January 2013 by Bio Sphere consulting as part of their study and design for a septic system. Geotechnical

data like standard penetration tests relative to soil description was also retrieved from these borings. These field borings were used in conjunction with our field work and used in our geotechnical evaluation of the site. A copy of Bio Sphere's boring logs is attached in Appendix A, Figure 7.

Our firm explored the subsurface conditions at the site the 29 April 2013 by drilling three (3) exploratory borings drilled to depths of 13.5 to 17.5 feet below grade. Our borings and Bio Sphere's borings were advanced using a tractor-mounted drilling rig with 6-inch, continuous solid-flight auger equipment. The approximate boring locations are shown on the Boring Site Plan, Plate 1 (see attached pocket, Appendix A). The borings were located in the field by the project geotechnical engineer and Bio Sphere's representative using a tape measure from known landmarks and are therefore within the accuracy of such measurements.

Representative soil samples were obtained by our firm and Bio Sphere Consulting from exploratory borings at selected depths, or at major strata changes. These samples were recovered using a 3.0 inch O.D. Modified California Sampler (L) or by a Standard Terzaghi Sampler (T). The soils encountered in the borings were continuously logged in the field and visually described in accordance with the Unified Soil Classification System (ASTM D2487). The Logs of Test Borings are included in the Appendix A of this report, Figures 4 through 7. The logs depict subsurface conditions at the time of

our exploration and only at the specific locations shown on the Boring Site Plan; subsurface conditions at other locations may differ from those encountered at the explored locations. The conditions may also change over time. Stratification lines shown on the logs represent the approximate boundaries between soil types; actual transitions may be more gradual. These stratification lines were used for analytical purposes and should not, unless specifically stated otherwise, be used as a basis for design or construction cost estimates.

The penetration blow counts noted on the boring logs were obtained by driving a sampler (L or T) into the soil with a 140-pound hammer dropping through a 30-inch fall. The sampler was driven up to 18 inches into the soil and the number of blows counted for each 6-inch penetration interval. The numbers indicated on the logs are the total number of blows that were recorded for the second and third 6-inch intervals, or the blows that were required to drive the penetration depth shown if high resistance was encountered.

Laboratory Testing

Soil samples obtained from the borings at selected depths, were taken to our laboratory for further examination and laboratory testing. The laboratory testing program was directed toward determining pertinent engineering and index soil properties.

The soils were classified based on visual observation during drilling. The soil classification was verified and/or modified upon completion of laboratory sieve analysis of selective samples. The natural moisture contents and dry densities were performed on selected samples and are recorded on the boring logs at the appropriate depths. Since water has a significant influence on soil, the natural moisture content and Atterberg limits provide a rough indicator of the soil's compressibility, strength, and potential expansion characteristics. The strength parameters of the underlying earth materials were determined from standard penetration tests (SPTs) during drilling.

The lean clayey layer encountered in Borings 1 and 2, below the topsoil horizon and to a depth of 7 and 4 feet below grade, respectively, was found to be expansive per section 1805.5.5 of the CBC 2010.

The results of the laboratory testing appear on the "Logs of Test Boring" opposite the samples tested.

Subsurface Conditions

The subsurface materials encountered in Borings 1 and 2, generally consist of grey loose silty sand with organics to a depth of 12 inches below grade over reddish brown stiff to very stiff lean clay with sand to a depth of 3 to 7 feet over medium dense to

dense reddish brown silty sand to the depths explored. The subsurface materials encountered in Boring 3 were similar, expect the lean clay layer was not encountered.

Similar subsurface materials were encountered in Bio Spheres exploratory borings, with the exception of encountering dense earth materials that they interpreted as weathered sandstone and siltstone. We note Bio-sphere's borings were located at different locations on the ridge and advanced to a deeper depth than ours, coupled with differences in physical perception and knowledge background with the individual logging the hole, and therefore these inconsistencies are to be expected.

Groundwater

Groundwater was not encountered in Borings 1, 2 and 3 and not encountered in Bio Sphere's winter water table (WWT) borings.

It should be noted groundwater levels may fluctuate due to variations in rainfall and influence of man or other factors not evident during our investigation. Contrasts in permeability between soil and bedrock strata could allow perched groundwater conditions to develop. Subsurface conditions and water levels at other locations may differ from conditions at the locations where sampling was conducted. The passage of time may also result in changes to the conditions observed or inferred from our investigation.

Geologic Hazards

A geologic hazard assessment (GHA) was performed for this site by Joe Hanna, certified engineering geologist for the County of Santa Cruz Planning Department, dated 8 May 2013. This GHA is attached (see Figures 8 through 11) in Appendix A.

The GHA indicates intense ground shaking, ridge top shattering, ridge and/or lateral spreading, lurch cracking, liquefaction or subsidence and seismically induced land sliding during large magnitude earthquake, epic entered close to the site, could affect the residential development.

In conclusion, GHA indicates a full geologic report is not required, provided the geotechnical engineer report addresses foundation design parameters, evaluates liquefaction/lateral spreading and slope instability relative to engineered structures, including septic system, dispersion area and driveway.

Foundation Design Parameters

Detailed foundation design parameters are presented later in the report. In general structures and their foundations will react well provided they are designed and built in conformance with current local county and building code standards and, with the recommendations presented in this report. Foundation design parameters presented in this report are valid only if the proposed buildings, septic system and driveway are

constructed within the suitable building envelopes and their proposed locations as presented on the Boring Site Plan, Plate 1.

Liquefaction/Lateral Spreading

Liquefaction is a phenomenon under which saturated, cohesionless, loose soils (e.g. loose poorly graded sands below the water table, experience a temporary, but essentially total, loss of shear strength because of pore pressure build-up under the reversing cyclic shear stresses associated with ground shaking (e.g earthquake). The primary result of liquefaction for relatively flat ground is vertical settlement or movement of the ground surface. For more sloping ground surface, the result of liquefaction is vertical settlement and lateral movement of the ground surface toward a free face (e.g. stream embankments) which is considered lateral spreading. Lateral spreading typically occurs only in liquefiable soils.

Based on the exploratory borings and laboratory results, the subsurface earth materials below the site are stiff to very stiff lean clay and/or medium dense to dense silty sand and are un-saturated. Therefore the potential for liquefaction and lateral spreading to affect the proposed development is low.

Slope Instability

A quantitative slope stability analysis of the lot was not performed. Instead, slope instability is assumed to occur on slopes inclined greater than 30% and migrate upslope an additional 30 horizontal feet, unless a quantitative slope stability analysis indicates otherwise. Therefore, structures setback 30 feet from the top of slopes greater than 30% have a low possibility of being impacted by slope instability. For this site, buildings and septic systems should be setback 30 feet horizontally from the top of slopes inclined greater than 30%. These slopes exist on the north and east side of the ridge. See cross sections Figure 3, in Appendix A. The proposed driveway is located on the south side of the ridge, where natural slopes are inclined less than 30%; therefore the potential for slope instability to affect the driveway is low. The suitable building envelopes presented on the Boring Site Plan incorporates the aforementioned slope stability setbacks.

Geologic Hazard Conclusions

The potential for liquefaction/lateral spreading and slope instability to impact the proposed septic systems and building structure constructed within the suitable building envelopes, and driveway constructed as shown on the Boring Site Plan is low.

It should be made clear this geotechnical engineer report does not address every geologic hazard indicated in the county's GHA (e.g. ridge top shattering and lurch cracking). If a more detailed study of these hazards is desired, we recommend retaining the services of a certified engineering geologist.

CBC Seismic Design Coefficients

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

Based on Section 1613, Earthquake Loads, of the 2010 California Building Code (CBC) for the referenced project we are providing maximum considered earthquake spectral response accelerations for short periods (S_{DS}) and for one second periods (S_{D1}) adjusted for a Site Class (or soil type) at a particular site.

These accelerations are calculated by entering the longitude and latitude of a site into a software program called Seismic Hazard Curves and Uniform Hazard Response Spectra – v5.0.1 developed by USGS. This software digitally utilizes the parameters and maps that are presented as hardcopies in Section 1613 2010, CBC. The longitude and latitude of a site are determined by using Google Earth maps.

ATTACHMENT 3

Based on our exploratory borings performed at the referenced site, a Site Class D was determined. The longitude and latitude of the site was determined to be -121.81329 degrees and 36.98895 degrees, respectively. Therefore the maximum considered earthquake spectral response accelerations for short periods (S_{DS}) and for one second periods (S_{D1}) are 1.353g and 0.927g, respectively.

ATTACHMENT 3

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

General

1. The geologic hazards evaluated in this report may be mitigated by constructing the proposed development within the suitable building envelope and proposed driveway location as shown on the Boring Site Plan, Plate 1 attached in a pocket in Appendix A of this report.

2. Primary geotechnical concerns at the site include strong seismic shaking, uniform bearing support for engineered structures, appropriate control of surface runoff and erosion.

3. The proposed driveway alignment crosses existing grades of 15% or less. Minor grading and conventional retaining walls can be design and constructed to meet local emergency requirements for driveways accessing the building site.

4. Location and type of building structures have not been decided, however building structures located within the suitable building envelope may be supported with conventional spread footings.

5. To provide uniform bearing support for footings and slab-on-grade floors, footings and slabs should be placed upon 12 inches of uniform non-expansive native OR imported soil. For a 12 inch deep footing, the over excavation depth from existing grade would be 24 inches. The over excavations should extend 3 feet latterly from the face of footings. The non-expansive native soil was encountered at 7 feet, 3 feet and 1 foot below grade in Boring 1, 2 and 3, respectively. If practical, these onsite soils may be used as engineered fill provided they are separated from the expansive lean clays and topsoil. Imported engineered fill should be evaluated by the soil engineer prior to use.

6. Onsite retention/detention of collected storm water should be reviewed on a case by case basis. However, as a general guide line, collected runoff should not be disposed of north of the suitable building envelopes and should be disposed of in a controlled manner south of the suitable building envelopes.

7. The following recommendations for general site grading, foundations, drainage and erosion control should be used as guidelines for preparing preliminary project plans and specifications, and assume that **Haro, Kasunich & Associates** will be commissioned to perform a geotechnical plan review of the final plan set to verify our recommendations were interpreted properly and incorporated into the final plan set.

General Site Grading

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

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

10. Areas to be graded or to receive proposed improvements should be cleared of obstructions and fill materials, including trees not designated to remain and their associated root system, non-operating utility lines and other unsuitable material. Existing depressions or voids created during site clearing should be backfilled with engineered fill. Any surface or subsurface obstructions, or questionable material encountered during grading, should be brought immediately to our attention for proper exposure, removal and processing as directed.

11. Cleared areas should then be stripped of organic-laden topsoil. Stripping depth is anticipated to be from 6 to 12 inches and greater than 12 inches in heavily wooded areas. The actual depth of stripping should be determined in the field by the contractor. Strippings should be hauled off-site or stockpiled for use in landscaped areas if desired. Roots larger than ½ inch in diameter should be disposed of in a legal manner.

12. Following clearing and stripping down to the required excavation depth, the exposed subgrade below should be scarified to a depth of at least 8 inches, moisture conditioned (or allowed to dry as necessary) to produce a moisture of 2 to 4 percent above the laboratory optimum value and uniformly compacted to at least 90 percent relative compaction.

13. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness, water conditioned to a moisture content of 2 to 4 percent above optimum, and compacted to at least 90 percent relative compaction. The upper 6 inches of pavement and concrete slab subgrades should be compacted to at least 95 percent relative compaction. Aggregate base below pavements should likewise be compacted to at least 95 percent relative compaction.

14. If grading is performed during or shortly after the rainy season, the grading contractor may encounter compaction difficulty with the wet soils. If compaction cannot

be achieved after adjusting the soil moisture content, it may be necessary to use imported fill or gravel and stabilize the bottom of the excavation with stabilization fabric. Drain rock or gravel should be mechanically compacted in a good workmanship like manner. The need for ground stabilization measures to complete grading effectively should be determined in the field at the time of grading, based on exposed soil conditions.

15. Some of the on-site soils are suitable for use as engineered fill provided they are separated from the expansive lean clay and topsoil. Onsite soils to be used as engineer fill should be evaluated by the geotechnical engineered prior to use. Soils used as engineered fill should be free of organic and deleterious material, contain no rocks or clods over 4 inches in dimension, and should contain no more than 15 percent by weight of rocks larger than 2 inches. Have a Plasticity Index of less than 15, contain less than 10% fines and contain less than 10% clay OR have expansion index of less than 20 and should have sufficient binder to allow excavations to stand without caving. Prior to delivery to the site, a representative sample of proposed engineer fill materials should be sent to our laboratory for evaluation.

16. Following grading, exposed soil not planned to be landscaped, should be seeded with erosion-resistant vegetation and erosion-resistant fabric.

17. Temporary excavations including utility trenches should be properly shored or laid back at an appropriate angle to prevent sloughing and caving at sidewalls. The project plans and specifications should direct the attention of the contractor to all CAL OSHA and local safety requirements and codes dealing with excavations and trenches.

