County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR
www.sccoplanning.com

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

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

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

PROJECT: North Rodeo Gulch 4.75 Stream Bank Stabilization

APP #: N/A

APN(S): County Right of Way North Rodeo Gulch (Post Mile Marker 4.75)

PROJECT DESCRIPTION: Winter 2011 stormwater flows within Rodeo Gulch Gulch Creek eroded the toe of the roadway embankment causing the slope embankment and associated roadway to fall into the stream channel. In order to restore the road embankment and associated roadway back to pre-disaster configuration, the following activities need to be completed: construct a new retaining wall; place Rock Slope Protection (RSP) at the toe of the slope; revegetate restored roadway embankment; place new asphalt pavement and install a new steel guard rail.

PROJECT LOCATION: The project area is located on North Rodeo Gulch Road at Post Mile Marker 4.75.

EXISTING ZONE DISTRICT: RA-GH
APPLICANT: County of Santa Cruz, Department of Public Works
OWNER: County of Santa Cruz
PROJECT PLANNER: Matt Johnston, (831) 454-3201
EMAIL: Matt.Johnston@santacruzcounty.us
ACTION: Negative Declaration with Mitigations
REVIEW PERIOD: February 10, 2014 through March 11, 2014
This project will be considered administratively by the Project Planner at the conclusion of the review period.

COUNTY OF SANTA CRUZ

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MITIGATED NEGATIVE DECLARATION

Project: North Rodeo Gulch 4.75 Stream Bank Stabilization

APN(S): County Right of Way N. Rodeo Gulch (Post Mile Marker 4.75)
Project Description: Winter 2011 stormwater flows within Rodeo Gulch Creek eroded the toe of the roadway embankment causing the slope embankment and associated roadway to fail into the stream channel. In order to restore the road embankment and associated roadway back to pre-disaster configuration, the following activities need to be completed: construct a new retaining wall; place Rock Slope Protection (RSP) at the toe of the slope; revegetate restored roadway embankment; place new asphalt pavement and install a new steel guard rail.

Project Location: The project area is located on North Rodeo Gulch Road at Post Mile Marker 4.75.

Owner: County of Santa Cruz

Applicant: County of Santa Cruz, Department of Public Works

Staff Planner: Matt Johnston, (831) 454-3201

Email: Matt.Johnston@santacruzcounty.us

This project will be considered administratively by the Project Planner at the conclusion of the review period.

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

Review Period Ends: March 11, 2014

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

Date: 2/5/14

TODD SEXAUER, Environmental Coordinator
(831) 454-3511

NAME: North Rodeo Gulch 4.75
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. 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.

C. 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.

1. A concrete spill and containment plan shall be reviewed by Planning staff prior to site disturbance.
2. Prior to the pour of each pier, concrete amounts required will be estimated. Pouring will stop if the estimated amount is exceeded and the DPW inspector will investigate down gradient from the pier to ensure concrete is not migrating underground and surfacing in the creek channel.

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CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ENVIRONMENTAL REVIEW INITIAL STUDY

Date: February 3, 2014

Staff Planner: Matt Johnston

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: County of Santa Cruz Department of Public Works

APN(s): County Right of Way N. Rodeo Gulch (Post Mile Marker 4.75)

OWNER: County of Santa Cruz

SUPERVISORAL DISTRICT: 1st

PROJECT LOCATION:
The project area is located on N. Rodeo Gulch Road at Post Mile-Marker 4.75.

SUMMARY PROJECT DESCRIPTION:

Winter 2011 stormwater flows within Rodeo Gulch Creek eroded the toe of the roadway embankment causing the slope embankment and associated roadway to fail into the stream channel. In order to restore the road embankment and associated roadway back to pre-disaster configuration, the following activities need to be completed: construct a new retaining wall; place Rock Slope Protection (RSP) at the toe of the slope; revegetate restored roadway embankment; place new asphalt pavement and install a new steel guard rail.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: All of the following potential environmental impacts are evaluated in this Initial Study. Categories that are marked have been analyzed in greater detail based on project specific information.

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

DISCRETIONARY APPROVAL(S) BEING CONSIDERED:

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

NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations:

California Department of Fish & Wildlife
Regional Water Quality Control Board
Army Corps of Engineers

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

2/4/14
Date

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS

Parcel Size: N/A
Existing Land Use: Roadway, Riparian Corridor
Vegetation: Riparian
Slope in area affected by project: ☐ 0 - 30% ☒ 31 – 100%
Nearby Watercourse: Rodeo Gulch Creek
Distance To: Adjacent

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Water Supply Watershed: No
Groundwater Recharge: Yes
Timber or Mineral: No
Agricultural Resource: No
Biologically Sensitive Habitat: Yes
Fire Hazard: No
Floodplain: Yes
Erosion: Yes
Landslide: Yes
Liquefaction: No
Fault Zone: No
Scenic Corridor: No
Historic: No
Archaeology: No
Noise Constraint: No
Electric Power Lines: Yes
Solar Access: N/A
Solar Orientation: N/A
Hazardous Materials: No
Other:

SERVICES

Fire Protection: Central Fire
School District: Soquel Union
Sewage Disposal: N/A
Drainage District: Zone 5
Project Access: Roadway
Water Supply: N/A

PLANNING POLICIES

Zone District: Residential Agriculture
General Plan: Suburban Residential
Special Designation: No

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

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

The project area is located within the county right-of-way along N. Rodeo Gulch Road adjacent to Post Mile Marker 4.75 (Attachment 1). The topography of the site includes a low to moderate gradient stream located within a deeply incised channel and flanked by steep vegetated slopes. Although the area damaged by the slope failure has minimal vegetative cover, the surrounding slopes are covered with well established riparian vegetation: white alder (*Alnus rhombifolia*), willow (*Salix sp.*), California bay (*Umbellularia californica*), blackberry (*Rubus sp.*), Poison oak (*Toxicodenddron diversilobum*) and five-finger fern (*Adiantum aleuticum*). A biotic assessment has been completed (Attachment 2) and has determined no special status species would be impacted by this project.

PROJECT BACKGROUND:

During winter flood events of 2011, heavy stormwater flows within Rodeo Gulch Creek washed out the toe of the roadway embankment causing total failure of the road embankment and half the road width and shoulder of Rodeo Gulch Road.

DETAILED PROJECT DESCRIPTION:

The repair work involved in reestablishing and stabilizing this section of county maintained roadway includes constructing: a steel solider pile and timber lagging retaining wall (75 linear feet); toe slope protection between the creek channel and the base of the retaining wall (placement of 75 linear feet of Rock Slope Protection (RSP); reconstruct roadway and shoulder and construct a metal beam guardrail. The construction area is approximately 130 feet long by 50 feet wide. Two construction staging areas will be located along Rodeo Gulch Road (adjacent to the limits of construction). A temporary construction access road will be installed, northwest corner of the construction area, in order to complete the necessary earthwork for the new retaining wall, placement of the RSP and reconstructing the failed roadway and shoulder. The construction access road will be removed upon project completion and appropriate Best Management Practices (BMP's) will be implemented to stabilize areas of bare soil. A limited section of stream channel will need to be diverted and dewatered in order to properly install the RSP. The dewatering process will be achieved by utilizing temporary dams, diversion pipe and portable pump(s). The placement of silt fencing, straw wattles and other BMP measures will be employed during construction activities in order to safeguard water quality and federally listed species. The implementation of the Erosion control and Revegetation Plans will provide short-term slope stability for areas disturbed during construction activities and long-term slope stability for the roadway embankment below the new retaining wall.

III. ENVIRONMENTAL REVIEW CHECKLIST

A. GEOLOGY AND SOILS

Would the project:

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
	B. Strong seismic ground shaking?	☐	☐	☒	☐
	C. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	D. Landslides?	☐	☐	☒	☐

Discussion (A through D): The project site is located outside of the limits of the State Alquist-Priolo Special Studies Zone (County of Santa Cruz GIS Mapping, California Division of Mines and Geology, 2001). However, the project site is located approximately 8.5 mile(s) southwest of the San Andreas fault zone, and approximately 5 mile(s) southwest of the of the Corralitos fault zone. While the San Andreas fault is larger and considered more active, each fault is capable of generating moderate to severe ground shaking from a major earthquake. Consequently, large earthquakes can be expected in the future. The October 17, 1989 Loma Prieta earthquake (magnitude 7.1) was the second largest earthquake in central California history.

All of Santa Cruz County is subject to some hazard from earthquakes. However, the project site is not located within or adjacent to a County or state mapped fault zone, therefore the potential for ground surface rupture is low. The project site is likely to be subject to strong seismic shaking during the life of the improvements. The improvements would be designed in accordance with the Uniform Building Code, which should reduce the hazards of seismic shaking and liquefaction to a less than significant level. There is no indication that landsliding is a significant hazard at this site.

All of Santa Cruz County is subject to some hazard from earthquakes. However, the

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

project site is not located within or adjacent to a county or state mapped fault zone. A geotechnical investigation for the proposed project was performed by Butano Geotechnical Engineering, January 2013. The report concluded that the proposed design meets the 2010 California Building Code standards which incorporate seismic concerns into the design criteria.

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?	☐	☐	☒	☐

The geotechnical report cited above did not identify a significant potential for damage caused by any of these hazards.

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

Discussion: The proposed project would stabilize a steep slope that supports a County roadway.

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

Discussion: Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because ground disturbance is limited to the slipout area and standard erosion controls are a required condition of the project. Prior to County approval, the project must have an approved Erosion Control Plan, which would specify detailed erosion and sedimentation control measures. The plan would include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion.

5.	Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☐	☒

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

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	☐	☐	☐	☒

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

sewers are not available?

Discussion: The proposed project is a road stabilization project and does not involve sewage of any kind.

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

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

B. HYDROLOGY, WATER SUPPLY, AND WATER QUALITY

Would the project:

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

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

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

Discussion: The toe of the proposed project will be within the 100-year flood area. The project design includes rock slope protection approximately the same location as the current debris from the slip out, therefore no impacts are anticipated.

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

Discussion: The proposed project is located over two miles inland and as such is not subject to impacts from a seiche or tsunami. As a structural road feature, the project is designed to withstand a mudflow that may come down the channel.

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 ☐ ☐ ☐ ☒

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

have been granted)?

Discussion: This project would not require nor would it impact ground water or any water supplies.

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: This project is not within a water supply watershed.

6.	Degrade septic system functioning?	☐	☐	☐	☒

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

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

Discussion: The proposed project includes some in-channel work but is designed to reestablish the existing active channel prior to the roadway failure.

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: This project will not create or contribute any runoff water in excess of current levels.

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: This project will reestablish a major roadway outside of the 100-year flood zone.

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

Discussion: Implementation of the required erosion control plan and standard BMPs required of all Public Works projects to ensure proper maintenance of equipment and staging areas will ensure that there are no further impacts to water quality.

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: A Biotic Report was prepared for this project by Biotic Resources Group, dated June 15, 2013 (Attachment 2). No special status species have been identified on the subject property in either the Biotic Report or in site visits by Planning Department staff.

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 site is within the riparian corridor and sensitive habitat as defined in the Santa Cruz County Code Sections 16.30 and 16.32, respectively. The proposed project will result in a temporary disturbance of riparian and aquatic habitat by heavy equipment accessing and working within the project area. Riparian and sensitive habitat disturbed during construction are proposed to be revegetated with locally appropriate native species. Two California bay trees (each 24" in diameter) located at the downstream portion of the work area will be cut (within stumps retained) to accommodate the slope repair and construction of the retaining wall. As California bay sprouts readily from the root crown, bole, or stump, re-sprouting of these cut trees is expected; therefore this impact to the riparian woodland is considered temporary. Two small willows (each 3" in diameter) that grow amid the failed slope will be removed as well as herbaceous riparian-associated understory vegetation that grows upstream

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

and downstream of the slip-out. A revegetation plan has been created that includes willow staking within the RSP and planting of native riparian species to reestablish the riparian vegetation, and retention of the bay stumps to be removed. Hydroseeding of native grass species and installation of natural fiber biodegradable erosion control fabric are proposed to be applied to all disturbed areas. The potential impacts to the riparian habitat are found to be less than significant.

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

Discussion: Nesting birds may occur in the riparian vegetation adjacent to the project site. Because most nesting birds are protected by the Migratory Bird Treaty Act, the following measures are expected to avoid potentially significant impacts if any are present during construction:

To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and October 15 of any given year, which is outside the bird breeding season. If this is not practical, then have a qualified biologist conduct a preconstruction survey for nesting birds. If any active bird nests are found within 50 feet of the work area, postpone construction until the biologist has determined that all young have fledged.

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

Discussion: The proposed project does not involve any night time 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: Work along the toe of the slope to remove the failed riprap and to placement new riprap will impact two patches of in-channel wetlands located within the work area (collectively encompassing approximately 8 square feet). Due to the dynamic nature of in-stream wetland vegetation, wetland vegetation is expected to re-colonize the work area after construction; therefore, this impact is considered to be temporary, and less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 Department of Public Works is required to obtain a Riparian Exception prior to site disturbance. Issuance of this exception will ensure the project does not conflict with any ordinance in place for the protection of biological resources.

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

Discussion: There are no Habitat Conservation Plans in effect that affect the subject location; therefore the project will not conflict with any plan.

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

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

use. No impact would occur from project implementation.

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

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

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

Discussion: The project would not affect any timber resource or access to harvest of timber resources in the future.

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: The project as proposed is to restore a failed roadway. This has no impact on farmland nor does it have the potential to affect the potential conversion of farmland, therefore there is no impact.

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?	☐	☐	☐	☒

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

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

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

Discussion: The project as proposed is to restore a failed roadway. This has no impact on mineral resources, therefore, no potentially significant loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project.

F. VISUAL RESOURCES AND AESTHETICS

Would the project:

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

Discussion: The project would not directly impact any public scenic resources, as designated in the County's General Plan (1994), or obstruct any public views of these visual resources.

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

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

3.	Substantially degrade the existing visual character or quality of the site and its surroundings, including substantial change in topography or ground surface relief features, and/or development on a ridgeline?	☐	☐	☒	☐

Discussion: The existing visual setting is riparian corridor. The proposed project is designed and landscaped so as to fit into this setting.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion: The project would not create any incremental increase in night lighting; therefore, there will be no impact.

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: There are no existing structure(s) on the property designated as a historic resource on any federal, state or local inventory.

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

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

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

Discussion: 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	☐	☐	☒	☐

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

unique geologic feature?

Discussion: There is no known unique paleontological resource at the site. The project disturbance consists of removing spoils from the stream channel, constructing a retaining wall, and backfill. 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: This project involves the transportation and pouring of concrete, which can have a detrimental effect on water quality. In order to ensure no impacts occur as a result of an accidental spill of concrete, the following mitigation measures shall be implemented:

1. A concrete spill and containment plan shall be reviewed by Planning staff prior to site disturbance.
2. Work will be conducted in the dry season.
3. Prior to the pour of each pier, concrete amounts required will be estimated. Pouring will stop if the estimated amount is exceeded and the DPW inspector will investigate down gradient from the pier to ensure concrete is not migrating underground and surfacing in the creek channel.

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: See 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: This project does not involve the use of hazardous materials beyond the concrete discussed above. 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.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 21, 2014 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.

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 two miles of an airport.

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

Discussion: The current roadway is reduced to a single lane. This project will result in restoring the roadway to two lanes and improving emergency access to the community beyond the road failure. This is a beneficial impact.

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	☐	☐	☒	☐

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

urbanized areas or where residences are intermixed with wildlands?

Discussion: The project will restore a roadway to two lanes and will improve vehicular access to the community beyond the existing failure. This is a beneficial impact.

I. TRANSPORTATION/TRAFFIC

Would the project:

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

Discussion: There would be no impact because no additional traffic would 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: There will be no impact because no airports are within the project vicinity.

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

Discussion: The proposed project will remove a hazardous design feature by restoring the roadway to two lanes.

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

Discussion: One lane will remain open at all times. Fire trucks, ambulances and other emergency vehicles will not be blocked from using the road at any time.

5.	Cause an increase in parking demand	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
which cannot be accommodated by existing parking facilities?				

Discussion: No increase in parking demand will result from this project.

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 by removing a hazardous design feature and restoring the roadway to two lanes.

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

Discussion: See response I-1 above.

J. NOISE

Would the project result in:

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

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: The piers for this project will be drilled and poured in place and will not be pile driven. There is no expectation of ground-bourn vibrations resulting from this project.

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

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

standards of other agencies?

Discussion: Noise levels generated by the routine construction activities are not expected to exceed County standards. The nearest residence from the proposed project is located on a hill 70 feet above the roadway, and 300 feet away.

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.

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: The proposed project is not within an airport land use plan or within 2 miles of an airport or private airstrip.

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

Discussion: The proposed project is not within an airport land use plan or within 2 miles of an airport or 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.

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

Given the modest size of the disturbance area, the proposed project will not produce sufficient contaminants to be considered a significant impact.

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.

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

Discussion: The repair is temporary in nature and will not result in any long-term increase in pollutants.

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

Discussion: Given the nature of the roadway in the project vicinity, along a creek channel with a hillside adjacent, there is no pedestrian access. There are also no substantial pollutant concentrations expected to be produced as a result of this project. Therefore, this project will not have an impact on sensitive receptors.

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

Discussion: The repair of the roadway is not expected to produce any objectionable odors.

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: Greenhouse gas (GHG) emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at

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

different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Measures integrated into the project that help limit/minimize construction-related GHG emissions include reducing traffic delays by developing a Transportation Management Plan.

While construction would result in a slight increase in greenhouse gas emissions during construction, no operational increase in GHG emissions associated with this proposed project is anticipated. However, in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, the County has strategies to help reduce greenhouse gas emissions and energy consumption. These measures included in the *County of Santa Cruz Climate Action Strategy* (County of Santa Cruz, 2013) are outlined below.

Strategies for the Reduction of Greenhouse Gases from Transportation

- Reduce vehicle miles traveled (VMT) through County and regional long range planning efforts.
- Increase bicycle ridership and walking through incentive programs and investment in bicycle and pedestrian infrastructure and safety programs.
- Provide infrastructure to support zero and low emissions vehicles (plug in, hybrid plug-in vehicles).
- Increase employee use of alternative commute modes: bus transit, walking, bicycling, carpooling, etc.
- Reduce County fleet emissions.

Strategies for the Reduction of Greenhouse Gases from Energy Use

- Develop a Community Choice Aggregation (CCA) Program, if feasible.
- Increase energy efficiency in new and existing buildings and facilities.
- Enhance and expand the Green Business Program.
- Increase local renewable energy generation.
- Public education about climate change and impacts of individual actions.
- Continue to improve the Green Building Program by exceeding the minimum standards of the state green building code (Cal Green).
- Form partnerships and cooperative agreements among local governments, educational institutions, nongovernmental organizations, and private businesses

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

as a cost-effective way to facilitate mitigation and adaptation.

- Reduce energy use for water supply through water conservation strategies.

Impacts are expected to be less than significant.

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

Discussion: See the discussion under L-1 above. No impacts are anticipated.

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 current state of the roadway is narrowed from two lanes to one, with a stop sign at each end of the slipout. This is potentially a minor constraint on emergency access and public safety that will be alleviated with the completion of the proposed project. This is a beneficial impact.

	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: A road repair project will have no effect on recreational activities.

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: A road repair project will have no effect on recreational activities.

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: No additional drainage facilities would be required for the proposed project. No impacts are expected to occur from the proposed project.

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: The proposed bridge repair project would not require the construction of new water or wastewater treatment facilities, or the expansion of such facilities. No impacts are expected to occur.

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

Discussion: The proposed project would not generate wastewater. No impacts are

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

anticipated.

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

Discussion: The proposed project would only use small amounts of water during construction for dewatering and concrete work. No water use would be required during the operational phase of the project. No impacts are expected to occur from project implementation.

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: Please see discussion under O-2 above. No impact is anticipated.

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

Discussion: The proposed project would not generate waste during the operational phase of the project. However, construction debris would be generated during demolition and construction, much of which would be recycled. No significant impacts are anticipated.

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

Discussion: Please see discussion under O-6 above. No impact would occur.

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)	☐	☐	☐	☒

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

adopted for the purpose of avoiding or mitigating an environmental effect?

