County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
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KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR
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ENVIRONMENTAL COORDINATOR

NOTICE OF INTENT TO ADOPT A 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 Matt Johnston 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 Romero at (831) 454-3137 (TDD number (831) 454-2123 or (831) 763-8123) to make arrangements.

APPL. # 121258 **PAULSEN ROAD CULVERT REPLACEMENT**
APN: N/A (Post Mile Markers (PM) 0.32, 0.92 & 0.94)

This is a proposal to replace three corrugated metal culverts with high density corrugated plastic culverts, and the roadway surfaces above each culvert to be repaired and resurfaced. The removal of some invasive non-native vegetation (arrundo) will be cleared and removed from (PM) 0.32 as part of the culvert replacement. Requires a Riparian Exception.

ZONE DISTRICT: CA (COMMERCIAL AGRICULTURE)
APPLICANT: COUNTY OF SANTA CRUZ, PUBLIC WORKS DEPARTMENT
OWNER: COUNTY OF SANTA CRUZ
SUPERVISORIAL DISTRICT: FOURTH
STAFF PLANNER: BOB LOVELAND, (831) 454-3163
EMAIL: PLN319@co.santa-cruz.ca.us
ACTION: Negative Declaration with mitigations
REVIEW PERIOD: April 16, 2013 to May 15, 2013

The project will be considered administratively by the Planner on May 16, 2013.

NAME: Paulson Road Culverts
APPLICATION: 121258
A.P.N: County Right of Way

NEGATIVE DECLARATION MITIGATIONS

A. In order to ensure that the mitigation measures and conditions set forth in the proposed project description are communicated to the various parties responsible for constructing the project, prior to any disturbance on the property the applicant shall convene a pre-construction meeting on the site. The following parties shall attend: The project engineer, project contractor supervisor, Santa Cruz County Environmental Planning staff, and project biologists. Results of pre-construction biotic surveys will be collected at that time and all protection measures shall be inspected.

B. In order to reduce potential impacts to steelhead trout to less than significant, the following mitigations shall be implemented:

1. The temporary dewatered process will take place under the observation of the project biologist. The pump intakes will be outfitted with wire mesh not larger than 0.2 inch to prevent species from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

C. In order to reduce potential impacts to western pond turtle (WPT) and foothill yellow-legged frog (FHYLF) to less than significant, the following mitigations shall be implemented:

1. Within two weeks prior to the start of construction, a worker education program shall be presented to all construction personnel at the project site by a qualified biologist. Associated written material shall be distributed. It shall be the onsite foreman's responsibility to ensure that all construction personnel and subcontractors receive a copy of the education program. The education program shall include a description of the FHYLF and WPT and their habitat, the general provisions of the California Environmental Quality Act (CEQA), the necessity of adhering to the Act to avoid penalty, and measures implemented to avoid affecting both species specific to the project and work boundaries of the project.
2. Within one week of construction, a qualified biologist shall conduct an in-stream survey for WPT and FHYL within the work area and up and down stream 0.25 miles. If none are detected, no additional mitigations are required. If either or both species are detected during the preconstruction survey or any time during the project, CDFG shall be contacted for guidance. Additional protection measures may include biological monitoring and installation of wildlife exclusion fencing.

D. Suitable nesting habitat for special-status and non-listed, native bird species is present on the study area. Direct removal of vegetation, noise and other disturbance during construction, could adversely impact nesting birds, if present, which could result in nest abandonment. In order to reduce potential impacts to special-status and non-listed, native bird species to less than significant, the following mitigations shall be implemented:

1. If work in any project site area must commence during the breeding season (February 1 to August 31), a qualified biologist shall conduct a pre-construction breeding bird survey throughout areas of suitable habitat within 300 feet of the work area within 15 days prior to the onset of any construction activity. If bird nests are observed within a project work area or surrounding buffer, an appropriate buffer zone shall be established around all active nests to protect nesting adults and their young from construction disturbance. The size and configuration of buffer zones shall be determined by a qualified biologist in consultation with

CDFG based on the site conditions and the species potentially impacted. Work within the buffer zone shall be postponed until all the young are fledged, as determined by a qualified biologist.

E. In order to reduce potential impacts from the accidental release of hazardous materials into the riparian corridor, the following mitigation would be implemented: A spill prevention and response plan including all appropriate products will be available at the project site during the course of construction activities, and the staging area(s) will be a minimum of 50 feet from any stream.

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CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ENVIRONMENTAL REVIEW INITIAL STUDY

Date: March 25, 2013

Application Number: 121258

Staff Planner: Bob Loveland

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Santa Cruz County Public Works Dept.

APN(s): Paulsen Road in the county right-of-way near Post Mile Markers (PM) 0.32, 0.92 & 0.94

OWNER: Santa Cruz County

SUPERVISORAL DISTRICT: Greg Caput Fourth District

PROJECT LOCATION: All three culverts are located outside the City of Watsonville on Paulsen Road at the PMs listed above. (Refer to Attachments 1 & 2)

SUMMARY PROJECT DESCRIPTION:

All three corrugated metal culverts are to be replaced with high density corrugated plastic culverts, and the roadway surfaces above each culvert will be repaired and resurfaced. The removal of some invasive non-native vegetation (arrundo) will be cleared and removed from (PM) 0.32 as part of the culvert replacement.

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
- ☐ Noise
- ☐ Air Quality
- ☐ Greenhouse Gas Emissions
- ☐ Public Services
- ☐ Recreation
- ☐ Utilities & Service Systems

- ☐ Cultural Resources
- ☐ Hazards & Hazardous Materials
- ☐ Transportation/Traffic
- ☐ 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:

NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations:

US Army Corps of Engineers (USCOE)

Regional Water Quality Control Board (RWQCB)

California Department of Fish and Wildlife (CDFW)

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.

Matthew Johnston
Environmental Coordinator

4/15/2013
Date

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS

Parcel Size: NA
Existing Land Use: County Roadway
Vegetation: Riparian trees (willows) and wetland plants (Typha sp.and Carex sp.)
Slope in area affected by project: ☒ 0 - 30% ☒ 31 – 100%
Nearby Watercourse: unnamed tributary to Casserly Creek/College Lake
Distance To: All three projects will occur within the drainage channels

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Water Supply Watershed: No
Groundwater Recharge: No
Timber or Mineral: No
Agricultural Resource: Yes
Biologically Sensitive Habitat: Yes
Fire Hazard: No
Floodplain: Yes (PM 0.92 & 0.94)
Erosion: No
Landslide: No
Liquefaction: Yes

Fault Zone: No
Scenic Corridor: No
Historic: No
Archaeology: Mapped
Noise Constraint: No
Electric Power Lines: Yes
Solar Access: Yes
Solar Orientation: Multiple aspects
Hazardous Materials: No
Other:

SERVICES

Fire Protection: Pajaro
School District: PVUSD
Sewage Disposal: NA Road repair

Drainage District: Zone 7
Project Access: Paulsen Road
Water Supply: Pajaro Valley Water

PLANNING POLICIES

Zone District: Commercial Agriculture
General Plan: Agriculture

Special Designation: NA

Urban Services Line:	☐ Inside	☒ Outside
Coastal Zone:	☐ Inside	☒ Outside

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

The project area around PM 0.32 contains an intermittent drainage channel and narrow established riparian corridor (willows, cottonwood, sycamore).

The project area around PM 0.92 & 0.94 contain contains a roadside low-flow channel with wetland type plants (Typha sp.and Carex sp.) located on the west side of Paulsen Road.

The surrounding land uses include: agriculture and residential development.

PROJECT BACKGROUND:

All three culverts proposed for replacement are made of corrugated metal and have begun to collapse do to corrosion. As the culverts continue to fail, the associated roadway surface is being compromised which present traffic safety concerns.

DETAILED PROJECT DESCRIPTION:

The proposed project would replace the failing corrugated metal culverts with high density corrugated plastic culverts. The lengths and diameters of the new culverts will match the existing culverts. During the culvert replacement process the following work will also be completed: new concrete headwalls on both the inlet and outlet sides of the culverts shall be constructed, slope reconstruction/vegetation management and erosion control practices will be completed and roadway resurfacing over the newly installed culverts.

Although these drainage ways are considered intermittent and the work is proposed to commence in the dry season, it may be necessary to construct a coffer dam stream diversion and use screened pumps to dewater the channel(s) during culvert and headwall replacements.

Standard construction equipment (dump trucks, excavator, backhoe, etc.) are proposed to complete this scope of work, and all machinery related work will be done from the existing roadway.

During construction activities Paulsen Road will be closed and traffic will be rerouted to Casserly Road or Highway 152 by way of proper county signage and community notification processes.

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

II. ENVIRONMENTAL REVIEW CHECKLIST

A. GEOLOGY AND SOILS

Would the project:

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).

All of Santa Cruz County is subject to some hazard from earthquakes and the project site is likely to be subject to strong seismic shaking during the life of the improvements. However, the project site is not located within or adjacent to a County or state mapped fault zone, therefore the potential for ground surface rupture is low.

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?	☐	☐	☒	☐

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

Discussion: The Department of Public Works will use a standard design for the project that is used on all projects of this type in Santa Cruz County. The standard design takes these potential hazards into consideration.

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

Discussion: The slopes adjacent to these drainage channels and culverts exceed 30%. These slopes will be reestablished after the culverts and headwalls are replaced. All bare soils will be treated with appropriate erosion control practices upon completion of the project.

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

Discussion: The potential for erosion exists during the construction phase of the project and shortly thereafter. Appropriate erosion and sediment control Best Management Practices (BMP's) will be installed and monitored during and after construction activities are completed.

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: There is no indication that the development site is subject to substantial risk caused by expansive soils.

6. Place sewage disposal systems in areas dependent upon soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems where sewers are not available? ☐ ☐ ☐ ☒

Discussion: This project does not include the use of any on-site sewage disposal 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.

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

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: The culvert located at PM 0.32 is located outside a mapped flood hazard area, and the design engineer has stated that the culvert is large enough to carry a 100-year storm event. The culverts at PM's 0.92 & 0.94 are located within a mapped flood hazard area (Attachment 3) and are not anticipated to carry a 100-year storm event (Refer to B 2 below).

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

Discussion: The culverts located at PM 0.92 & 0.94 are adequate to deal with less than a 100 year flow event, but would be inundated an overtopped during greater flow events.

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

Discussion: The culvert locations are well outside the range of these natural hazards.

4.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒

Discussion: The project involves replacing culverts and will have no effect on groundwater.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 involves removing and replacing culverts and headwalls within an existing road prism. No degradation to a public or water supply is anticipated.

6.	Degrade septic system functioning?	☐	☐	☐	☒

Discussion: There is no indication that existing septic systems in the area would be affected by these projects.

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 replacement culverts are the same size and length of the culverts proposed for removal and will occupy the same alignment.

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: Refer to B7 above.

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: Refer to B7 above.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
10. Otherwise substantially degrade water quality?	☐	☐	☐	☒

Discussion: Refer to B7 above.