18. We recommend permanent cut and engineered fill slopes be inclined no steeper than 2:1 (horizontal to vertical) for a maximum vertical height of 12 feet.

19. Engineered fill slopes placed on grades steeper than 10% should be keyed and benched into native grades. Seepage zones uncovered during key and bench excavating should be intercepted with subdrains. Keyway, benching and subdrain recommendations should be made in the field by the geotechnical engineer and the contractor, based on exposed soil and site conditions.

20. Trench backfill material should be uniformly compacted by mechanical means to the relative compaction as required by County specifications, but not less than 95 percent under paved areas and 90 percent elsewhere. The relative compaction will be based on the maximum dry density obtained from a laboratory compaction curve run in accordance with current ASTM Procedures D1557.

21. After the earthwork operations have been completed and the geotechnical engineer has finished the observation and testing of the work, no further earthwork operations shall be performed without the direct observation and approval of the geotechnical engineer.

Conventional Spread Footings

22. Footings should be embedded a minimum of 12 inches into non-expansive engineered fill. Footings should be 12 inches wide for 1 story structures; 15 inches wide for 2 story structures; and 18 inches wide for 3 story structures.

23. Footings supported by engineered fill, an allowable bearing pressure of 2,000 psf maybe used. Bearing capacity may be increased by 1/3 for short term seismic and wind loads.

24. Lateral resistance for footings supported by engineered fill, a passive resistance of 250 pcf plus a friction coefficient of 0.30 may be used.

25. Footings placed on slopes greater than 10% should be stepped at least 12 inches into engineered fill.

26. Footing excavations should be observed by the geotechnical engineer prior to placing reinforcing steel and concrete. Loose slough, groundwater and deleterious materials should be removed prior to placing concrete.

Concrete Slabs on Grade

27. Slab and patio reinforcing should be designed based on the anticipated use and loading of the slab, and in accordance with 2010 CBC. The steel reinforcement should be held firmly in the planned location during placement and finishing, with pre-cast concrete dobies.

28. Concrete slab-on-grade floors and patio should be placed upon 12 inches of non-expansive engineered fill. The upper 6 inches of slab subgrade should be compacted to 95 percent relative compaction.

29. Interior slab floors should be placed on damp/water proofing materials.

30. The type of damp/water proofing materials will be dependent upon the type of floor coverings used. Proprietary damp/water proofing materials must be designed and installed in accordance with the manufacturer's specifications. A damp/water proofing consultant may need to be retained if moisture sensitive floor coverings are proposed. As a minimum, damp/water proofing materials should consist of not less than 6-mil

polyethylene with joints lapped not less than 6 inches placed beneath the slab over 4 inches of gravel or crushed stone, OR an approved equivalent.

31. Exterior slabs and patio reinforcement should not be tied to the building foundations. These exterior slabs can be expected to suffer some cracking and movement. However, thickened exterior edges, a well-prepared subgrade, including pre-saturating prior to pouring concrete, adequately spaced expansion joints, adequately spaced crack control joints, and good workmanship should minimize cracking and movement.

Retaining Wall Lateral Pressures

32. Retaining walls placed on slopes less than 30% may be supported by conventional spread footings. Refer to the Conventional Spread Footing recommendation sections above for lateral and vertical resistance of the native soil.

33. Retaining walls should be designed to resist both lateral earth pressures and any additional surcharge loads. For design of retaining walls up to 12 feet high, the following design criteria may be used:

A. For un-restrained active earth pressure allowed to yield at the top, is that exerted by an equivalent fluid weighing 40 pcf (F.S. =1.0) for

a level backslope gradient; 60 pcf (F.S. =1.0) for a 2:1 (horizontal to vertical) backslope gradient. **This assumes a fully drained condition.**

B. Where walls are restrained from moving at the top, as in the case for basement walls, active earth pressures for a uniform rectangular distribution equivalent to 28H psf per foot (F.S.=1.0) of wall height for a level backslope; 42H psf per foot (F.S.=1.0) of wall height for a 2:1 backslope (where H is equal to wall height). **This assumes a fully drained condition.**

C. For un-restrained walls where movement at the top is not structurally tolerable, as in the case for pool walls, active at rest pressure is that exerted by an equivalent fluid weighing 63 pcf (F.S. =1.0) for a level backslope gradient. **This assumes a fully drained condition.**

D. In addition, the walls should be designed for any adjacent live or dead loads which will exert a force on the wall (garage and/or auto traffic).

34. Retaining walls used as interior living space and used for storing moisture sensitive items should be thoroughly waterproofed.

35. For seismic design of retaining walls, a dynamic surcharge load equal to 18H^2 (F.S.=1.0) per linear foot of wall, where H is the height of the wall, should be added to the above active lateral earth pressures.

Surface Drainage, Subsurface Drainage and Erosion Control

36. Onsite retention/detention of collected storm water should be reviewed on a case by case basis. However, as a general guide line, collected runoff should not be disposed of north of the suitable building envelopes and should be disposed of in a controlled manner south of the suitable building envelopes.

37. Thorough control of surface runoff is essential to the performance of the project. At no time should surface runoff be allowed to pond and flow next to improvements or pond and flow over manmade fill slopes. Final grades around all structures should slope down and away a minimum of 5% for 10 horizontal feet.

38. Surface runoff from impervious surfaces (i.e. roof, patios etc.) should be controlled by using gutters, downspouts, drain inlets, curbs, v-ditches etc. connected to closed drain pipes and discharge in an approved location.

39. Retaining wall backdrains and engineered fill slope subdrains should generally consist of ¾ inch drain rock with perforated pipe placed holes down and at the bottom of

the drain rock section; with Mirafi 140N filter cloth wrapped around drain rock and perforated pipe. Subgrade and pipe should gravity flow toward the discharge point. Wall backdrains should extend the full height of the retaining wall, to within 12 inches of final grade. The upper 12 inches of the back drain should be capped with onsite clayey soil or other impermeable material, to prevent surface runoff from entering the drain rock.

40. Subsurface water should be direct away using closed drain lines (tied to the perforated lines) and discharge to an approved location. Drain lines carrying surface runoff should not be connected to drain lines carrying subsurface water.

41. Irrigation activities should be strictly controlled immediately adjacent to building foundations especially landscape areas through out the year. Where surface drainage improvements and irrigation activities are not properly provided and/or maintained, foundation and ground movement (differential movement of foundation soils) resulting in structural distress can occur. Landscaping should be planned accordingly.

42. Ground surface disturbed by construction should be protected from erosion at all times. For temporary and permanent purposes, erosion control should generally consist of erosion resistant seed covered with erosion control netting on slopes greater than 10% OR erosion resistant seed cover with straw mulch on slopes less than 10%.

43. Drainage and erosion control improvements approved at the time should be maintained throughout the life of the development.

Plan Review, Construction Observation and Testing

44. Our firm should be provided the opportunity for a general review of the project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. The purpose is to determine if this preliminary report is adequate and complete for the final planned grading and construction. It is not intended that the geotechnical engineer approve or disapprove the plans, but to provide an opportunity to update the preliminary report and include additions or qualifications as necessary. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations.

45. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. The recommendations presented in this report require our review of final plans and specifications prior to construction and upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

Limitations and Uniformity of Conditions

46. 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. Varying soil conditions are not an exception, but are a rule.

47. 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.

48. 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 from natural processes or from the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a geotechnical engineer.

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
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

December 23, 2013

Charles Eadie
500 Chestnut
Santa Cruz, CA 95060

Subject: Review of Geotechnical Engineering Report by Haro, Kasunich and Assocaites Dated September 2013: Project: SC7453.1
APN 108-291-09, Application #: REV13121

Dear Charles Eadie,

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.

3. The designated building envelope shall be shown on the recorded map.

4. Prior to building permit issuance a *plan review letter* shall be submitted to Environmental Planning. After plans are prepared that are acceptable to all reviewing agencies, please submit a geotechnical plan review letter that states the project plans conform to the recommendations of the geotechnical report. *Please note that the plan review letter must reference the final plan set by last revision date.* The author of the report shall write the *plan review letter.*

5. Please submit an electronic copy of the soils report in .pdf format via compact disk or email to: pln829@co.santa-cruz.ca.us. Please note that the report must be generated and/or sent directly from the soils engineer of record.

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.

Please note that this determination may be appealed within 14 calendar days of the date of service. Additional information regarding the appeals process may be found online at: http://www.sccoplanning.com/html/devrev/plnappeal_bldg.htm

(over)

ATTACHMENT 4

Please call the undersigned at (831) 454-3175, or by email at pln829@co.santa-cruz.ca.us if we can be of any further assistance.

Sincerely,

Joe Hanna
County Geologist

Cc: Joseph Hanna, Environmental Planning
Haro, Kasunich and Assocaites
owner (if different from applicant)

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. 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.

(over)

ATTACHMENT 4

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
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

May 8, 2013

Mr. Charles Eadie
500 Chestnut Street, Suite 100
Santa Cruz, CA 95060

Subject: GEOLOGIC HAZARDS ASSESSMENT, APN 108-291-09
LOCATION: 525 Blakeridge Lane
PERMIT APPLICATION NUMBER: REV131037
OWNER: Lisa Burgstrom

Dear Charles Eadie:

I performed a site reconnaissance of the parcel referenced above on May 5, 2013. The parcel was evaluated for possible geologic hazards due to its location near a fault zone, on a slope near areas of slope instability. This letter briefly discusses my site observations, outlines permit conditions and any requirements for further technical investigation, and completes the hazard assessment for this property.

Completion of this hazards assessment included a site reconnaissance, a review of maps and other pertinent documents on file with the Planning Department, and an evaluation of aerial photographs. The scope of this assessment is not intended to be as detailed as a full geologic or geotechnical report completed by a state registered consultant.

SEISMIC HAZARDS

The subject property is located immediately adjacent to a County Fault Zone in the Corralitos area of Santa Cruz County, and the subject parcel is located approximately three and a half miles south west of the San Andreas Fault zone. Very strong ground shaking is likely to occur on the parcel during the anticipated lifetime of the proposed dwelling and, therefore, proper structural and foundation design is imperative. In addition to the San Andreas other nearby fault systems capable of producing intense seismic shaking on this property include the San Gregorio, Zayante, Sargent, Hayward, Butano, and Calaveras faults, and the Monterey and Corralitos fault complexes. In addition to intense ground shaking hazard, development on this parcel could be subject to the effects of ridgetop shattering, ridge and/or lateral spreading, lurch cracking, liquefaction or subsidence and seismically-induced landsliding during a large magnitude earthquake occurring along one of the above mentioned faults.

ATTACHMENT 5

At least a portion of the development area is mapped as high liquefaction. The geotechnical engineer must evaluate this potential as part of their site investigation.

SLOPE STABILITY HAZARDS

A "Preliminary Map of Landslide Deposits in Santa Cruz County" was prepared in 1975 as part of the County's General Plan. This interpretive map was prepared from aerial photographs and was designed only for "regional land use evaluations." The map indicates areas where questionable, probable, or definite past instability is suspected. While not a susceptibility map indicating potential site-specific stability problems, when utilized in conjunction with other published data and documents the map is a useful planning resource. The map does not show a landslide on this property. A review of the subject aerial photographs show relief suggestive of landsliding in the vicinity of the parcel, but this relief does not extend into the development envelopes of this parcel.

The property is underlain by the Aromas Sands which can be problematic with regards to slope stability. Several large erosion rills extend from the bottom of the slope northeast of the development envelop to the flat area on a ridge. A setback should be established from the edge of these rills to avoid any back-of the stepping of the slope at these locations.

If a setback is maintained from the edge of the rills and other steep slopes the potential risk associated with slope failure at the location of the proposed development envelope can be maintained to a reasonable level. To determine the extent of the setback the geotechnical engineer must evaluate this slope base upon geologic cross-sections (which the geotechnical engineer or engineering geologist can prepare). If the setback will be less than 30 feet from slopes over 30 percent then a quantitative slope stability analysis must be performed.

In any case, an engineered drainage plan must be developed by your engineer for your proposal. The intent of the plan is to reduce the impact of post development hydrologic conditions on slope stability, ground water recharge, and stream flow.

REPORT REQUIREMENTS

Based on my site visit and review of pertinent maps and other documents, further geologic evaluation in the form of a full geologic report is **not** indicated for your proposed development on this parcel. However, a geotechnical (soils) investigation performed by a state registered geotechnical engineer is required prior to the Planning Department approval of your proposal. The investigation must include, but not necessarily be limited to, a thorough evaluation of the following concerns:

A. A geotechnical engineer investigation and report is required before approval of the tentative map. At a minimum the investigation must address.

   1. Development of appropriate foundation design parameters.

2. The potential for liquefaction must be evaluated.

3. Slope stability at and adjacent the proposed homesite must be addressed. Appropriate setbacks from potentially problematic slopes must be specified by your geotechnical engineer, and must reflect site-specific geologic cross-sections to the north of the development envelope. If the cross-section demonstrates a potential for instability, or if the setback from the edge of steep slopes is less than 30 feet, then a quantitative slope stability analysis is required. The quantitative slope stability analysis must model the geologic cross section, assigning appropriate strengths to each geologic unit and should incorporate appropriate maximum probable pore pressure factors and seismic shaking ground motion parameters. The stability analysis must consider liquefaction/lateral spreading as well.