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

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

Discussion: The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. No impact would occur.

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 proposed project would not induce substantial population growth in an area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area. The project proposes only to repair a failed roadway section and would not induce population growth. No impact would occur.

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

Discussion: The proposed project would not displace any existing housing. No impact would occur.

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

Discussion: The proposed project would not displace a substantial number of people since the project is only intended to repair an existing roadway. No impact would

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

occur.

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 significant would be potentially impacted by the project, particularly riparian habitat and special-status wildlife species resources. However, mitigation has been included that clearly reduces these effects to a level below significance. This mitigation includes revegetation, measures to protect water quality, and avoidance and minimization efforts. 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 potentially significant cumulative effects related to biological resources. However, mitigation has been included that clearly reduces these cumulative effects to a level below significance. As a result of this evaluation, there is no substantial evidence that there are cumulative effects associated with this 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. As a result of this evaluation, there were determined to be potentially significant effects to human beings related to hazardous materials. However, mitigation has been included that clearly reduces these effects to a level below significance. As a result of this evaluation, there is no substantial evidence that, after mitigation, 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. 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. Project Plans
2. Biotic Report, prepared by Biotic Resources Group, dated June 5, 2013

Reviewed by:
Laurie Goessel
Construction Engineer

Reviewed by:
Terry Reynolds
Road Superintendent

Reviewed by:
Jack Sohriakoff, P.E.
Traffic Engineer

INDEX OF SHEETS

ABBREVIATIONS

AB	Anchor Bolt	LL	Live load
AC	Asphalt Concrete	LS	Lag screw
ACI	American Concrete Institute	LT	Left
AGG BASE	Aggregate Base	LTWT	Light weight
AISC	American Institute of Steel Construction	MANUF	Manufacturer's
AITC	American Institute of Timber Construction	MAX	Maximum
APA	American Plywood Association	MB	Machine Bolt
APPROX	Approximately	MECH	Mechanical
ARCH	Architect	MISC	Miscellaneous
ASTM	American Society for Testing & Materials	MH	Manhole
AVG	Average	MIN	Minimum
BC	Begin curve	MP	Midpoint
BG	Below grade	MTL	Metal
BLDG	Building	NG	Natural Grade
BLKG	Block(ing)	NTS	Not to Scale
BM	Bench Mark	OC	On center
BN	Boundary nailling	OCBW	On center both ways
BOT	Bottom	OD	Outside Diameter
BRC	Brace	OH	Other hand
BRG	Bearing	OPP	Opposite
BTWN	Between	PC	Point of curvature
BVL	Bevel	PCC	Portland Cement Conc
C	Channel	PCR	Point of curb return
CANT	Cantilever	PI	Point of intersection
CB	Catch Basin, Carraige Bolt	PIP	Poured in place
CC	Center to Center	PL	Property Line, Plate
CF	Cubic feet	PLY	Plywood
CFM	Cubic feet per minute	PMP	Perforated metal pipe
CG&S	Curb, Gutter, & Sidewalk	PNL	Panel
CI(P)	Cast iron (Pipe)	PPVC	Perforated Polyvinyl Chloride Pipe
CJ	Construction joint or Contraction joint	PRCST	Precast
CL	Center Line	PREFAB	Prefabricated
CLG	Ceiling	PSF	Pounds per Square Foot
CLR	Clear, Clearance	PSI	Pounds per Square Inch
CMP	Corrugated metal pipe	PT	Point of tangency or Point
CNTRL	Control	PTDF	Pressure Treated Douglas Fir
CO	Cleanout	PVC	Polyvinyl Chloride Pipe
COLL	Collector	PVMT	Pavement
COMP PEN	Complete penetration	R	Radius, Riser
CONC	Concrete	RC	Relative Compaction
CONN	Connection	RCP	Reinforced concrete pipe
CONT	Continuous	REINF	Reinforcement
CSK	Countersink	REM	Removal
CTR	Center	REPL	Replace
CVR	Cover	REQD	Required
CY	Cubic yard	RET	Retaining
DBL	Double	RGH or RS	Rough or Rough sawn
DEG	Degree	RT	Right
DET	Detail	R/W or ROW	Right of way
DF	Douglas Fir	RWALL	Retaining Wall
DI	Drop inlet or Drainage inlet	RWD	Redwood
DIA	Diameter	S	Slope
DIAG	Diagonal	SB	Solid backing
DIM	Dimension	SCH	Schedule
DL	Dead load	SD	Storm drain
DN	Down	SECT	Section
DWY	Driveway	SEL	Select
DWG	Drawing	SF	Square foot
E	Electric	SHT	Sheet
EA	Each	SHTG	Sheathing
EB	Expansion bolt	SIM	Similar
EC	End curve	SK	Sack
EF	Each face	SLV	Sleeve
EJ	Expansion joint	SM	Sheet metal
ELECT	Electric, Electrical	SP	Sheet pile
ELEV or EL	Elevation	SPEC	Specifications
ENGR	Engineer	SQR	Square
EP	Edge of pavement	SS	Sanitary or Sanitary Sewer
ES	Each side	SSMH	Sanitary Sewer Manhole
ESMT	Easement	SSP	Stainless steel pipe
EW	Each way	STA	Station
EX	Existing	STD	Standard
EXP	Expansion	STL	Steel
EXT	Exterior	STRUCT	Structural
FB	Flat bar	SWK	Sidewalk
FG	Finish grade	SWR	Sewer
FIN	Finish	SY	Square yard
FLD	Field	T	Ton, Tee Section
FLR	Floor	T&B	Top and Bottom
FND	Foundation	TBM	Temporary bench mark
FOC	Face of concrete or curb	TC	Top of curb
FOS	Face of steel or stud	TEL	Telephone
FT	Foot or Feet	TEN	Typical edge nailing
FTG	Footing	TG	Top grate
G	Gas	TOC	Top of concrete
GA	Gauge	TOS	Top of steel
GALV	Galvanized	TOW	Top of wall
GR	Grade Elevation	TP	Top of pavement
H/C	Handicapped	TR	Tread
HD	Holdown	TS	Top slab, structural steel tube
HORIZ	Horizontal	TYP	Typical, UNO
HP	High point	UG	Underground
HT	Height	UBC	Uniform Building Code
ID	Inside Diameter	UNO	Unless noted otherwise
INT	Interior	VC	Vertical curve
INV	Invert elevation	VERT	Vertical
IP	Iron pipe	VIF	Verify in field
IR	Inside radius	W	Water
JB	Junction box	W	With
JP	Joint pole	W/O	Without
JT	Joint	WP	Weatherproof, work point
L	Angle	XFMR	Transformer
LB or #	Pound	XS	Extra Strong
LD	Load	XXS	Double Extra Strong

COUNTY OF SANTA CRUZ

DEPARTMENT OF PUBLIC WORKS

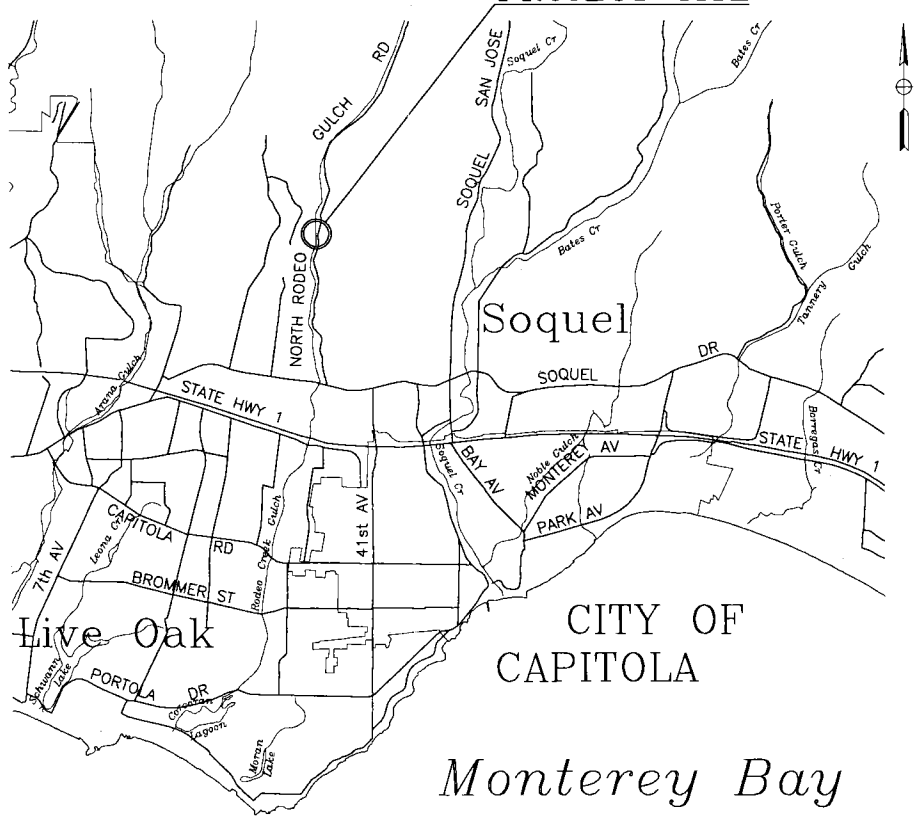
PROJECT PLANS FOR CONSTRUCTION ON

NORTH RODEO GULCH ROAD PM 4.75
STORM DAMAGE REPAIR

MARCH 2011 STORM EVENT
COUNTY PROJECT NO. 79108

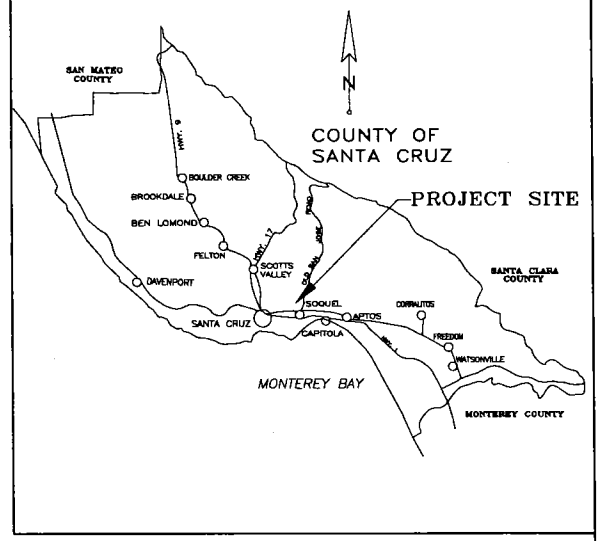
To be supplemented by Caltrans Standard Plans 2010

PROJECT SITE



VICINITY MAP
No Scale

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	24045		1	8



LOCATION MAP

Design Engineer

REGISTERED PROFESSIONAL ENGINEER
RODNEY T. CAVILL
No. 67728
CIVIL
STATE OF CALIFORNIA

Senior Design Engineer

REGISTERED PROFESSIONAL ENGINEER
RUSSELL J. CHEN
No. 53154
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

Assistant Director of Public Works
Transportation Division

REGISTERED PROFESSIONAL ENGINEER
STEVEN B. WIESNER
No. 54814
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

Director of Public Works

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PRESLEIGH
No. 42802
Exp. 3-31-15
CIVIL
STATE OF CALIFORNIA

Chair, Board of Supervisors

Approved by Board of Supervisors

County Job No.	79108

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES 0 1 2 3

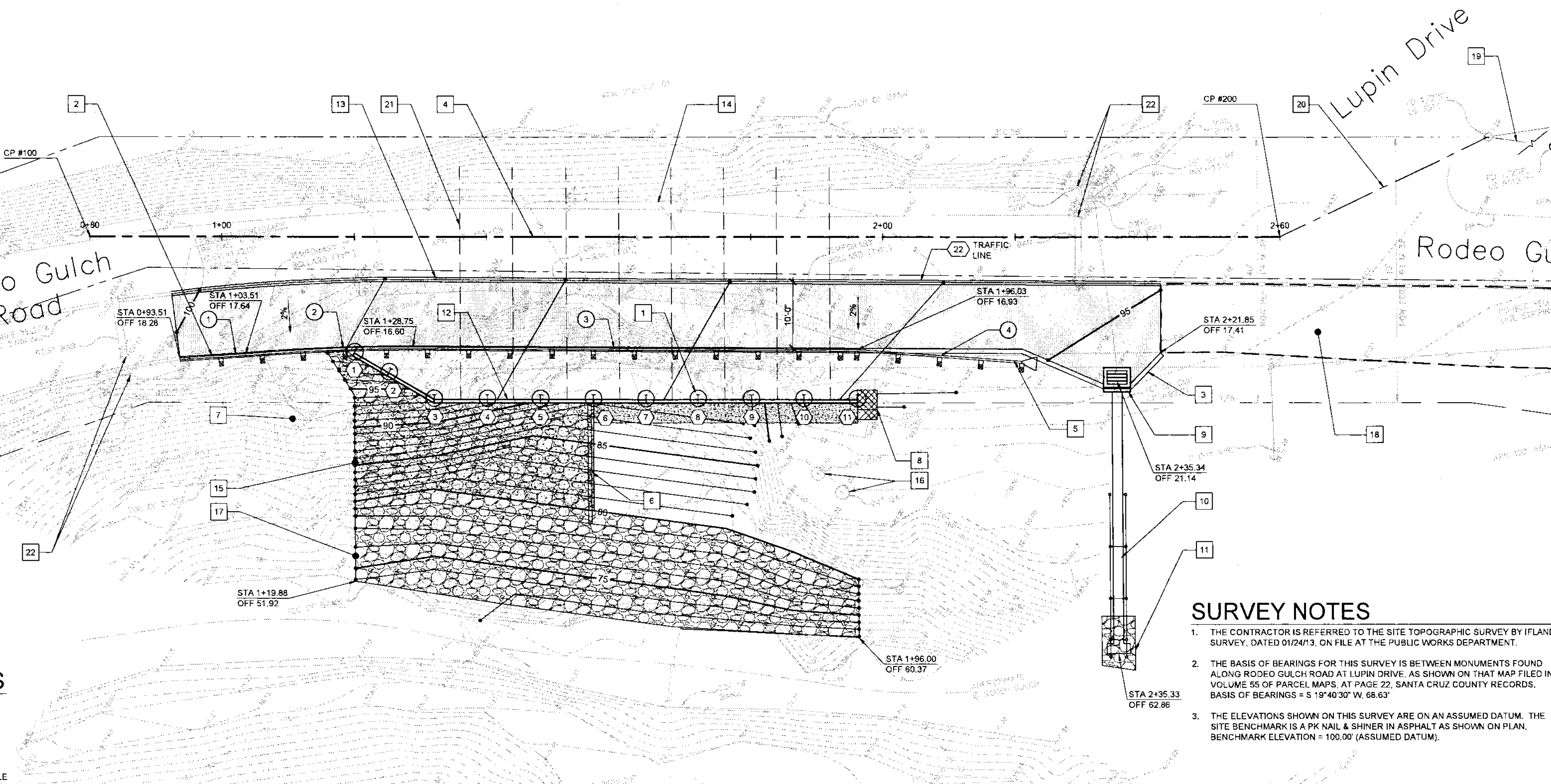
NORTH RODEO GULCH ROAD PM 4.75 STORM DAMAGE REPAIR

CONSTRUCTION ITEMS

1. CONSTRUCT (78 LF) STEEL SOLDIER PILE AND TIMBER LAGGING RETAINING WALL, SEE PILE LOCATION TABLE
2. CONSTRUCT (125.45 LF) METAL BEAM GUARD RAIL PER STANDARD PLAN A77A1, SEE SEGMENT DATA TABLE
3. CONSTRUCT (151.51 LF) AC DIKE PER STANDARD PLAN A77C4, BEGIN STA 0+93.50 OFF +18.11, END STA 2+41.85 OFF +17.41
4. CONTROL LINE, SEE SURVEY CONTROL DATA TABLE
5. CONSTRUCT (25 LF) METAL BEAM RAILING TERMINAL SYSTEM, BEGIN STA 1+93.91, END STA 2+15.31
6. CONSTRUCT APPROXIMATELY (20 LF) OF 6" PVC SOLID UNDERDRAIN PIPE FROM OUTLET
7. EXISTING RSP WITHIN THE LIMIT OF GRADING SHALL BE REMOVED AND RELOCATED BY METHOD A INTO THE NEW LOCATION AS SHOWN ON THESE PLANS AND AS DIRECTED BY THE ENGINEER, RSP TO BE RELOCATED SHALL CONFORM WITH THE PROJECT SPECIFICATIONS FOR RSP. EXISTING RSP UPSTREAM OF PROJECT LIMIT (STA 1+20) SHALL REMAIN IN PLACE
8. CONSTRUCT GABION END CLOSURE STRUCTURE. SEE DETAIL 6/SHT 6
9. CONSTRUCT DOWN DRAIN INLET TYPE GO PER STANDARD PLAN D74B
10. CONSTRUCT APPROXIMATELY (40 LF) OF 18" HDPE DOWN DRAIN PER STANDARD PLAN D87B WITH CABLE ANCHORAGE PER STANDARD PLAN D87C, SEE DRAINAGE PROFILE, SHT 4, BEGIN AT STA 2+35.34 OFF +21.14, END STA 2+35.33 OFF +62.86
11. CONSTRUCT 5' x 8' x 2' RSP ENERGY DISSIPATOR AND STANDARD HORIZONTAL TEE SECTION AT END OF DOWN DRAIN OUTFALL PIPE, INV ELEVATION OUTLET = 75.0
12. CONSTRUCT APPROXIMATELY (64 LF) OF 6" PERFORATED PVC BACK DRAIN PIPE WITH CLEANOUTS AT PILE #3, PILE #6 AND PILE #11
13. BEGIN NEW PAVEMENT SECTION AT APPROX STA 0+92, END NEW PAVEMENT SECTION AT APPROX STA 2+30, END NEW PAVEMENT AROUND DRAIN INLET AT APPROX STA 2+42, REMOVE EXISTING AC WITHIN LIMITS AND REPLACE WITH 3" AC OVER 9" CLASS 2 AB
14. CLEAN OUT EXISTING ROADSIDE DRAINAGE DITCH AND INLET
15. CONCRETED RSP PER SHT 5
16. PRUNE TWO EXISTING BAY TREES BACK TO THE TRUNK, CUT CLEAN AT 48" ABOVE GROUND, ANGLE CUT TO DRAIN
17. RSP PER SHT 5
18. STAGING AREA
19. BASIS OF BEARINGS, SEE SURVEY NOTES
20. SURVEY TIE-IN, SEE SURVEY CONTROL DATA TABLE
21. TIE BACKS, PER WALL DATA SCHEDULE, SHEET 3
22. REMOVE EXISTING STOP AND STOP AHEAD SIGNS, STRIPING, AND MARKINGS

GENERAL CONSTRUCTION NOTES

1. THE WORK HEREIN SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND PLANS DATED 2010 OF THE STATE OF CALIFORNIA AND THE COUNTY OF SANTA CRUZ DESIGN CRITERIA AS THEY MAY APPLY TO THE CONTRACT PLANS AND SPECIAL PROVISIONS. REFER TO THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR THE STRUCTURE BACKFILL REQUIREMENTS FOR THE SOLDIER PILE RETAINING WALL.
2. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE APPROVED BY SANTA CRUZ COUNTY DEPARTMENT OF PUBLIC WORKS.
3. THE CONTRACTOR SHALL POSSESS A CLASS "A" CONTRACTORS LICENSE AT THE TIME THE CONTRACT FOR THIS PROJECT IS AWARDED.
4. DIMENSIONS OF THE STRUCTURAL ITEMS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE THE STANDARD SPECIFICATIONS AND THE MANUFACTURER(S) RECOMMENDATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGES TO PRIVATE PROPERTY AND ANY UTILITIES ALONG VIENNA DRIVE. THE EXACT LOCATIONS OF EXISTING UTILITIES IS NOT KNOWN. PLEASE CALL "UNDERGROUND SERVICE ALERT" (U.S.A.) AT 800-227-2600 OR 8-1-1 BEFORE DIGGING.
6. THE CONTRACTOR IS REFERRED TO THE GEOTECHNICAL REPORT BY BUTANO GEOTECHNICAL ENGINEERING, INC. FEBRUARY 2013 ON FILE AT THE PUBLIC WORKS DEPARTMENT.
7. ALL CLEARING, GRADING AND EROSION CONTROL MEASURES SHALL BE COMPLETED NO LATER THAN OCTOBER 15.
8. THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
9. LIMITS OF PAVEMENT REPLACEMENT AND REPAIR SHALL BE AS NECESSARY TO RESTORE THE ROAD SURFACE TO PRE-CONSTRUCTION CONDITION. PAVEMENT DAMAGE CAUSED BY THE CONTRACTOR OUTSIDE THE LIMITS SHOWN ON THESE PLANS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. FINAL LIMITS AND GRADES SHALL BE DETERMINED BY THE ENGINEER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO REVIEW THE WORK AND ACCESS LIMITATIONS, VERIFY CONDITIONS, AND UNDERSTAND THE PROJECT BEFORE SUBMITTING A BID FOR THE WORK. THERE IS NO PRE-BID SITE MEETING FOR THE PROJECT.
11. THE NORTHBOUND TRAVEL LANE OF NORTH RODEO GULCH SHALL BE KEPT OPEN TO TRAFFIC FOR THE DURATION OF THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL AND CONSTRUCTION AREA SIGNS TO ACCOMPLISH THE WORK. COORDINATION WITH THE SANTA CRUZ COUNTY TRAFFIC ENGINEER IS MANDATORY.