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: Two separate "Biotic Constraints Analysis" were prepared by Kittleson Environmental Consulting covering PM 0.32, dated January 3, 2013 and PM 0.92 & 0.94, dated October 3, 2012 (Attachments 4 & 5). These reports have been reviewed and accepted by the Planning Department (Environmental Section). The project biologist states that there are 12 status species identified by the California Natural Diversity Database (CNDDB) as having potential to occur in the project area. Based on knowledge of the area and scope of the project, it was determined that the following three species could potentially be impacted and need to be addressed: Steelhead (*Oncorhynchus mykiss*), Red-legged frog (*Rana aurora draytonii*) and Western pond turtle (*Clemmys marmorata*). No listed plants were present within the project areas. In addition to the species listed above, nesting migratory birds or raptors may be impacted as a result of project operations. In order to reduce potential impacts to the protected species to less than significant, the following mitigations shall be implemented:

Potentially Significant Impact 1: Potential impacts to listed species (Steelhead trout, Western pond turtle, Red-legged frog).

Mitigation Measure 1: (For Steelhead trout, California red-legged frog and Western pond turtle)

Within one week of construction, a qualified biologist shall conduct an in-stream survey for identified listed species within the work area and up and down stream 0.25 miles. If none are detected, no additional mitigations are required. If any listed species are detected during the preconstruction survey or any time during the project, the project biologist and CDFW shall be contacted for guidance. Additional protection measures may include biological monitoring and installation of wildlife exclusion fencing.

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

Mitigation Measure 1a: (For Steelhead trout) The temporary dewatered process will take place under the observation of the project biologist. The pump intakes will be outfitted with wire mesh not larger than 0.2 inch to prevent species from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

Potentially Significant Impact 2: Suitable nesting habitat for special-status and non-listed, native bird species has been identified within the study area. Direct removal of vegetation, noise and other disturbance during construction, could adversely impact nesting birds, if present, which could result in nest abandonment.

Mitigation Measure 2: (For Birds) If work in any project site area must commence during the breeding season (February 1 to August 31), a qualified biologist shall conduct a pre-construction breeding bird survey throughout areas of suitable habitat within 300 feet of the work area within 15 days prior to the onset of any construction activity. If bird nests are observed within a project work area or surrounding buffer, an appropriate buffer zone shall be established around all active nests to protect nesting adults and their young from construction disturbance. The size and configuration of buffer zones shall be determined by a qualified biologist in consultation with CDFW based on the site conditions and the species potentially impacted. Work within the buffer zone shall be postponed until all the young are fledged, as determined by a qualified 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 project areas are located within a riparian corridor and wetland area which are both considered sensitive habitat by definition within the Santa Cruz County Code (Sections 16.30 and 16.32 respectively). There will be temporary disturbance within the riparian corridor and wetland area during construction activities. No substantial adverse effect is anticipated during the replacement of these three failing road culverts.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 project will be short in duration and the mitigations listed in section C.1. above will ensure no significant impacts to listed/protected species.

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

Discussion: The project will not produce any nighttime lighting.

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 two culvert replacements located at PM 0.92 & 0.94 are located adjacent to wetlands, but no substantial adverse effect is anticipated since there is no change in culvert location, size or length.

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: The project does 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?	☐	☐	☐	☒

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

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:

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: 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'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))?	☐	☐	☐	☒

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

Discussion: The project is not adjacent to land designated as Timber Resource.

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.

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: No Prime Farmland, Unique Farmland, Farmland of Statewide, or Farmland of Local Importance would be converted to a non-agricultural use. In addition, no conversion of forest land to a non-forest use will occur as a result of the project.

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: 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.

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

F. VISUAL RESOURCES AND AESTHETICS

Would the project:

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

Discussion: The replacement of the three culverts will not have an adverse effect on a scenic vista.

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: Refer to F.1.above.

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: Refer to F.1.above

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

Discussion: This project does not include a source of light and will not affect either day or nighttime views in the area.

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 culverts are not designated as a historic resource on any federal, state or local inventory.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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: 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: There is no known unique paleontological resource at the site. No unique geologic features will be directly or indirectly destroyed.

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?	☐	☒	☐	☐

Discussion: The equipment used during construction activities would involve routine use of fuel and other petroleum products and hydraulic fluids typically used by construction equipment. The leakage of these fluids may occur during the course of construction activities. In order to reduce potential impacts from the accidental release of hazardous materials into the riparian corridor or wetland area, the following

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

mitigations would be implemented: A spill prevention and response plan including all appropriate products will be available at the project site during the course of construction activities, and the staging area(s) will be a minimum of 50 feet from any stream.

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: Refer to H.1. above.

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 would produce emissions from the use of standard construction equipment but the sites are not located within one-quarter mile of an existing or proposed 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 January 25, 2013 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, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

Discussion: This project is not within two miles of an airport.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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: This project is not within the vicinity of a private airstrip.

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

Discussion: There is not an adopted emergency response or evacuation plan specific to the project site, and the proposed project would have no impact on emergency evacuation within the vicinity.

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

Discussion: This project does not include the addition of any 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 is to remove and replace three failing culverts.

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?	☐	☐	☐	☒

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

Discussion: There will be no impact because no additional traffic will be generated.

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: This project will have no impact on air traffic patterns.

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

Discussion: Removal and replacement of the failing culverts will reestablish a firm road base and roadway surface which is a beneficial impact.

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

Discussion: The two-lane roadway near PM 0.32 is currently a one-lane road because a portion of the roadway surface has collapsed. The two-lane roadway at the other PM markers is currently open, but the same type of failure is developing. Although there will be some inconvenience to the public relating to temporary road closure and traffic rerouting, the work proposed will upgrade and reclaim the two lane roadway upon completion.

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

Discussion: This project does not create any increase in parking demand.

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

7.	Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level of service standard established	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

Discussion: No substantial permanent increase in ambient noise levels would be generated as part of the proposed project.

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

Discussion: Groundborne vibration or groundbourne noise levels will occur during construction activities, but would be temporary in nature. Exposure to people would be minimal since the culvert locations are fairly isolated.

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 L_{eq} during the day and 45 L_{eq} during the nighttime. Impulsive noise levels shall not exceed 65 db during the day or 60 db at night.

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

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion: This project is not within two miles of an airport.

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: This project is not within the vicinity of a private airstrip.

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: The North Central Coast Air Basin does not meet state standards for ozone and particulate matter (PM_{10}). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors (Volatile Organic Compounds [VOCs] and nitrogen oxides [NO_x]), and dust.

Project construction may result in a short-term, localized decrease in air quality due to generation of dust. However, standard dust control best management practices, such as periodic watering, will be implemented during construction to reduce impacts to a less than significant level.

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

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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: See K-1 above.

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

Discussion: Construction activities may result in a short term localized decrease in air quality due to generation of dust. Standard dust control BMPs are included in the project specifications and shall be implemented, if necessary, so air quality impacts associated with construction shall be at a less than significant level.

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

Discussion: See K-4 above.

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 proposed project, like all development, would be responsible for an incremental increase in green house gas emissions by usage of fossil fuels during the site grading and construction. At this time, Santa Cruz County is in the process of developing a Climate Action Plan (CAP) 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. Until the CAP is completed, there are no specific standards or criteria to apply to this project. 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 green house gas emissions are expected to be less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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): The project proposed is to remove and replace three county maintained roadway culverts. This project will not result in any new housing and therefore will not affect public facility ratios.

	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: This project will not increase the use of any recreational facilities.

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: This project does not include any recreational facilities or require the expansion of recreational facilities.

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: This project will not create any increased drainage.

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: No new water or wastewater treatment facilities or expansion of existing facilities are proposed as part of this project.

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

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

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

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

Discussion: This project does not require a water supply.

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 replacement of these culverts will not require any increased wastewater treatment capacity.

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

Discussion: The project is expected to generate minimal waste and the nearby landfill has sufficient capacity to accommodate expected solid waste disposal.

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

Discussion: This project will comply with federal, state and local statutes and regulations related to solid waste.

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	☐	☐	☒	☐

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

mitigating an environmental effect?

Discussion: General Plan policy 5.2.3 (Activities Within Riparian Corridors & Wetlands) states: "Development activities, land alteration and vegetation disturbance within riparian corridors and wetlands and required buffers shall be prohibited unless an exception is granted per the Riparian Corridor and Wetlands Protection ordinance". The "Findings" required (County Code Section: 16.30.060) to be made in order to grant the exception can be made for the proposed project.

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

Discussion: There is no applicable habitat conservation plan or natural community conservation plan in the project area.

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:

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 culvert replacements are the same size and length, so no substantial population growth is anticipated from these projects.

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

Discussion: The proposed projects would not displace any existing housing.

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

Discussion: The proposed projects will not displace any people.

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. Resources that have been evaluated as potentially significant that may be impacted by the project are limited to biological resources. However, mitigations have been included that clearly reduce these effects to a level below significance. The mitigations include: safe removal of any protected or listed species prior to commencement of construction activities or during construction; and revegetation of all disturbed ground within the project area upon project completion. As a result of this evaluation, there is no substantial evidence that, after mitigation, significant effects associated with this project would result. 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
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 determined to be no potentially significant cumulative effects due to the 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 (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.

IV. TECHNICAL REVIEW CHECKLIST

	REQUIRED	DATE COMPLETED
Agricultural Policy Advisory Commission (APAC) Review	Yes ☐ No ☒	
Archaeological Review	Yes ☐ No ☒	
Biotic Report/Assessment	Yes ☒ No ☐	October 3, 2012 & January 3,2013
Geologic Hazards Assessment (GHA)	Yes ☐ No ☒	
Geologic Report	Yes ☐ No ☒	
Geotechnical (Soils) Report	Yes ☐ No ☒	
Riparian Pre-Site	Yes ☐ No ☒	
Septic Lot Check	Yes ☐ No ☒	
Other:	Yes ☐ No ☒	