4. Septic system emplacement must not induce nor exacerbate slope instability. The location of the septic system must be approved by your geotechnical consultant. If the proposed septic location is proximal to slopes of questionable stability the location of the system should be re-evaluated in light of any slope stability concerns identified in this hazards assessment and the requisite geotechnical report.

B. Potentially problematic drainage at the development site must be addressed by an engineered drainage plan. The plan may be prepared at the time of the construction of the home.

C. The relief of the development envelope and access roadway must be better represented with a relief map. The surveyor must also assist in the development of a site specific topographic map.

PERMIT CONDITIONS

Permit conditions will be developed for your proposal after the technical report has been reviewed. At a minimum, however, you can expect to be required to follow all the recommendations contained in the report in addition to the following items:

I. Grading activities must be kept to a minimum. A grading permit is likely required as a part of the grading permit.

II. An engineered drainage plan is required for this project. The plan must reduce the impact of post development hydrologic conditions on slope stability, ground water recharge, and stream flow.

III. The recommendation of the geotechnical report will become conditions of the permit.

Final building plans submitted to the Planning Department will be checked to verify that the project is consistent with the conditions outlined above prior to issuance of a building permit. If you have any questions concerning these conditions, the hazards assessment, or geologic issues in general, please contact me at 454-3175. It should be noted that other planning issues not related specifically to geology may alter or modify your development proposal and/or its specific location.

Sincerely,

JOE HANNA
County Geologist
CEG #1313

Date

FOR: Kent Edler PE
Senior Civil Engineer

Enclosure(s)

cc: GHA File

ATTACHMENT 5

County of Santa Cruz, PLANNING DEPARTMENT

Discretionary Application Comments 131316

APN 108-291-09

Drainage Review

Routing No: 1 | Review Date: 12/09/2013

GERARDO VARGAS (GVARGAS) : Complete

Application No.: 131316 G_V 12/9/13

Completeness Comments:

Application is complete in regards to drainage.

Compliance Issues:

N/A

Permit Conditions:

1. All new development and redeployment project shall incorporate Best Management Practices (BMPs) to minimize the generation, transport and discharge of pollutants, to prevent excess of pre-development conditions, and to maintain pre-development groundwater recharge consistent with Ordinance 7.79. Interior remodel and maintenance and/or repair projects are specifically excluded from these requirements.

2. Medium Projects- Projects that add or replace between 500 square feet and 5,000 square feet of impervious area shall incorporate BMPs to minimize and mitigate pollutant and hydrologic impacts due to development. These BMPs shall include Low Impact Development (LID) measures that emphasize the minimization of impacts as a first priority consistent with General Plan Policy 7.23.2 for Minimizing Impervious Surfaces. Safe stormwater overflow shall be incorporated into the project design.

3. Projects are required to minimize impervious surfacing. This project is proposing an extensive paved driveway. The requirement to minimize impervious surfacing can be achieved by the use of porous pavement, pavers, or baserock etc.. where feasible.

4. A maintenance agreement may be required at the building application stage.

5. Upon approval of the project, a drainage "Hold" will be placed on the permit and will be cleared once the construction is complete and the stormwater management improvements are constructed per the approved plans: In order to clear the Hold, one of these options

ATTACHMENT 6

Drainage Review

Routing No: 1 | Review Date: 12/09/2013
GERARDO VARGAS (GVARGAS) : Complete

has to be exercised:
1. The civil engineer has to inspect the drainage improvements on the parcel and provide public works with a letter confirming that the work was completed per the plans. The civil engineer's letter shall be specific as to what got inspected whether invert elevations,
pipe sizing, the size of the mitigation features and all the relevant design features. Notes of "general conformance to plans" are not sufficient.
2. As-built plans stamped by the civil engineer may be submitted in lieu of the letter. The as-built stamp shall be placed on each sheet of the plans where stormwater management improvements were shown.
3. The civil engineer may review as-built plans completed by the contractor and provide the county with an approval letter of those plans, in lieu of the above two options. The contractor installing the drainage improvements will provide the civil engineer as-built
drawings of the drainage system, including construction materials, invert elevations, pipe sizing and any modifications to the horizontal or vertical alignment of the system. The as-built drawings, for each sheet showing drainage improvements and/or their construction details, must be identified with the stamp (or label affixed to the plan) stating the contractor's name, address, license and phone #. The civil engineer will review the as-built plans for conformance with the design drawings. Upon satisfaction of the civil engineer that the as-built plans meet the design intent and are adequate in detail, the civil engineer shall submit the as-built plans and a review letter, stamped by the civil engineer to the County Public Works Department for review to process the clearance of the drainage Hold if the submittal is satisfactory.

6. A drainage fee will be assessed on the net increase in impervious area. The fees are currently $1.14 per square foot, and are subject to increase based on the amount applicable at permit issuance date. Reduced fees (50%) are assessed for semi-pervious surfacing (such as gravel, base rock, paver blocks, porous pavement, etc.) to offset costs and encourage more extensive use of these materials.

Please call the Dept. of Public Works, Stormwater Management Section, from 8:00 am to 12:00 noon if you have questions.

Driveway/Encroachment Review

Routing No: 1 | Review Date: 11/25/2013
DAVID GARIBOTTI (DGARIBOTTI) : Not Required

Encroachments does not review land divisions.

ATTACHMENT 6

Environmental Health Review

Routing No: 1 | Review Date: 12/04/2013
JIM SAFRANEK (JSafranek) : Incomplete

The applicant's consultant will need to submit a revised sheet which illustrates to scale all existing septic systems and the location of preliminary septic testing conducted on parcel A.

Routing No: 2 | Review Date: 04/24/2014
JIM SAFRANEK (JSafranek) : Complete

Applicant's agent provided required onsite sewage disposal documents as previously requested. Project is now complete for EH.

Routing No: 3 | Review Date: 06/20/2014
ANNETTE OLSON (AOLSON) : Not Required

Environmental Planning

Routing No: 1 | Review Date: 12/04/2013
ROBERT LOVELAND (RLOVELAND) : Incomplete

Incompleteness Item:
1. The following items need to be staked in the field prior to completing site visit:
A. The 40' right of way.
B. The proposed driveway alignment coming off the right of way.
C. The "Proposed Building Envelope".
NOTE: Please contact me after the three items above have been completed and I will make a site visit.
2. A biotic report and biotic report review maybe required after a field visit is completed.
Conditions of Approval:
1. TBD after site inspection
NOTE TO PLANNER:
1. Joe Hanna will be completing the soils report review, and he will have the review letter and any conditions to you soon.

Routing No: 2 | Review Date: 04/25/2014
ROBERT LOVELAND (RLOVELAND) : Complete

Conditions of Approval:
1. Slope stability at and adjacent to the proposed homesite must be addressed. Appropriate setbacks from potentially problematic slopes must be specified by your geotechnical engineer, and must reflect site-specific geologic cross-sections to the north of the development envelope. If the cross-section demonstrates a potential for instability, or if the setback from the edge of steep slopes is less than 30 feet, then a quantitative slope stability analysis is required. The quantitative slope stability analysis must model the geologic cross section, assigning appropriate strengths to each geologic unit and should incorporate appropriate maximum probable pore pressure factors and

ATTACHMENT 6

Environmental Planning

Routing No: 2 | Review Date: 04/25/2014
ROBERT LOVELAND (RLOVELAND) : Complete

seismic shaking ground motion parameters. The stability analysis must consider liquefaction/lateral spreading as well.

2. Prior to building permit issuance a *plan review letter* shall be submitted to Environmental Planning. After plans are prepared that are acceptable to all reviewing agencies, please submit a geotechnical plan review letter that states the project plans conform to the recommendations of the geotechnical report. Please note that the plan review letter must reference the final plan set by last revision date. The author of the report shall write the plan review letter.

3. Submit a grading/drainage plan completed by a licensed civil engineer for review and approval.

4. The home/driveway proposed on the newly created parcel shall minimize grading and tree removal. The use of stepped foundations and retaining walls shall be incorporated in place of mass grading activities.

Routing No: 3 | Review Date: 06/20/2014
ANNETTE OLSON (AOLSON) : Not Required

Fire Review

Routing No: 1 | Review Date: 11/19/2013
COLLEEN BAXTER (CBAXTER) : Complete

Pajaro Valley Fire Protection District
562 Casserly Road, Watsonville, CA 95076
Telephone: (831) 722-6188 Fax: (831) 722-3722

Date: 11/19/13

Planning Department
County of Santa Cruz

ATTACHMENT 6

County of Santa Cruz, PLANNING DEPARTMENT

Discretionary Application Comments 131316

APN 108-291-09

Fire Review

Routing No: 1 | Review Date: 11/19/2013

COLLEEN BAXTER (CBAXTER) : Complete

Attention: ANNETTE OLSON
701 Ocean Street
Santa Cruz, CA 95060

Subject: APN: 108-291-09 / Appl # 131316
Address

Dear Name:

The Santa Cruz County Fire Marshals Office has reviewed the plans for the above cited project and has no objections as presented.

- Any other requirements will be addressed in the Building Permit phase.

- Plan check is based upon plans submitted to this office. Any changes or alterations shall be re-submitted for review prior to construction.

NOTE on the plans "the job copies of the building and fire systems plans and permits must be on-site during inspections."

Note: As a condition of submittal of these plans, the submitter, designer and installer certify that these plans and details comply with applicable Specifications, Standards, Codes and Ordinances, agree that they are solely responsible for compliance with 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 reviewer and reviewing agency.

Should you have any additional concerns, you may contact our office at (831) 335-6748.

Project Review

Routing No: 1 | Review Date: 12/13/2013

ANNETTE OLSON (AOLSON) : Incomplete

ATTACHMENT 6

County of Santa Cruz, PLANNING DEPARTMENT

Discretionary Application Comments 131316

APN 108-291-09

Project Review

Routing No: 1 | Review Date: 12/13/2013
ANNETTE OLSON (AOLSON) : Incomplete

See letter in file.

Routing No: 2 | Review Date: 06/20/2014
ANNETTE OLSON (AOLSON) : Complete

Routing No: 3 | Review Date: 06/20/2014
ANNETTE OLSON (AOLSON) : Not Required

Road Engineering Review

Routing No: 1 | Review Date: 12/05/2013
RODOLFO RIVAS (RRIVAS) : Incomplete

Completeness Comments:

1) Please provide the following information for the driveway serving parcel "A": structural section, cross section and center line profile.

2) In order to review access to parcel "A', show on project plans a detail for the intersection of Blake Road and driveway for parcel "A". The width of the driveway serving parcel "A" at the intersection with Blake Road should accommodate simultaneous vehicular ingress and egress.

Permit Conditions and Additional Information:

1) The driveways serving parcel "A" should meet local fire department requirements regarding width, and vehicular turn around and turnout.

Routing No: 2 | Review Date: 05/07/2014
RODOLFO RIVAS (RRIVAS) : Complete

Completeness Comments:

Policy Consideration / Compliance:

1) In order TO accommodate simultaneous vehicular ingress and egress, the access driveway at the intersection with Blake Avenue should be improved to a width of 18 feet for a distance of 25 feet. Additionally, the remainder of the access driveway should have a minimum width of 12'. These requirements can be addressed prior to map recordation.

Permit Conditions and Additional Information:

ATTACHMENT 6

Discretionary Application Comments 131316

APN 108-291-09

Road Engineering Review

Routing No: 3 | Review Date: 06/20/2014

ANNETTE OLSON (AOLSON) : Not Required

Surveyor Review

Routing No: 1 | Review Date: 12/10/2013

ANNETTE OLSON (AOLSON) : Complete

ATTACHMENT 6

Roper Engineering
Civil Engineering & Land Surveying
64 Penny Lane, Suite A - Watsonville, CA 95076-6021
(831) 724-5300 phone
(831) 724-5509 fax
jeff@roperengineering.com e-mail

Jeff A. Roper
Civil Engineer & Land Surveyor
RCE 41081
PLS 5180

Lisa Burgstrom
525 Blakeridge Lane
Corralitos, CA 95076

October 2, 2013

Re: Minor Land Division on Blake Avenue, Corralitos
Our Job No. 12044, APN 108-291-09

Dear Mrs. Burgstrom,

Per your request, we have reviewed the existing drainage in the vicinity of the new Parcel A proposed for the above referenced minor land division. Below is an itemization of what was observed and recommendations for future residential development of the parcel.

Existing Site Conditions

Our site visit was made on October 2, 2013. The area of the proposed building envelope as shown on the Tentative Map by Mid Coast Engineers dated Sept. 7, 2012 is relatively flat. This building envelope is located on a gentle ridge running east-west so very little drainage is expected to run on to the envelope from upstream. The building envelope has oak trees and grass. On the north side of the building envelope is a redwood tree covered moderate slope. On the south side of the building envelope is an oak and grass covered gentle slope.