PLAN
SCALE: 1" = 10'

SURVEY NOTES

1. THE CONTRACTOR IS REFERRED TO THE SITE TOPOGRAPHIC SURVEY BY IFLAND SURVEY, DATED 01/24/13, ON FILE AT THE PUBLIC WORKS DEPARTMENT.
2. THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN MONUMENTS FOUND ALONG RODEO GULCH ROAD AT LUPIN DRIVE, AS SHOWN ON THAT MAP FILED IN VOLUME 55 OF PARCEL MAPS, AT PAGE 22, SANTA CRUZ COUNTY RECORDS. BASIS OF BEARINGS = S 19°40'30" W, 68.63'
3. THE ELEVATIONS SHOWN ON THIS SURVEY ARE ON AN ASSUMED DATUM. THE SITE BENCHMARK IS A PK NAIL & SHINER IN ASPHALT AS SHOWN ON PLAN. BENCHMARK ELEVATION = 100.00' (ASSUMED DATUM).

10' 0 5' 10' 20'
1" = 10'

SURVEY CONTROL DATA

CONTROL LINE SEGMENT	BEGIN STA	END STA	RADIUS (FT)	ANGLE	LENGTH (FT)	BEARING	TANGENT (FT)
1	0+80 (CP #100)	2+60 (CP #200)			180.00	S 11°25'30" W	
SURVEY TIE	FD 1/2" IP LS 5513	CP #200			35.14	S 13°49'58" E	

COORDINATES

NORTHING	EASTING	CONTROL POINT
9,817.84	10,013.74	CP #100
9,641.41	9,978.09	CP #200

MBGR SEGMENT DATA

SEGMENT	LENGTH (FT)	BEARING	RADIUS (FT)
1	10.02	S 7°46'32" W	-
2	25.27 ⌒	-	274.83
3	67.28	S 11°42'22" W	-
4	25.00	S 15°31'43" W	-

PILE LOCATIONS

PILE NUMBER	STA	OFF (FT)
1	1+19.96	17.36
2	1+25.16	20.36
3	1+32.00	24.33
4	1+40.00	24.33
5	1+48.00	24.33
6	1+56.00	24.33
7	1+64.00	24.33
8	1+72.00	24.33
9	1+80.00	24.33
10	1+88.00	24.33
11	1+96.00	24.33

811 Know what's below. Call before you dig.

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

PLAN

DRAWING NAME: 2 PLAN

DATE	REVISION	BY

PROJECT ENGINEER

Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering
224 Walnut Avenue, Suite B · Santa Cruz, CA 95060
Phone 831-426-3186 · Fax 831-426-6607

REGISTERED PROFESSIONAL ENGINEER · RODNEY T. CAHILL · No.67728 · CIVIL · STATE OF CALIFORNIA

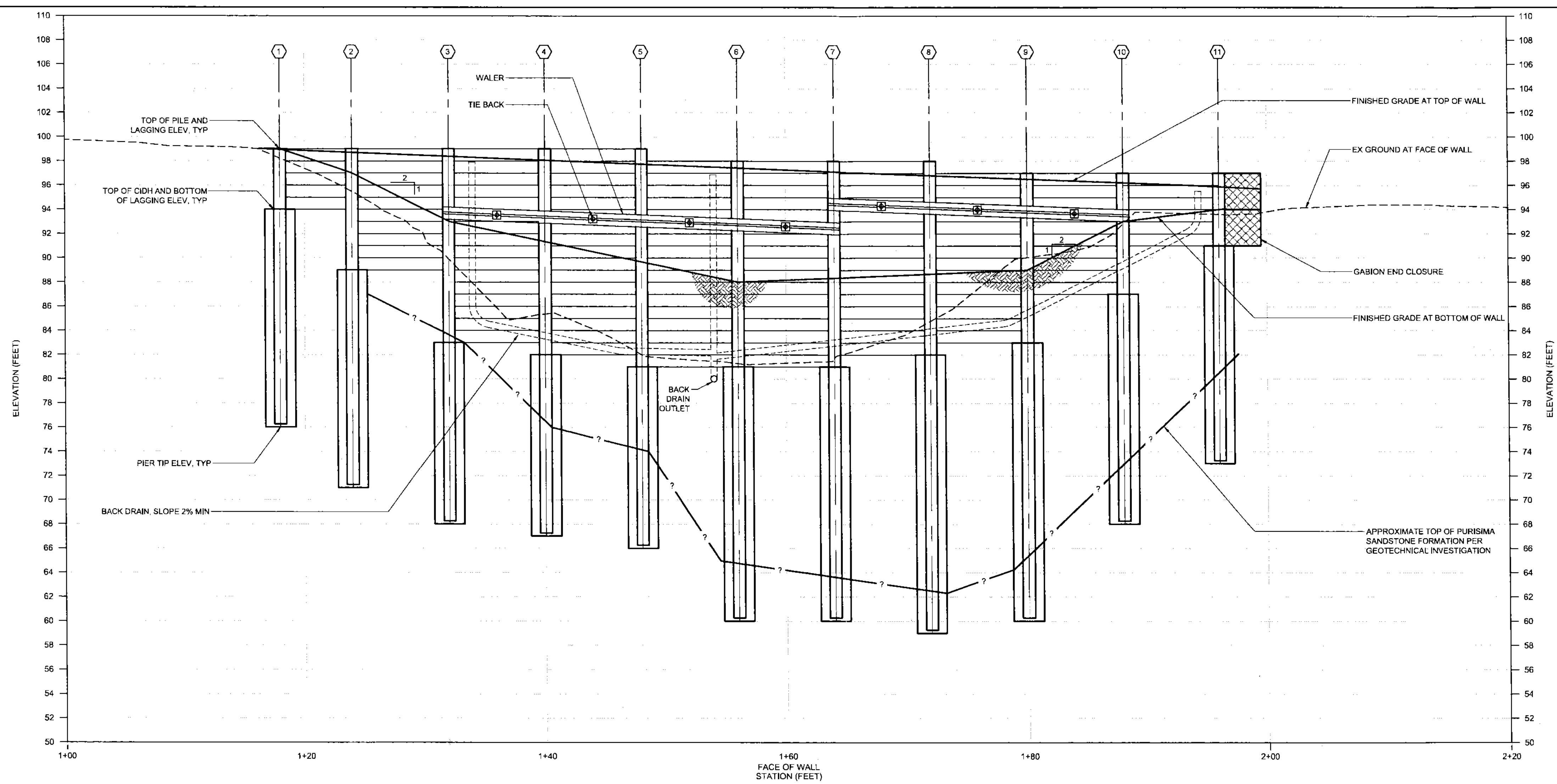
COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75
STORM DAMAGE REPAIR PROJECT

DRAWN: BRR
CHECKED: RTC
DATE: 1/31/14
SCALE: 1"=10'
JOB NO. 12261

SHEET 2 OF 8

I:\12261 SCC DPW - N Rodeo Gulch Rd PM 4.75\dwg\2 PLAN.dwg, 1/31/2014 11:23:41 AM, Ben



WALL PROFILE

SCALE: 1" = 5'

WALL DATA

		⟨1⟩	⟨2⟩	⟨3⟩	⟨4⟩	⟨5⟩	⟨6⟩	⟨7⟩	⟨8⟩	⟨9⟩	⟨10⟩	⟨11⟩
PILE	PILE NUMBER	1	2	3	4	5	6	7	8	9	10	11
	TOP OF PILE ELEV (FT)	99	99	99	99	99	98	98	98	97	97	97
	PILE LENGTH (FT)	22.75	27.75	30.75	31.75	32.75	37.75	37.75	36.75	36.75	28.75	23.75
	PILE SHAPE	W14x82	W14x82	W14x61	W14x61	W14x61	W14x61	W14x61	W14x61	W14x61	W14x61	W14x82
TIEBACK	TIEBACK ELEVATION (FT)	-	-	93.53	93.22	92.91	92.60	94.29	93.97	93.66	-	
	CABLE/ROD DIAMETER** (IN)	-	-	1 3/8	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	-	
	MINIMUM UNBONDED LENGTH (FT)	-	-	20	20	20	20	20	20	20	-	
	ESTIMATED* BONDED LENGTH 6" DIAMETER GROUT (FT)	-	-	XXX	XXX	XXX	XXX	XXX	XXX	XXX	-	
	ESTIMATED* BONDED LENGTH, 8" DIAMETER GROUT (FT)	-	-	20	20	20	20	20	20	20	-	
	DESIGN TENSION (KIPS)	-	-	117	89	94	89	78	67	63	-	
	TEST TENSION (KIPS)	-	-	156	119	125	119	104	89	84	-	
	WALER	-		(2) C15x40				(2) C15x40			-	
PIER	PIER DIAMETER (IN)	30	30	30	30	30	30	30	30	30	30	30
	TOP OF CIDH ELEVATION (FT)	94	89	83	82	81	81	81	82	83	87	91
	PIER TIP ELEVATION (FT)	76	71	68	67	66	60	60	59	60	68	73
LAGGING	NUMBER OF LAGGING MEMBERS (LEFT/RIGHT)	0/5	5/10	10/16	16/17	17/17	17/17	17/16	16/14	14/10	10/6	6

* THE ABOVE SPECIFIED TIEBACK BONDED LENGTHS HAVE BEEN CALCULATED AND ARE THE ESTIMATED MINIMUM LENGTHS. ACTUAL BONDED LENGTHS WILL BE BASED ON PULL-OUT TEST RESULTS AT THE SITE DURING INSTALLATION. LOCKOFF TENSION SHALL BE A MINIMUM 60% OF THE DESIGN TENSION. MAXIMUM ALLOWABLE VERTICAL AND HORIZONTAL TIEROD DEFLECTION SHALL BE < 2.5° FROM THE DESIGN ALIGNMENT OF THE TIEBACK TO FACE OF WALL. UNDER A PERFORMANCE TEST, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR DETERMINING THE BONDED ZONE AND REQUIRED BONDED LENGTH. THE COUNTY DESIGN ENGINEER SHALL BE NOTIFIED 24 HOURS IN ADVANCE AND BE ON SITE DURING TIEBACK PERFORMANCE PERFORMANCE TESTING.

** AS DETERMINED BY INSTALLER / MANUFACTURER.

MATERIAL PROPERTIES

REINFORCED CONCRETE	F'c = 3,000 psi
STRUCTURAL STEEL SHAPES	Fy = 50,000 psi
STRUCTURAL STEEL PLATES	Fy = 36,000 psi
TREATED TIMBER DOUGLAS FIR #1 (MINIMUM)	Fb = 1,350 psi
SOLID ROD TIE-BACKS	Fy = 150,000 psi
TENDON TIE-BACKS	270 KSI LOW RELAXATION STRAND

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

WALL PROFILE

DRAWING NAME: 3 PROFILE

BY	REVISION	DATE

REGISTERED PROFESSIONAL ENGINEER DALE E. HENDSHE No. S3549 STRUCTURAL STATE OF CALIFORNIA

PROJECT ENGINEER

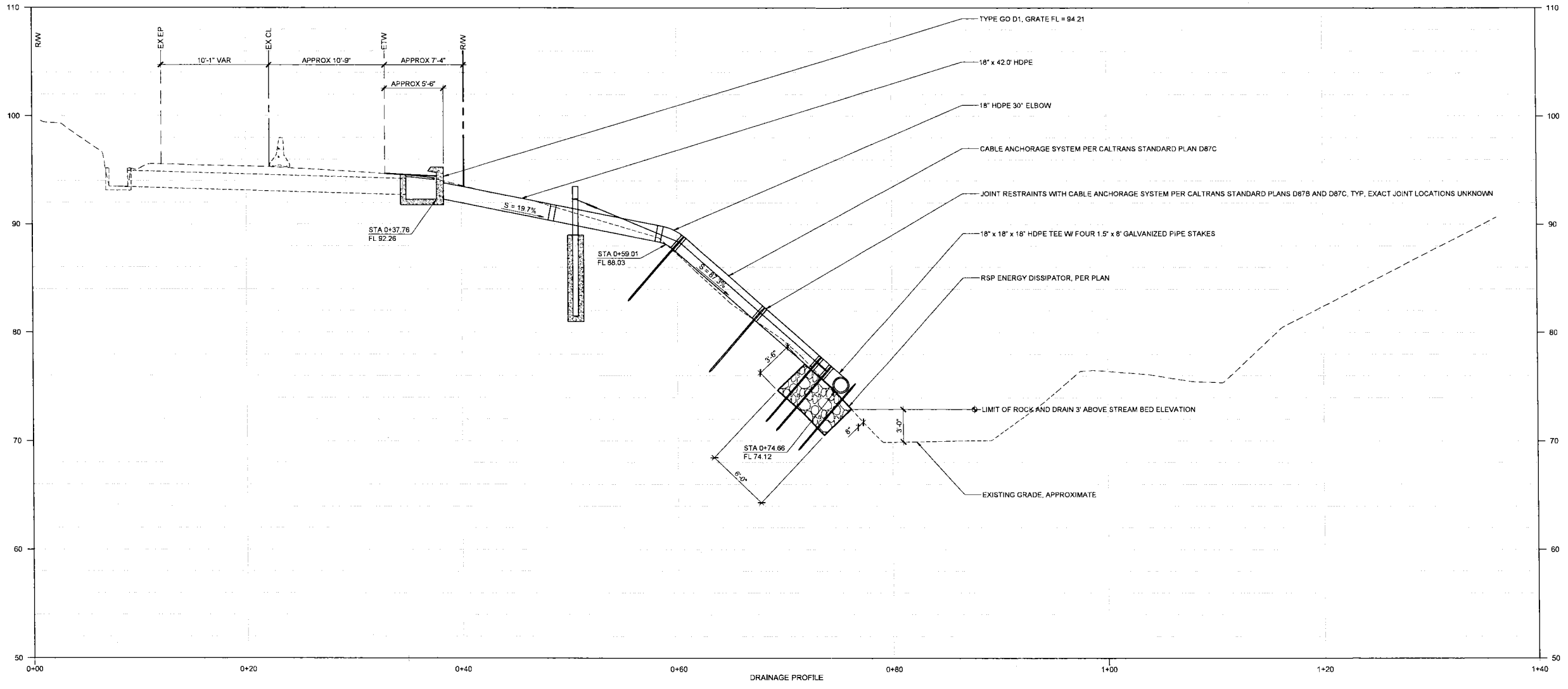
Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering
224 Walnut Avenue, Suite B • Santa Cruz, CA 95060
Phone 831-426-3186 • Fax 831-426-6607

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75

STORM DAMAGE REPAIR PROJECT

DRAWN: BRR
CHECKED: RTC
DATE: 1/31/14
SCALE: 1"=5'
JOB NO. 12261
SHEET 3 OF 8



DOWNDRAIN PROFILE

SCALE: 1" = 5'

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

DOWNDRAIN PROFILE

DRAWING NAME: 4 DRAIN PROF

DATE	REVISION	BY

REGISTERED PROFESSIONAL ENGINEER — TIMOTHY R. CAHILL — No. 67728 — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER

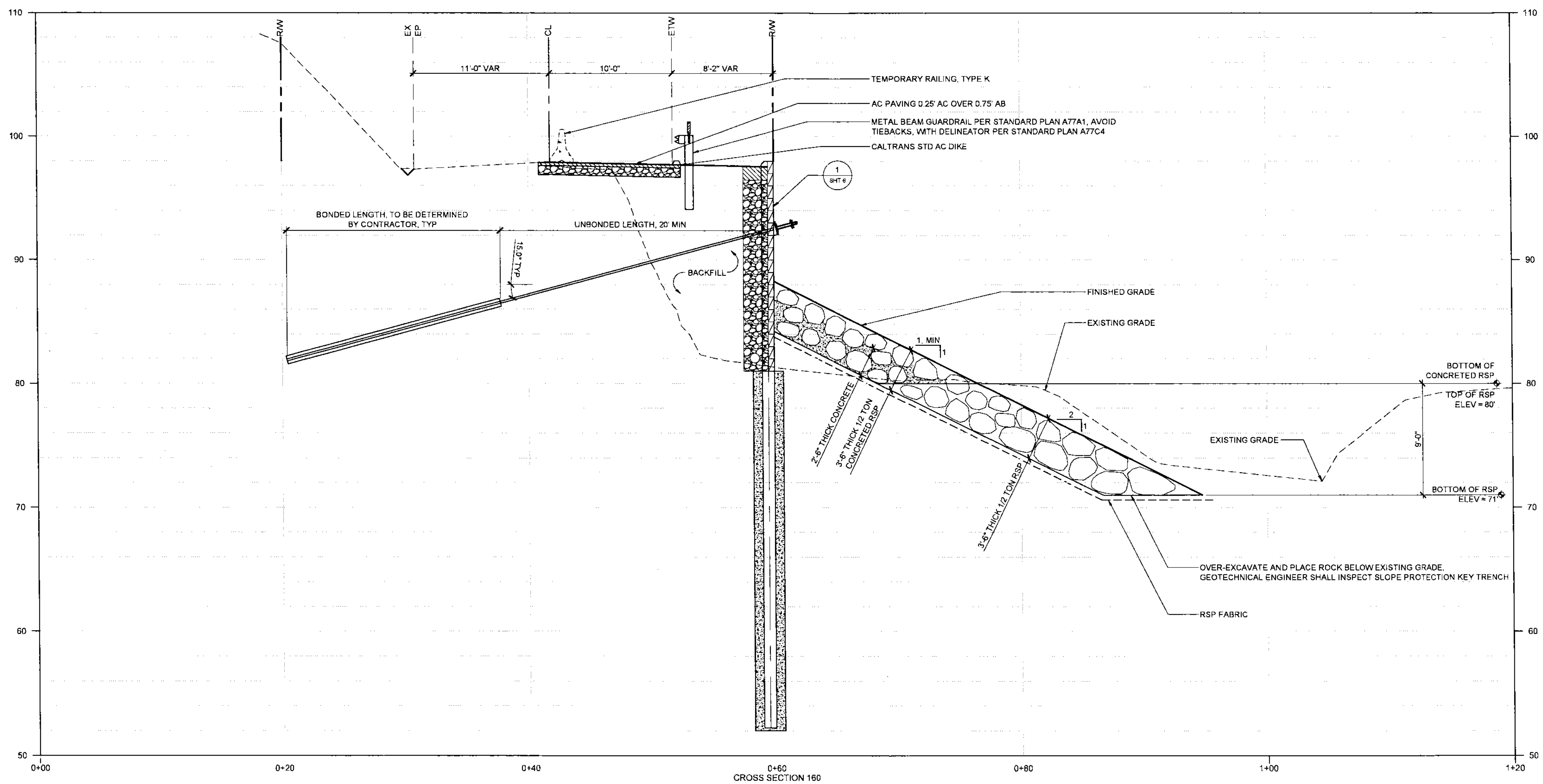
Mestl-Miller Engineering, Inc.
Civil and Structural Engineering
224 Walnut Avenue, Suite 9 • Santa Cruz, CA 95060
Phone 831-429-8050 • Fax 831-429-8057