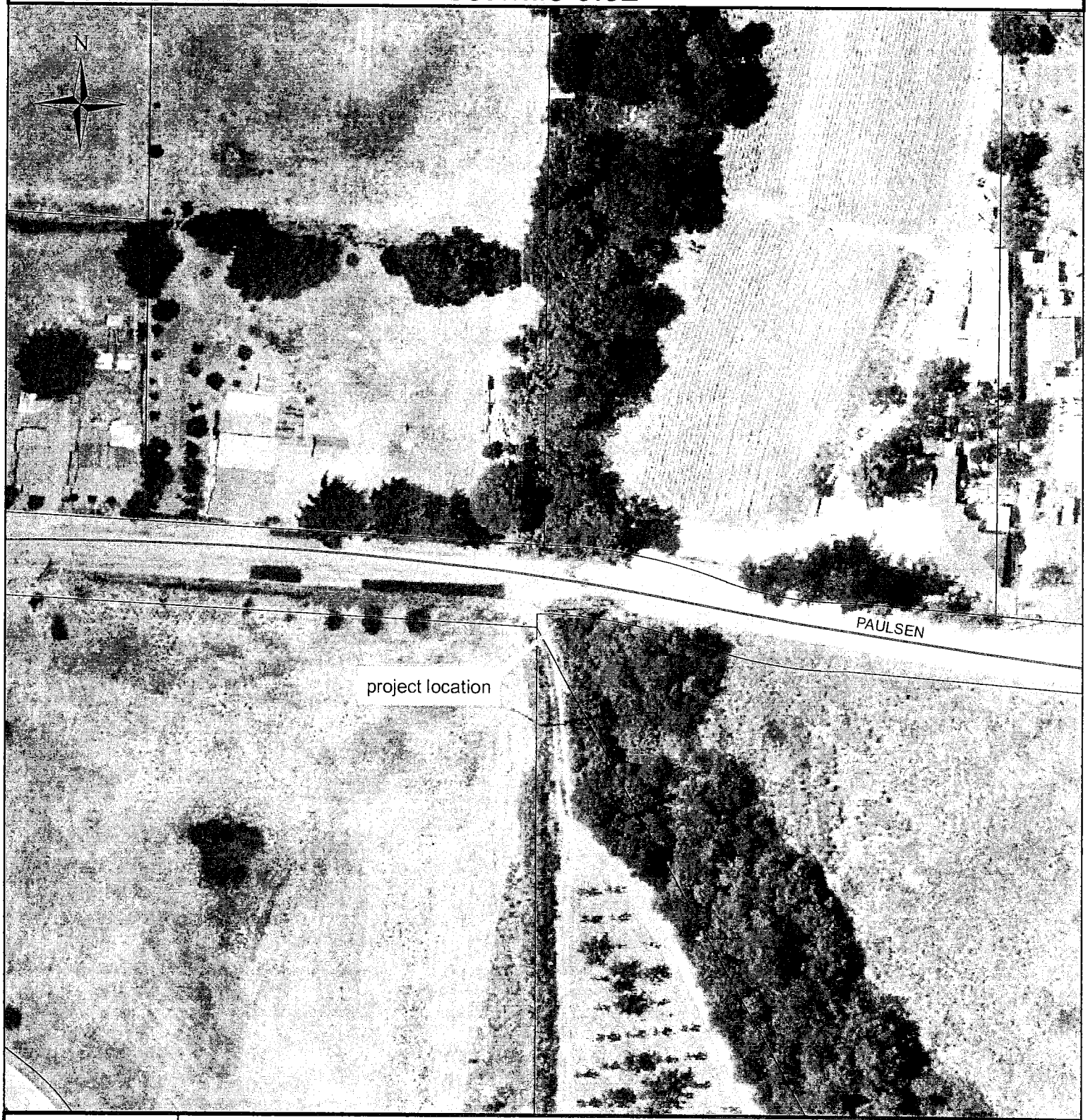
V. REFERENCES USED IN THE COMPLETION OF THIS ENVIRONMENTAL REVIEW INITIAL STUDY

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. Aerial photograph of project area PM 0.32
2. Aerial photograph of project area PM 0.92 & 0.94
3. Aerial photograph showing lake and floodplain boundaries for PM 0.92 & 0.94
4. Biotic Constraints Analysis PM 0.32 prepared by Kittleson Environmental Services, dated January 3, 2013
5. Biotic Constraints Analysis PM 0.92 & 0.94 prepared by Kittleson Environmental Services, dated October 3, 2012

Aerial Photo
Paulsen Road
Post Mile 0.32



THE COUNTY OF SANTA CRUZ
1850

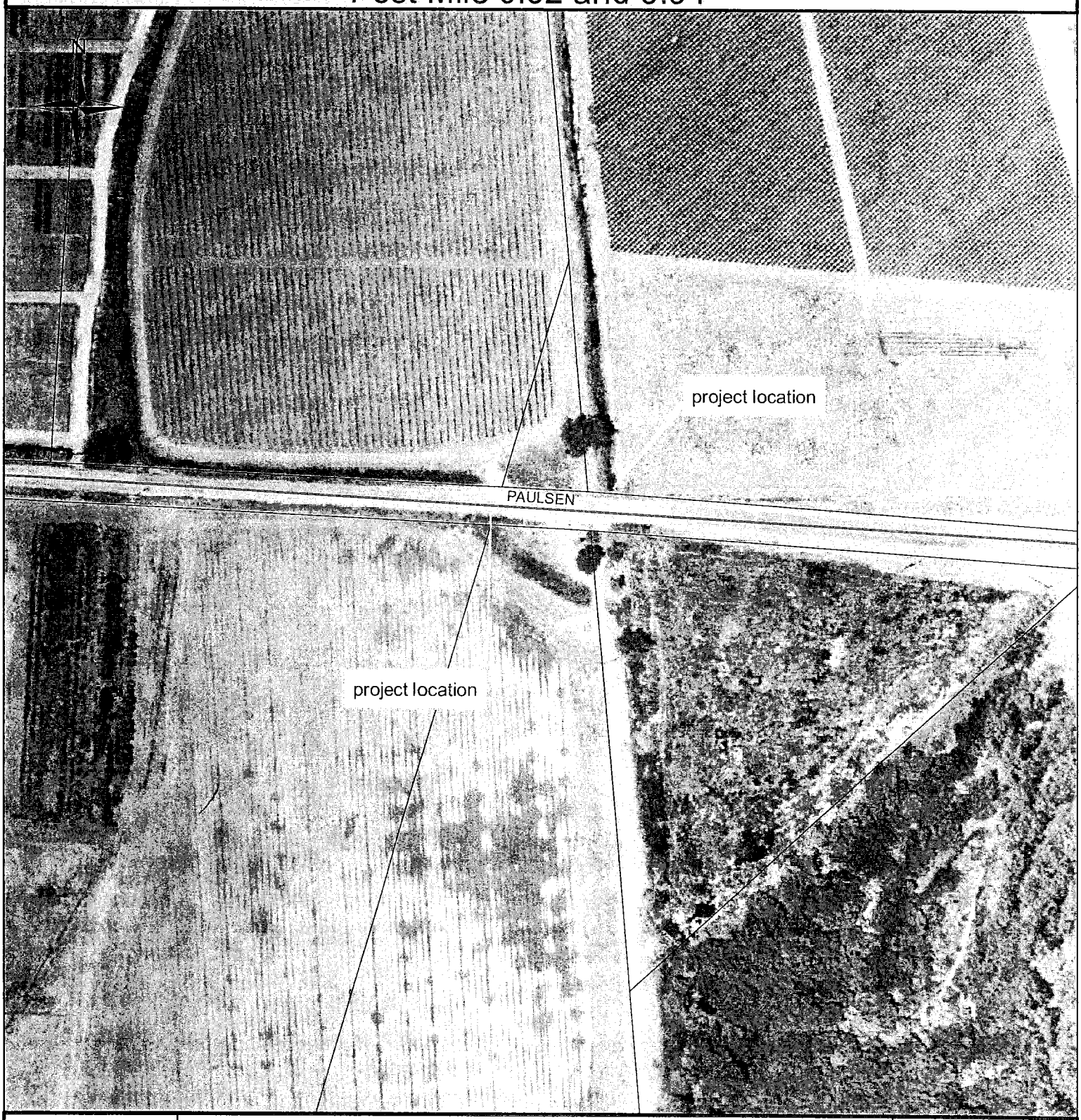
ATTACHMENT 1

0 37.5 75 150 225 300
Feet

Figure #

Map created by JLD
April 2013

Aerial Photo
Paulsen Road
Post Mile 0.92 and 0.94



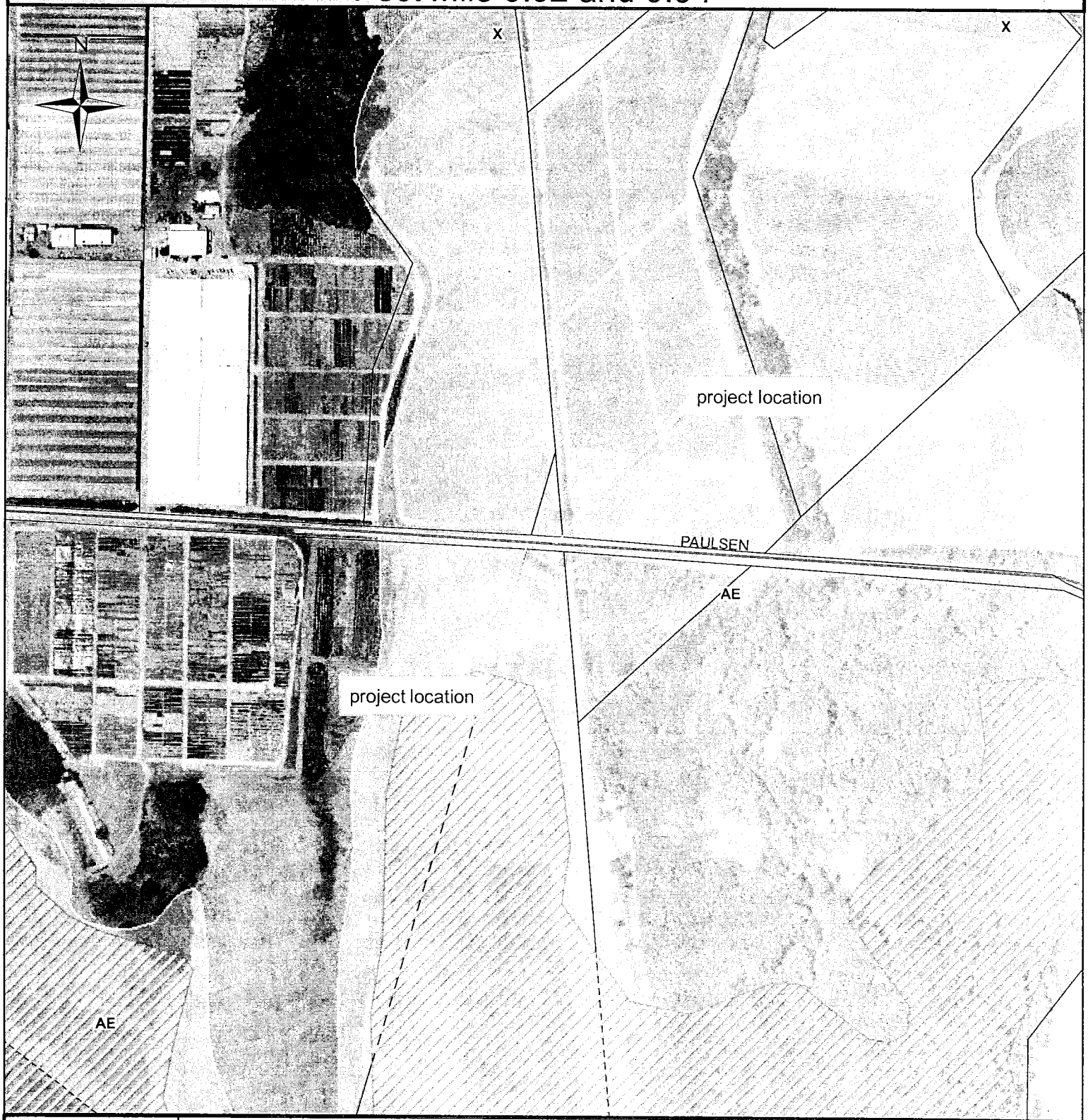
0 65 130 260 390 520 Feet

Figure #

ATTACHMENT 2

Map created by JLD
April 2013

Aerial Photo
Paulsen Road
Post Mile 0.92 and 0.94



THE COUNTY OF SANTA CRUZ 1850

0 200 400 800 1,200 1,600 Feet

Figure #

ATTACHMENT 3

Map created by JLD
April 2013

Biotic Constraints Analysis
Paulsen Road PM 0.32 Culvert Replacement

January 3, 2013

Project Description

The County of Santa Cruz Department of Public Works (Public Works) proposes to replace two culverts on Paulsen Road at post mile 0.32. where the roadway crosses an unnamed tributary to Casserly Creek/College Lake. The tributary in question is impacted by agricultural fields and residential development upstream of Paulsen Road, and flows downstream through intact, but narrow riparian habitat at the head of the seasonally full College Lake. Figure 1.