The northern portion of the drainage from the ridge drains north through the redwood covered slope to the 30' wide right of way where it crosses a driveway and enters a well defined earth drainage swale. This swale travels east along the driveway and Blake Avenue until reaching a concrete lined channel and a 48" corrugated metal pipe culvert running south under Blake Avenue. This drainage continues in a concrete lined channel to the south.

The southern portion of the drainage from the ridge drains south through an oak and grass covered gentle slope until it reaches an earth swale along an existing paved driveway. The drainage then runs northeast along this driveway until it reaches Blake Avenue where it enters two 10" steel pipe culverts running under the driveway towards the south. The drainage then runs south along the west side of Blake avenue is an well defined earth swale.

Recommendations

Minor grading is expected for the construction of the approximately 150' driveway and building pad. We recommend that drainage from this development be spread out on the project site landscape areas to approximate the existing drainage patterns. Concentrated runoff on the steeper slopes should be avoided. Drainage from the new driveway could be directed to the existing earth swale along the driveway that it intersects. The existing earth swale along the driveway and the two steel culverts should be cleaned of debris and leaves periodically. Drainage from the existing residence further up the driveway is intercepted by a 12" reinforced concrete pipe culvert just upstream from where the new driveway will tie in. This 12" culvert drains the runoff from the upstream driveway drainage to the southwest.

Conclusion

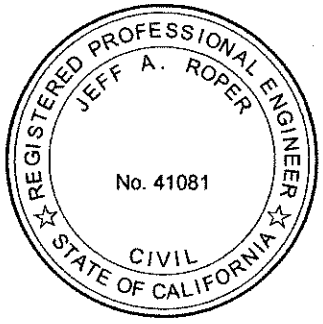
We believe that Parcel A is suitable for residential development. There is adequate area surrounding the building envelope to mitigate drainage impacts from new impervious surfaces. We did not observe any drainage problems downstream from the project site.

Please give me a call if you have further questions.

Sincerely,

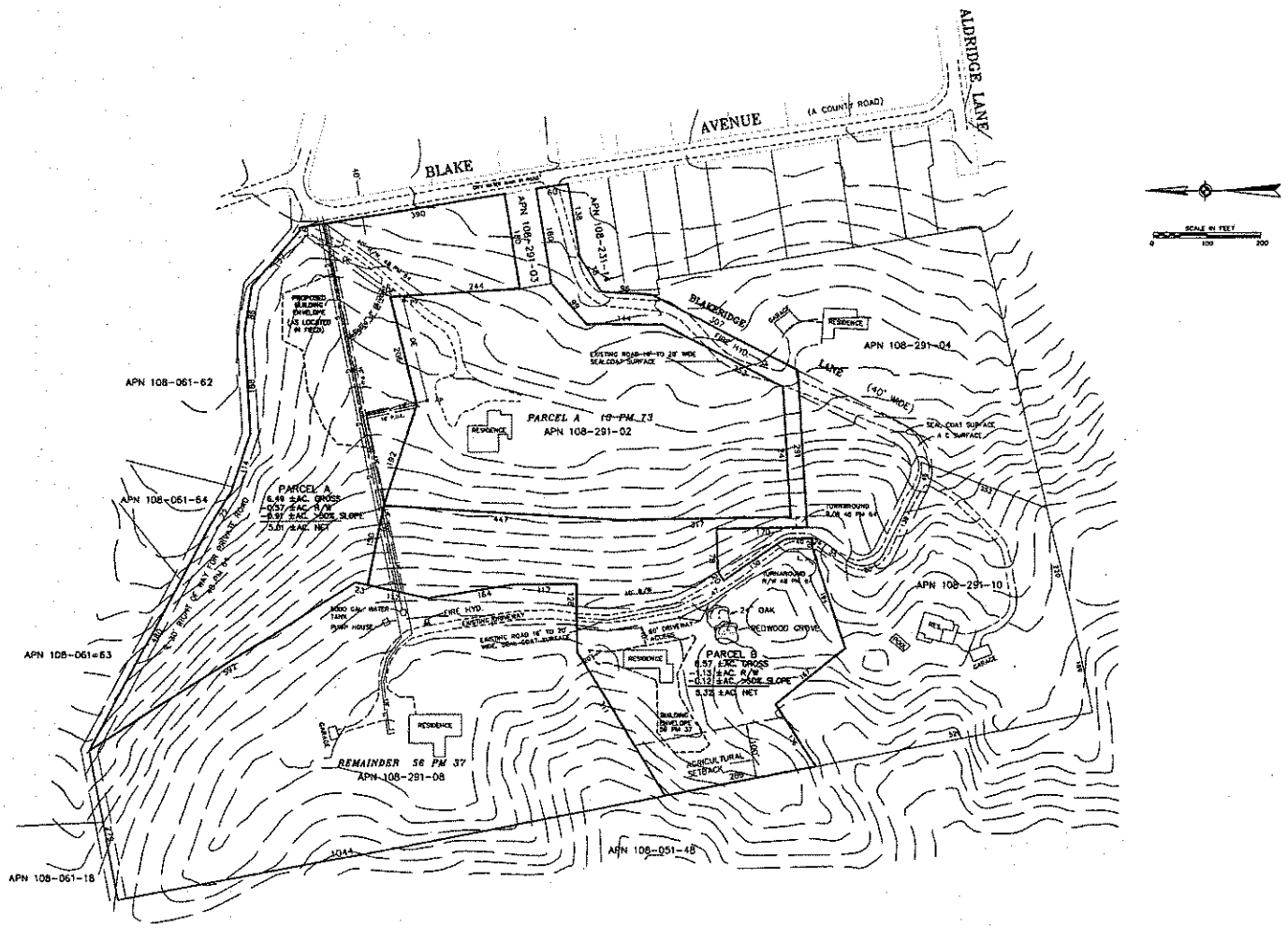
Jeff Roper

Jeff Roper



ATTACHMENT 7 1

ATTACHMENT 4



ACREAGE CALCULATIONS

PROPOSED	GROSS	RIGHTS OF WAY	50% SLOPE	NET
PARCEL A	6.49 ACRES	0.57 ACRES	0.91 ACRES	5.01 ACRES
PARCEL B	6.57 ACRES	1.13 ACRES	0.12 ACRES	5.32 ACRES
TOTAL:	13.06 ACRES	1.70 ACRES	1.03 ACRES	10.33 ACRES

LEGEND

OE OVERHEAD ELECTRIC
UE UNDERGROUND ELECTRIC
W WATER LINE
G GAS LINE

NOTES:

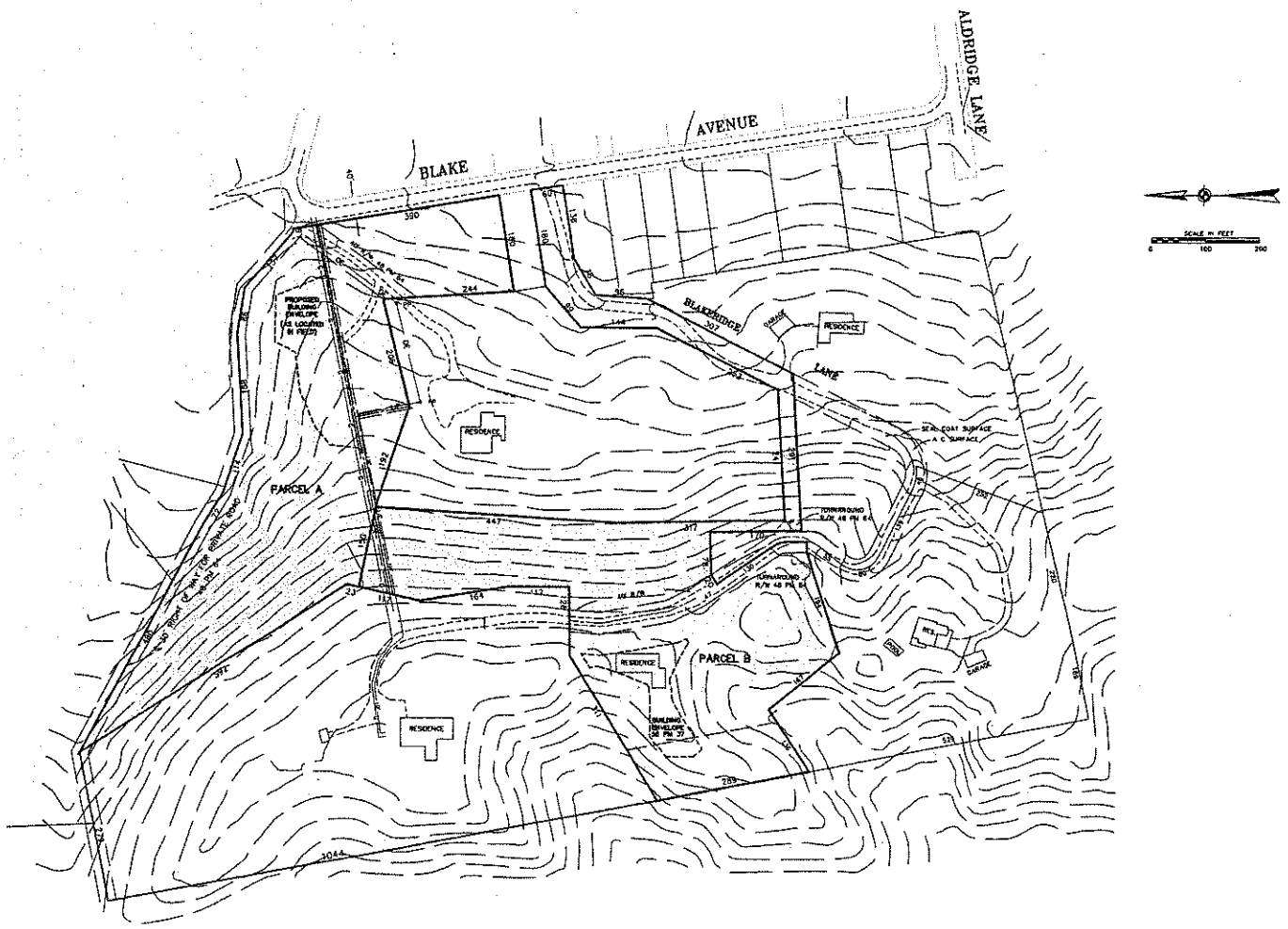
1. OWNER: LISA J. BURGSTROM
   525 BLAKERIDGE LANE
   WATSONVILLE, CA 95076
2. EXISTING USE: RURAL RESIDENTIAL
   PROPOSED USE: RURAL RESIDENTIAL
3. EXISTING ZONING: RA
   PROPOSED ZONING: RA
4. EXISTING GENERAL PLAN: R-R
5. CONTOUR INTERVAL IS 10'. TOPOGRAPHIC DATA IS BASED ON SANTA CRUZ COUNTY GIS COUNTY WIDE CONTOURS.

MID COAST ENGINEERS
CIVIL ENGINEERS AND LAND SURVEYORS
70 PENNY LANE, SUITE A WATSONVILLE, CA 95076 - (831) 724-2580

TENTATIVE MAP FOR
LISA J. BURGSTROM
APN 108-291-09 CALIFORNIA
SANTA CRUZ COUNTY

MINOR LAND DIVISION

SCALE:	1" = 100'
DESIGNED BY:	LV
DRAWN BY:	MP430
DATE:	SEPT. 7, 2012
REVISED:	
JOB NO.:	12085
SHEET	1
OF	2 SHEETS



SLOPE DENSITY ANALYSIS

- AREAS BETWEEN 0% & 15% SLOPE
- AREAS BETWEEN 15% & 30% SLOPE
- AREAS BETWEEN 30% & 50% SLOPE
- AREAS OF 50% SLOPE OR GREATER

SLOPE TABLE

PARCELS	0% - 15%	15% - 30%	30% - 50%	> 50%
PARCEL A	0.69 AC	2.55 AC	2.34 AC	0.91 AC
PARCEL B	1.32 AC	1.58 AC	3.56 AC	0.12 AC
TOTAL	2.01 AC	4.13 AC	5.90 AC	1.03 AC

NOTE

SLOPE CALCULATIONS WERE GENERATED USING AUTODESK LAND DESKTOP 2006 FROM TOPOGRAPHIC MAPPING SHOWN ON THE COUNTY OF SANTA CRUZ GIS WEBSITE. COUNTY WIDE CONTOURS. CONTOUR INTERVAL = 10'.