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75
STORM DAMAGE REPAIR PROJECT

DRAWN:	BRR
CHECKED:	RTC
DATE:	1/31/14
SCALE:	1"=5'
JOB NO.	12261

SHEET 4 OF 8



TYPICAL SECTION AT STATION 1+60

SCALE: 1" = 5'

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

DATE	REVISION	BY

PROJECT ENGINEER

Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering
224 Walnut Avenue, Suite B • Santa Cruz, CA 95060
Phone 831-426-3186 • Fax 831-426-6607

REGISTERED PROFESSIONAL ENGINEER — RODNEY T. CAHILL — No.67728 — CIVIL — STATE OF CALIFORNIA

COUNTY OF SANTA CRUZ - DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75

STORM DAMAGE REPAIR PROJECT

DRAWN: BRR
CHECKED: RTC
DATE: 1/31/14
SCALE: 1"=5'
JOB NO. 12261
SHEET 5 of 8

TYPICAL SECTION

DRAWING NAME: 5 TYP SECTION

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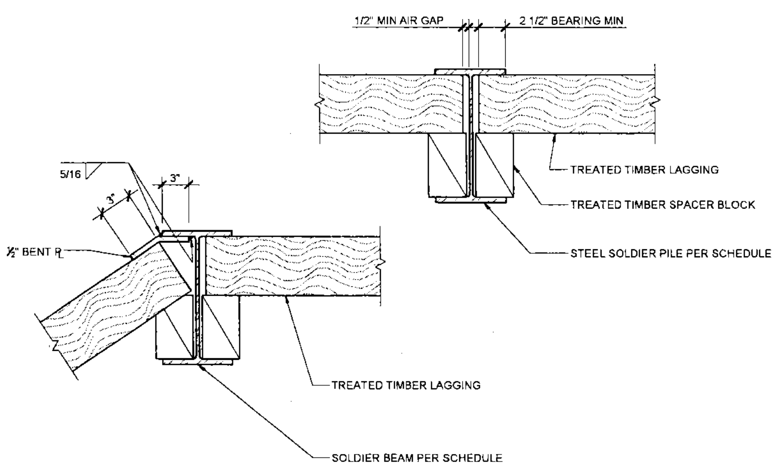
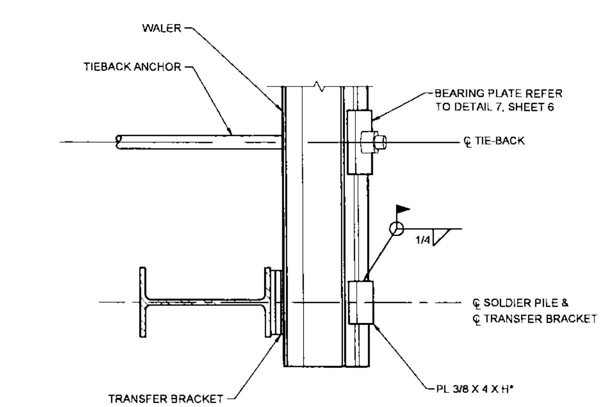


TIMBER LAGGING DETAIL (5)

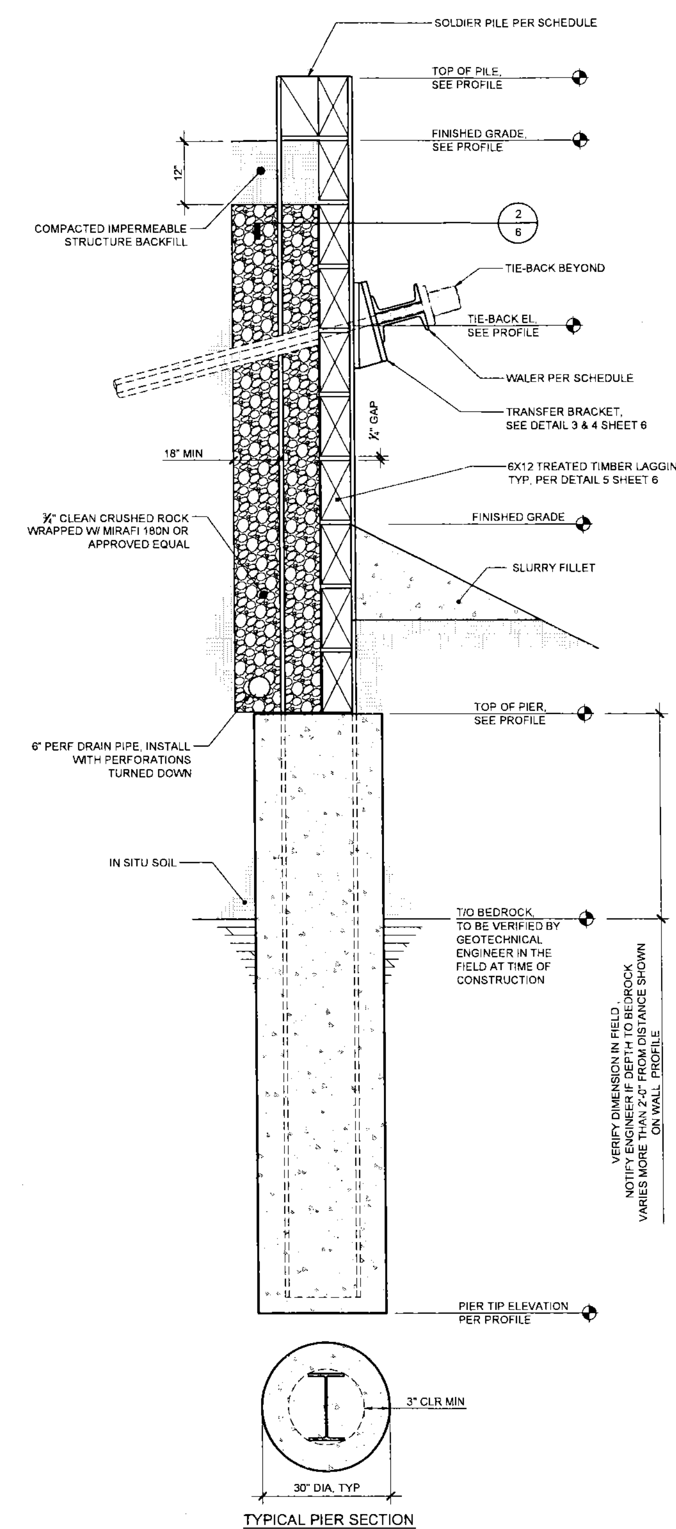
SCALE: 1 1/2" = 1'-0"



NOTES:
1. H* = REQUIRED GAP BETWEEN CHANNELS PLUS 5", CENTER BETWEEN CHANNELS

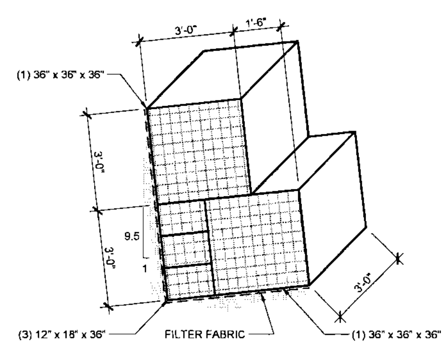
TIEBACK/WALER ALIGNMENT (2)

SCALE: 1 1/2" = 1'-0"



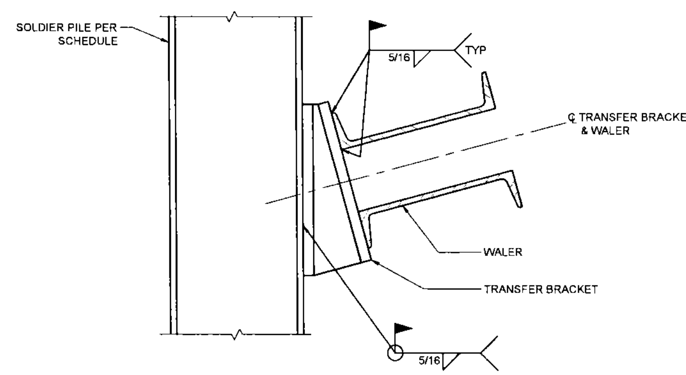
SCHEMATIC RETAINING WALL SECTION (1)

SCALE: NOT TO SCALE



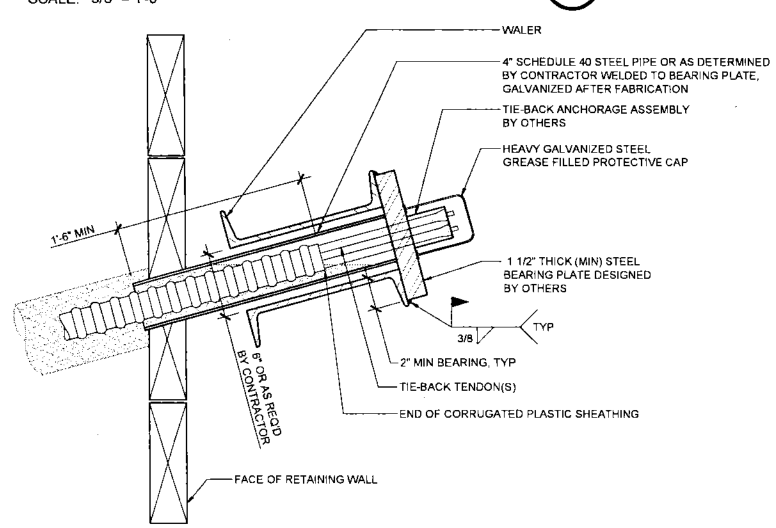
GABION STACK PATTERN (6)

SCALE: 3/8" = 1'-0"



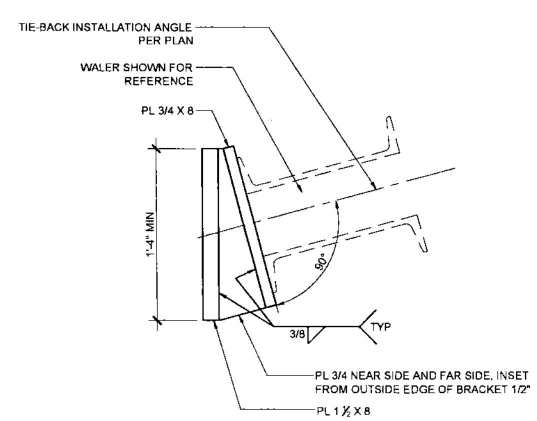
WALER CONNECTION (3)

SCALE: 1 1/2" = 1'-0"



TIE-BACK CONNECTION (7)

SCALE: 1 1/2" = 1'-0"



TRANSFER BRACKET (4)

SCALE: 1 1/2" = 1'-0"

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

DETAILS

DRAWING NAME: 6 DETAILS

DATE	REVISION	BY

PROJECT ENGINEER

Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering
224 Walnut Avenue, Suite B • Santa Cruz, CA 95060
Phone 831-426-3186 • Fax 831-426-6607

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75

STORM DAMAGE REPAIR PROJECT

DRAWN: PD
CHECKED: PD
DATE: 1/31/14
SCALE: 1"=5'
JOB NO. 12261
SHEET 6 OF 8

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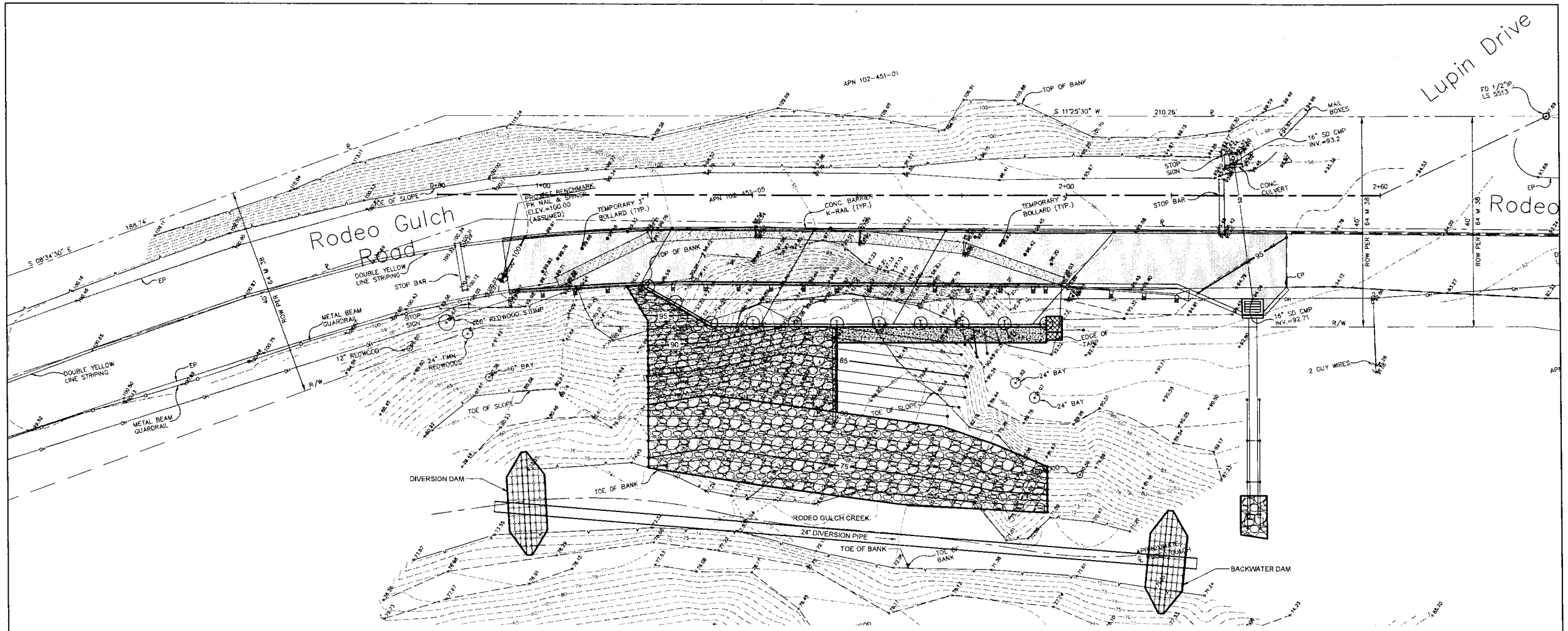
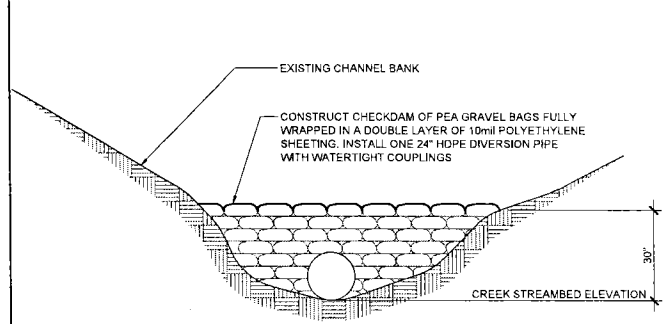


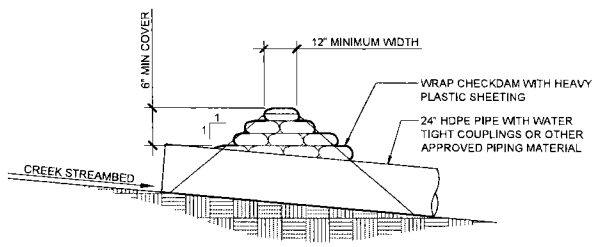
STREAM BYPASS PLAN

SCALE: 1" = 10'



STREAM DIVERSION DETAIL 2

SCALE: NOT TO SCALE



STREAM DIVERSION DETAIL 1

SCALE: NOT TO SCALE

GENERAL NOTES

1. THIS DIVERSION PLAN IS TO BE IMPLEMENTED BY THE CONTRACTOR WHEN WATER IS FLOWING IN THE CREEK BETWEEN JULY 1ST AND OCTOBER 31ST; THESE ARE THE BASIC REQUIREMENTS NECESSARY FOR THE CONTRACTOR'S SITE DEWATERING PLAN AS SPECIFIED IN THE SPECIAL PROVISIONS.
2. CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL WITHIN 30 DAYS AFTER THE APPROVAL OF THE CONTRACT AND NO LATER THAN THE MANDATORY PRECONSTRUCTION MEETING HIS SITE DEWATERING PLAN FOR THIS PROJECT AS REQUIRED BY THE SPECIAL PROVISIONS. THE CONTRACTORS SITE DEWATERING PLAN SHALL DETAIL EXACTLY HOW THE CONTRACTOR INTENDS TO DEWATER THE CONSTRUCTION SITE. INCLUDING ALL WATER PUMPS TO BE UTILIZED AND HOW THE SUMP DISCHARGE SITE SHALL BE REVEGETATED. THE DIVERSION PIPE SIZE SHALL BE SUFFICIENT TO HANDLE ACTUAL FLOWS DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR MAY ELECT TO TEMPORARILY INSTALL A PRESSURE DRIVEN DIVERSION SYSTEM TO EFFICIENTLY BYPASS THE AREA.
3. ALL WATER PUMPS TO BE UTILIZED BY THE CONTRACTOR WILL REQUIRE A SUMP DISCHARGE SITE. THE PLANNED SUMP DISCHARGE SITE MUST BE APPROVED BY THE ENGINEER AND SHALL REQUIRE A METHOD OF DESILTING ALL WATER PUMPED FROM THE CREEK INTO THE SUMP. AT A MINIMUM, THE SUMP DISCHARGE SITE SHALL REQUIRE FILTER FABRIC CONTAINMENT FACILITIES. DISCHARGE SITE SHALL BE DETERMINED BY THE ENGINEER.
4. THE SUMP DISCHARGE SITE SHALL BE REVEGETATED IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED SITE DEWATERING PLAN AND AS DIRECTED BY THE ENGINEER.
5. LIMIT IN-STREAM WORK AND DEWATERING OF PROJECT SEGMENT OF THE CREEK TO THE PERIOD BETWEEN JULY 1ST AND OCTOBER 15TH.
6. REMOVE STREAM DIVERSION DAMS AT THE END OF THE PROJECT AND RESTORE STREAM CHANNEL TO PRECONSTRUCTION CONDITIONS.