Surface water is present in the channel upstream and downstream of the culvert. Dense willow riparian habitat surrounded by non-native grassland and orchard is present downstream of the culvert.
Figure 2. The un-named creek, which flows into College Lake, supports a mixed age riparian corridor, including, black cottonwood (*Populus nigra*), sycamore (*Platanus racemosa*) and arroyo willow (*Salix lasiolepis*). Casserly Creek and Green Valley Creek have a confluence upstream of the seasonally filled College Lake. Both Casserly and Green Valley Creeks support steelhead/resident rainbow trout (KEC . pers. obs.), despite the fact that they flow intermittently during summer season upstream of the culvert project site.

Isolated pools in lower Casserly Creek, Green Valley Creek and other un-named tributaries to the College Lake basin are typical in late spring and as a result of localized irrigation return flows in summer and fall. Temporary dewatering of the culvert alignment by screened pumps will be necessary, if water is present during construction. A coffer dam stream diversion is proposed for the project site. Temporary releases of small amounts of sediment may result from placement of new culvert and placement and removal of the coffer dams. Due the combination of standing water and very low channel slope, it is not anticipated that sediment transport will occur downstream of the site.

Listed Species in the Project Area and Vicinity

The CNDDB has listed 12 special status species with the potential to occur at or near the Paulsen Road project area within the USGS Watsonville East and West quads. Due to the proposed projects' small size and location within an established roadway, only three species have the potential to be in or near the project site. Those species are steelhead, CA red-legged frog, and western pond turtle. The full CNDDB-list of species is included in Appendix A.

The proposed project site is within the range of the California red-legged frog (*Rana aurora draytonii*- or "RLF") (Stebbins 1985, Jennings and Hayes 1994). The California red-legged frog is known from the Santa Cruz Mountains in Santa Cruz, San Mateo and Santa Clara Counties. California red-legged frog is known to occur in the Pajaro River, Watsonville Slough system, and in upper Corralitos Creek at Grizzly Flat. Suitable breeding and summering habitat is present for the California red-legged frog at both sites, despite local disturbance. The downstream riparian zone may provide appropriate breeding, summering, foraging and sheltering habitat.

The Paulsen Road area has been surveyed for California red-legged frogs as part of the Paulsen Whiting Road Bridge Replacement Project in 2006. No red-legged frogs were observed during those surveys (P. Chang, pers. com. 2006). Bullfrogs and tree frogs are present in all reaches of accessible ditchlines along Paulsen Road and the College Lake tributaries. The subject culvert sites were surveyed for frogs in 2008, 2010, 2011 and 2012. Adult and subadult bullfrogs and treefrogs are numerous in the subject channels, the surrounding banks and emergent vegetation throughout the affected reaches. No CA red-legged frogs have been observed at the sites or at the nearby Casserly Ck. Bridge.

During the 2012 KEC site visit, native habitats and significant habitat features at PM 0.32 were identified. Characteristics of aquatic habitats including approximate size, substrate and stream type were recorded. Current land uses at the study site and on surrounding lands were noted. Public roads in the area were driven to field check general habitat types in the area. California Natural Diversity Data Base (CNDDB) records for the Watsonville East, Watsonville West, Mount Madonna and Loma Prieta USGS Quadrangles were reviewed. All recorded red-legged frog localities within five miles (8 kilometers) of the project site were mapped. Recent sightings by KEC in the Pajaro River and upper Corralitos Creek watershed are included.

Draft maps depicting RLF occurrence locations and aquatic habitats were developed on USGS 1:24,000 and 1:100,000 scale digital topographic maps from TOPO (www.topo.com). Final map data were transposed onto TOPO digital topographic maps, imported into Microsoft WORD as JPEG objects and edited for format. In addition, aquatic habitats in the project vicinity and surrounding area were verified on current Google Earth imagery (5/2011). A copy of that image is provided.

Steelhead/rainbow trout are known from Casserly Creek and Green Valley Creek (KEC, pers. obs.). NOAA Fisheries has listed threatened Steelhead – South Central California Coast ESU (*Oncorhynchus mykiss irideus*) as occurring in or around the project area. Habitat for fish at the culverts is poor, although mosquitofish (*Gambusia sp.*) were observed. Floating duckweed dominates the water surface. Habitat for fish in nearby Casserly Creek and College Lake near the proposed repair site is moderate to good, depending on flows. No fisheries sampling has been done at the site, but the culvert has connectivity with known O. mykiss habitat. Steelhead and/or resident rainbow trout (*O. mykiss*) presence should be assumed in the waterways influent to College Lake, year-round. The specific conditions at the PM 0.32 culvert, however, result is a very low likelihood of presence during the proposed construction period. This is due to the small subwatershed size, and seasonally intermittent flows at the culvert location.

Western pond turtles (*Clemmys marmorata*) are known to inhabit the Pajaro River flood control channel (KEC, pers. obs.) but they are not recorded in College Lake and the associated tributaries. Recent turtle survey results for the Santa Cruz County DPW indicated an estimated population of approximately 165 western pond turtles in the Pajaro River reach from Murphy's Crossing to Thurwatcher Bridge (KEC 2010). Casserly Creek and agricultural ditches in the College Lake in project area offer suitable pond turtle habitat, and there is the potential for pond turtle presence in the channels at the project site, although they have not been observed during the course of periodic visual surveys (KEC 2004-2012) in the area.

Despite the presence of 5 listed plant species in the Loma Prieta, Watsonville East and Watsonville West Quads, no listed plants are present in the potential impact zone of the project site. The developed nature of the site, and lack of suitable habitat for Santa Cruz tarplant (*Holocarpha macradenia*) and other special status plants limits potential rare plant occurrences. As a result, no significant impacts to plants are anticipated, based on the proposed design, existing site disturbance and the minimal impacts to local riparian habitat.

FIGURE 1 - LOCATION MAP

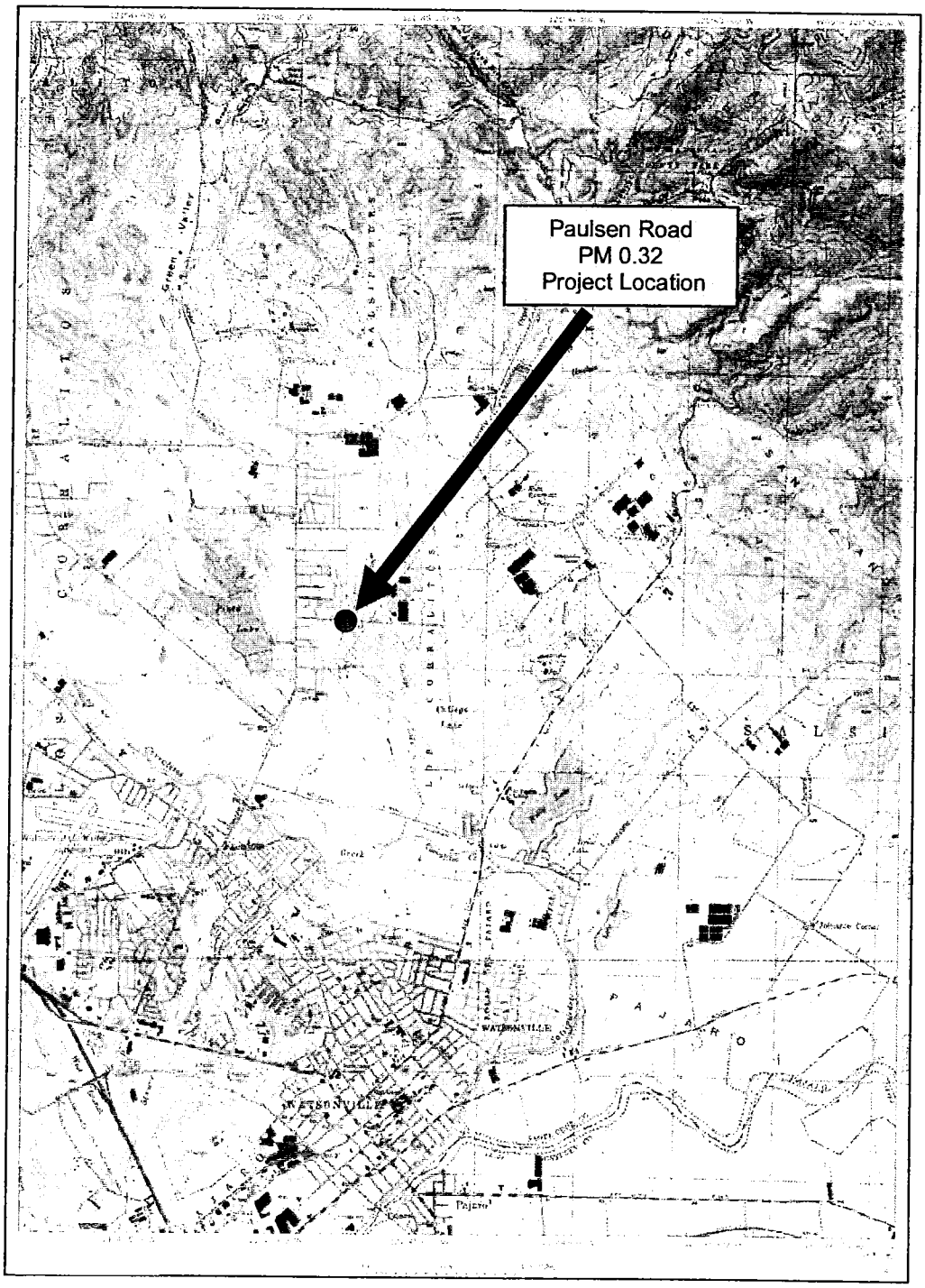
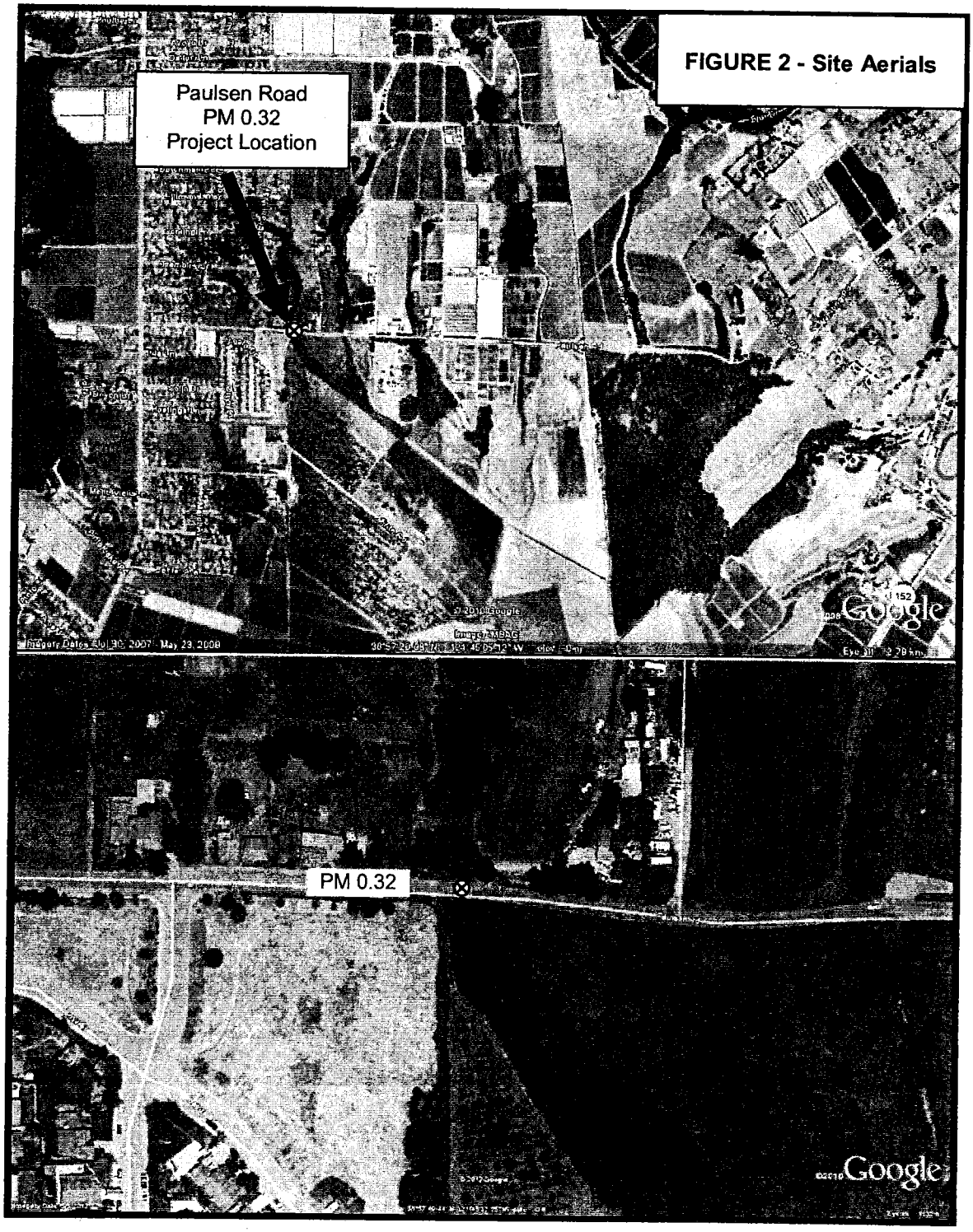