MID COAST ENGINEERS
CIVIL ENGINEERS AND LAND SURVEYORS
70 PENNY LANE, SUITE A WATSONVILLE, CA 95076 - (831) 724-2580

TENTATIVE MAP FOR
LISA J. BURGSTROM
APN 108-291-09 SANTA CRUZ COUNTY CALIFORNIA

SLOPE MAP

SCALE:	1" = 100'
DESIGNED BY:	LV
DRAWN BY:	LH
DATE:	SEPT. 7, 2012
REVISED:	
JOB NO.:	12065
SHEET	2
OF	2 SHEETS

ATTACHMENT 2

CITY OF WATSONVILLE

Opportunity through diversity unity through cooperation

March 5, 2013

Lisa J. Burgstrom, Trustee
525 Blakeridge Lane
Watsonville, CA 95076

SUBJECT: WATER AVAILABILITY FOR PROPOSED SUBDIVISION AT 525 BLAKERIDGE LANE

Dear Ms. Burgstrom:

At its February 26, 2013 meeting the City Council adopted a resolution approving the issuance of a water availability letter for a new residence proposed as part of 2 lot subdivision located at 525 Blakeridge Lane located in Corralitos. Your new water service will be furnished provided you perform the following:

1. The new residence will be permitted and an address assigned by the County of Santa Cruz;

2. Secure an extraterritorial utility service permit for the new water service from Santa County Local Area Formation Committee:

3. Sign a water service application prepared by City staff. Pay all the fees including application fee, connection fee, water construction fee and ground water impact fee.

Please contact me at 831-768-3076 if you have any questions.

Sincerely,

Tom Sharp
Senior Engineering Associate

Cc: Charlie Eadie, Hamilton Swift and Associates

ECOSYSTEMS WEST
CONSULTING GROUP

February 12, 2015

Matt Johnston
Environmental Planner
County of Santa Cruz Planning Dept
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

Subject: Review of Burgstrom Property Oak Woodland Mitigation Plan

Dear Matt,

This letter reports our review of the Oak Woodland Mitigation Plan for the Burgstrom Property-Minor Land Division (APN 108-291-09) located near the intersection of Hames Road and Blake Avenue in Corralitos, California. A biological assessment or focused special status plant and wildlife surveys were not completed for the property. However, a site suitability assessment based on factors including zoning, setbacks, septic suitability and slopes was completed in 2013 by BioSphere Consulting. This report was not reviewed by EcoSystems West.

The property owner is attempting to subdivide an existing 16 acre parcel and develop and single family residence in a 13,000 square foot "suitable development area" that includes the building envelope and septic leach line. The preliminary layout of a driveway encompasses 1,680 square feet (140 ft x 12 ft) and enters the center of portion of the suitable development area from the east.

A site visit was made by Justin Davilla and Bill Davilla of EcoSystems West on 27 January 2015. The objective of the site visit was to orient the reviewers to the biotic resources, including plant community types, and the approximate building envelope of the parcel.

BIOTIC RESOURCES AND PLANT COMMUNITIES

A biotic assessment and/or focused biotic report have not been completed for the property. Typically, a parcel with designated sensitive habitat (live oak woodland) requires an evaluation of biological resources on the property prior to the development of a mitigation and monitoring program for project related impacts. These reports characterize the biotic resources of the property including the potential for special-status plant and wildlife species, wetlands and other waters, and sensitive habitats/plant community types. These documents often include recommendations for avoidance and/or mitigation for impacts to protected biological resources. In some instances, the project may be redesigned to minimize or avoid impacts.

The Oak Woodland Mitigation Plan maps plant communities occurring on the property and potential impacts that may occur as a result of development of a single family residence (Figure 1). Plant communities listed included oak woodland, mixed evergreen forest, coast redwood

819½ Pacific Avenue, Suite 4, Santa Cruz, CA 95060
Phone: 831-429-6730 * Fax: 831-429-8742

ATTACHMENT 9

forest, chaparral, acacia/pine groves, and pine grove. Only oak woodland was described in terms of dominant species and common associates. Moreover, the author did not entirely adhere to recognized plant community/habitat type descriptions in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1984) or *A Manual of California Vegetation* (Sawyer Keeler-Wolf 2009). As a result, several of the plant community types lack standardized nomenclature, which may make it difficult to gauge whether these are dominated by native plants or may support special-status species. For example, "pine grove" does not clearly specify which species of pine(s) occur in this community type or whether common associates in this community are native. Nevertheless, after our field visit, we concur that the community types as described generally occur in the locations shown in Figure 1. We also concur that designated oak woodland on the property is properly subdivided into "prime oak woodland" and "degraded oak woodland" categories with the latter consisting of a mosaic of native coast live oak as well as non-native acacia, Monterey pine and cotoneaster, an invasive arboreal shrub.

OAK WOODLAND CONCEPTUAL MITIGATION AND MONITORING PLAN

As currently proposed, the majority of the building envelope and septic leach field occurs with prime oak woodland, and the driveway is located in degraded oak woodland. The County of Santa Cruz Sensitive Habitat Ordinance requires landowners to avoid, minimize, and if necessary, compensate for impacts to "live oak" woodland. Where impacts are unavoidable, the property owner shall mitigate significant environmental impacts, as determined by the County Environmental Coordinator which may include 1) dedication of an open space or conservation easement or an equivalent measure shall be required as necessary to protect the portion of a sensitive habitat which is undisturbed by the proposed development activity or to protect a sensitive habitat on an adjacent parcel, and/or 2) restoration of any area which is a degraded sensitive habitat or has caused or is causing the degradation of a sensitive habitat shall be required; provided, that any restoration required shall be commensurate with the scale of the proposed development. The property owner has selected the latter option for this project.

The Oak Woodland Mitigation Plan for the Burgstrom Property is essentially a conceptual plan lacking specificity because the landowner has not finalized development plans for the driveway, building envelope, and leach field. However, the author provides a detailed worksheet (Table 2) to determine the actual amount of oak woodland mitigation required once plans are finalized and the construction begins. This "decision tree" worksheet determines the type and extent of mitigation to occur in both the degraded and prime oak woodland areas. The Plan also includes methods for invasive species removal, native species revegetation, annual monitoring and success criteria, best management practices (BMPs), and fire management strategies per CalFire requirements. These sections are clearly written and provide a good framework for mitigation and monitoring of impacted oak woodland on the property.

CONCLUSION AND RECOMMENDATIONS

It is our opinion that a full biotic assessment/report should be completed for the property to determine the potential for special-status species, and clarify the type and extent of plant communities on the property and to further provide a site specific prescription for the impacted portions of the property. Ideally, the assessment should be timed to coincide with the blooming period for special-status plant with potential to occur in the vicinity of the property. The assessment should also identify potential wildlife habitat including dusky footed woodrat

sticknests (observed during site visit), breeding bird nests, and bat maternity roosts. If special-status plants or wildlife are observed on the property, additional mitigation measures or BMPs may be required to avoid significant impacts to these resources during construction of the home and accessory facilities and after occupation of the residence. A landscape plan should also be developed that reintroduces native plants and plants that are compatible with the adjacent retained landscape. We did not observe any potential wetlands or other waters of the U.S. during our site visit so a formal wetland delineation is likely unnecessary for the property.

Once development plans are finalized, a detailed evaluation of impacts to oak woodland using Table 2 in the Oak Woodland Mitigation Plan should determine the area of impacts, number of oaks greater than 4 inches DBH to be removed, area and extent of mitigation including replacement oaks, invasive species removal, and revegetation of degraded areas with native species included in Table 4. In general, the monitoring methodology and performance criteria are acceptable for the scope of the mitigation efforts for this property. However, a more detailed explanation of the rationale for monitoring vegetative cover using the point-intercept method along permanent transects may be warranted. In general, point-intercept may not be the best technique for monitoring oak woodland understory due the high percentage of bare ground in this strata and natural spatial heterogeneity of understory plants. A belt-transect, or use of one square-meter quadrats along permanent transects may provide a better measure of native species richness and abundance in restored and enhanced areas.

If you have any question or comments regarding this review, please do not hesitate to contact me at your earliest convenience.

Sincerely,

Justin Davilla
Plant Ecologist, EcoSystems West

BURGSTROM PROPERTY – MINOR LAND DIVISION
APN 108-291-09

MITIGATION PLAN
Updated April 28, 2015

ATTACHMENT 10

Biotic Resources Group
Biotic Assessments • Resource Management • Permitting

BURGSTROM PROPERTY – MINOR LAND DIVISION
APN 108-291-09

MITIGATION PLAN

Prepared for:

Hamilton Swift & Associates
Attn: Charlie Eadie

Prepared by:

Biotic Resources Group
Kathleen Lyons

Updated April 28, 2015

2551 S. Rodeo Gulch Road Soquel California • (831) 476-4803 • brg@cruzio.com

ATTACHMENT 10

BURGSTROM PROPERTY –MITIGATION PLAN

April 28, 2015

1.0 INTRODUCTION

This Mitigation Plan was prepared for a proposed minor land division (MLD) of APN 108-291-09, located in the Corralitos area of Santa Cruz County. The property is located west of Blake Avenue; site access is approximately 500 feet west of the intersection of Hames Road and Blake Avenue. The Mitigation Plan sets forth a strategy for how development on the new MLD-created parcel (Parcel) will avoid, minimize, and mitigation for impacts to oak woodland and other sensitive biological resources (if present), as per the County's Sensitive Habitat Ordinance.

A draft Oak Woodland Mitigation Plan was prepared and submitted to the County of Santa Cruz in December 2014. Following review by the County (letter dated February 17, 2015 and email dated March 9, 2015 from Matt Johnston, Environmental Planning), the Oak Woodland Plan was expanded to require a biological assessment be prepared for the parcel. The biological assessment is required to be prepared prior to site disturbance; the assessment will be used to ascertain the presence of sensitive plant or animal species. The assessment will also identify measures to avoid or minimize impacts to such resources (if present). Additionally, the County requested that native plant species, documented as part of the biological assessment, be incorporated into the oak woodland restoration plan and into the residential landscape plan.

The Mitigation Plan incorporates requirements for a fire management area as per current Cal Fire requirements. Implementation of the Mitigation Plan (including preparation of a biological assessment) is a condition of approval for the MLD and any proposed development on the created Parcel.

2.0 DISTRIBUTION OF PLANT COMMUNITY TYPES

The general extent of plant community types on the Parcel was mapped in November 2014. The Parcel was found to support six plant community types: mixed evergreen woodland, coast redwood forest, chaparral, acacia/pine groves, pine grove, and oak woodland. The distribution of these community types is depicted on Figure 1. The biological assessment will provide additional documentation of sensitive biological resources (in addition to oak woodland) and will identify whether any special status plant or animal species occur on the Parcel. The Mitigation Plan requires that measures identified to avoid, minimize, or compensate for impacts to species status plant or animal species be implemented and incorporated into the reporting requirements as specified in the Mitigation Plan.

2.1 Oak Woodland

The mapping distinguished two types of oak woodland: prime oak woodland and degraded oak woodland. The prime oak woodland supports a dense woodland of coast live oak (*Quercus agrifolia)*, with a predominantly native plant understory. Understory plants include California blackberry *(Rubus ursinus*), coffee berry (*Frangula californica)*, poison oak (*Toxicodendron diversilobum)*, and hairy honeysuckle (*Lonicera hispidula)*. There are scattered occurrences of cotoneaster (*Cotoneaster sp.),* an invasive, non-native plant species. The areas mapped as degraded oak woodland are a mosaic of native oaks and two

non-native tree species: acacia (*Acacia sp.)* and Monterey pine (*Pinus radiata)*. The understory is dense with cotoneaster. Cover by invasive, non-native species ranges from 20% to over 75%. Areas mapped as oak woodland and degraded oak woodland meet the definition of sensitive habitat under County Code.

2.2 Other Habitats

The Parcel supports mixed evergreen woodland, coast redwood forest, chaparral, acacia/pine groves, and a pine grove. A detailed documentation of these other plant community types was not conducted as part of this Mitigation Plan; however, such resources will be identified as part of the required biological assessment. The biological assessment will be prepared for the parcel as per the County's draft report guidelines (*Draft Guidelines for Biological Resources Assessments and Related Documents*, County of Santa Cruz Planning Department, dated April 20, 2012).

2.3 Special Status Plant and Animal Species

Documentation of special status plant or animal species within the Parcel was not conducted as part of this Mitigation Plan; however, such resources will be identified as part of the required biological assessment. The parcel will be evaluated for the presence of plant species officially listed by the State and/or Federal government and CNPS List 1B. Special status wildlife species will include those listed, proposed or candidate species by the Federal or the State resource agencies, as well as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Game Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act.

3.0 DESIGNATION OF SUITABLE DEVELOPMENT AREA AND ACCESS ROAD

A "suitable development area" and access to the area has been identified on the Parcel based on several factors (e.g., zoning, setbacks, septic suitability, and slopes) (BioSphere Consulting, 2013). The "suitable development area encompasses approximately 13,000 square feet (0.30 acre) and is located within the central portion of the Parcel, as shown by the green and red outlined areas on Figure 2. Development features that are to be located in the "suitable development area" include (A) Building envelope and (B) Septic leach line.

The preliminary layout of an access road is approximately 140-foot long and 12-foot wide (driveway) and encompasses approximately 1,680 square feet. The site evaluation depicts the access road entering the central portion of the "suitable development area" (BioSphere Consulting, 2013), as depicted on Figure 2 as (C) Access road.

As currently proposed, almost all of the "suitable development area" occurs within areas mapped as prime oak woodland; the proposed access road is located within degraded oak woodland (see overlay of "suitable development area" on Figure 1). Pursuant to the County's Sensitive Habitat Ordinance, development will be required to avoid, minimize, and if necessary, compensate for impacts to prime and degraded oak woodland. When the landowner submits a building plan to the County for a Building Permit and Grading permit (if required), the County will review the plan as to the proposed location of (A) development envelope, (B) septic leach line, and (C) access road.