10' 0 5' 10' 20'
1" = 10'

SITE DEWATERING & STREAM BYPASS

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

DRAWING NAME: 7 BYPASS PLAN

BY	REVISION	DATE

PROFESSIONAL ENGINEER — REGISTERED — ROONEY — No.67728 — T. CAHILL — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER

Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering
234 Walnut Avenue, Suite 9 • Santa Cruz, CA 95060
Phone 831.426.9555 • Fax 831.426.6611

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75

STORM DAMAGE REPAIR PROJECT

DRAWN:	BRR
CHECKED:	RTC
DATE:	1/31/14
SCALE:	1"=10'
JOB NO.	12261

SHEET 7 OF 8

I:\12261 SCC DPW - N Rodeo Gulch Rd PM 4.75\dwg\7 BYPASS PLAN.dwg, 1/31/2014 11:24:15 AM, Ben

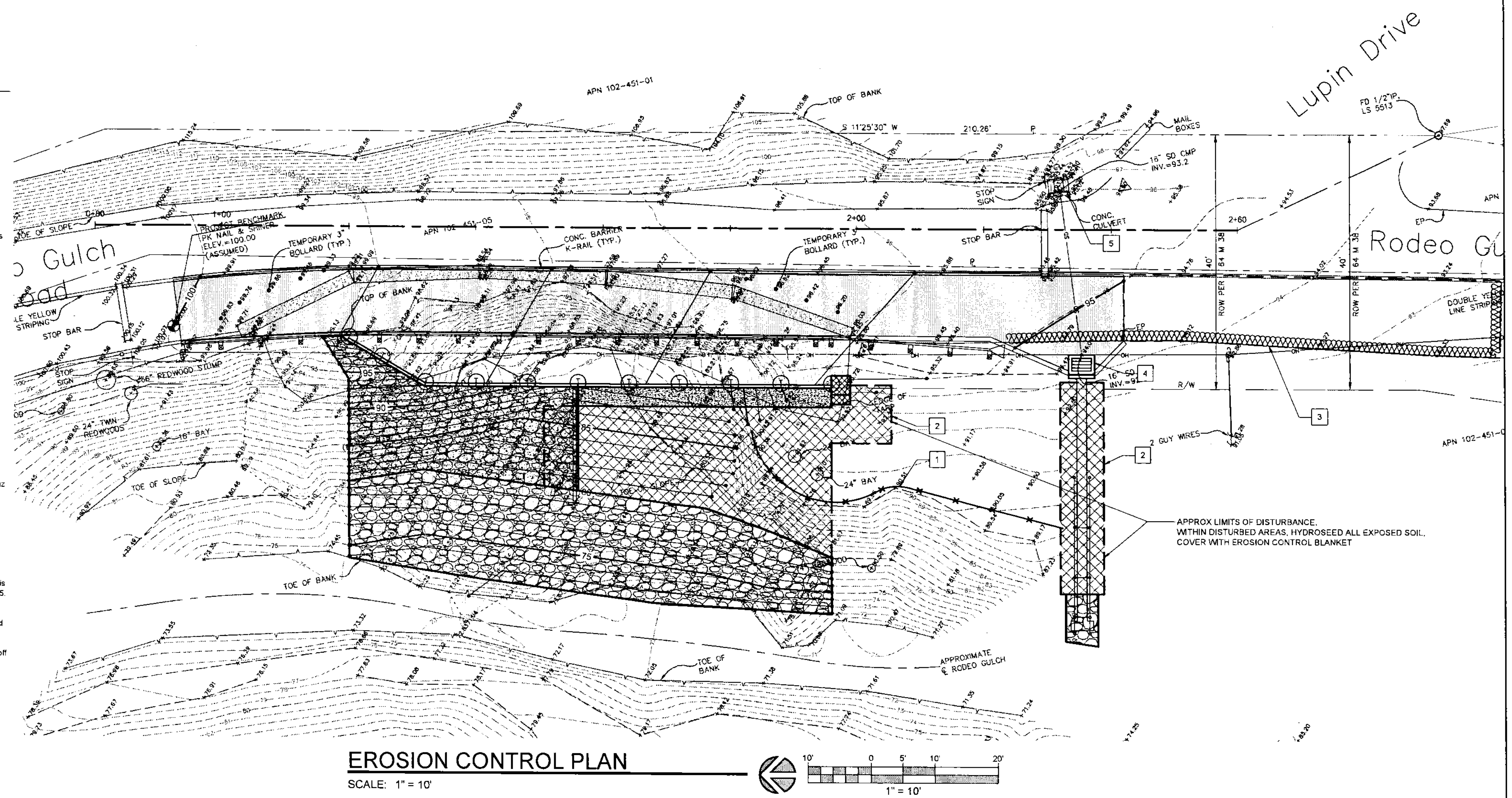
EROSION CONTROL

Appropriate best management practices shall be implemented during construction to prevent erosion, sedimentation, and the discharge of pollutants during construction. In accordance with the California Storm Water Best Management Practices Handbook, these measures shall include:

1. Limiting the extent of land disturbance to the minimum amount necessary to construct the project;
2. Designating areas for the staging of construction equipment and materials, including recceplacles and temporrary stockpiles of graded materials, which shall be covered on a daily basis.
3. Providing for the installation of silt fences, temporary detention basins, and/or other controls to intercept, filter, and remove sediments contained to any runoff from construction, staging, and storage/stockpile areas.
4. Incorporating good construction housekeeping measures, including the use of dry cleanup measures whenever possible.
5. Collecting and filtering cleanup water when dry cleanup methods are not feasible.
6. Cleaning and refueling construction equipment at designated offsite maintenance areas.
7. The immediate clean-up of any leaks or spills.
8. The construction areas shall be delineated with fencing and markers to prevent land-disturbing activites from taking place outside those areas.
9. Erosion and sediment control measures shall be regularly inspected, maintained and repaired.
10. Temporary Mulch: Straw mulch (clean and certified weed free) @ 4,000 lbs/acre (92 lbs/1,000 SF)
11. Erosion Control Blanket: Per Project Special Provisions.
12. Refer to Revegetation Plan by others for seeding and planting requirements.

SANTA CRUZ COUNTY EROSION CONTROL REQUIREMENTS

1. The following requirements are made pursuant to Section 16.22, "Erosion Control," of the Santa Cruz County Code.
2. All clearing, grading, or excavating done between October 15 and April 15 shall be in accordance with a separate Winter Erosion Control Plan.
3. Disturbance and removal of vegetation shall not exceed the minimum necessary to complete operations. All disturbed soil (particularly cut and fill slopes) shall be seeded and mulched or otherwise protected with temporary plastic covers or erosion control fabric in an approved manner prior to project completion but in no case later than October 15. Mulch shall be maintained until a good vegetative cover has been established. When permanent landscaping has been installed but is not fully established, any exposed soil shall be mulched or covered between October 15 and April 15.
4. Unless specific measures are shown or noted on the approved plans, all collected or concentrated runoff shall be percolated into the ground, carried to drainage courses in lined conduits, or dispersed over dense vegetation in an approved manner that will not cause erosion.
5. The desired end result of these measures is to control site erosion and prevent sediment transport off the site. It shall be the. developer's responsibility to see that any additional measures necessary to meet this goal are implemented. If field inspections by County staff show this goal is not being met, additional measures will be required.
6. Pamphlets detailing seeding and mulching, runoff control, and winter erosion control plan requirements are available on request from the Environmental Planning Section of the Planning Department, and are available on the County's internet site, co.santa-cruz.ca.us, under Planning Department, Brochures.
7. All construction shall conform to Part 1, Section C, "Erosion Control Requirements," of the County Design Criteria. All disturbed soil shall be seeded, mulched, or otherwise covered on a daily basis after October 14 or whenever more than a half inch of rain in 24 hours is forecast.



EROSION CONTROL PLAN

SCALE: 1" = 10'

10' 0 5' 10' 20'
1" = 10'

EROSION CONTROL SHEET NOTES

1. TEMPORARY SILT FENCE PER STANDARD PLAN T51
2. TEMPORARY EROSION CONTROL BLANKET, ON SLOPE, PER STANDARD PLAN T54
3. TEMPORARY FIBER ROLL, TYPE 2, PER STANDARD PLAN T56, SURROUNDING STAGING AREA
4. TEMPORARY DRAINAGE INLET PROTECTION, TYPE 5, PER STANDARD PLAN T64
5. TEMPORARY DRAINAGE INLET PROTECTION, SIMILAR TO TYPE 6B, PER STANDARD PLAN T64B. ADAPT GRAVEL FILLED BAGS TO FILTER RUNOFF AND MATCH FIELD CONDITIONS

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3

EROSION CONTROL PLAN

DRAWING NAME: 8 EC PLAN

DATE	REVISION	BY

REGISTERED PROFESSIONAL ENGINEER RODNEY T. CAHILL No. 67728 CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER

Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering
224 Walnut Avenue, Suite B • Santa Cruz, CA 95060
Phone 831-426-3186 • Fax 831-426-6607

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH ROAD PM 4.75
STORM DAMAGE REPAIR PROJECT

DRAWN: BRR
CHECKED: RTC
DATE: 1/31/14
SCALE: 1"=10'
JOB NO. 12261
SHEET 8 OF 8

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NORTH RODEO GULCH ROAD PM 4.75
Proposed Road Repair
SANTA CRUZ COUNTY, CA

Biological Report

Biotic Resources Group

Biotic Assessments ◆ Resource Management ◆ Permitting

Biotic Resources Group
Biotic Assessments ◆ Resource Management ◆ Permitting

NORTH RODEO GULCH ROAD PM 4.75
Proposed Road Repair
SANTA CRUZ COUNTY, CA

Biological Report

Prepared for
Santa Cruz County Department of Public Works
Russell Chen, Project Engineer
Santa Cruz, CA 95060

Prepared by:
Biotic Resources Group
Kathleen Lyons, Plant Ecologist

And

Dana Bland & Associates
Dana Bland, Wildlife Biologist

June 5, 2013

2551 South Rodeo Gulch Road #12 ◆ Soquel, Californica 95073 ◆ (831) 476-4803 ◆ brg@cruzio.com

1.0 INTRODUCTION

The Biotic Resources Group and Dana Bland & Associates documented and evaluated the biotic resources of a road repair located at PM 4.75 on North Rodeo Gulch Road in the unincorporated Soquel area of Santa Cruz County.

Specific tasks conducted for this study include:

- Characterize and map the major plant communities within the proposed project area.
- Identify sensitive biotic resources, including habitats, plant or wildlife species of concern.
- Evaluate the potential effects of the proposed project activities on sensitive biotic resources and recommend measures to avoid or reduce such impacts.

1.1 PROPOSED PROJECT

The project is located just north of Soquel Drive, at PM 4.75 on North Rodeo Gulch Road in Santa Cruz County as shown on Figure 1. During rain storms of March 2011, a slip out of the embankment below the southbound lane of North Rodeo Gulch caused the lane to fail. There is currently only a one-way segment of roadway with stop signs at either end along this portion of the road.

The repair work includes removing old rip rap that failed, constructing a steel soldier pile with timber lagging retaining wall, placing rip rap below the wall and tied into the bottom of the creek, a gabion basket dissipater for road runoff placed above the elevation of the creek high water, new pavement, and guard rail. The retaining wall will be approximately75 feet long. Construction staging will be within the existing roadway. All repair work will occur along the east side of Rodeo Creek. The work area encompasses approximately 4,000 square feet.

If flowing water is present during the scheduled construction, the project will include a stream bypass system consisting of checkdams both upstream and downstream, and diverting flow through an 18-inch pipe. The checkdams will consist of sandbags filled with gravel and wrapped in heavy sheet plastic. Approximately 130 linear feet of channel will be dewatered for this project. Once the site has been dewatered and the site has been isolated from the stream, then the loose sands in the scour areas will be removed for a depth of approximately three feet. Approximately 75 linear feet of rip rap will be placed along the toe of bank and, in some locations, below the creek bed to support the structures above. The down drain pipe, with an RSP outfall energy dissipater, will be installed at the downstream end of the project area, No concrete grout will be placed in the rip rap for this project, only in the holes drilled for the piles, which will be monitoring according to County standards to ensure it does not migrate into the creek. Work will take approximately 60 days and will be completed prior to October 15 of the construction year.

1.2 INTENDED USE OF THIS REPORT

The findings presented in this biological report are intended for the sole use of Santa Cruz County Department of Public Works and its consultants in evaluating the proposed project. The findings presented by the Biotic Resources Group in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or County law or ordinance pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

2.0 EXISTING BIOTIC RESOURCES

2.1 METHODOLOGY

The biotic resources of the project site were assessed through literature review and field observations. Site observations were made on April 2 and 10, 2013 by Kathleen Lyons (plant ecologist) and Dana Bland (wildlife biologist).

Vegetation mapping of the property was conducted from review of aerial photos, a topographic map, and field observations. The major plant communities within the project area, based on the classification system developed by *California Terrestrial Natural Communities (*California Department of Fish and Game, 2003 and 2007) and *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and as amended to reflect site conditions, were identified during the field surveys. Modifications to the classification system's nomenclature were made, as necessary, to accurately describe the site's resources. The plant communities were mapped onto the engineer's base map. All plant species observed were recorded and identified to a level sufficient to determine their rarity; all species observed at listed in the narrative section of this report. Plant nomenclature follows The *Jepson Manual Online* (2012); the *An Annotated Checklist of the Vascular Plants of Santa Cruz County, California* (CNPS, 2005) was also reviewed.

To assess the potential occurrence of special status biotic resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory (2013), and California Department of Fish & Wildlife (CDFW) RareFind database (CDFW, 2013) for the Soquel and Laurel USGS quadrangles and surrounding quadrangles. A delineation of State and Federal Jurisdictional Waters was conducted; the results of the delineation are summarized in this report.

This report summarizes the findings of the biotic assessment for the proposed project. The potential impacts of the proposed road repair project on sensitive resources are discussed below. Measures to reduce significant impacts to a level of less-than-significant are recommended, as applicable.

2.2 ENVIRONMENTAL SETTING

2.2.1 Geographic Setting

The project is located near the boundary of the Soquel and Laurel USGS quadrangles (see Figure 1). The project is located along Rodeo Creek Gulch. Low density residential development and forest lands surround the site; the site is located outside the County-designated urban and rural service areas. At the proposed project site, Rodeo Creek is depicted as a perennial creek on the Soquel USGS quadrangle with upstream areas having intermittent flow; however, it is believed that this section of the creek is currently intermittent. The creek flows southward into Corcoran Lagoon and then into Monterey Bay/ Pacific Ocean, approximately 3 miles downstream from this project site.

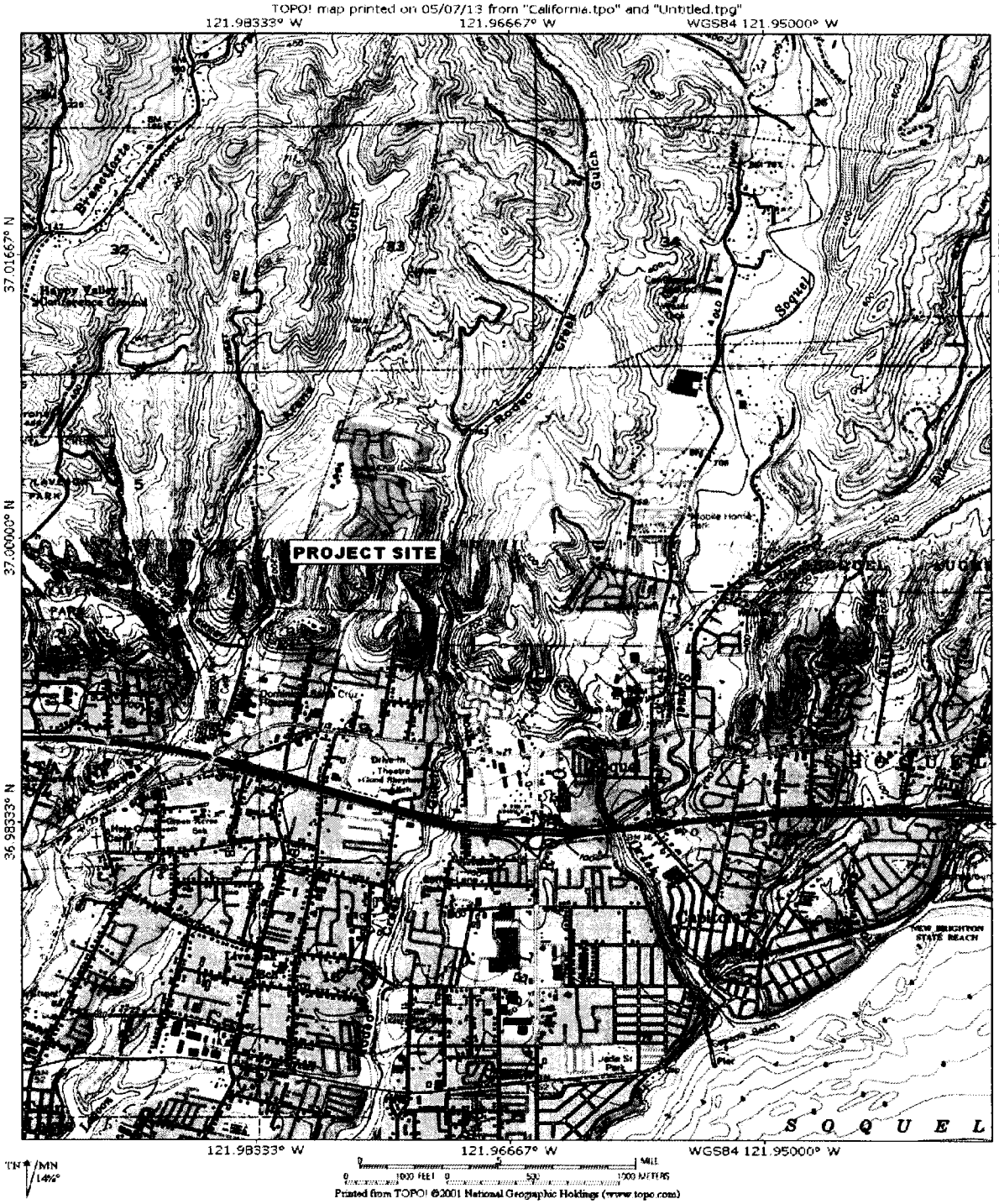


Figure 1. Location of Project Site on USGS Topographic Map

(USGS Soquel and Laurel Quadrangles)

The project site supports riparian woodland, with in-stream wetlands. Each vegetation type, its California vegetation code, and state ranking (rarity) are listed in Table 1.

Table 1. Vegetation Types at North Rodeo Gulch Road PM 4.75

CaCode[1]	Vegetation Type	Plant Association	State Ranking[2]
-	In-stream Wetlands	Water Parsnip/Scouring rush/Watercress/Nutsedge	-
61.420.00	Riparian Woodland	Coast Redwood/California Bay/Willow– California Blackberry	S4

[1] – California vegetation code as per CDFW/CNDDB (2010); [2]- Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled.

2.2.2 Vegetation and Wildlife Habitats

Two principal plant community types were observed within the project area: in-channel wetlands and riparian woodland.

In-channel wetlands occur within the bed of Rodeo Creek. Within the project area, two small patches of in-stream wetlands were observed along the toe of the north bank. The two wetland patches are comprised of water parsnip (*Berula erecta)*, water smartweed (*Polygonum sp.)*, nutsedge (*Cyperus sp.)*, watercress (*Rorippa nasturtium-aquaticum)*, and scouring rush (*Equisetum arvense)*. Collectively the two patches encompass approximately 8 square feet. Figure 2 depicts the character of the in-channel wetlands and their location relative to the Ordinary High Water Mark. The location of the wetland patches is depicted on the plan sheet (Figure 3).