FIGURE 2 - Site Aerials



Other Wildlife Species

Wildlife effects associated with the proposed project are expected to be minimal and temporary. Wildlife species that use the project vicinity are mobile species that would leave the area during construction and return when construction is completed. Birds that may live in and around the project sites would also likely leave during construction and return when construction is completed.

No riparian or wetland vegetation will be removed during the culvert repair projects. All site access will be made from the existing roadway surface.

Portions of Casserly Creek and its tributary Hughes Creek are present within a mile of the project site. These stream courses provide potential habitat for both adult and juvenile red-legged frogs, especially during the non-breeding season. Due to access restrictions, only creek reaches at public road crossings and in the immediate vicinity of the College Lake area were examined.

California Red-legged Frog Background Information

The California red-legged is the largest native frog in California (85-138 mm) and was historically widely distributed in the central and southern portions of the state (Jennings & Hayes 1994). The species requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submergent or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Radio-telemetry data indicates that adults engage in straight-line breeding season movements irrespective of riparian corridors or topography, and they may move up to two miles between non-breeding and breeding sites (Bulger 1999). Adults generally inhabit aquatic habitats with riparian vegetation, overhanging banks or plunge pools for cover, especially during the breeding season (Hayes and Jennings 1988). They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or to avoid desiccation (Rathbun, *et al.* 1993; Jennings and Hayes 1994). Red-legged frogs may move up to 300 feet from aquatic habitats into surrounding uplands, especially following rains, when individuals may spend days or weeks in upland habitats (Bulger 1999). Eggs require 6 to 12 days before hatching and metamorphosis generally occurs 3.5 to 7 months after hatching, although larvae are capable of over-wintering. Following metamorphosis, generally between July and September, juveniles are 25-35 mm in size. Movements and habitat associations of juveniles are poorly understood.

During the non-breeding season, a wider variety of aquatic habitats are used by California red-legged frogs, including small pools in coastal streams, springs, water traps and other ephemeral water bodies (Bulger, pers. comm.; pers. obs.). Occurrence of this frog has been shown to be negatively correlated with presence of non-native bullfrogs (Moyle 1973; Hayes & Jennings 1986, 1988), although both species are able to persist at certain locations, particularly in the coastal zone (pers. obs.; Jennings, pers. comm.). It is estimated that the California red-legged frog has disappeared from approximately 75% of its former range, and has nearly been extirpated from the Sierra Nevada, Central Valley and much of southern California (Miller, *et. al.* 1996).

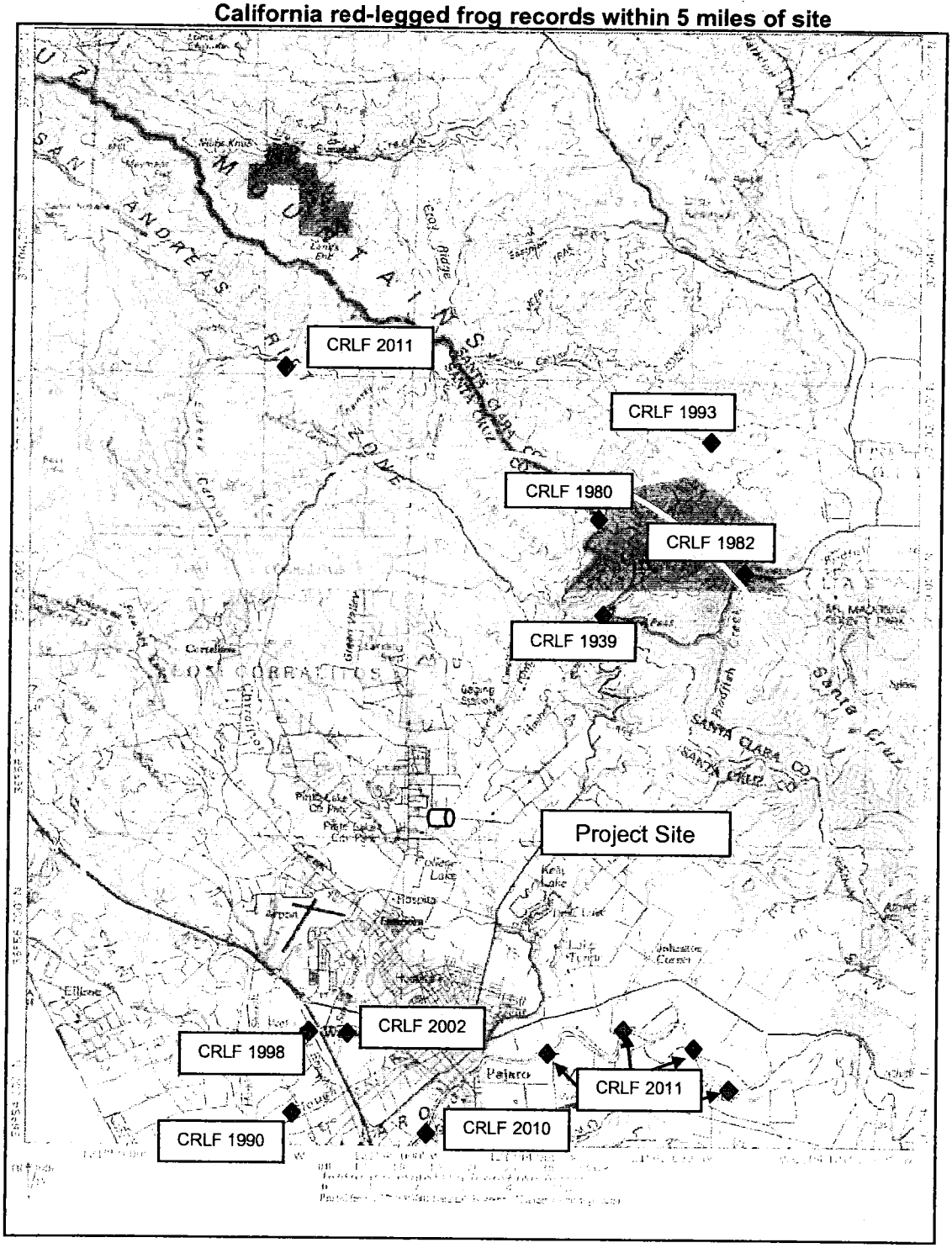
On 23 May 1996, the California red-legged frog was listed as threatened by the United States Fish and Wildlife Service (Miller, *et. al.* 1996). The USFWS proposed critical habitat for red-legged frog on 11 September 2000 (McCasland and Twedt 2000). On 13 March 2001, the final determination of critical habitat was made (McCasland, *et al.* 2001). The project site is within not in an area designated as Critical Habitat. The nearest area so designated is Critical Habitat Unit 17 to the south and west. On 28 May 2002, the USFWS released the recovery plan for the California red-legged frog (USFWS 2002).

Red-legged Frog Observations within Five Miles of the Project Site

The proposed project site is within the range of the California red-legged frog, and the species historically occurred in the vicinity (Stebbins 1985, Jennings and Hayes 1994). The species is known from the Santa Cruz Mountains, east of the project site, Watsonville Slough west of Highway 1 and the Pajaro River (FIGURE 3). A historic record, from 1939, is known from Hecker Pass, 2.4 miles NE of the project site (HT Harvey & Associates 1997). More recent records are known from Mount Madonna County Park, 3.2 miles NE of the site (1980), from Sprig Lake, 4.5 miles NE of the site (1982), and from Little Arthur Creek, 5 miles NE of the site (1993) (California Academy of Sciences; HT Harvey & Associates 1997).

The most recent records come from Grizzly Flat in upper Corralitos Creek (KEC 2010) and throughout the Pajaro River from Murphy's Crossing to the lagoon (KEC 2010-2012). No RLF were observed by KEC during daytime surveys in summer 2012 at College Lake, Salsipuedes Creek, and the Salsipuedes Creek Flood Control Channel. There is, however, habitat connectivity between the project site and the red-legged frog records in the Santa Cruz Mountains and the Pajaro River.

FIGURE 3: Paulsen Road
California red-legged frog records within 5 miles of site



Note: Yellow circle represents approximate 5 mile radius from project site

Suggested Best Management Practices

The following best management practices are suggested:

- Control of site runoff through during construction.
- Installation of temporary erosion and sedimentation control devices.
- Location of equipment and spoils in designated staging areas.
- Control of excavated materials to limit turbidity.
- Construction equipment should be maintained in proper operating condition to prevent leaks of oil or grease.