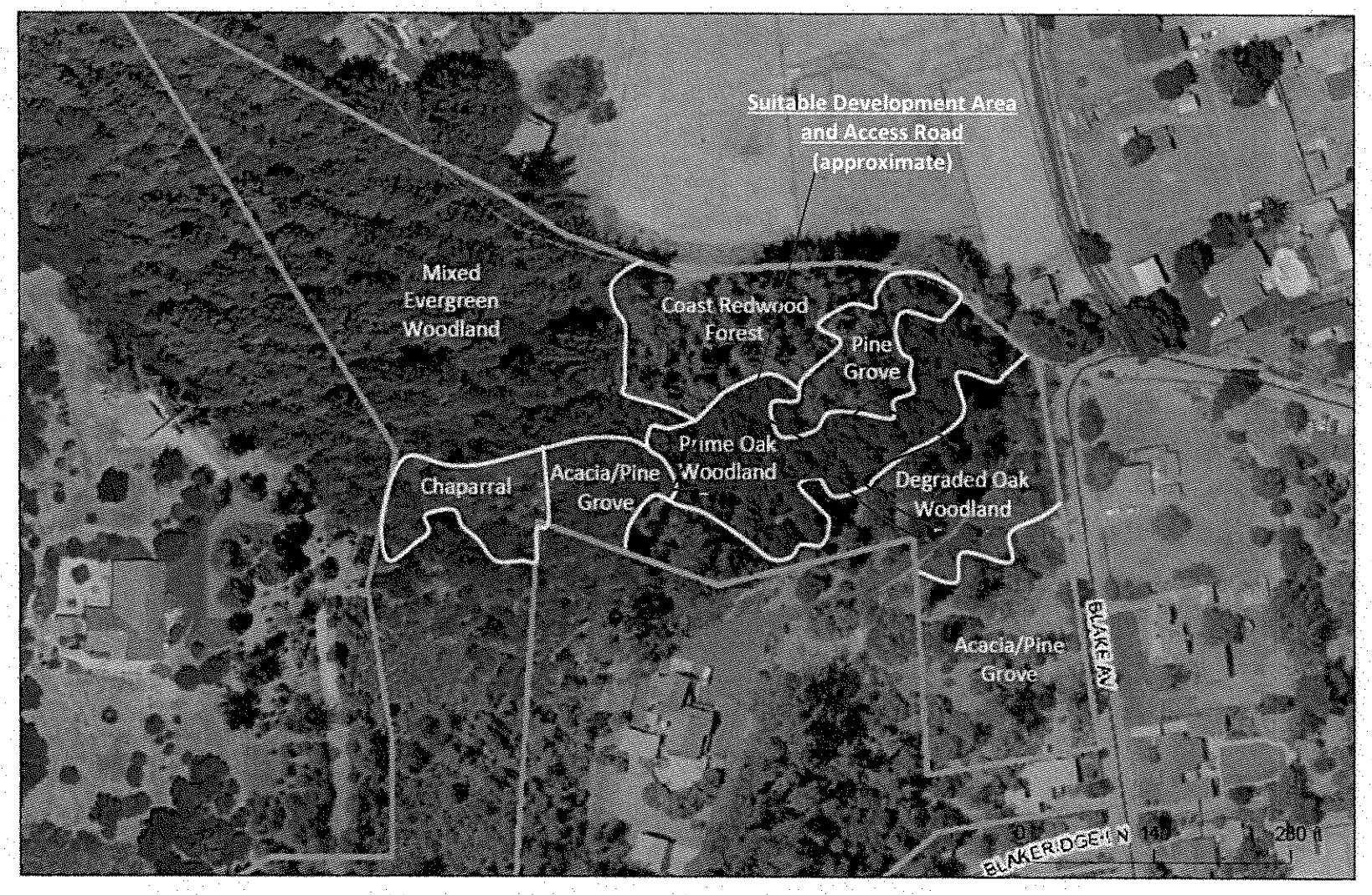


Figure 1. Distribution of Plant Community Types

ATTACHMENT 10

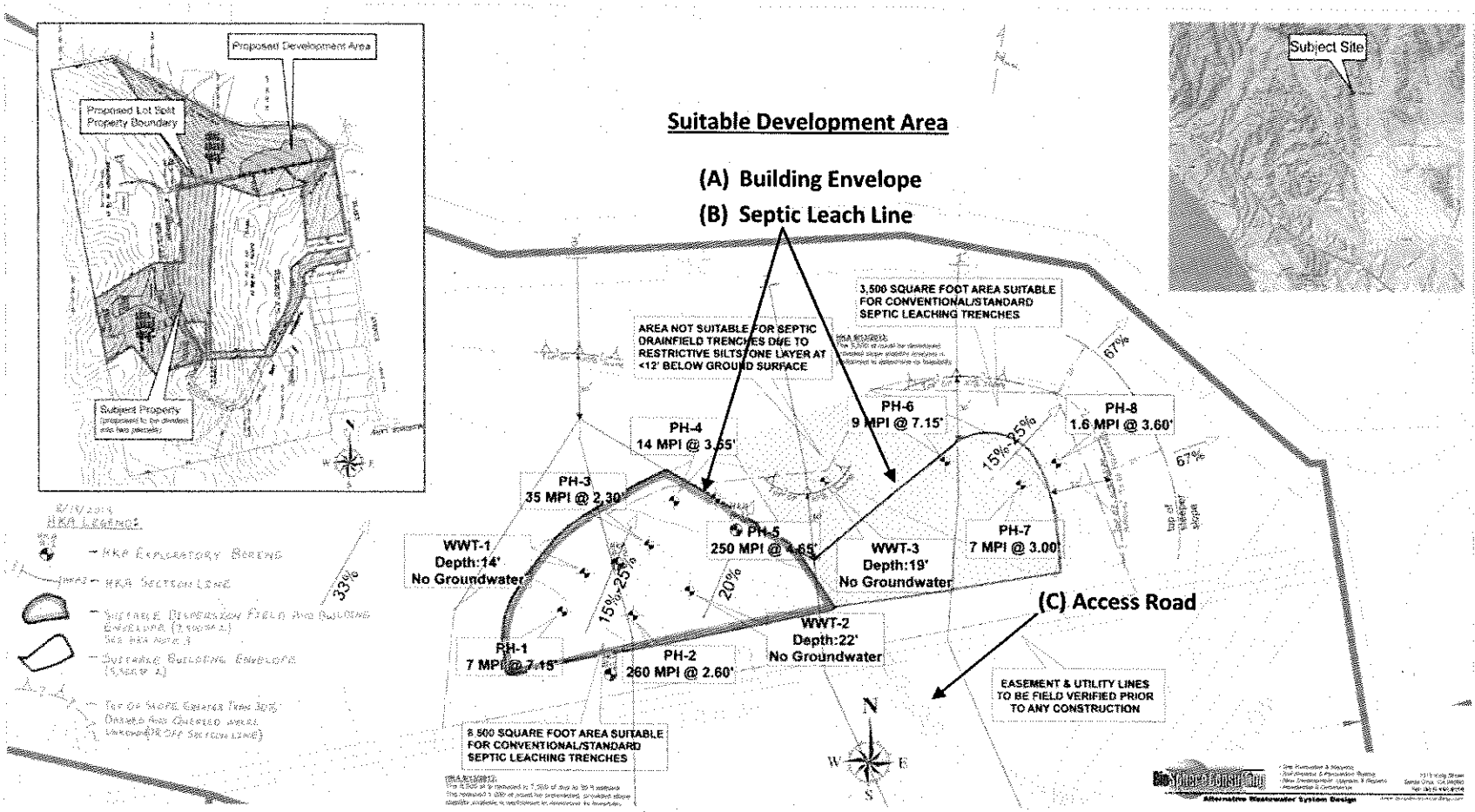


Figure 2. Location of Suitable Development Area and Access Road

ATTACHMENT 10

The County Sensitive Habitat Ordinance requires landowners avoid impacts to sensitive habitat wherever feasible. The site suitability analysis depicts almost all of the residential development within oak woodland as shown on Figure 1. There may be slight variations in this assessment pending more detailed site surveying of the limits of the oak woodland and the final building envelope and attendant features; however, where such features occur within mapped prime or degraded oak woodland mitigation actions will be required. Habitat compensation for development within prime and degraded oak woodland will require:

- 3:1 enhancement to impact ratio for impacts to prime oak woodland
- 1:1 enhancement to impact ratio for impacts to degraded oak woodland
- Tree replacement for oak trees removed at 2:1 replacement ratio; oak tree plantings to occur within designated oak woodland mitigation area(s)
- Mitigation is allowed within areas mapped as degraded oak woodland, acacia/pine grove, or pine grove. Mitigation will include removal of invasive, non-native plant species, replanting of oak trees, and implementing long-term maintenance and monitoring of the designated mitigation area(s), and
- Implementation of best management practices (BMPs) prior to and during construction within oak woodland.

Although it is not anticipated that all of the "suitable development area" will be developed for the actual building location and septic system, Table 1 outlines the theoretical maximum potential of impact to oak woodland and the required mitigation.

Table 1. Required Mitigation based on Maximum Use of Suitable Development Area and Access Road

	Impact to Prime Oak Woodland	Impact to Degraded Oak Woodland	Mitigation
(A) Building Envelope and (B) Septic Leach Line	13,000 sq. ft. (0.30 acre)*	0	39,000 sq. ft (0.9 acre)*
(C) Access Road	0	1,680 sq. ft. (0.04 acre)*	1,680 sq. ft. (0.04 acre)*
Total	13,000 sq. ft. (0.30 acre)*	1,680 sq. ft. (0.04 acre)*	**40,680 sq. ft. (0.94 acre)***

* based on "suitable development area, as presented by BioSphere, 2013

3.1 Designation of Oak Woodland Mitigation Area(s)

Once the landowner develops detailed plans for the access road, building envelope and septic system and submits these plans to the County for permitting, a more detailed evaluation of oak woodland impacts and mitigation requirements will be conducted. Table 2 is a worksheet to determine the actual amount of oak woodland mitigation required for development on the parcel once the detailed site plans are prepared. The worksheet provides information on how to calculate the amount of area needed for mitigation and whether BMP's are required during construction. Oak woodland mitigation actions are described in Sections 4.0 and 5.0.

TABLE 2. OAK WOODLAND MITIGATION WORKSHEET

STEP 1. **Designate (A) Building Envelope, (B) Septic Leach Line, (C) Access Road, and (D) Fire Management Area**

STEP 2. Is portion of (A), (B), or (C) in Prime Oak Woodland?

If **NO** Go to **STEP 3.**

If YES, implement **Step 2.1**

STEP 2.1 **Designate Mitigation Area(s) for Impacts to Prime Oak Woodland**

Calculate area (square feet) of impact to Prime Oak Woodland. Designate mitigation area(s) to achieve 3:1 mitigation to impact ratio.

Go to **STEPS 3, 4, 5, and 6.**

STEP 3. Is portion of (A), (B), or (C) in Degraded Oak Woodland?

If **NO** Go to **STEP 6.**

If **YES**, implement **Step 3.1**

STEP 3.1 **Designate Mitigation Area(s) for Impacts to Degraded Oak Woodland**

Calculate area (square feet) of impact. Designate mitigation area(s) to achieve 1:1 mitigation to impact ratio. Go to **STEPS 4, 5, and 6.**

STEP 4. **Implement Construction Period BMPs**

4.1 Install tree protection fencing prior to construction.

4.2 Implement BMPs during trenching to minimize root disturbance.

STEP 5. **Implement Oak Woodland Mitigation in Designated Area(s)**

5.1 Remove invasive, non-native plant species.

5.2 Calculate tree removal; provide oak tree replacement for oak trees greater than 4" in diameter at 2:1 ratio; monitor for 7 years.

5.3. Revegetate degraded areas and allow natural regeneration of oak woodland plant species.

5.4 Monitor mitigation area(s) yearly for 7 years; submit annual reports to County on yearly basis.

STEP 6. Is portion of (D) in Prime or Degraded Oak Woodland?

If **NO** No additional actions required.

If **YES**, implement **Step 7**

STEP 7. **Implement BMPs for Fire Management in Oak Woodland**

7.1 Identify and mark the limit of 100'defensible space from residence and structures.

7.2 Thin vegetation as required by CDF, remove invasive, non-native plant species first; avoid removing mature oak trees.

Mitigation Requirements

Mitigation Area Needed for Prime OW
_____ sq. ft.

Mitigation Area Needed for Degraded OW
_____ sq. ft

Total Mitigation Area
_____ sq. ft

ATTACHMENT 10

Residential development will also require the establishment of a fire management area around structures. This management area measures 100-feet outward of all structures. If the fire management area is located in oak woodland, best management practices (BMPs) will be required while implementing fire management as per current Cal Fire requirements. These BMPs are described in Section 6.0. The fire management area does not count as disturbed are under the County's Sensitive Habitat Ordinance and oak woodland replacement/mitigation is not required.