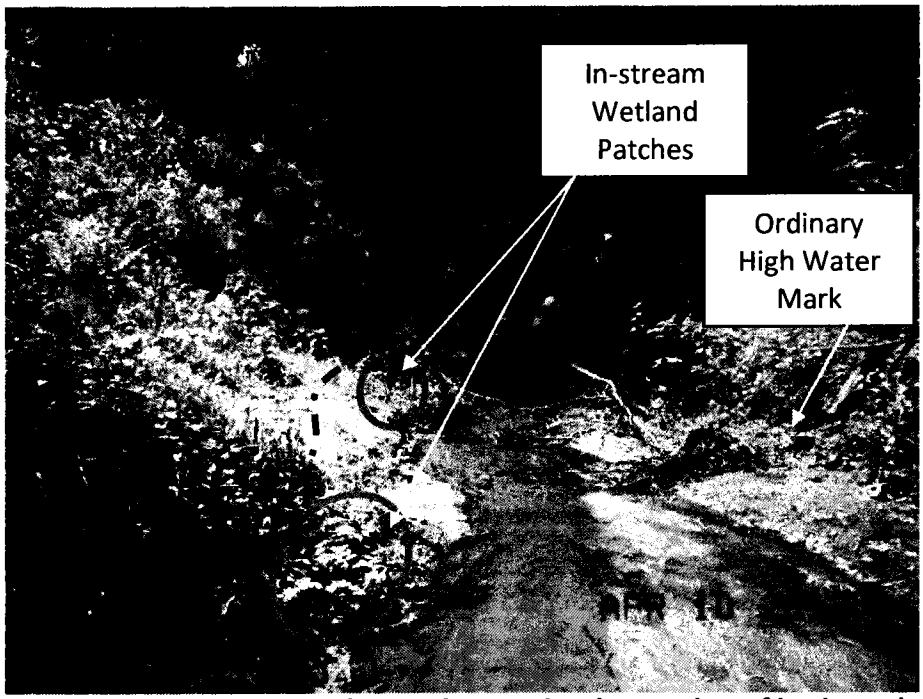
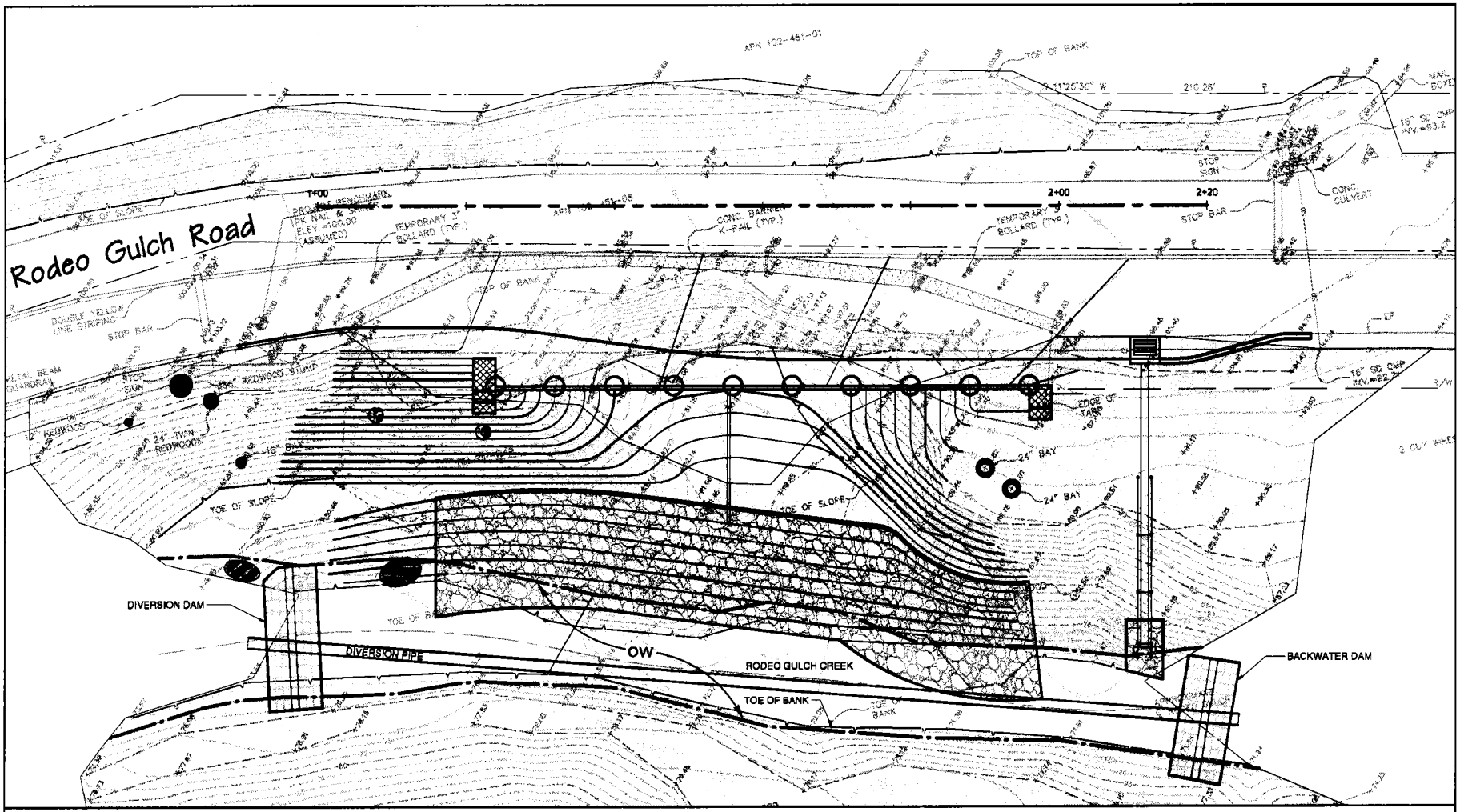


Figure 2. Looking downstream at project work area, showing patches of in-channel wetlands, North Rodeo Gulch Road PM 4.75, April 2013



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SCALE: 1" = 20'

0 20' 40'

WATERS OF THE U.S.

- In-stream Wetlands
- OW — Other Waters (within ordinary high water mark)

RIPARIAN CORRIDOR

- Riparian Woodland
- Trees, pruned with trunks to remain
- Trees to be removed
- Trees to be retained

Biotic Resources Group
2551 S. Rodeo Gulch # 12 • Soquel, California 95073
(831) 476-4803 • brg@cruzio.com

North Rodeo Gulch Road PM 4.75 Storm Damage Repair Project
Distribution of Habitat Types in Project Area

Figure 3
6/13
696-01

Rodeo Creek also supports riparian woodland. The woodland is characterized by trees of coast redwood (*Sequoia sempervirens)* and California bay (*Umbellularia californica)*, with arroyo willow (*Salix lasiolepis)* along the creek edge. The approximate location of the riparian trees (trunks) within the project area is depicted on Figure 3.

The riparian understory vegetation includes patches of stinging nettle (*Urtica dioica)*, sword fern (*Polystichum munitum)*, California blackberry (*Rubus ursinus)*, and nightshade (*Solanum sp.)*. The character of the riparian woodland at the downstream end of the project area is depicted on Figure 4.

Figure 4. Riparian woodland at downstream end of project area, April 2013

The wildlife value of the wetlands and riparian habitat of Rodeo Creek within the project vicinity is moderated by the proximity of the site to the road and residences (i.e., human disturbance). Common wildlife that can tolerate human presence are expected to occur along this portion of the creek, such as Pacific chorus frog (*Pseudacris regilla*), black phoebe (*Sayornis nigricans*), western scrub-jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), and raccoon (*Procyon lotor*). This portion of Rodeo Gulch Creek is intermittent, and therefore does not support anadromous fish.

2.3 SENSITIVE BIOTIC RESOURCES

2.3.1 Regulated Habitats

The project area is located within Santa Cruz County outside the urban and rural service lines.

The project area supports riparian woodland, with in-stream wetlands. According to County Code (Section 16.32), all lakes, wetlands, estuaries, lagoons, streams and rivers are considered sensitive habitat. According to County Code (Section 16.30), the riparian corridor along perennial channels extends 50 feet outward from the bank-full flow line or edge of riparian vegetation, whichever is greater. The riparian corridor along intermittent channels is 30 feet outward from the bank-full flow line or edge of riparian vegetation, whichever is greater. The project area is located within the riparian corridor of Rodeo Creek, which has perennial flow in this section (as per USGS mapping); although it is believed the section may currently be intermittent.

California Department of Fish and Wildlife (CDFW) is a trustee agency that has jurisdiction under Section 1600 et seq. of the CDFW Code. Under Sections 1600-1603 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW also regulates alterations to ponds and impoundments. CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. The proposed project is located within CDFW's jurisdiction.

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction); a report of waste discharge (ROWD) is filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies. The proposed project is located within the RWQCB's jurisdiction.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). The proposed project includes work below the Ordinary High Water Mark (OHWM) of Rodeo Creek, such that work occurring in these areas would be within USACE's jurisdiction.

Field evidence of an OHWM was observed along Rodeo Creek. Water marks, exposed roots, and other vegetation patterns, were observed to indicate the elevation of the OHWM. The OHWM was found to correspond to approximately 1.5 feet above the thalweg (channel bottom) (elevation 73). The approximate location of the OHWM is depicted in Figure 4. A wetland delineation report is included in Appendix A.

2.3.2 *Sensitive Habitats*

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

CDFW classifies and ranks the State's natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFW, 2007 and 2010). The proposed project area does not support any vegetation types with an imperiled status (see Table 1).

According to County Code, development activities shall conform to permitted uses and impacts to sensitive habitat be avoided. If development occurs within any sensitive habitat area the County requires projects mitigate significant environmental impacts and restoration of any area which is degraded sensitive habitat or has caused or is causing the degradation, with restoration commensurate with the scale of the development.

2.3.3 *Special Status Plant Species*

Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS (List 1B). The search of the CNPS and CNDDB inventories identified the special status plant species with potential to occur in the project area. No special status plant species have been recorded in the CNDDB as occurring within the immediate project area, although occurrences of species are known from scrub/chaparral and grassland within the upper Soquel/Rodeo Gulch area (i.e., chaparral at upper end of Rodeo Gulch supporting robust spineflower and grasslands at Ana Jean Cummings County Park that support Santa Cruz tarplant). All species evaluated for potential occurrence within the proposed project area as per CNDDB and CNPS records are listed on Table 2.

Surveys for rare plants were limited to species deemed identifiable during the April 2013 site visit. No special status species were observed and none are expected due to the habitat conditions present at the site. The creek environment lacks specialized micro habitats (i.e., sandy or grassland substrate) conducive to the occurrence of special status plant species.

Table 2. Special Status Plant Species Evaluated for Potential Presence at North Rodeo Gulch Road PM 4.75, May 2013

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Nearest Record; Potential to Occur on Site
Amsinkia lunaris	bent-flowered fiddleneck	annual herb	1B.2	None	None	Polo Ranch in Scotts Valley; Not observed; no suitable habitat
Arctostaphylos andersonii	Anderson's manzanita	perennial evergreen shrub	1B.2	None	None	Nisene Marks SP, Redwood Glen Camp ; Not observed; no suitable habitat
Carex comosa	Bristly sedge	perennial rhizomatous herb	2.1	None	None	White's lagoon in Nisene Marks SP; Not observed; no suitable habitat
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	annual herb	1B.1	None	FE	Glenwood area in Scotts Valley, Canham Road in Scotts Valley; Not observed; no suitable habitat
Chorizanthe robusta var. hartwegii	Scotts Valley spineflower	annual herb	1B.1	None	FE	Polo Ranch in Scotts Valley; Glenwood Drive area in Scotts Valley; Not observed; no suitable habitat
Chorizanthe robusta var. robusta	robust spineflower	annual herb	1B.1	None	FE	End of Paul Sweet Road, upper Rodeo Gulch Road; Valencia Road in Aptos; Not observed; no suitable habitat
Erysimum teretifolium	Santa Cruz wallflower	perennial herb	1B.2	CE	FE	Glenwood area, Scotts Valley area; Not observed; no suitable habitat
Fissidens pauperculus	Minute pocket moss	perennial herb	1B.1	None	None	Forest of Nisene Marks SP; Not observed; no suitable habitat
Holocarpha macradenia	Santa Cruz tarplant	annual herb	1B.1	CE	FT	Anna Jean Cummings County Park, Fairway Drive area; Arana Gulch, Twin Lakes State Beach; Not observed; no suitable habitat
Malacothamnus arcuatus	arcuate bush-mallow	perennial evergreen shrub	1B.2	None	None	Mt. Bache Road area (historic); Not observed; no suitable habitat
Monolopia gracilens	woodland woolythreads	annual herb	1B.2	None	None	Porter Gulch area (historic); Not

Table 2. Special Status Plant Species Evaluated for Potential Presence at North Rodeo Gulch Road PM 4.75, May 2013

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Nearest Record; Potential to Occur on Site
						observed; no suitable habitat
Pedicularis dudleyi	Dudley's lousewort	perennial herb	1B.2	CR	None	Aptos (historic), headwaters of Aptos Creek (historic); Not observed; no suitable habitat
Pentachaeta bellidiflora	white-rayed pentachaeta	annual herb	1B.1	CE	FE	Beach cliffs near Santa Cruz (historic); Not observed; no suitable habitat
Plagiobothrys diffusus	San Francisco popcorn-flower	annual herb	1B.1	CE	None	Fairway Drive area; Polo Ranch Scotts Valley; SVUSD Preserve in Scotts Valley, Pogonip Open Space; Not observed; no suitable habitat
Polygonum hickmanii	Scotts Valley polygonum	annual herb	1B.1	CE	FE	Polo Ranch in Scotts Valley; Glenwood Drive area in Scotts Valley; Not observed; no suitable habitat
Trifolium buckwestiorum	Santa Cruz clover	annual herb	1B.1	None	None	Sea Crest development in Soquel; Not observed; no suitable habitat

CNPS Status: List 1B: These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFW Code. **List 4:** List 4 is a watch list of plants with limited distribution in the state that have low vulnerability and threat at this time. These plants are uncommon, often significant locally, and should be monitored.

2.3.4 *Special Status Wildlife Species*

Special status wildlife species include those listed, proposed or candidate species by either the Federal or the State resource agencies as well as those identified as State species of special concern. In addition, all raptor nests are protected by CDFW Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Special status wildlife species were evaluated for their potential presence in the project area as described in Table 3 below.

Table 3. Special status wildlife species and their predicted occurrence at North Rodeo Gulch Road PM 4.75, May 2013.

SPECIES	STATUS[1]	HABITAT	POTENTIAL OCCURRENCE ON SITE
Invertebrates			
Ohlone tiger beetle *Cicindela ohlone*	FE	Coastal terrace prairie with sparse vegetation and openings, Watsonville loam soils	None, no suitable habitat on site.
Monarch butterfly *Danaus plexippus*	*	Eucalyptus, acacia and pine trees groves provide winter habitat when they have adequate protection from wind and nearby source of water	No suitable habitat on site.
Fish			
Tidewater goby *Eucyclogobius newberryi*	FE, CSC	Coastal lagoons and associated creeks up to 1 mile inland	No suitable habitat on site.
Steelhead *Oncorhynchus mykiss*	FT	Perennial creeks and rivers with gravels for spawning	Creek is intermittent. No suitable habitat on site.
Amphibians			
California red-legged frog *Rana aurora draytonii*	FT, CSC	Riparian, marshes, estuaries and ponds with still water at least into June.	Closest known observation is >5 miles to north. Unlikely to occur on site due to lack of breeding areas within 1 mile and intermittent flows.
Foothill yellow-legged frog *Rana boylii*	CSC	Perennial creeks with cobble substrate for egg attachment.	No suitable habitat on site.
Reptiles			
Western pond turtle *Actinemys marmorata*	CSC	Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting.	Unlikely, site lacks deep water escape areas, nesting habitat, and basking sites.
Birds			
White-tailed kite *Elanus leucurus*	FP	Nests in tall riparian trees adjacent to open lands for foraging	None, no suitable habitat on site.
Mammals			
Pallid bat *Antrozous pallidus*	CSC	Roosts in caves, hollow trees, mines, buildings, bridges, rock outcroppings	None, no suitable habitat on site.
Santa Cruz kangaroo rat *Dipodomys venustus venustus*	None	Manzanita chaparral with sandy soils	None. No suitable habitat on site.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CSC	Woodlands including oaks, willow riparian, Eucalyptus	No nests observed; unlikely to occur within work area because it is within the floodway.
American badger	CSC	Grasslands with friable soils	None, no suitable habitat on site.

Table 3. Special status wildlife species and their predicted occurrence at North Rodeo Gulch Road PM 4.75, May 2013.

SPECIES	STATUS[1]	HABITAT	POTENTIAL OCCURRENCE ON SITE
Taxidea taxus			

[1] Key to status: FE=Federally listed as endangered species; FT= Federally listed as threatened species; FP=Fully protected species by State; CSC=California species of special concern; * = Species of local concern under County LCP

3.0 IMPACT AND MITIGATION DISCUSSION

3.1 IMPACT CRITERIA

3.1 Thresholds of Significance

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

- A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS or NMFS;
- Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat conservation plan.

3.2 ENVIRONMENTAL IMPACTS, MITIGATION MEASURES AND SIGNIFICANCE DETERMINATION FOR THE PROPOSED PROJECT

The proposed road repair project was evaluated for its potential direct and indirect impacts to biotic resources. Impacts to sensitive habitats/resources were considered potentially significant.

The proposed project will require work within Rodeo Creek. If water is present at the time of construction, temporary dewatering will be required. Approximately 130 linear feet of the creek will be affected by the temporary dewatering. Assuming an average channel width of 7 feet, approximately 910 square feet of channel will be temporarily affected by dewatering.

The proposed project will have no net fill within the limits of OHWM; however, construction will entail removal of the failed hillside material from the creek channel and the creation of a new 4-foot deep rock toe under the existing creek bed. Approximately 100 cubic yards of rock will be installed beneath the creek bed. The native creek bed materials will be replaced on-site.

Work along the toe of the slope to remove the failed riprap and to placement new riprap will impact two patches of in-channel wetlands located within the work area (collectively encompassing approximately 8 square feet). Due to the dynamic nature of in-stream wetland vegetation, wetland vegetation is expected to re-colonize the work area after construction; therefore, this impact is considered to be temporary.

Two California bay trees (each 24" in diameter) located at the downstream portion of the work area will be cut (within stumps retained) to accommodate the slope repair and construction of the retaining wall. As California bay sprouts readily from the root crown, bole, or stump, re-sprouting of these cut trees is expected; therefore this impact to the riparian woodland is considered temporary. Two small willows (each 3" in diameter) that grow amid the failed slope will be removed as well as herbaceous riparian-associated understory vegetation that grows upstream and downstream of the slip-out. Placement of the riprap along the lower portion of the slope will permanently affect approximately 1,875 square feet of riparian vegetation.

Assuming concurrence from regulatory agencies, permits will be required prior to commencement of proposed scour repair work. Rodeo Creek was found to support federal and state jurisdictional areas, as summarized in Table 4. Placement of rip rap for repair of the road, including temporary dewatering for construction, will be located within the jurisdiction of CDFW and RWQCB. The repair work, and structures used for temporary dewatering, will also result in the placement of fill within waters of the U.S. (USACE jurisdiction). The project will also occur with areas regulated by Santa Cruz County under the Riparian Corridor Protection Ordinance (see Table 4).

Table 4. Summary of Potential Impacts to Jurisdictional Areas

Agency	Permit Required	Permit Type	Jurisdictional Impact Acreage	
			Temporary	Permanent
USACE	Yes	Section 404 Nationwide Permit	910 sq. ft. [1] (0.02 acre)	0[4]
RWQCB	Yes	401 Water Quality Certification	910 sq. ft. [1] (0.05 acre)	1,875 sq. ft. [2] (0.04 acre)
CDFW	Yes	1601 Streambed Alteration Agreement	910 sq. ft. [1] (0.05 acre)	1,875 sq. ft. [2] (0.04 acre)
County of Santa Cruz	Yes	Riparian Exception	2,125 sq. ft. [1,3] (0.05 acre)	1,875 sq. ft. [2] (0.04 acre)

[1] temporary dewatering during construction; [2] placement of riprap along lower slope; [3] construction within riparian corridor, assuming work area of 4,000 square feet, [4] 100 cu. yds. of rock to be placed below the creek bed

Steelhead are not known from this portion of Rodeo Creek because it has intermittent flow. No mitigation for steelhead is recommended.

Nesting birds may occur in the riparian vegetation adjacent to the project site. Because most nesting birds are protected by the Migratory Bird Treat Act, measures are listed below to avoid potentially significant impacts if any are present during construction.

The following measures are recommended to avoid or mitigate potentially significant impacts to riparian and in-stream resources, and wildlife, to a less-than significant level:

1. The County shall secure all necessary permits from regulatory agencies prior to any work.
2. The County shall implement riparian habitat protection measures to minimize impacts to the riparian woodland (including native trees) located upstream and downstream of the work area, including:
    a. Install plastic mesh fencing at the perimeter of the work area (i.e., upstream and downstream limits of work) to prevent impacts to the adjacent riparian woodland and in-stream wetlands, and injury to adjacent native trees. Protective fencing shall be in place

prior to ground disturbances and removed once all construction is complete. During construction, no grading, construction or other work shall occur outside the designated limits of work.

b. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored outside the designated limits of work.
c. Hand tools shall be used to trim vegetation to the extent necessary to gain access to the work area. All removed material/vegetation shall be removed from the riparian corridor.

3. Implement standard erosion control BMP's to prevent construction materials from entering the creek and adjacent riparian woodland. Install perimeter silt fencing and construction area limit-of-work fencing.
4. All staging of equipment and materials, and refueling of equipment, shall be located in existing roadways, driveways, and parking areas. The contractor shall prepare and implement a fuel spill prevention and clean-up plan.
5. Schedule construction work within the riparian corridor to take place from July 1 to October 15 of any given year when it is most likely the creek will be dry.
6. To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and October 15 of any given year, which is outside the bird breeding season. If this is not practical, then have a qualified biologist conduct a preconstruction survey for nesting birds. If any active bird nests are found within 50 feet of the work area, postpone construction until the biologist has determined that all young have fledged.
7. Retain an adequate amount of stump on the two California bay trees (i.e., 4-8 inches) to promote root crown sprouting. If heart rot is observed, the rot can be eliminated by cutting down trees to stumps of less than 8 inches height; root crown sprouts have a very low incidence of heart rot.
8. The County shall prepare and implement a riparian revegetation plan to provide replacement riparian vegetation along the bank of Rodeo Creek. Areas identified for placement of the erosion control blanket, as depicted on the Erosion Control Plan, shall be seeded with a native grass and forb mixture prior to placement of the erosion control blanket. Dormant native willow cuttings or rooted native container stock riparian trees and/or shrubs shall be planted approximately 10 -15 feet on-center amid the erosion control blanket. The County shall maintain the plantings for a period of 5 years; the plantings shall maintain a yearly survival rate of 80%.