Suggested Mitigation Measures

1. A qualified biologist shall survey the project site and immediate vicinity for nesting birds, prior to site work if construction is planned before August 1.
2. A qualified biologist shall be on site during the removal of streambank vegetation, as well as installation and removal of silt fence and debris fence.
3. A qualified biologist shall be on site during site dewatering, should that be necessary. There is an extremely low likelihood of steelhead presence, due to the small subwatershed size and limited on-site, dry-season habitat.
4. Periodic monitoring during construction shall be conducted by the biological monitor to document that construction does not cause habitat degradation, excessive turbidity or adverse water quality conditions.

Cumulative Effects on the Aquatic Ecosystem

There would be no significant cumulative effects on the aquatic ecosystem due to this project. All of the effects described in this evaluation would be primarily temporary, minor in nature, or within acceptable limits.

Summary

Due to the small size and minor nature of the culvert repair project, potential adverse impacts to listed species and their essential habitat are considered unlikely or temporary. Preventative measures would be taken to ensure that fish and wildlife are avoided, relocated and/or unharmed at all times.

As, proposed, state water quality standards would not be violated. The proposed action would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

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APPENDIX A:
List of Special Status Species in the College Lake Region

Common Name **Scientific Name** **Animals**	**Status** **USFWS/** **CDFG/**	**General Habitat Requirements**	Potential for Species Occurrence Within the Project Site
Fish			
Steelhead, south-central California coast DPS *Onchorhynchus mykiss*	FT/CSC	Free-flowing coastal rivers and streams. Spawning habitat: clear, cool streams with overhanging vegetation.	**Moderate.** Steelhead are present in Casserly Creek, College Lake, and Pajaro River downstream of project area.
Amphibians			
California red-legged frog *Rana draytonii*	FT/CSC	Streams, freshwater pools and ponds with overhanging vegetation. Requires pools of >0.5 m depth for breeding.	**Moderate.** CRLF are present in the Pajaro River Watershed and upper Corralitos Creek. Wetland and riparian habitat in the Casserly Creek subwatershed may support summering and/ or dispersing frogs. Breeding has not been documented within 1.0 mile of the project area.
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	FE/SE	Freshwater wetlands with surrounding riparian vegetation. Upland habitat consists of riparian habitats, oak woodlands, and chaparral with small mammal burrows. This species has not been detected more than 1 kilometer away from breeding ponds.	**Low.** Nearest recorded breeding habitat is more than 3.5 miles west of the project site.
Birds			
western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC	Resident on coastal beaches and salt panne habitat.	**Low.** No suitable habitat in project site. Known from Pajaro River mouth and beach.
Plants			
Ben Lomond spineflower *Chorizanthe pungens*	FE/--/1B.1	Lower montane coniferous forest, in maritime ponderosa pine sandhills.	**Not Present.** Suitable habitat not present at the project site.

Monterey spineflower *Chorizanthe pungens* var. *pungens*	FT/--/1B.2	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland habitats.	**Not Present.** Suitable habitat not present at the project site
robust spineflower *Chorizanthe robusta* var. *robusta*	FE/--/1B.1	Sandy or gravelly soils in coastal dunes, coastal scrub, and openings in cismontane woodland habitats.	**Not Present.** Currently known populations are limited to Santa Cruz and Marin Counties, and no maritime chaparral habitat is present at the project site.
Santa Cruz tarplant *Holocarpha macradenia*	FT/SE/1B.1	In sandy and often clayey soils in coastal prairie, coastal scrub, and valley and foothill grassland.	**Low.** Not known from the site.
OTHER SPECIAL-STATUS SPECIES			
Reptiles and Amphibians			
western pond turtle *Actinemys marmorata*	--/CSC	Permanent or nearly permanent water in a variety of habitats.	Moderate. Western pond turtles are not known to be present in project area. Known from Pajaro River and suitable habitat exists on site.
foothill yellow-legged frog *Rana boylii*	--/CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Low.** Anecdotally known from Browns Creek in Corralitos Creek watershed. Occurs in Aptos and Soquel Creek north of project site. Not known to occur in College Lake area.
Dusky-footed woodrat *Neotoma fuscipes*	-/CSC	Riparian woodlands, oak woodland, oak scrub, and chaparral habitats	**Moderate.** Not observed in project area or adjacent riparian corridor. Commonly observed in Corralitos foothill habitats.
Birds			
Cooper's hawk *Accipiter cooperii*	--/*	Breeds in riparian woodlands and wooded canyons.	**Moderate.** Potential nesting habitat is present in willow riparian habitat within the project site.
tricolored blackbird *Agelaius tricolor*	--/CSC	Breeds near freshwater in dense emergent vegetation.	**Low.** Formerly known to breed in dense emergent cattail/tule stands in privately-owned reaches of Hanson and Harkins Sloughs. Occasionally observed at College Lake, downstream as passerine.
short-eared owl *Asio flammeus*	--/CSC	Found in freshwater and saltwater marshes, wet	**Low.** Marsh habitats or suitable agricultural fields for

		meadows, and irrigated alfalfa fields; nesting in a dry ground depression within vegetation.	this species are not present within the project site.
golden eagle *Aquila chrysaetos*	--/CSC, CFP	Breeds on cliffs or in large trees or structures	**Low.** Individuals foraging or flying over could occur throughout the project site. Suitable nesting habitat not present within the project site.
western burrowing owl *Athene cunicularia*	--/CSC	Grassland habitat with ground squirrel burrows (used for nesting).	**Low.** Occasionally observed in lower Pajaro River/Watsonville Slough region, but not known to nest in project area. Few ground squirrel burrows observed close to the project site.
northern harrier *Circus cyaneus*	--/CSC	Forages in open to herbaceous stages of many habitats. Breeds in marshes and prairies.	**Moderate.** This species could nest or forage within the vicinity of the project site.
white-tailed kite *Elanus leucurus*	--/CFP	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching	**Moderate.** This species could nest or forage within the vicinity of the project site.

STATUS CODES:
FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered (in danger of extinction) by the Federal Government.
FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.
FC = Candidate to become a *proposed* species.
FD = Federally Delisted
STATE: (California Department of Fish and Game
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CD = Delisted by the State of California
CR = Listed as Rare by the State of California (plants only)
CSC = California Species of Special Concern
CFP = California Department of Fish and Game Fully Protected
* = Special Animals included on the CDFG list of special animals (CDFG, 2009)
California Native Plant Society
List 1A=Plants presumed extinct in California
List 1B=Plants rare, threatened, or endangered in California and elsewhere
List 2= Plants rare, threatened, or endangered in California but more common elsewhere
List 3= Plants about which more information is needed
List 4= Plants of limited distribution
SOURCE: ESA, 2011; CDFG, 2011; CDFG, 2009; CNPS, 2011; USFWS, 1998; USFWS, 1984; NOAA, 2005.

Biotic Constraints Analysis
Paulsen Road PM 0.92 and PM 0.94 Culvert Replacements

October 3, 2012

Project Description

The County of Santa Cruz Department of Public Works (Public Works) proposes to replace two culverts on Paulsen Road at post miles 0.92 and 0.94 where the roadway crosses unnamed tributaries to Casserly Creek. The tributaries are straightened agricultural ditches that meet downstream of the roadway within riparian habitat at the head of the seasonally full College Lake. Figure 1.

Surface water is present in the ditched channels upstream and downstream of the culvert. Dense willow riparian habitat is present downstream of the culverts. Significant physical disturbance to habitats is apparent and illegal dumping of trash and furniture has degraded the downstream channel and riparian values. Figure 2.

Casserly Creek, which flows into College Lake in this vicinity, supports a mixed age riparian corridor, including big-leaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), black cottonwood (*Populus nigra*), sycamore (*Platanus racemosa*) and arroyo willow (*Salix lasiolepis*). Casserly Creek and Green Valley Creek have a confluence upstream of the seasonally filled College Lake. Both Casserly and Green Valley Creeks support steelhead/resident rainbow trout (KEC . pers. obs.), despite the fact that they flow intermittently during summer season in reaches upstream of the culvert project site.

Isolated pools in lower Casserly Creek and Green Valley Creek are frequent in late spring and as a result of localized irrigation return flows in summer and fall. Temporary dewatering of the culvert alignments by screened pumps will be necessary, if water is present during construction. A coffer dam stream diversion is proposed for each site. Temporary releases of small amounts of sediment may result from placement of new culvert and placement and removal of the coffer dams. Due the combination of standing water and very low channel slope, it is not anticipated that sediment transport will occur downstream of the site.

Listed Species in the Project Area and Vicinity

The CNDDB has listed 12 special status species with the potential to occur at or near the Paulsen Road project area within the USGS Watsonville East and West quads. Due to the proposed projects' small size and location within an established roadway, only three species have the potential to be in or near the project site. Those species are steelhead, CA red-legged frog, and western pond turtle. The full CNDDB-list of species is included in Appendix A.

The proposed project site is within the range of the California red-legged frog (*Rana aurora draytonii*- or "RLF") (Stebbins 1985, Jennings and Hayes 1994). The California red-legged frog is known from the Santa Cruz Mountains in Santa Cruz, San Mateo and Santa Clara Counties. California red-legged frog is known to occur in the Pajaro River, Watsonville Slough system, and in upper Corralitos Creek at Grizzly Flat. Suitable breeding and summering habitat is present for the California red-legged frog at

both sites, despite local disturbance and a large quantity of illegally dumped trash and furniture in the downstream riparian thicket. The downstream riparian zone may provide appropriate breeding, summering, foraging and sheltering habitat.

The Paulsen Road area has been surveyed for California red-legged frogs as part of the Paulsen Whiting Road Bridge Replacement Project in 2006. No red-legged frogs were observed during those surveys (P. Chang, pers. com. 2006). Bullfrogs and tree frogs are present in all reaches of accessible ditchlines along Paulsen Road and the College Lake tributaries. The subject culvert sites were surveyed for frogs in 2008, 2010, 2011 and 2012. Adult and subadult bullfrogs and treefrogs are numerous in the subject channels, the surrounding banks and emergent vegetation throughout the affected reaches. No CA red-legged frogs have been observed at the sites or at the nearby Casserly Ck. Bridge.

During the 2008 and 2010 KEC site visits, native habitats and significant habitat features were identified. Characteristics of aquatic habitats including approximate size, substrate and stream type were recorded. Current land uses at the study site and on surrounding lands were noted. Public roads in the area were driven to field check general habitat types in the area. California Natural Diversity Data Base (CNDDB) records for the Watsonville East, Watsonville West, Mount Madonna and Loma Prieta USGS Quadrangles were reviewed. All recorded red-legged frog localities within five miles (8 kilometers) of the project site were mapped. Recent sightings by KEC in the Pajaro River and upper Corralitos Creek watershed are included.

Draft maps depicting RLF occurrence locations and aquatic habitats were developed on USGS 1:24,000 and 1:100,000 scale digital topographic maps from TOPO (www.topo.com). Final map data were transposed onto TOPO digital topographic maps, imported into Microsoft WORD as JPEG objects and edited for format. In addition, aquatic habitats in the project vicinity and surrounding area were verified on current Google Earth imagery (5/2011). A copy of that image is provided.