3.2 Designation of Special Status Species Avoidance, Minimization or Mitigation Actions

A biological assessment will be prepared for the parcel to ascertain the presence of sensitive species and to identify measures to avoid or minimize impacts to such resources. The assessment will be conducted prior to the landowner's submittal of house plans to the County and the assessment will be subject to review and approval by the County Planning Department. The assessment will identify the presence/absence of special status plant and animal species based on field observations and habitat suitability indexes/evaluation. If special status species are found on the Parcel measures will be identified in the biological assessment to avoid, minimize, or compensate for such impacts. The development plan will incorporate these actions such that impacts to special status species are deemed to be less than significant. Mitigation measures may include scheduling vegetation removal to occur outside the bird nesting season, implementing measures to avoid impacts to special status tree-roosting bats, avoiding or relocating dens occupied by the San Francisco dusky-footed woodrat, or avoiding special status plant species occurrences. The County environmental review document for the MLD has identified specific mitigation measures that shall be implemented should special status bats, the San Francisco dusky –footed woodrat, or nesting birds are documented in the biotic assessment.

Table 3 is a worksheet to determine whether measures are required to avoid, minimize or provide compensation for special status plant or animal species based on the results of the biological assessment and the biologist's review of detailed site plans.

TABLE 3. SPECIAL STATUS SPECIES AVOIDANCE, MINIMIZATION AND MITIGATION WORKSHEET

STEP 1.	**Conduct Biological Assessment**	
STEP 2.	Are Special Status Species Present?	
	If **YES**, implement **Step 3**	If **NO** No additional actions required.
STEP 3.	Are Special Status Species in (A) Building Envelope, (B) Septic Leach Line, (C) Access Road, or (D) Fire Management Area?	
	If **YES**, implement **Step 3.1**	If **NO** No additional actions required.
STEP 3.1	Implement measures as outlined in Biological Assessment and/or County conditions; incorporate measures into Mitigation Plan and implement monitoring of mitigation measures as specified in the Biological Assessment or County conditions.	

Once the exact impacts are determined as per Table 3, site-specific avoidance or mitigation actions can be implemented. If mitigation measures are implemented outside the development area, opportunities may exist within the degraded oak woodland, acacia/pine grove, or pine grove on the Parcel; these actions will be coordinated with the required oak woodland mitigation actions outlined in Sections 4.0 and 5.0.

4.0 OAK WOODLAND MITIGATION

Once the exact acreage of oak woodland mitigation is determined as per the worksheet presented in Table 2, the Oak Woodland Mitigation Area(s) can be designated and oak woodland mitigation actions implemented.

Mitigation may occur within degraded oak woodland, acacia/pine grove, or pine grove (see Figure 1). The property supports approximately 0.55 acre of degraded oak woodland, approximately 0.60 acre of acacia/pine grove, and approximately 0.20 acre of pine grove. The total available area for oak woodland mitigation totals approximately 1.35 acres.

Mitigation actions will include removal/control of invasive, non-native plant species and active and/or passive revegetation of native oak woodland plant species. In addition, any required oak tree replacement plantings will occur within a designated mitigation area(s).

4.1 Oak Woodland Mitigation Goals and Objectives

The oak woodland mitigation will be implemented to achieve the following goals and objectives:

1) Protect and enhance the designated oak woodland mitigation area(s) to meet County of Santa Cruz Condition of Approval pursuant to the Sensitive Habitat Ordinance. Achieve this goal by implementing the following objectives:
    a) Within the oak woodland mitigation area(s) implement a management program that benefits oak woodland growing conditions and stimulates expression of native trees and shrubs. The identified best management practice is to decrease the cover of target invasive species (e.g., cotoneaster, acacia, Monterey pine) within the designated area(s) to less than 10% by Year 5 and less than 5% in Year 7. Provide annual monitoring reports to Santa Cruz County Planning Department for activities conducted within the designated area(s).
    b) Monitor effectiveness of management actions by comparing plant species composition and plant cover within the designated area(s) to on-site oak woodland reference sites (i.e., retained and untreated prime oak woodland areas).
2) Manage habitats within the designated oak woodland mitigation area(s) in a manner conducive to protection of native wildlife species. Achieve this goal by implementing the following objective:
    a) Prior to removal of invasive, non-native plant species conduct a walking survey to identify active bird nests and wood rat dens such that impacts to nests are avoided during invasive plant removal.
3) Establish oak replacement plantings to meet a 2:1 replacement to removal ratio. Achieve this goal by implementing the following objectives:

a) Within the designated oak woodland mitigation area(s) implement a revegetation program that establishes oak trees (1 or 5-gallon size stock). If necessary, remove scrub or implement other site preparation tasks within the areas prior to planting (see 1(a) above). Utilize locally-native plant stock and install as per standard nursery practices.

b) Implement a 7-year revegetation maintenance program for the planted oak trees. Provide a minimum of three years of supplemental irrigation during plant establishment period (i.e., Year 1-3). Maintain a yearly 80% survival rate for installed trees for 7 years, implementing remedial actions (i.e., replanting) if necessary to maintain an 80% plant survival rate each year.

4) Provide annual monitoring reports during Years 1-7 to Santa Cruz County Planning Department, describing yearly actions, results of monitoring and remedial actions needed or implemented.

4.2 Removal of Invasive, Non-native Plant Species

Invasive weeds will be removed from the designated oak woodland mitigation area(s). Target species observed or with potential to occur on the Parcel are listed on Table 4; additional invasive plant species may be identified in the future. Both manual and mechanical removal techniques will be used and depending upon the species, actions will include hoeing, cutting, hand-pulling, and for some species, the application of glyphosate (i.e., localized treatment of cut cotoneaster and acacia stumps). The landowner may need to confer with a qualified restoration specialist and licensed herbicide applicator to determine the most effective methods for removing and controlling the target invasive species within the mitigation area(s).

The objective is to cut the target trees and shrubs, chip the cut materials, and remove all cut materials from the site. Stumps and roots of cut trees and shrubs can be retained in place. Select tree and shrub trunks may also be treated with herbicide to prevent re-sprouting. Select invasive groundcovers and vines will be hand-pulled, pulled with hand tools, and/or weed-whipped and all materials removed from the site. Select groundcovers/vines may be treated with herbicide as part of the removal/control treatment. The removal of invasive plant species will likely require several consecutive treatments as new seedlings of invasive plants such as cotoneaster, acacia and French broom will sprout each spring and summer until the seed bank is exhausted.

Table 4. Preliminary Treatment Method For Species Observed or with Potential to Occur on Site

PLANT SPECIES	METHOD	TREATMENT TIMING*	MINIMUM TREATMENT GUIDELINES
SHRUBS, GROUNDCOVERS AND HERBACEOUS SPECIES			
Carduus tenuiflorus and	1	spring	During bolting stage; remove all roots
Carduus pycnocephalus Slender flower thistle Italian thistle	3	spring	During late bolting & bud formation; timing & technique are critical; all floral heads must be bagged for disposal
Carpobrotus sp. Ice plant	1,2,4	full year	Remove all plant parts; dispose of off site
Cirsium vulgare Bull thistle	2	spring, early summer	Shovel cut during bud formation a minimum of 4" below root crown; all floral heads must be bagged for disposal

Table 4. Preliminary Treatment Method For Species Observed or with Potential to Occur on Site

PLANT SPECIES	METHOD	TREATMENT TIMING*	MINIMUM TREATMENT GUIDELINES
Delairea odorata Cape ivy	1,4	winter, spring, summer	Remove all parts of the plant; bag & seal all plant parts
Genista monspessulana French broom	1,4	winter, spring, summer	Remove all roots; seed bearing plants must be remove from site
Hedera helix English ivy	1,4	spring, summer, fall	Remove all plant parts; dispose of off site
Rubus armeniacus Himalaya berry	1	spring, summer, fall	Small plants & resprouts only
	2,4	spring, summer, fall	Main root balls & rhizomes
Vinca major Periwinkle	1,4	spring, summer, fall	Use tools to loosen soil, remove root mass by hand to 3"
TREES			
Acacia sp. *Acacia*- Wattle	5,6	late winter, summer, fall	Confer with licensed applicator for herbicide rate and application method
	7	full year	All seedlings removed
Cotoneaster sp. Cotoneaster	2,4	full year	Remove prior to the berry formation
Cupressus sp./cypress	6	full year	Seedling control?
Eucalyptus sp. Eucalyptus	4,5,7	full year	All seedlings removed
Nerium oleander Oleander	2, 5, 6	spring, summer, fall	Confer with licensed applicator for herbicide rate and application method
Olea europea Olive	5, 6	late winter, summer, fall	Confer with licensed applicator for herbicide rate and application method
Pinus sp. Non-native pine	6	late winter, summer, fall	May be used as mulch
Prunus sp. Non-native plum	5	late winter, summer, fall	Confer with licensed applicator for herbicide rate and application method
	7	full year	All seedlings removed
Pyracantha angustifolia Pyracantha	2,4	full year	Remove prior to the berry formation

Methods

1. Hand-pull (includes small hand tools).
2. Hand-pull with tools (non power).
3. Weed whack/whip (requires specific techniques, timing is critical timing).
4. Herbicide (spray with or without surfactant).
5. Herbicide (cut and paint). Use on woody species capable of stump resprouts, other vegetative growth or having rhizomatous stems.
6. Cut trees and large shrubs. Note: Method 6 may require careful disposal or may be used for mulch depending on species treated.
7. Prevent new seedlings

4.3 Oak Tree Replacement

Oak tree replacement will be required for all oak trees removed that are greater than 4" in diameter; trees will be replaced at a 2:1 ratio. Oaks used for replanting can be grown on-site from local acorns or can be obtained from a native plant nursery from on-site collections and/or collections from similar habitats within the immediate project vicinity (i.e., collections within 10 5- mile radius of the property). The replacement trees will be planted a minimum of 15-feet apart in the fall/early winter months within the designated mitigation areas (s). Weed free mulch will be applied to each planting to reduce competition from weeds. Tree plantings will be maintained with supplemental irrigation, typically for 3 years, until the plants are established. Hand irrigation, drip irrigation or the use of time-release gel packs (e.g., Rainbird IS-GP Gel Pack) will be installed for each tree planting. The landowner will inspect the watering system once per month May through September and every 45 to 60 days from October through April.
Tree plantings will be required to achieve a yearly survival rate of 80%. Remedial plantings will be required in any year that plant survival rate drops below 80%.

4.4 Revegetation with Native Species

Natural revegetation is expected to occur in areas where invasive, non-native plant species have been removed. Seeds from the nearby oak woodland, as well as seeds in the soil seedbank, will likely colonize the treated areas and native trees and shrubs will establish over time. Active revegetation of the mitigation areas can also be implemented. This would include seeding and installing container stock of native species. A preliminary list of plant species suitable for installation on site is presented in Table 5. Additional species may be added following completion of the biological assessment. The landowner may need to confer with a qualified restoration specialist to determine the most effective methods for re-establishing oak woodland within the mitigation areas on the property.

Table 5. Preliminary Plant List for Revegetation within Oak Woodland Mitigation Area(s)

Common Name	Scientific Name	Application Rate or Spacing	Seed Purity or Container Size
SEED MIX			
California Brome	*Bromus carinatus*	12 lbs./acre	95
Blue Wild Rye	*Elymus glaucus*	10 lbs./acre	95
TREES			
Coast Live Oak	*Quercus agrifolia*	15' o.c.	1 gal. or 5 gal. tree pot
California Buckeye	*Aesculus californica*	15' o.c.	1 gal. tree pot
Blue Elderberry	*Sambucus mexicana*	15'o.c.	1 gal. tree pot
SHADE TOLERANT SHRUBS			
Mugwort	*Artemisia douglasiana*	6' o.c.	1 gallon
Snowberry	*Symphoricarpos albus l*	6' o.c.	1 gallon
California Rose	*Rosa californica*	6' o.c.	1 gallon
California Blackberry	*Rubus ursinus*	4'o.c.	5" tree pot
SUN TOLERANT SHRUBS			
Coyote Brush	*Baccharis pilularis*	6' o.c.	1 gallon
Toyon	*Heteromeles arbutifolia*	6' o.c.	1 gallon
Flowering Currant	*Ribes sanguineum glutinosum*	6' o.c.	1 gallon
Coffee Berry	*Frangula californica*	6' o.c.	1 gallon

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Table 5. Preliminary Plant List for Revegetation within Oak Woodland Mitigation Area(s)			
Common Name	Scientific Name	Application Rate or Spacing	Seed Purity or Container Size
California Bee Plant	*Scrophularia californica*	4'o.c.	1 gallon

Container stock plantings will require supplemental irrigation, typically for 3 years, until the plants are established. Hand irrigation, drip irrigation or the use of time-release gel packs will be installed for each container planting. The landowner will inspect the watering system once per month May through September and every 45 to 60 days from October through April.