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APPENDIX A

WETLAND DELINEATION

NORTH RODEO GULCH ROAD PM 4.75

NORTH RODEO GULCH ROAD PM 4.75

Proposed Road Repair

Santa Cruz County, California

Delineation of State and Federal Jurisdictional Waters

June 5, 2013

Biotic Resources Group

Biotic Assessments • Resource Management • Permitting

Biotic Resources Group

Biotic Assessments • Resource Management • Permitting

NORTH RODEO GULCH ROAD PM 4.75

Proposed Road Repair

Santa Cruz County, California

Delineation of State and Federal Jurisdictional Waters

Prepared For:

Santa Cruz County Public Works Department
Attn: Russell Chen, Project Engineer

Prepared By

Biotic Resources Group

The undersigned certifies that this report is a complete and accurate account of the findings and conclusion of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.

Kathleen Lyons, M.A.
Plant Ecologist

June 5, 2013

2551 S. Rodeo Gulch Road #12 • Soquel, California 95073 • (831) 476-4803 • brg@cruzio.com

Executive Summary

At the request of the Santa Cruz County Public Works Department, Biotic Resources Group (BRG) has prepared this Delineation of Jurisdictional Waters for a roadway repair project located along North Rodeo Gulch Road in Santa Cruz County, California. This delineation was conducted in April 2013 to document the regulatory authority of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) pursuant to the Federal Clean Water Act (CWA), California Porter-Cologne Water Quality Act, and California Fish and Game Code. The project area was surveyed pursuant to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (USACE, 2008) to identify evidence of hydrology, hydrophytic vegetation, and hydric soils; and the *Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607* (CDFG, 1994) to identify evidence of streambeds and associated riparian vegetation.

Based on the review of current site conditions, this study has found that it will be necessary for the project applicant to obtain concurrence from regulatory agencies on the findings of this delineation, and assuming concurrence, permits will be required prior to commencement of the proposed repair work. A creek within the study area was found to support federal and state jurisdictional areas, as summarized in Table ES-1. Repair of the roadway and creek bank, including temporary dewatering for construction, will be located within the jurisdiction of CDFW and RWQCB. The repair work, and structures used for temporary dewatering, will result in the placement of fill within waters of the U.S. (USACE jurisdiction). The proposed project will have no net fill within the limits of Ordinary High Water; however, construction will entail removal of the failed hillside material from the creek channel and the creation of a new 4-foot deep rock toe under the existing creek bed. Approximately 100 cubic yards of rock will be installed beneath the creek bed. The native creek bed materials will be replaced on-site.

Table ES-1. Summary Table, indicating regulatory agency and jurisdiction

Agency	Permit Required	Permit Type	Jurisdictional Impact Acreage	
			Temporary	Permanent
USACE	Yes	Section 404 Nationwide Permit	910 sq. ft.[1] (0.02 acre)	0[4]
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[1] temporary dewatering during construction; [2] placement of riprap along lower slope; [3] construction within riparian corridor, assuming work area of 4,000 square feet; [4] 100 cubic yards of rock rip rap to be placed below creek bed elevation

Intended Use of this Report

The findings presented in this delineation are intended for the sole use of Santa Cruz County Public Works Department in evaluating regulatory jurisdiction for the proposed scour repair

project and presents BRG's best effort at determining the jurisdictional boundaries using the most current regulations and regulatory agency guidance. The findings presented by BRG in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or local laws, polices or ordinances pertaining to permitting actions within jurisdictional areas, sensitive habitat, or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body. Each regulatory agency is responsible for making the final determination of their jurisdiction.

Table of Contents

List of Figures

List of Tables

Chapter 1. Introduction

1.1. Purpose of Delineation

This delineation was prepared for Santa Cruz County Public Works Department in order to delineate the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG) jurisdictional authority for the North Rodeo Gulch Road PM4.75 repair project in Santa Cruz County, California (wetland study area).

The County of Santa Cruz is proposing to repair a creek bank and roadway that failed. The repair work includes removing old rip rap that failed, constructing a steel soldier pile with timber lagging retaining wall, placing rip rap below the wall and tied into the bottom of the creek, a gabion basket dissipater for road runoff placed above the elevation of the creek high water, new pavement, and guard rail. The retaining wall will be approximately75 feet long. Construction staging will be within the existing roadway. All repair work will occur along the east side of Rodeo Creek. The work area encompasses approximately 4,000 square feet.

If flowing water is present during the scheduled construction, the project will include a stream bypass system consisting of check dams both upstream and downstream, and diverting flow through an 18-inch pipe. The check dams will consist of sandbags filled with gravel and wrapped in heavy sheet plastic. Approximately 130 linear feet of channel will be dewatered for this project. Once the site has been dewatered and the site has been isolated from the stream, then the loose sands in the scour areas will be removed for a depth of approximately three feet. Approximately 75 linear feet of rip rap will be placed along the toe of bank and, in some locations, below the creek bed to support the structures above. The down drain pipe, with an RSP outfall energy dissipater, will be installed at the downstream end of the project area, No concrete grout will be placed in the rip rap for this project, only in the holes drilled for the piles, which will be monitoring according to County standards to ensure it does not migrate into the creek. Work will take approximately 60 days and will be completed prior to October 15 of the construction year.

The wetland study area is located just north of Soquel Drive, at PM 4.75 on North Rodeo Gulch Road in Santa Cruz County as shown on Figure 1. During rain storms of March 2011, a landslide in the embankment below the southbound lane of North Rodeo Gulch caused the lane to fail. There is currently only a one-way segment of roadway with stop signs at either end along this portion of the road. The site is located along the boundary of the Soquel and Laurel USGS quadrangles in the southern half of Section 4, T11S, R1W; Mt Diablo Base and Meridian. The site is reached from North Rodeo Gulch Road, a public street accessed from Soquel Drive, near State Highway 1 in the unincorporated area of Soquel.

The findings presented in this delineation present BRG's best effort at determining the jurisdictional boundaries using the most current regulations and regulatory agency guidance;

however, the interpretation of such regulations is the responsibility of the applicable governing body. Each regulatory agency is responsible for making the final determination of their jurisdiction.

1.2. Property Information

The North Rodeo Gulch Road Repair project area encompasses approximately 4,000 square feet (0.1 acre. The project area is situated along Rodeo Creek which empties into Corcoran Lagoon and the Monterey Bay/Pacific Ocean. The portion of Rodeo Creek at the project site is depicted as a perennial blue-line stream on the USGS topographic map; however, the creek is currently believed to be intermittent. North Rodeo Gulch Road is located parallel to the east side of the creek.

1.3. Project Description

The wetland study area is located along North Rodeo Gulch Road and along the creek bank to Rodeo Creek. The study area encompasses the construction area outlined for the repair of the failed slope and road replacement, including the temporary dewatering features. Figure 2 depicts the wetland study area superimposed onto the proposed road repair construction plans.

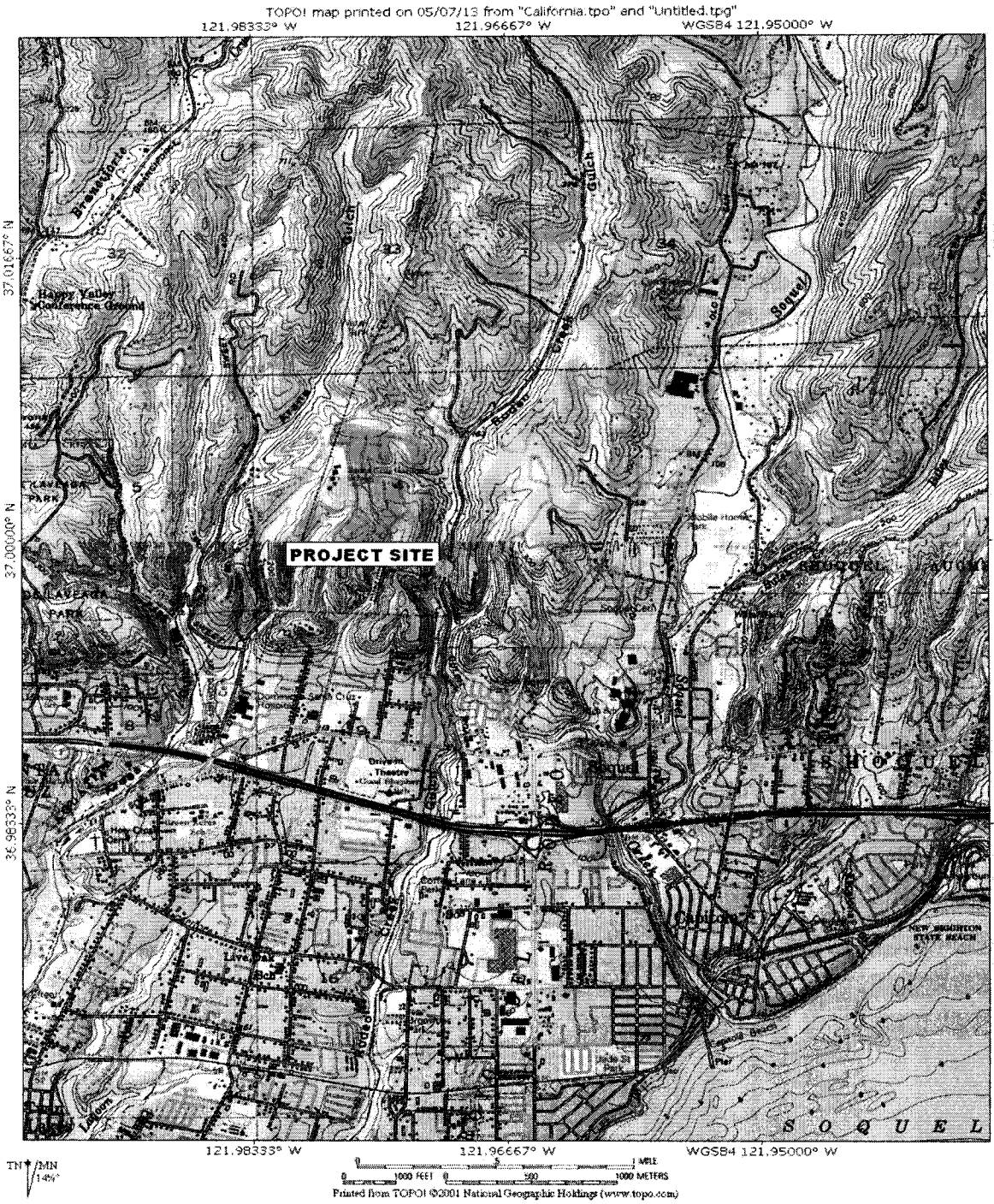
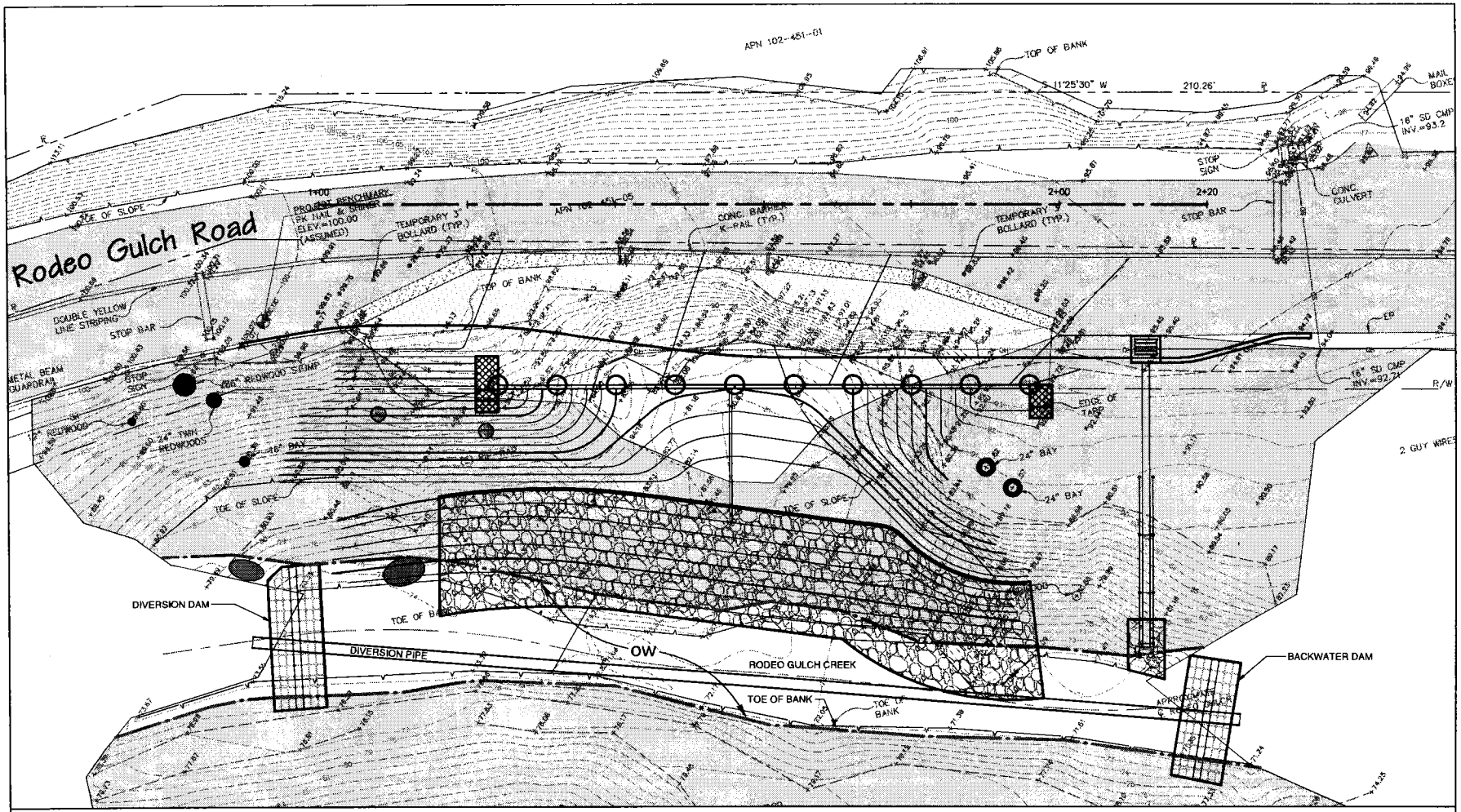


Figure 1. Proposed Project Location

(USGS Soquel and Laurel USGS Topographic Maps)



N

SCALE: 1" = 20'

0 20' 40'

WATERS OF THE U.S.

- In-stream Wetlands
- OW — Other Waters (within ordinary high water mark)

RIPARIAN CORRIDOR

- Riparian Woodland
- Trees, pruned with trunks to remain
- Trees to be removed
- Trees to be retained

Biotic Resources Group

2551 S. Rodeo Gulch # 12 ◆ Soquel, California 95073

(831) 476-4803 ◆ brg@cruzio.com

North Rodeo Gulch Road PM 4.75 Storm Damage Repair Project

Distribution of Habitat Types in Project Area

6/13

696-01

Chapter 2. Summary of Regulations

2.1. United States Army Corps of Engineers (USACE)

The USACE regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended).

Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Examples of work include piers, docks, breakwaters, and dredging. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). Navigable waters may be used currently, in the past, or in the future, to transport interstate or foreign commerce.

Section 404 of the Clean Water Act (CWA, 1977, as amended) requires a permit for discharge of dredged or fill material into Waters of the United States. Under Section 404, Waters of the United States is defined as all waters which are used currently, or were used in the past, or may be used in the future for interstate or foreign commerce, including waters subject to the ebb and flow of the tide up to the high tide line. Additionally, areas such as wetlands, rivers and streams (including intermittent streams and tributaries) are considered Waters of the U.S. Man-made ponds created by excavating dry land to collect and retain water for purposes of stock watering, irrigation or settling basins are typically not considered to be Waters of the U.S. (USACE Definitions, 2004).

The extent of wetlands is typically determined by examining the presence of hydrophytic vegetation, hydric soils and wetland hydrology. Under normal circumstances, all three of these parameters must be satisfied for an area to be considered a jurisdictional wetland under Section 404 of the Clean Water Act.

2.1.1. Isolated Waters (SWANCC Decision)

In 2001 the U.S. Supreme Court issued a decision on the scope of the USACE's Section 404 CWA permitting as it related to isolated waters. Known as the SWANCC decision, the Court found that the USACE does not have the authority over isolated, non-navigable, intrastate waters that are not tributary or adjacent to navigable waters or tributaries.

2.1.2. Intermittent and Ephemeral Streams and Wetlands (Rapanos Decision)

In 2006, the U.S. Supreme Court issued a decision that limits the definition of "wetlands" and waters of the U.S." under the CWA. In a 4-1-4 decision, four justices advocated for a narrower interpretation of the Clean Water Act, stating that waters of the U.S. should exclude intermittent or ephemeral streams and wetlands that have no continuous surface connection to navigable waters. In 2007, the USACE and the EPA issued guidance on this decision, stating that agencies will continue to assert jurisdiction over navigable waters and all wetlands adjacent to navigable

waters. Jurisdiction over waters, including wetlands will be made if either of the following standards are met: 1) relatively permanent (perennial or at least seasonally) non-navigable tributaries and wetlands with a continuous surface connection with such tributaries; or 2) certain adjacent and non-navigable tributaries where there is a significant nexus to navigable waters, such as chemical, physical, or biological connection.

2.1.3. Section 7 of the Endangered Species Act

The USFWS and the National Oceanic and Atmospheric Administration (NOAA) Marine Fisheries administer the federal Endangered Species Act (ESA). In general, NOAA is responsible for protection of ESA-listed marine species and anadromous fishes, while other fish and terrestrial species are under USFWS jurisdiction. A Proposed Project may permit the take of federally-listed species through a Section 7 Biological Opinion from USFWS or NOAA issued to another federal agency that funds or permits an action (e.g., USACOE). Under ESA, adverse impacts to protected species are avoided, minimized or mitigated for impacts to federally-listed species. This requires consultation with the USFWS and/or NOAA, which ultimately issues a Biological Opinion to USACE determining whether the federally listed species will be adversely impacted by a proposed project.

2.2. Regional Water Quality Control Board (RWQCB)

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans.

The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction) a report of waste discharge should be filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies.

2.3. California Department of Fish and Wildlife (CDFW)

The California Department of Fish and Wildlife (CDFW) is a trustee agency that has jurisdiction under Section 1600 et seq. of the State Code. Under Sections 1600-1603 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW defines a "stream" as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation. CDFW definition of lakes includes natural lakes and man-made reservoirs. Along watercourses, CDFW jurisdictional

limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures.

2.4. Activities Requiring Permits

Projects that involve impacting drainages, streams or wetlands through filling, stockpiling, channelization, bank stabilization, road or utility crossing or any other modification would require permits from the USACE (including Section 7 consultation for endangered species, if required), RWQCB, and CDFG prior to and during site construction. Both permanent and temporary impacts are regulated and would require permitting.

The USACE has two permit categories: a Nationwide Permit (NP) or Individual Permit (IP), depending upon the project description and jurisdictional impacts. The USACE permit requires the RWQCB to complete their Section 401 Water Quality Certification. This certification, as well as 1602 SAA with CDFG can occur concurrently with the USACE permit process. A ROWD is required by the RWQCB of SWANCC or Rapanos waters are present. Applications to both the RWQCB and CDFG require submittal of a valid CEQA document (i.e., Negative Declaration or Environmental Impact Report).