Steelhead/rainbow trout are known from Casserly Creek and Green Valley Creek (KEC, pers. obs.). NOAA Fisheries has listed threatened Steelhead – South Central California Coast ESU (*Oncorhynchus mykiss irideus*) as occurring in or around the project area. Habitat for fish at the culverts is poor, although mosquitofish (*Gambusia sp.*) were observed. Floating duckweed dominates the water surface. Habitat for fish in nearby Casserly Creek and College Lake near the proposed repair sites is moderate to good, depending on flows. No fisheries sampling has been done at the site, but both culverts have connectivity with known O. mykiss habitat. Steelhead and/or resident rainbow trout (*O. mykiss*) presence should be assumed in the adjacent waterways, year-round.

Western pond turtles (*Clemmys marmorata*) are known to inhabit the Pajaro River flood control channel (KEC, pers. obs.) but they are not recorded in College Lake and the associated tributaries. Recent turtle survey results for the Santa Cruz County DPW indicated an estimated population of approximately 165 western pond turtles in the Pajaro River reach from Murphy's Crossing to Thurwatcher Bridge (KEC 2010). Casserly Creek and agricultural ditches in the College Lake in project area offer suitable pond turtle habitat, and there is the potential for pond turtle presence in the channels at the project site, although they have not been observed during the course of periodic visual surveys (KEC 2004-2011) in the area.

Despite the presence of 5 listed plant species in the Loma Prieta, Watsonville East and Watsonville West Quads, no listed plants are present in the potential impact zone of the project site. The developed nature of the site, and lack of suitable habitat for Santa Cruz tarplant (*Holocarpha macradenia*) and other special status plants limits potential rare plant occurrences. As a result, no

significant impacts to plants are anticipated, based on the proposed design, existing site disturbance and the minimal impacts to local riparian habitat.

FIGURE 1 - LOCATION MAP

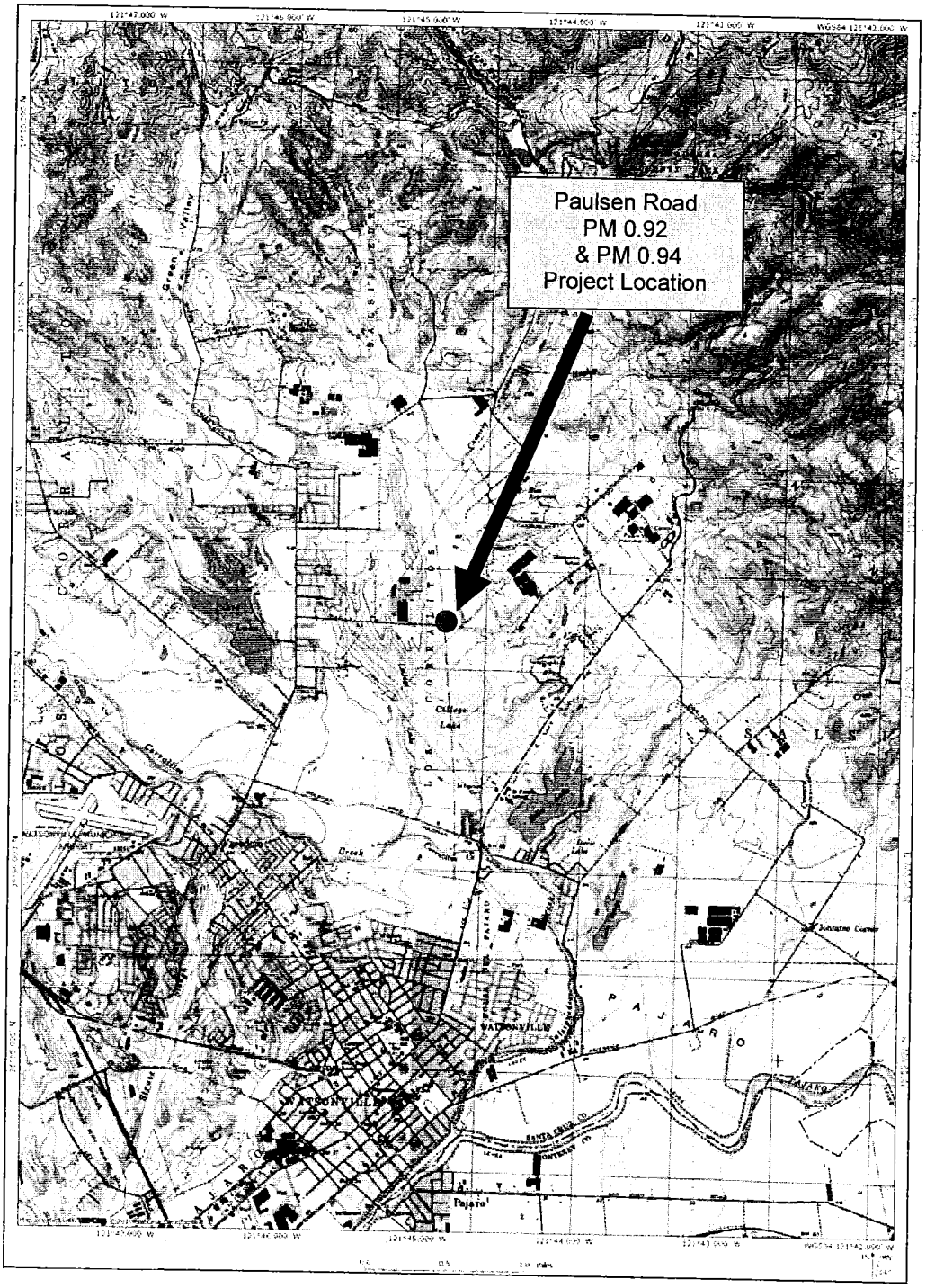
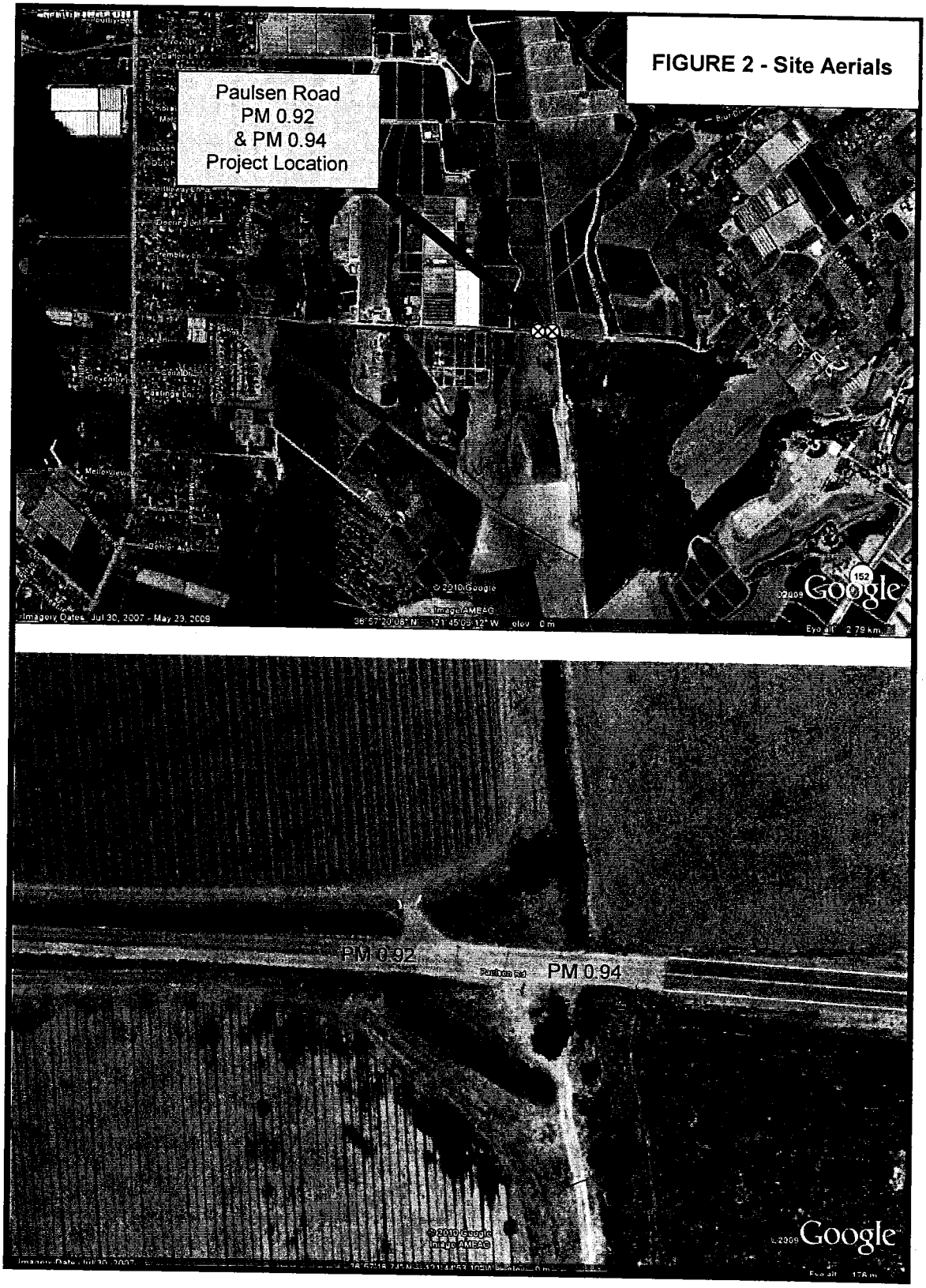


FIGURE 2 - Site Aerials



Other Wildlife Species

Wildlife effects associated with the proposed project are expected to be minimal and temporary. Wildlife species that use the project vicinity are mobile species that would leave the area during construction and return when construction is completed. Birds that may live in and around the project sites would also likely leave during construction and return when construction is completed.

All nearby riparian corridors have been modified or straightened for agricultural drainage and flood control. Aggressive vegetation management by the nursery operations limits riparian and instream habitat. Instream emergent vegetation is lacking in the mapped upstream ditches, however the upstream bank tributary ditches do support emergent cattail (Typha sp.) and sedge (Carex sp.).

No riparian or wetland vegetation will be removed during the culvert repair projects. All site access will be made from the existing roadway surface.

Portions of Casserly Creek and its tributary Hughes Creek are present within a mile of the project site. These stream courses provide potential habitat for both adult and juvenile red-legged frogs, especially during the non-breeding season. Due to access restrictions, only creek reaches at public road crossings and in the immediate vicinity of the project area were examined.

California Red-legged Frog Background Information

The California red-legged is the largest native frog in California (85-138 mm) and was historically widely distributed in the central and southern portions of the state (Jennings & Hayes 1994). The species requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submergent or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Radio-telemetry data indicates that adults engage in straight-line breeding season movements irrespective of riparian corridors or topography, and they may move up to two miles between non-breeding and breeding sites (Bulger 1999). Adults generally inhabit aquatic habitats with riparian vegetation, overhanging banks or plunge pools for cover, especially during the breeding season (Hayes and Jennings 1988). They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or to avoid desiccation (Rathbun, *et al.* 1993; Jennings and Hayes 1994). Red-legged frogs may move up to 300 feet from aquatic habitats into surrounding uplands, especially following rains, when individuals may spend days or weeks in upland habitats (Bulger 1999). Eggs require 6 to 12 days before hatching and metamorphosis generally occurs 3.5 to 7 months after hatching, although larvae are capable of over-wintering. Following metamorphosis, generally between July and September, juveniles are 25-35 mm in size. Movements and habitat associations of juveniles are poorly understood.