4.5 Monitoring Progress of Mitigation Areas

Monitoring is an important component in fulfilling the oak woodland mitigation requirements. Monitoring is used to evaluate the effectiveness of mitigation actions and as a tool in determining if management actions should be revised to better reach goals and objectives. The ability to alter management activities based on monitoring results is the primary tenet of the adaptive management process.

A qualified botanist, ecologist, or revegetation specialist will periodically inspect the oak woodland mitigation area(s) during the first year. Monitoring inspections will be conducted at least once a year during Year 1-7. The purpose of the inspections will be to assess how the oak revegetation and habitat enhancement actions are proceeding, and to identify problems or potential problems that may exist. During these inspections, the biologist will look for plant damage, document compliance with Conditions of Approval, and make recommendations to correct any significant problems or potential problems. The inspection visits will also be used to document the need to change or adjust revegetation plan actions (i.e., altering the maintenance schedule, adding extra weed control visits, increasing or reducing the frequency or amount of irrigation water, etc.). The progress of invasive non-native plant species removal will also be ascertained during the inspections.

Oak tree plantings will be monitored as to dead/alive, height, and health/vigor. During Years 1-7, yearly plant survival within each created habitat type should be at least 80 percent. If plant survival falls below 80% in any year, the inspection will documented the number of supplemental container stock planting required to be installed.

The progress of the oak woodland mitigation will also be monitored for vegetation cover and species composition/richness. Vegetative cover data will be collected using the point-intercept method along permanent transects. Along the transect, data will be collected on plant composition, plant cover (percent cover), and natural recruitment of native and non-native species.

Photos shall be taken of the mitigation area(s) at least once a year in Years 1-7. Photos will be taken from the same vantage point and in the same direction every year, and shall reflect the findings discussed in the monitoring report; a minimum of four photo points will be established. The location and photo direction of each photo stations will be established in Year 1.

4.6 Success Criteria for Oak Woodland Mitigation Area(s)

The final success criteria for the mitigation area(s) are outlined in Table 6. When these criteria are

fulfilled, the mitigation area(s) will be determined to be progressing toward the habitat type and values that constitute the long-term goals of this project. These final success criteria will be monitored for compliance at the end of the 7-year monitoring period. Final success criteria for the mitigation area(s) will be documented by monitoring by a qualified botanist, ecologist or revegetation specialist.

Performance standards are established for the oak woodland. These are measured during Years 1-7. As depicted on Table 5, survival of oak tree replacement plantings, plant cover, native species richness, and overall site maintenance will be monitored. Remedial measures will be implemented by the landowner if these standards are not achieved in any of the monitoring years. Examples of remedial actions include re-planting failed plants, increasing weeding sessions, supplemental planting, additional control of invasive plant species, and/or modifying the irrigation system.

Table 6. Performance Standards for Years 1-6 and Final Success Criteria for Year 7

	Years 1-2	Years 3-4	Year 5	Year 6	Year 7
Woody Plant Cover (%)	10	20	30	40	50
Oak Tree Survival (%)	80	80	80	80	80
Maximum Cover of Invasive, Non-native Plant Species (%)	25	25	10	10	5
Species Richness (native species)	3	5	5	5	5

5.0 CONSTRUCTION PERIOD BEST MANAGEMENT PRACTICES

Prior to any site work within oak woodland, the limits of the work area (limits of grading) will be staked by the project engineers. Orange construction fencing will be installed at the limit of grading. No equipment or other construction access will occur beyond the limits of grading.

Construction in/around oak trees to be retained will be conducted in a manner that avoids impacts to these trees. Protective fencing will be installed around tree trunks and any limb or root pruning will be conducted under the supervision of a qualified arborist. Additional protective measures as directed by the arborist will be implemented.

All disturbed areas will be seeded and straw mulched; a native seed mix is specified on Table 4.

6.0 FIRE MANAGEMENT BEST MANAGEMENT PRACTICES

CalFire requires the landowner to maintain 100-foot wide fuel management zones around a residence and accessory buildings. Where such a zone overlays with areas mapped as oak woodland, the landowner will implement fuel management in a manner compatible with the maintenance of oak woodland resources, but as noted previously this will not trigger an obligation for mitigation. Fuel management actions within mapped oak woodlands will be focused on the following:

1) Within the 100-foot management zone, remove all invasive, non-native woody plant species, such as acacia, cotoneaster, pines, and eucalyptus.
2) Retain native shrubs and ground covers to the greatest extent feasible, limb and thin shrubs if necessary, but do not clear to bare soil

3) Limb and space oak trees only as necessary to separate the tree canopy from the understory; retain as many trees and limbs as possible, while meeting CalFire requirements.
4) Retain all oak tree limbs and trunks on site, yet outside the 100-foot defensible space. Use oak tree limbs and trunks to create areas for wildlife and to allow for natural decomposition/mulch.

7.0 SPECIAL STATUS SPECIES MITIGATION

If special status species are found to occur within the development area (i.e., building envelope, septic leach line, access road or fire management area), mitigation measures will be implemented to avoid, minimize, or compensate for such impacts. As it is not known at this time if sensitive resources occur in these areas; therefore, specific mitigation measures cannot be provided in this Mitigation Plan. Once the exact impact is determined as per the worksheet presented in Table 3, mitigation measures will be identified and implemented. The mitigation analysis within the biological assessment will include the following information:

1) Identify feasible measures to protect the sensitive resource and identify a method to monitor and evaluating the effectiveness of the mitigation measure during or after construction (e.g., construction period exclusion fencing, pre-construction breeding bird survey, or relocation of resource).
2) Identify the specific location of the mitigation and timing for implementation (e.g., prior to approval of house permit, prior to vegetation removal or grading, or prior to house construction).
3) Identify measurable performance standard by which success of the mitigation will be determined (e.g., 80% survival of salvaged and transplanted plants each year for 7 years).

The actions implemented, as well as the results of monitoring avoidance or other mitigation measures will be documented by a qualified biologist and incorporated into the Mitigation Plan's annual report. The need for remedial actions will also be identified and included in the annual report.

8.0 RESIDENTIAL LANDSCAPE PLAN

The residential landscape plan is required to incorporate native plant species found on the Parcel. As part of the biological assessment a list of all native plant species found on the site will be made. Native plant species identified in the plant inventory shall be incorporated into the landscaping plan.

9.0 REPORTING

Annual reports for monitoring Years 1-7 will present data on the mitigation area(s), actions implemented, the attainment of yearly target criteria, progress toward final success criteria, and any remedial actions required. Reports will be prepared by a qualified botanist, ecologist, or revegetation specialist; the landowner will be responsible for submitting the reports to the County Planning Department by December 31 of each monitoring year.

ECOSYSTEMS WEST
CONSULTING GROUP

June 9, 2015

Matt Johnston
Environmental Planner
County of Santa Cruz Planning Dept
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

Subject: Results of Special-Status Plant Survey of the Burgstrom Property MLD

Dear Matt,

This letter reports the findings of a special-status plant survey of the proposed development footprint for the Burgstrom Property-Minor Land Division (APN 108-291-09) located near the intersection of Hames Road and Blake Avenue in Corralitos, California. The property owner is attempting to subdivide an existing 16 acre parcel and develop and single family residence in a 13,000 square foot "suitable development area" that includes the building envelope and septic leach line. The preliminary layout of a driveway encompasses 1,680 square feet (140 ft x 12 ft) and enters the center of portion of the suitable development area from the east. These areas were the focus of this survey.

A site visit was made by Bill Davilla of EcoSystems West and Matt Johnston on 14 May 2015. The objective of the site visit was to conduct a search of the proposed development envelopes and access driveway to determine if there are special-status plants growing on this portion of the property. Not surveys were conducted on the remainder of the property outside the potential impact areas.

Prior to our survey, a biotic assessment and/or focused biotic report was not completed for the property. Typically, a parcel with designated sensitive habitat (live oak woodland) requires an evaluation of biological resources on the property prior to the development of a mitigation and monitoring program for project related impacts. Plant communities listed in the earlier Oak Woodland Mitigation plan include oak woodland, mixed evergreen forest, coast redwood forest, chaparral, acacia/pine groves, and pine grove. Based on our earlier assessment of the property and the habitats identified on the property above, we determined the parcel could provide habitat potential for five special-status plant species known to occur in the vicinity of the Burgstrom property. Those five plants include: Monterey spineflower (*Chorizanthe pungens* var. *pungens*), robust spineflower (*Chorizanthe robusta* var. *robusta*), California bottlebrush grass (*Elymus californicus*), Marin checker lily (*Fritillaria lanceolata* var. *tristulis*), and Santa Cruz tarplant (*Holocarpha macradenia*). Our survey was conducted at the appropriate flowering phenology period for all the above species and would have been recognizable if observed.

180 7th Avenue, Suite 201, Santa Cruz, CA 95062
Phone: 831-429-6730 * Fax: 831-429-8742

ATTACHMENT 11

No special-status plants were observed during the course of this field survey. The habitats on the development areas are a mosaic of oak woodland and mixed evergreen forest including an inclusion of a stand of coast redwood. This woodland/forest mosaic is comprised of an uncharacteristic mix of coast live oaks, Monterey pine, Monterey cypress, acacia, blue gum, foothill pine, coast redwood, and madrone trees. The understory is somewhat open with little shrub understory and takes on a savanna like openness except for the dense of acacia and cotoneaster near the lower portion of the slope adjacent to the existing driveway. This association of trees and the even age appearance of the forest suggests that there was a reforestation effort some 25-30 or so years earlier. The understory in the "prime" oak woodland habitat tends to reflect a meadow/grassland type understory, possibly remnant of a more open oak woodland savanna habitat before the reforestation plan. In particular we observed blue-eyed grass (*Sisyrinchium bellum*), carex (*Carex* spp.), common rush (*Juncus patens*), and a non-native orchid, hellebore (*Epipactis helleborine*). Of the five potential special-status plant species mentioned above only Marin checker-lily and California bottlebrush grass might have potential to occur in the development area. Monterey spineflower is known to occur in grasslands just west of the property line but the soils and habitat do not support this species. Several woodrat nests were observed scattered through the development footprint along with bird nests in the pine trees.

Bird and bat surveys should be conducted before any tree removal if removal of trees is planned to take place during nesting and bat breeding season and tree removal postponed until birds have fledged. Wood rat nests and woodrats should be moved by a permitted biologist to other areas of the parcel where they will not be disturbed by the development and subsequent occupation of the building site.

If you have any question or comments regarding the results of our survey, please do not hesitate to contact me at your earliest convenience.

Sincerely,

Bill Davilla
Principal

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
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

Charlie Eadie
500 Chestnut St. Ste. 100
Santa Cruz, CA 95060

June 11, 2015

APN: 108-291-09
App #: REV131316

Dear Mr. Eadie:

The review of your Oak Woodland Restoration Plan has been completed. The property owner is attempting to subdivide an existing 16 acre parcel and develop and single family residence in a 13,000 square foot "suitable development area" that includes the building envelope and septic leach line. The preliminary layout of a driveway encompasses 1,680 square feet (140 ft x 12 ft) and enters the center of portion of the suitable development area from the east. The development envelop identified in the application is located in oak woodland, a sensitive habitat as identified in the Santa Cruz County Code and General Plan. While the proposal before the County is a minor land division with no associated development, the restoration plan is required to satisfy the potential impacts to biotic resources, particularly oak woodland, identified in the CEQA process. The restoration plan will be a requirement of any proposed development on the created parcel.

On October 2, 2014, County staff visited the site in preparation for our October 6, 2014 meeting. That meeting resulted in the direction to prepare an oak woodland restoration plan to satisfy the requirements of CEQA regarding impacts to oak woodland. January 27, 2015, the County's consulting biologists, Bill and Justin Davilla of Ecosystems West visited the subject parcel as part of their independent review of the restoration plan. The review letter from our consulting biologist is attached for your reference. The review of that plan resulted in the following requirements for an updated plan:

1. Include a requirement to conduct a biotic assessment prior to site disturbance. The survey should cover the presence of any listed plant or animal species as well as native and non-native plant species.
    a. The results of this survey must include a plant inventory of all plants found on site.

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i. Native species identified in the plant inventory must be incorporated into the restoration plan.
ii. Invasive species identified in the plant inventory must be targeted for removal.

2. Include a requirement to produce a landscaping plan that incorporates the native plants found on site.
3. Include mitigation measures for dusky footed wood rat, nesting birds, bats, and potentially occurring listed plant species that may be present in or around the disturbance area.

The Updated Restoration Plan, dated April 28, 2015, was submitted and reviewed, and it addressed all of the requirements above. It also included a measure to address the potential presence of listed plant species on the subject parcel through future surveys and mitigation to be determined at a later date. Under CEQA, this would result in differed mitigation, and is not acceptable as mitigation. To address this issue, County Staff and consulting biologist Bill Davilla conducted a site survey for potential listed species on May 14, 2015. The results of that survey are attached to this letter. As no listed species were found to be present on site, the April 28, 2015, restoration plan can be accepted, and the County can now proceed with the CEQA process.

Please call me at 831-454-3201 if you have any questions.

Sincerely,

Matthew Johnston

Environmental Planning