Chapter 3. Methodology

The field and reporting methodology followed the protocol specified in the 1987 USACE Manual (Environmental Laboratory, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2.0 (USACE, 2010) to delineate the extent of federal waters and wetlands. Existing reference materials relevant to the proposed project were gathered and reviewed. These materials included the following:

- Topographic Map: Soquel and Laurel quadrangles (USGS)
- NRCS, Web Soil Survey, Santa Cruz County, California, 2013.
- Hydric Soils List; Official List of Hydric Soil Map Units for Santa Cruz County, California (SCS, 1989)
- National Wetland Plant List, California for the Western Mountains, Valley, and Coasts, (Lichvar and Minkin, 2012)
- Project Construction Plans, Santa Cruz County Public Works Department, 2013
- National Wetlands Inventory, USFWS, 2013

A field survey was conducted on April 9, 2013. Evidence of potential jurisdictional areas were searched by viewing the study area (i.e., banks of Rodeo Creek) and searching for field indicators of wetlands, such as topographic features, wetland vegetation, and wetland soil conditions. Evidence of an Ordinary High Water Mark (OHWM) was examined. Features within the creek were photographed. Information gathered is described in this delineation report.

3.1. Waters of the U.S. and State Waters

The limits of USACE's jurisdiction in non-tidal waters extend to the OHWM which is typically defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, or the presence of litter and debris. Vegetation that is bent, matted down, or absent may indicate water flow and scour. The OHWM can be recorded as a line on the project base map, as an elevation and/or as a measurement above the lowest point of the channel (thalweg). The RWQCB jurisdiction and CDFG's jurisdiction is determined by the break in slope of the creek bank and the top-of-bank or dripline of riparian vegetation, respectively. This information is obtained from field surveys and review of aerial photos and topographic maps. This information can be recorded as an elevation (top-of bank) and/or as a line on the project base map (dripline of riparian vegetation).

3.2. Wetlands

The extent of wetlands is typically determined by examining the presence of hydrophytic vegetation, hydric soils and wetland hydrology. Under normal circumstances, all three of these parameters must be satisfied for an area to be considered a jurisdictional wetland under Section 404 of the Clean Water Act as outlined in the *Corps of Engineers Wetland Delineation Manual*

(Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACOE, May 2010). The locations where all three parameters are met are typically depicted as polygons on the project base map.

3.1.1. Vegetation

Hydrophytic vegetation is plant life that occurs in areas where the frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are characterized by their tendency to occur in wetlands; the five categories are listed and described below:

- OBL: almost always is a hydrophtye, rarely in uplands
- FACW: usually is a hydrophyte but occasionally found in uplands
- FAC: commonly occurs as either a hydrophyte or non-hydrophyte
- FACU: occasionally is a hydrophyte but usually occurs in uplands
- UPL: rarely is a hydrophyte, almost always in uplands.

Typically, an area is considered meet the USACE wetland vegetation criteria when the plant community passes the dominance test. In this test more than 50 percent of the dominant plant species across all strata are rated OBL, FACW or FAC. Species not listed on the wetland plant list are treated as upland species (Lichvar and Minkin, 2012). A stratum (tree, sapling/shrub, herb and woody vine) is defined as having 5% or more total plant cover. For the dominance test, cover of vegetation is estimated and ranked according to dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% of the total dominant coverage are recorded. The "50/20 rule" also states that plant species from the ranked cover list be included, in decreasing order of coverage, until cumulative cover of selected species exceeds 50%. Therefore, in these instances, plant species providing less than 20% are included in the 50/20 rule analysis. The prevalence index is used to determine whether hydrophytic vegetation is present where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test. This test evaluates all plant species in the community and assigns weighted- numeric values to species within each indicator status categories. Hydrophytic vegetation is present if the prevalence index in 3.0 or less. This information is recorded on the Wetland Determination Data Form.

3.1.2. Hydrology

The assessment of the hydrologic criterion is based on four groups or indicators. Indicators include direct observation of surface water or groundwater, evidence of recent inundation (i.e., water marks, drift deposits, sediment deposits), and evidence of recent soil saturation (i.e., presence of oxidized rhizospheres within upper 12 inches). Other site conditions or data can also be used, such as shallow aquitards and the FAC-neutral test. This information is recorded on the Wetland Determination Data Form.

3.1.3. Soils

Hydric soils are surveyed in accordance with the USACE manuals. Soil pits are excavated to a depth of approximately 16 inches, with progressive pits dug laterally away from the channel/wetland features until hydric features are no longer present. At each soil pit, the soil texture and color are recorded and compared to a Munsell Soil Chart (1994) to designate hue, value and chroma. Indicators of hydric soil include organic accumulations, iron reduction, translocation and accumulation and sulfate reduction are recorded on the Wetland Determination Data Form. Soil survey information is also used to obtain soil information in regards to soil characteristics, drainage and color. The County Hydric Soil List is also referenced for soils considered to be hydric.

3.3. SWANCC Waters

The term "isolated waters" is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean or other body of water. In the presence of isolated conditions, the RWQCB and CDFG have jurisdiction via the OHWM/streambed and/or the 3-parameter wetland methodology utilized by the USACE.

3.4. Rapanos Waters

Rapanos drainage features apply to non-navigable, ephemeral tributaries and their adjacent wetlands where there is a significant nexus to traditional navigable water (TNW). Factors considered in the significant nexus evaluation typically include volume, duration and frequency of flow, proximity to the TNW, size of the watershed, and average annual rainfall. Ecological factors can include the ability for tributaries to carry pollutants and flood waters to a TNW, ability to provide aquatic habitat that supports a TNW, the ability of the wetland to trap and filter pollutants, and the maintenance of water quality. Swales or erosion features (e.g., gullies, small washes) and ditches (including roadside ditches) excavated wholly in and draining only uplands and do not carry a relatively permanent flow of water are generally not considered federally jurisdictional waters. If Rapanos drainage conditions exist, the RWQCB and CDFG have jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the USACE.

Chapter 4. Existing Site Conditions

Two principal plant community types were observed within the wetland study area: in-stream wetlands and riparian woodland. The distribution of these vegetation types are depicted on Figure 2.

In-channel wetlands occur within the bed and along the toe of Rodeo Creek. Within the wetland study area, two small patches of in-stream wetlands were observed along the east bank of the creek. The two wetland patches are comprised of water parsnip (*Berula erecta)* (OBL), water smartweed (*Polygonum sp.)* (FACW), nutsedge (*Cyperus eragrostis)* (FACW), watercress (*Rorippa nasturtium-aquaticum)* (OBL), and scouring rush (*Equisetum arvense)* (FAC). Collectively the two patches encompass approximately 8 square feet. Figure 3 depicts the character of the in-channel wetlands and their location relative to the Ordinary High Water Mark. The location of the wetland patches is depicted on the plan sheet (Figure 2).

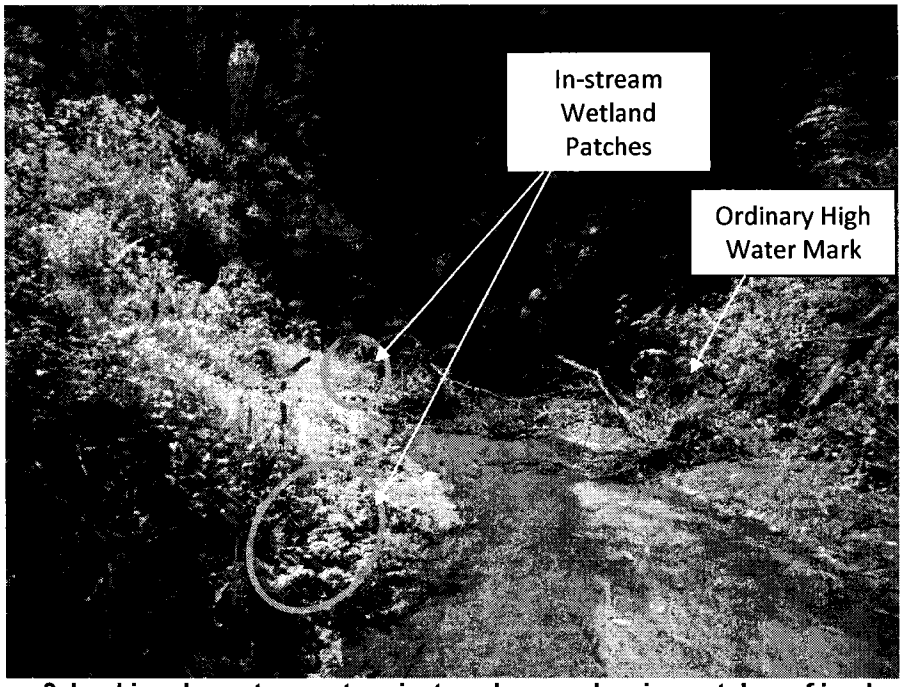


Figure 3. Looking downstream at project work area, showing patches of in-channel wetlands, North Rodeo Gulch Road PM 4.75, April 2013

Rodeo Creek also supports riparian woodland. The woodland is characterized by trees of coast redwood (*Sequoia sempervirens)* (NI) and California bay (*Umbellularia californica)* (FAC), with arroyo willow (*Salix lasiolepis)* (FACW) along the creek edge. The approximate location of the riparian trees (trunks) within the project area is depicted on Figure 2.

The riparian understory vegetation includes patches of stinging nettle (*Urtica dioica)*, sword fern (*Polystichum munitum)*, California blackberry (*Rubus ursinus)*, and nightshade (*Solanum*

sp.). The character of the riparian woodland at the downstream end of the project area is depicted on Figure 4.

Figure 4. Riparian woodland at downstream end of project area, April 2013

Two sample points were obtained within the wetland study area. Due to the presence of OBL and FACW plant species growing along the toe of the creek channel, wetland attributes were suspected at these locations (see Table 1).

Table 1. Plant Community Types and Site Features Recorded, April 2013

Plant Community	Dominant Plant Species and Wetland Indicator Status	Soil Features	Hydrology Features	Meets Definition of USACE Wetlands?	Sample Point
In-stream Wetlands	*Berula erecta* (OBL) *Polygonum sp.* (FACW) *Cyperus eragrostis* (FACW) *Rorippa nasturtium-aquaticum* (OBL) *Equisetum arvense* (FAC).	In-stream gravel and cobbles; positive hydric soils inferred due to presence of surface water, and soil saturated to surface	Surface water	Yes	SP#1 SP#2
Riparian Woodland	*Sequoia sempervirens* (NI) *Umbellularia californica* (FAC) *Rubus ursinus* (FACU) *Urtica dioica* (FAC)	Loam and clay loam; dry conditions on stream bank	None observed	No	-

4.1 Vegetation

At sample points #1 and #2, positive wetland vegetation was observed (i.e., more than 50% of the dominant plant species are FAC, FACW or OBL species). Two patches of wetland vegetation were observed, collectively measuring 8 square feet; these two sites meet the wetland vegetation criteria. No other wetland vegetation was observed in the study area.

4.2 Soils

According to more current County soil survey maps (NRCS Web Soil Survey, 2013) the wetland study area is mapped as Soquel loam, 2-9 percent slopes (171). The web soil survey map for the project area is presented in Appendix B.

The typical pedon of the Soquel loam is loam to 37 inches. Within the upper 16 inches, the loam is dark grey brown (10YR 3/1). The soil is formed in alluvium and mapping of this soil type includes small narrow valleys that are subject to intermittent flooding.

Field observations conform to the survey mapping. The creek banks support loam to clay loams; the bed of Rodeo Creek supports gravels and cobbles. Positive hydric soil conditions were inferred to be present in the creek bed.

4.3 Hydrology

The wetland study area is located along a perennial-to-intermittent waterway; Rodeo Creek is a tributary to Corcoran Lagoon, which empties into Monterey Bay/Pacific Ocean. Surface water was observed in Rodeo Creek at the time of the April 2013 field survey (approximately 2 inches deep).

4.3.1 Ordinary High Water Mark

Field evidence of an OHWM was observed. Water marks, exposed roots, and other vegetation patterns, such as a line of moss growth on bedrock, were observed to indicate the elevation of the OHWM.

The OHWM was found to correspond to approximately 1.5 feet above the thalweg (i.e., lowest point within channel bed (elevation 73). The location of the OHWM is depicted in Figures 2 and 3.

Chapter 5. Delineation Findings

5.1 U.S. Army Corps of Engineers Determination

5.1.1 Waters of the U.S. (Non-Wetland)

The wetland study area supports a creek channel with open water. These unvegetated open water areas within the limits of the OHWM would be considered waters of the U.S.

The proposed project will have no net fill within the limits of OHWM; however, construction will entail removal of the failed hillside material from the creek channel and the creation of a new 4-foot deep rock toe under the existing creek bed. Approximately 100 cubic yards of rock will be installed beneath the creek bed. The native creek bed materials will be replaced on-site.

5.1.2 Wetlands

The wetland study area supports two small patches of in-channel wetlands. The wetlands occur along the toe of the east bank of Rodeo Creek, encompassing approximately 8 square feet. These areas meet the definition of wetlands.

The in-channel wetlands will be temporarily impacted by the project. Temporary dewatering and/or construction related to removing the failed hillside material from the creek bead and bank will impact these two wetland patches; however, following construction, wetlands are expected to naturally re-colonize the area such that there will be no net loss of in-channel wetlands.

5.2 Regional Water Quality Control Board Determination

The wetland study area includes areas within the top of bank of Rodeo Creek. All areas below top of bank, including the wetlands and open water features within the channel meeting the definition of waters of the State subject to RWQCB jurisdiction.

To protect riparian resources and waters of the State, the project includes erosion control measures during and following construction. Revegetation of riparian vegetation along the slope below the soldier wall is also recommended.

5.3 California Department of Fish and Game Determination

The wetland study area includes areas within the top of bank of Rodeo Creek. All areas below top of bank, including the wetlands and open water features within the channel, as well as riparian woodland that may extend beyond top-of-bank, meet the definition of waters of the State subject to CDFG jurisdiction.

To protect riparian resources and waters of the State, the project includes erosion control measures during and following construction. Revegetation of riparian vegetation along the slope below the soldier wall is also recommended.

Chapter 6. References

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Appendix A Determination Data Forms

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: N. Rodeo Gulch Rd PM 4.75 City/County: Santa Cruz Sampling Date: 4/10/13

Applicant/Owner: Santa Cruz Co. PW State: CA Sampling Point: #1

Investigator(s): K. Lyons Section, Township, Range:

Landform (hillslope, terrace, etc.): creek channel Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Soquel loam, 2-9% slope NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? no Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? no (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
In-channel wetland patch @ base of failed slope; w/in limits of OHWM

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Cyperus eragrostis	20%	Y	FACW
2. Baccharis erecta	30%	Y	OBL
3. Equisetum arvense	10	N	FAC
4. Grasses (unknown)	10	N	—
5.			
6.			
7.			
8.			
Total Cover:	120		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
patch is 3' x 1' for total of 3 sq. ft.

SOIL

Sampling Point: #1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
	none taken							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

see below

Hydric Soil Present? Yes ✓ No _____

Remarks:

active creek channel with river cobbles - positive hydric soil indicators site w/in OHWM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water in creek channel, OHWM at 73' elevation ca 1.5 feet above thalweg; channel width is 6'

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: N. Rodeo Gulch Rd PM 4.75 City/County: Santa Cruz Sampling Date: 4/10/13

Applicant/Owner: Santa Cruz Co. PW State: CA Sampling Point: #2

Investigator(s): K. Lyons Section, Township, Range:

Landform (hillslope, terrace, etc.): creek channel Local relief (concave, convex, none): concave Slope (%): 20%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Soquel loam, 2-9% slope NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? no Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? no (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
In-channel wetland patch at base of banked slope; patch located w/in limits of OHWM.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rorippa nasturtium-aq	20	Y	OBL
2. Polygonum sp.	20	Y	FACW
3. Epilobium adenocaulon	10	N	FAC
4. Rumex crispus	20	Y	OBL
5.			
6.			
7.			
8.			
Total Cover: 70			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
wetland patch is 1' x 5' = 5 SF

SOIL

Sampling Point: #2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

See below

Hydric Soil Present? Yes ✓ No ___

Remarks:

Positive wetland soils inferred due to riverine cobbles and location w/in OHWM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (Riverine)
- ✓ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

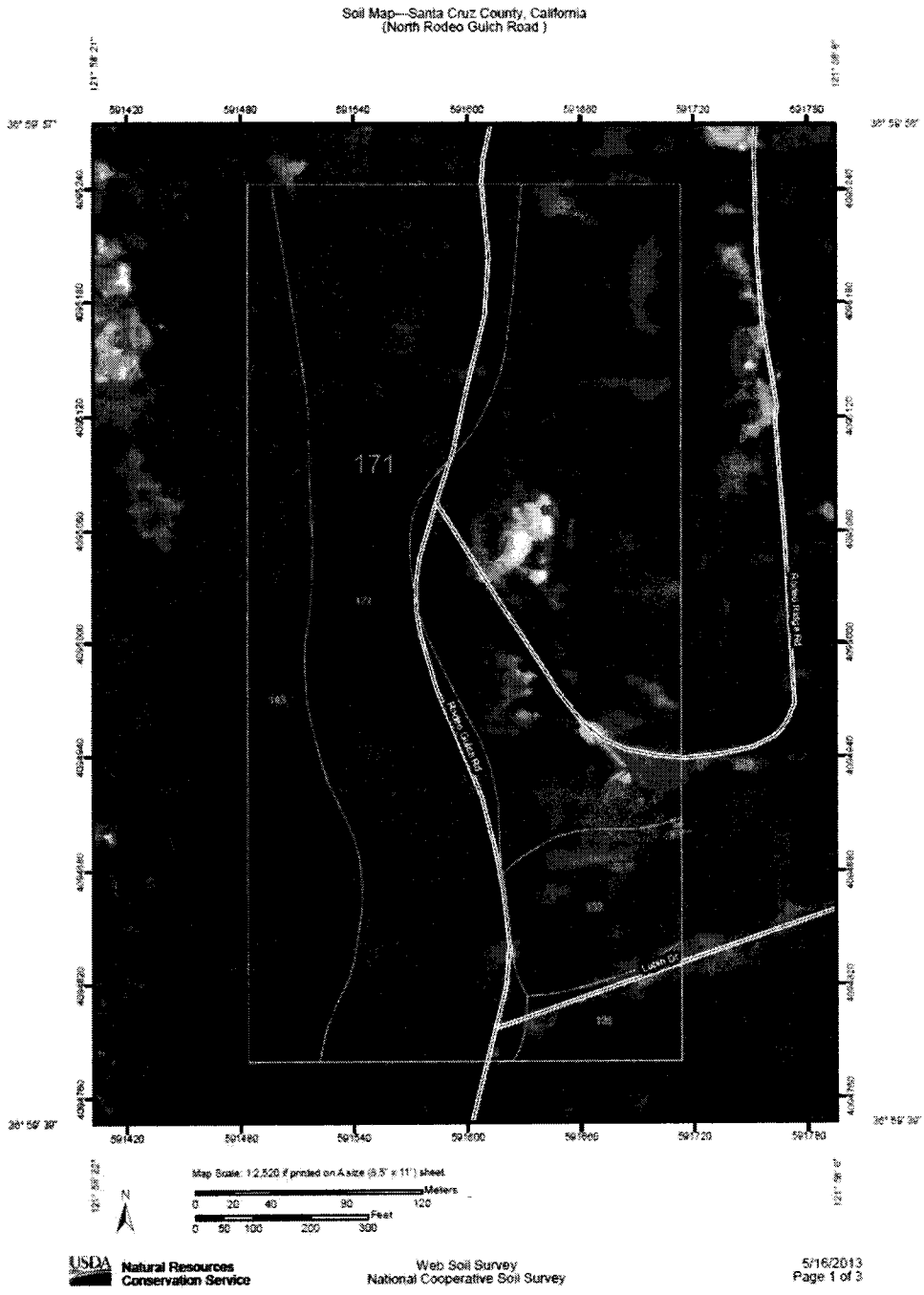
Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water present in channel; OHWM @ 73' elevation or 1.5' above thalweg; channel width is 4'

Appendix B Web Soil Survey Map



171	Soquel loam, 2 to 9 percent slopes

Soil Types in Project Area