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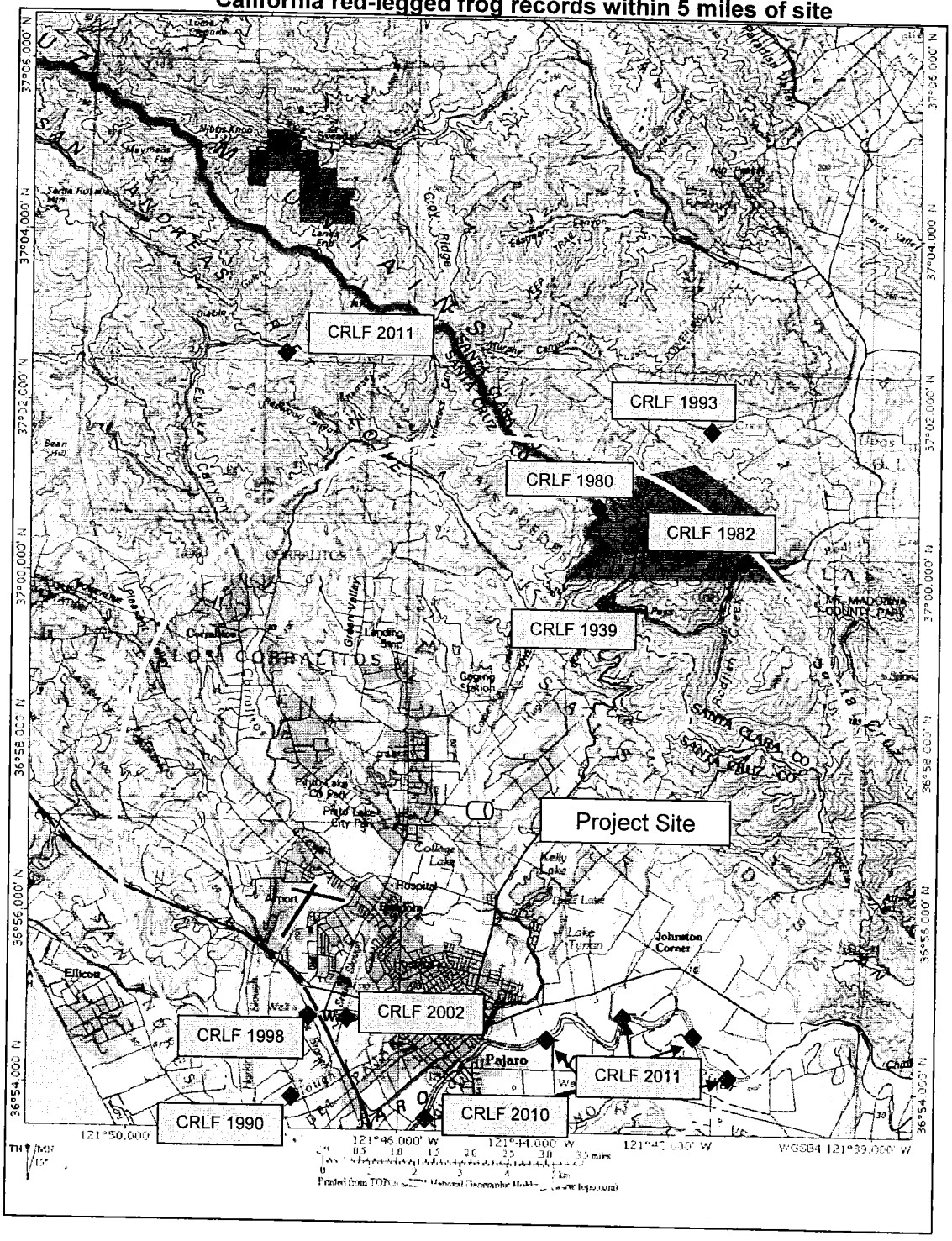
FIGURE 3: Paulsen Road
California red-legged frog records within 5 miles of site



Note: Yellow circle represents approximate 5 mile radius from project site

Suggested Best Management Practices

The following best management practices are suggested:

- Control of site runoff through during construction.
- Installation of temporary erosion and sedimentation control devices.
- Location of equipment and spoils in designated staging areas.
- Control of excavated materials to limit turbidity.
- Construction equipment should be maintained in proper operating condition to prevent leaks of oil or grease.

Suggested Mitigation Measures

1. A qualified biologist shall survey the project site and immediate vicinity for nesting birds, prior to site work if construction is planned before August 1.
2. A qualified biologist shall be on site during the removal of streambank vegetation, as well as installation and removal of silt fence and debris fence.
3. Periodic monitoring during construction shall be conducted by the biological monitor to document that construction does not cause habitat degradation, excessive turbidity or adverse water quality conditions.

Cumulative Effects on the Aquatic Ecosystem

There would be no significant cumulative effects on the aquatic ecosystem due to this project. All of the effects described in this evaluation would be primarily temporary, minor in nature, or within acceptable limits.

Summary

Due to the small size and minor nature of the culvert repair projects, potential adverse impacts to listed species and their essential habitat are considered unlikely or temporary. Preventative measures would be taken to ensure that fish and wildlife are avoided, relocated and/or unharmed at all times.

As, proposed, state water quality standards would not be violated. The proposed action would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

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APPENDIX A:

List of Special Status Species in the Pajaro River Bench Excavation Project Region

Common Name **Scientific Name** **Animals**	**Status USFWS/ CDFG/**	**General Habitat Requirements**	Potential for Species Occurrence Within the Project Site
Fish			
Steelhead, south-central California coast DPS *Onchorhynchus mykiss*	FT/CSC	Free-flowing coastal rivers and streams. Spawning habitat: clear, cool streams with overhanging vegetation.	**Moderate.** Steelhead are present in Casserly Creek, College Lake, and Pajaro River downstream of project area.
Amphibians			
California red-legged frog *Rana draytonii*	FT/CSC	Streams, freshwater pools and ponds with overhanging vegetation. Requires pools of >0.5 m depth for breeding.	**Moderate.** CRLF are present in the Pajaro River Watershed and upper Corralitos Creek. Wetland and riparian habitat in the Casserly Creek subwatershed may support summering and/ or dispersing frogs. Breeding has not been documented within 1.0 mile of the project area.
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	FE/SE	Freshwater wetlands with surrounding riparian vegetation. Upland habitat consists of riparian habitats, oak woodlands, and chaparral with small mammal burrows. This species has not been detected more than 1 kilometer away from breeding ponds.	**Low.** Nearest recorded breeding habitat is more than 3.5 miles west of the project site.
Birds			
western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC	Resident on coastal beaches and salt panne habitat.	**Low.** No suitable habitat in project site. Known from Pajaro River mouth and beach.

Plants			
Ben Lomond spineflower *Chorizanthe pungens*	FE/--/1B.1	Lower montane coniferous forest, in maritime ponderosa pine sandhills.	**Not Present.** Suitable habitat not present at the project site.
Monterey spineflower *Chorizanthe pungens* var. *pungens*	FT/--/1B.2	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland habitats.	**Not Present.** Suitable habitat not present at the project site
robust spineflower *Chorizanthe robusta* var. *robusta*	FE/--/1B.1	Sandy or gravelly soils in coastal dunes, coastal scrub, and openings in cismontane woodland habitats.	**Not Present.** Currently known populations are limited to Santa Cruz and Marin Counties, and no maritime chaparral habitat is present at the project site.
Santa Cruz tarplant *Holocarpha macradenia*	FT/SE/1B.1	In sandy and often clayey soils in coastal prairie, coastal scrub, and valley and foothill grassland.	**Low.** Not known from the site.
OTHER SPECIAL-STATUS SPECIES			
Reptiles and Amphibians			
western pond turtle *Actinemys marmorata*	--/CSC	Permanent or nearly permanent water in a variety of habitats.	Moderate. Western pond turtles are not known to be present in project area. Known from Pajaro River and suitable habitat exists on site.
foothill yellow-legged frog *Rana boylii*	--/CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Low.** Anecdotally known from Browns Creek in Corralitos Creek watershed. Occurs in Aptos and Soquel Creek north of project site. Not known to occur in Pajaro mainstem.
Dusky-footed woodrat *Neotoma fuscipes*	-/CSC	Riparian woodlands, oak woodland, oak scrub, and chaparral habitats	**Moderate.** Not observed in project area or adjacent

			riparian corridor. Commonly observed in Corralitos foothill habitats.
Birds			
Cooper's hawk *Accipiter cooperii*	--/*	Breeds in riparian woodlands and wooded canyons.	**Moderate.** Potential nesting habitat is present in willow riparian habitat within the project site.
tricolored blackbird *Agelaius tricolor*	--/CSC	Breeds near freshwater in dense emergent vegetation.	**Low.** Formerly known to breed in dense emergent cattail/tule stands in privately-owned reaches of Hanson and Harkins Sloughs. Occasionally observed at Colleg Lake, downstream as passerine.
short-eared owl *Asio flammeus*	--/CSC	Found in freshwater and saltwater marshes, wet meadows, and irrigated alfalfa fields; nesting in a dry ground depression within vegetation.	**Low.** Marsh habitats or suitable agricultural fields for this species are not present within the project site.
golden eagle *Aquila chrysaetos*	--/CSC, CFP	Breeds on cliffs or in large trees or structures	**Low.** Individuals foraging or flying over could occur throughout the project site. Suitable nesting habitat not present within the project site.
western burrowing owl *Athene cunicularia*	--/CSC	Grassland habitat with ground squirrel burrows (used for nesting).	**Low.** Occassionally observed in lower Pajaro River region, but not known to nest in project area. Few ground squirrel burrows observed in the project site.
northern harrier *Circus cyaneus*	--/CSC	Forages in open to herbaceous stages of many habitats. Breeds in marshes and prairies.	**Moderate.** This species could nest or forage within the vicinity of the project site.
white-tailed kite *Elanus leucurus*	--/CFP	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching	**Moderate.** This species could nest or forage within the vicinity of the project site.

STATUS CODES:
FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered (in danger of extinction) by the Federal Government.
FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.
FC = Candidate to become a *proposed* species.
FD = Federally Delisted
STATE: (California Department of Fish and Game
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CD = Delisted by the State of California
CR = Listed as Rare by the State of California (plants only)
CSC = California Species of Special Concern
CFP = California Department of Fish and Game Fully Protected
* = Special Animals included on the CDFG list of special animals (CDFG, 2009)
California Native Plant Society
List 1A=Plants presumed extinct in California
List 1B=Plants rare, threatened, or endangered in California and elsewhere
List 2= Plants rare, threatened, or endangered in California but more common elsewhere
List 3= Plants about which more information is needed
List 4= Plants of limited distribution
SOURCE: ESA, 2011; CDFG, 2011; CDFG, 2009; CNPS, 2011; USFWS, 1998; USFWS, 1984; NOAA, 2005.